

A Report on Third Party Evaluation of Plantations & Works carried out under CAMPA during years 2020-21 & 2021-22 in 51 Forest Divisions of Rajasthan State

Final Report

Submitted to:
Additional Principal Chief Conservator of Forest,
Monitoring & Evaluation,
Office of the Principal Chief Conservator of Forest (HoFF),
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ACKNOWLEDGEMENT

The State of Rajasthan is in the process of implementing CAMPA activities namely, compensatory afforestation, plantations under Net Present Value scheme, maintenance of permanent nurseries, forest protection, natural forest management, biodiversity conservation, wildlife management, research, capacity building, strengthening and development of infrastructure for forest protection and management, information technology and communication, forest research, working plan works, awareness generation, and other allied activities etc. as per the sanctioned Annual Plan of Operation (APOs) every year to carry out its operations in the forestry sector. The compensatory afforestation activities during the year 2020-21 & 2021-22 have been carried out in 225 ranges of 51 Forest Divisions distributed in all 33 districts of Rajasthan. It is imperative to carry out the evaluation of the compensatory afforestation activities during the year 2020-21 & 2021-22 to know the achievements and challenges in compensatory afforestation activities carried out in 225 Ranges of 51 Forest Divisions during the year 2020-21 & 2021-22.

The third-party evaluation study titled "External Evaluation / Study of Plantations and Construction of Soil & Water Conservation Structures and Buildings executed under CAMPA during 2020-21 & 2021-22" has been commissioned by the Office of Principal Chief Conservator of Forest (HoFF), Government of Rajasthan, Jaipur, Rajasthan to Centre for Development Communication & Studies (CDECS). The purpose is to evaluate the CAMPA works undertaken as per the Annual Plan of Operations (APO) of 2020-21 & 2021-22. The study undertakes an evaluation of the survival rate on randomly selected sites as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement. Under the planned third-party evaluation, systematic stocktaking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation have been undertaken. CDECS would like to acknowledge the support and contribution of the Office of Principal Chief Conservator of Forest (HoFF), Government of Rajasthan for providing us an opportunity to take up this study.

We take this opportunity to express our gratitude to Shri Munish Kumar Garg sb, IFS, HoFF, Office of the Principal Chief Conservator of Forest for awarding the evaluation work and providing regular support and guidance.

We owe our gratitude to Shri Uday Shankar sb, IFS, Additional Principal Chief Conservator of Forest, Monitoring & Evaluation, Office of the Principal Chief Conservator of Forest (HoFF), for his concern and appreciation for the Third Party "Evaluation study of Plantations and Construction of Soil & Water Conservation Structures and Buildings executed under CAMPA during 2020-21 & 2021-22. With his cooperation & support, this report has been prepared & submitted as per the terms of reference.

We owe our gratitude to Ms. Shikha Mehra, Additional Principal Chief Conservator of Forest, CAMPA, Office of the Principal Chief Conservator of Forest (HoFF) for her concern for the study. We acknowledge the support the study has received from Mr. Sanjay Kaushik, DCF, P&M for support right from the inception of the study. He has continuously inspired us at every stage of this study.

We are thankful to the state-level officials of CAMPA, Administration, finance and accounts, and the team of Office of the Principal Chief Conservator of Forest (HoFF), for their proactive & timely support.

We acknowledge our thanks to DCFs, ACFs, Range Officers, and other functionaries of sample forest Divisions for their effortless support and cooperation. We are also thankful to the members of VFPMCs/EDCs, Forest department foresters, Assistant Foresters, Guards & villagers for their participation in the whole process of the study.

We sincerely thank the committed & sensitive team of CDECS who made excellent efforts all the way to complete this Evaluation covering all 51 Forest Divisions in time.

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Team Leader

31 October, 2023
Jaipur

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Abbreviations

ACF	Assistant Conservator of Forest
ANR	Assisted Natural Regeneration
APCCF	Additional Principal Chief Conservator of Forest
CAMPA	Compensatory Afforestation Fund Management and Planning Authority
CBD	Contour Bunding
CDECS	Centre For Development Communication & Studies
CG	Community Group
DCF	Deputy Conservator of Forest
DLT	Drainage Line Treatment
DFL	Degraded Forest Land
ECD	Earthen Check Dam
EPA	Entry Point Activities
GIS	Geographical Information System
GPS	Global Positioning System
HOFF	Head of Forest Forces
IEC	Information Education & Communication
IGA	Income Generating Activities
LSCD	Loose Stone Check Dam
MIS	Management Information System
NGO	Non Governmental Organization
NFL	Non-Forest Land
NTFP	Non Timber Forest Produce
PCCF	Principal Chief Conservator of Forests
PCT	Percolation Tank
RO	Range Officer
RTR	Ranthambore Tiger Reserve
SHGs	Self Help Groups
SMC	Soil & Moisture Conservation
SPP	Silvipastoral Plantation
STR	Sariska Tiger Reserve
VFPMC	Village Forest Protection & Management Committee
VLW	Village Level Worker
WHS	Water Harvesting Structure

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Executive Summary

Chapter - 1
Executive Summary

1.1 Background

More often than not, forest lands are diverted to non-forest purposes which are, of course, development activities such as irrigation, hydropower, mining, construction of industrial units, roads, railways, canal and urban expansion etc. No doubt, these activities assume great significance in a country like India, protecting and growing forest are equally or more important. While it is somewhat difficult to draw a line between the two indicating up to which point the nation can afford to address the development activities at the cost of forest, resilience of the forest is the bare minimum requirement that should be maintained to allow for its regeneration.

Forest - an important environmental resource is under constant threat because of growing population – both human and livestock. The ever increasing dependency on forests and forests produce has further led to a deterioration of the situation.

In the State of Rajasthan 'Forests' is an important consideration and life line for defining the economy and the climate. The Government of Rajasthan is committed towards conservation and development of forests in consonance with the socio, ecological, and economic imperatives of the State.

In order to achieve the above stated target with sustainable forest management, people's participation is indispensable. Although, capacity development of the forest department is continuously undertaken, it is very significant to conduct afforestation and plantation related activities through the participatory scheme of Joint Forest Management ("JFM") i.e. through VFPMC /EDC (Village Forest Planning and Management Committee / Eco-Development Committee) .

1.2 Project & Area

The State CAMPA formulates Annual Plan of Operation (APOs) every year to carry out its operations in the forestry sector. The activities of CAMPA include compensatory afforestation, plantations under Net Present Value scheme, maintenance of permanent nurseries, forest protection, natural forest management, biodiversity conservation, wildlife management, research, capacity building, strengthening and development of infrastructure for forest protection and management, information technology and communication, forest research, working plan works, awareness generation, and other allied activities etc.

Afforestation and several other forestry related works have been carried out by Rajasthan CAMPA under compensatory afforestation and other schemes through the assistance of Ministry of Environment, Forest & Climate Change, and Government of India in 225 ranges of 51 Forest Divisions distributed in all 33 districts of Rajasthan.

1.3 The Evaluation Study

The Third Party Evaluation of "Evaluation study of Plantations and Construction of Soil & Water Conservation Structures and Buildings executed under CAMPA during 2020-21 & 2021-22" is taken up by the CDECS as per the project M&E requirement. As part of project Monitoring & Evaluation, Third Party evaluation / Study is to be conducted for evaluation of survival rate of plants on randomly selected sites (20% of all the Plantation sites) as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement. Under this third party evaluation, systematic stock taking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation has been undertaken. The third party will evaluate the CAMPA works undertaken as per Annual Plan of Operations (APO) of 2020-21 to 2021-22. The results and analysis derived from the assessment would enable the project to further improve the processes and strict adherence to the laid down guidelines.

1.4 The Objectives

The objectives of the Post-project evaluation study are:

- Evaluation of survival rate including growth of plants and their impact on vegetal cover.
- To assess adherence to the procedures for construction, plantation and any other proceedings for asset creation in conformity with the guidelines and procedures laid down under the project or defined by the government.
- Stock taking of various assets created under the project in terms of quantity and quality.
- To check the documentation, record keeping, reports relating to assets created at Divisional level.
- To assess the overall impact of the various activities of the project.
- To identify and suggest areas for improvement and actions to be taken.

1.5 The Methodology of Third Party Evaluation Study

This 3rd Party Evaluation study have been conducted for evaluation of survival rate on randomly selected plantation sites as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement. Under the Third Party evaluation study, systematic stock taking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation have been undertaken. The results and analysis derived from the assessment will enable the project to further improve the processes and strict adherence to the laid down guidelines.

The quantitative and qualitative tools have been used for the Third Party Evaluation study of CAMPA assisted Project activities in all the sample districts i.e. covering 07 Forest circles/ Sambhag, 51 Forest Divisions (covering 225 Ranges) of the state.

1.6 Sampling & Sample size

The Third Party Evaluation study has been undertaken in 07 Forest Circles/ Sambhag, 51 Forest Divisions (covering 225 Ranges) of CAMPA assisted Project activities of Rajasthan. The scope of work for the Evaluating Agency involves the following:

a) The selection of sites has been done randomly by the office of A.P.C.C.F. (M&E) O/o of PCCF (HoFF) using stratified random sampling method. While selecting the sites it has been ensured that at least one site in each Range is selected for evaluation of survival rate. Division-wise lists of selected sites were enclosed in separate envelopes and sealed. The sealed envelopes were handed over to the Evaluation agency 'CDECS Jaipur. The sealed envelopes were opened at respective Forest Division headquarter in the Office of Deputy Conservator of Forests by the Deputy Conservator of Forests or his representative of the Division.

b) Criteria for site selection:

- 20% sites of plantations of each Division have been randomly selected for evaluation.
- Plantation / afforestation Sites selected for evaluation were 100% and 10% evaluated based on odd and even criteria on the selected sample lists division-wise.
- 20% sites of Anicut/MPTs in each division were evaluated.
- 20% sites where construction of Chowki/ office-cum-residence/Rescue Center/Boundary Pillars/Rescue wards undertaken were evaluated.

Coverage under Plantation & Afforestation

In total, 158 plantation sites were covered in 41 Forest divisions under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the year 2020-21 to 2021-22. As per the TOR, the sample sites of 100 percent and 10 percent were provided by the Office of PCCF (HoFF). Also, the sample sites of boundary wall, boundary pillars, rescue wards, Forest Chowki and Range Office cum residence buildings and SMC works sites were selected randomly by the department and given signed copy in the sealed envelope to the evaluation agency. The sample sites of plantation were selected for evaluation (both for 10% area of plantation and 100 % plantations as per the official orders and TOR).

Out of 41 Forest Divisions, sample sites of ANR, DFL, SPP, PEO and NFL were evaluated based on the scientific sampling method. The sample sites of 10% covered were 88 in number and 100% sample sites were 70 in number.

Under coverage in the 41 Forest divisions the total coverage of sample area under plantations sites were 7578.6 hectares in 113 Forests ranges. The percentage of coverage of sample area under Third Party Evaluation of plantation works carried out during year 2020-21 to 2021-22 is 24.9 percent (Total Plantation area under plantation during year 2020-21 & 2021-22 is 30421 Hectares).

1.7 Key Findings & Conclusions

1.7.1 Overall Review of Physical progress

- There has been coverage of 100 percent of the physical target of 30421.36 Ha plantations targets of the CAMPA Fund during the years 2020-21 to 2021-22. In addition, there has been visible impact of the expenditures under CAMPA Fund in the forest sites in terms of Improving the quality of Degraded Forest Lands (DFL), improving and increasing the forest cover in the Non-Forest Lands (NFL), providing better facilities and improving the habitat of wildlife as a result the sighting of various animals were reported, and improving the health of the forest area where works and activities undertaken from CAMPA fund.
- In terms of success and coverage of the sample plantations sites, total of 158 sites of plantations were evaluated in 113 Ranges of 41 Forest Divisions. The total area of the sample sites is 7578.62 Ha. The overall ranking of evaluated 7578.62 Ha plantations was good (6) with average survival percentage of 50.7%.
- The initiatives for sustainable forest management through elements of ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of forestry and robust convergence has been reflected which certainly add value for Climate change (Sustainable Development Goals-13 (SDGs-13). These all will help in better protection, restore and promote sustainable use of ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss with initiatives in the state under CAMPA.

1.7.2 Afforestation, Plantation, Growth & Survival

- In total 158 sample sites were visited to assess the survival rates of the planted species. The survival rates of the planted species vary from 13.8% (Chhapari) to 83.3% (Henabavdi). At 87.3% sample plantation sites (138 sites out of 158), the survival rates of the planted species range from 41-60 % across the sample units. During 2020-21, the survival percentage of the plantation was in the range of 0-20%, & 21-40% at each of the 01 sample site, at 63 sample sites the survival percentage of the plants was in the range of 41-60% and at 06 sample sites the survival percentage of the plants was in the range of 61-80%. In the year 2021-22, at 01 sample site the survival percentage of the plants was in the range of 0-20%, survival percentage of the plants was in the range of 41-60% at 75 sample sites, at 08 sample sites the survival percentage of the plants was in the range of 61-80% and at 03 sites the survival percentage of the plants was in the range of 81-90%. In total, the survival percentage of the plants was in the range of 0-20 % at 02 sample sites, 21-40% at 01 sample site, 41-60% at 138 sample sites, 61-80% at 14 sample sites and 81-90% at 3 sample sites.
- With regards to ranking of plantation sites, the survival percentage was Excellent (between 80% and 90%) with ranking of 150 ha plantation area of 3 sites, Very Good (Between 70% and 80%) with 8 ranking of 242.06 ha plantation areas of 3 sites, good (Between 60% and 70%) with 7 ranking of 588.11 ha plantation areas of 11 sites, average (Between 50% and 60%) with 6 ranking of 2092.4 ha plantation areas of 46 sites, poor (Between 40% and 50%) with 5 ranking of 4401.4 ha plantation areas of 92

sites and very poor (less than 40 %) with 4 & below ranking of 104.7 ha plantation areas of 3 sites.

- The survival percentage of plantations was reported less than 40 percent at 03 sample sites namely, Chappari site (I) (Kuchaman range- Nagaur Division), Dhauli B (Lalsote Range – Dausa Division) & Matarmata Vankhand (Sirohi Range – Sirohi Division). At Chappari site (I) (Kuchaman range- Nagaur Division), the survival & growth of planted seedling was poor. Also, result of seed sowing was poor. The protection & fencing at the site was poor. The ditch fencing & barbed wire fencing was badly damaged. Grazing by Cattles (Cow, Goat & Buffalo) was found by the team member during the visit. Also, human habitation area is very close to the plantation site. The Cattle & people frequently used to enter the site. Similarly, at Dhauli B site, the survival & growth of planted seedling was poor. The mortality of planted seedling was high. Also, result of seed sowing was poor. The protection & fencing at the site was poor. VFPMC President had made separate entrance for plantation site which resulted in increase public interference (viz. grazing & damage to planted seedling) at the plantation site. However at the third site, at Matarmata Vankhand site, the growth & survival of plant was poor. The fencing was badly damaged due to heavy rain. The seedlings planted in thanwalas were rarely seen. However, natural vegetation at the site was good. Also, result of sowing was poor at the site.

- The result of the Productivity Enhancement Operation (PEO-Bamboo) model was good at all the five sites (viz. Toran I Compartment no.18-Udaipur DOD, Badliyanal, Henabawdi-Pratapgarh, Lakhavali & Taurana 12-Udaipur North). New roots of bamboo plant were also reported at the site. At Lakhavali site the growth of bamboo plant was excellent at the site. Bamboo plants on stone constructed thuras were seen all around in 50 Ha plantation site.

1.7.3 Factors affecting Growth & survival (Biotic and Abiotic)

- The factors affecting the growth and survival were damaged of fencing at sites at many places, pressure of local cattle's, destructions by Roze (Neelgai), Chinkara, Wild boar, Rabbit & Rat were reported at the plantation site. Also, there has been attack reported by termite & pests which obstructs the growth of planted seedlings in almost all the plantation sites.

- The other factors affect the growth and survival were – one, non provision of watering in the plantation models survival and growth of plants were affected and mortality was reported higher at the plantation sites in majority of forest divisions; two, the rainfall in the last 2 years were also reported low; three, the soil quality obstructs the growth of planted seedlings. The soil was rocky & sandy at many plantation sites. The chances of survival of seedlings in rocky area is low; and four, the prominent and heavy canopy of Juliflora reported certainly affecting the survival and growth of plantations in the area.

1.7.4 Impact on Vegetal Cover

- There has been reported increase and improvement in vegetal cover at the sample plantation sites viz. DFL, NFL & ANR. The vegetation abundance has been reported fairly higher in ANR model as compared to NFL & DFL models. The plantation and

soil & moisture conservation activities at the plantation sites have certainly added value in terms of increase in the vegetal cover namely, trees (Palash, Neem, Mahuva, Tendu, Baheda, Sagwan, kher, Neem, Ronj, Shesham, Baans, Churel etc.) shrubs (Ber, Lentana, Ber, Juliflora, Hingot, Jaal, Bui & Kheep), herbs (Neem giloi, Satavari, Peelvan, Googal, Bazardanti) and natural grasses (Lapla, Bharut & Dhaman) etc.

1.7.5 Protection & Management

- Certainly, the protection and management are important parameters and add value in the positive improvement in the coverage and increase in vegetal coverage. The boundary pillars constructed under CAMPA fund helped in demarcating the forest land and boundaries and protecting from encroachment. Similarly, the boundary walls supported under CAMPA fund was reported boon for the forest area as it helped in demarcating the forest land and boundaries and protecting from encroachment. Also, with construction of boundary wall at the plantation sites, there has been reported positive in terms of protection of forest areas from grazing resulting into growth of various trees and shrubs as a result forest density has been reported improved.
- Ditch fencing was reported at 107 sample sites. The length of ditch fencing varies from 120 rmt. (Jhala Ki Chowki-Sendara) to 5827 rmt. (Khatakheri-Khanpur). Like-wise, loose stone wall fencing was reported at 104 sample sites. The length of loose stone wall fencing varies from 50 rmt (Garayta-Khanpur) to 49700 rmt at 03 sites each. (Toran 12- Dewla), (Lakhawali-Udaipur) & (Toran I Compartment no.18- Dewla DOD). Also, other types of fencing were reported at 49 sample plantation sites. Other types of fencing at plantation sites include barbed wire, pucca wall, hedge fencing & dola fencing.
- It has been observed that the plantation sites (ANR Plantation) were open for grazing after 5-6 years. It has been reported that the sites have full pressure of grazing by the local livestock's and cattle. The whole investments were nullified and the sites condition reported alarming.

1.7.6 Extent and composition of sowing

- The sowing was reported at 152 plantation sites. As per practice in the department, seeds were sown along trenches/ earthen bunds & fencing on three rows. Seeds sown were Kumtha, Katkaranj, Ratanjot, Ronj, Chhela, Khair, Desi Babool & Ardu etc. The result of sowing was reported excellent at 07 plantation sites followed by very good at 03 plantation sites, good at 53 plantation sites , average at 78 plantation sites & poor at 11 plantation sites.

1.7.7 Maintenance & Other Silvi-cultural operations

- As a part of maintenance, the site used to be visited on regular basis to keep watching regarding protection aspects. Also, loose stone fencing, ditch fencing & barbed wire fencing being fully effective in controlling the biotic pressure was reported at 21 plantation sites followed by partially effective at 136 plantation sites & at 01 plantation site the fencing was not at all effective in controlling the biotic pressure..

- Hoeing and weeding was reported at 34 plantation sites. Cut back (Bair & Juliflora) was reported at 71 plantation sites. Removal of weeds & removal of dead, dying diseased and decaying trees was reported at 60 plantation sites, whereas post plantation operation such as pruning & thinning was reported at 59 plantation site. Mortality in the plantation is replaced in the second and third year by miscellaneous species.
- The pruning and hoeing should be actually done regularly at least in the first 3-4 years in order to have better growth and development of plants planted.
- The cut back operation and stocking of roots were done at the ANR sites but the result was not appealing. Also, it has been reported that the cut back operation and stocking of roots was not readily practiced at every ANR sites

1.7.8 Soil & Moisture Conservation works (SMC Works)

- Activities related to development of Soil & Moisture Conservation structures (SMC) is the key element of CAMPA Fund which is pre-requisite for the afforestation and plantation activities. Various SMC structures were constructed namely, SMC Structures - Anicut type - II & Anicut Type-III, Gabion, Earthen Check dam, PCT, V-ditch, CBD & WHS. The works of SMC can be appreciated undertaken at the plantation sites which were largely found useful and relevant. Various SMC works were reported at 153 sites, whereas at 05 plantation sites (03 NFL site at Jhalawar, 01 Tidiyasar site at Hanumangarh & 01 road side plantation at Jhalawar) SMC works were not reported.
- Mulching was reported at 03 plantation sites. The length of Mulching varies from 1000 rmt. (Vanshetra Punasar) to 15060 rmt. (Udat).Also, Gabion was reported at 04 sites. PCT/ Nadi was reported at 72 plantation sites. The area of PCT/ Nadi varies from 17.43 cum. (Kabra Mangra) to 5600 cum. (Bhairuji Bichoon Main). LSCD was reported at 63 plantation sites. The area of LSCD varies from 19.53 cum. (Vanshetra Punasar)) to 1798 cum (Aenchedi). Earthen Checkdam was reported at 46 plantation sites. The area of earthen checkdam varies from 200 cum. (Bhairuji Bichoon Main) to 10349 cum (Chopra Ki Dhani). Others SMC structures were reported at 10 plantation sites. It includes Anicut, Diggi, Tanka, Farm pond, WHS & etc.

1.7.9 Various assets created under the project in terms of Quantity & Quality

- Looking to the quality of construction of the construction sites, total 365 sites of assets created in 153 ranges of 47 divisions were evaluated. The ranking was reported very good (8) of 03 sites followed by good (7) of 72 sites, average (6) of 288 sites & poor (5) of 02 sites. However, the construction of boundary wall was reported an instrumental initiative in protecting forest and forest land from encroachment. In total, 35 Pakki diwar 4ft. (18727 meters) had been evaluated, out of which 27 were average & 08 were good in quality of construction. In wildlife forest area, 23 Pakki diwar 6ft. (17742 meters) had been evaluated. Out of which 14 were average & 9 were good in quality of construction.
- Looking to the construction of forest pillars at the sample sites, in total, 232 Pillars were evaluated. In terms of quality of construction of pillars, 218 sites were reported average, 13 were reported good & 01 was reported poor. Similarly, 46 Anicut II & III had been evaluated, out of which 15 was average, 29 were good & 02 were very good in quality

of construction. With regards to quality of construction of Mini Percolation Tanks (MPT), in total 18 MPT had been evaluated, out of which 03 MPT was rated 7 & 15 MPT were rated 6 in quality of construction.

- The construction of buildings (07 Forest Chowkis/ Van Rakshak Chowkis had been evaluated), it was reported useful for the functionaries and support in better functioning of the deputed staffs and functionaries. Looking to the quality of construction of Forest Chowki/ Van Rakshak Chowki, 02 forest chowki were reported good, 04 forest chowki were reported good and 01 forest chowki quality of construction was reported satisfactory. All were reported in use.
- With regards to dimensions reported of Anicut Type II, III & MPT (LXBXH), almost in all the 64 sites, it was reported same as per record & actual. In few sites, there was variation in height/depth of anicut/MPT due to silting.
- With regards to dimensions reported of Pakki Diwar 4ft &6 ft heights, in all the 58 sites Pakki Diwar 4ft &6 ft were reported same as per record & actual. In 12 sites, there was variation in length of Pakki Diwar 4ft & 6 ft. In 05 sites the length of pakki diwar was found less as compared to the record due to damage by local community, due to cyclone & heavy rain & etc. However, in 07 sites the length of pakki diwar was found more as compared to the record. Similarly, almost at all the 232 sites, Boundary Pillars were reported same as per record & actual. In 08 sites there was some variation in number of pillars as per record & actual as pillars were either reported damaged by local community or found fallen on ground due to some reason.
- In all the 11 sites Forest Chowki/Range Office/ Rescue Centre were reported same as per record & actual evaluation of sites. However, it was reported in use.

1.7.10 Assessment of documentation & record keeping

- As far as availability of records at the plantation sites during the third party evaluation is concerned, availability of measurement book was reported at all the 158 plantation sites followed by availability of plantation journal at 156 plantation sites.

1.7.11 Logistics/ Monitoring & Supervision

- Certainly, due to lack of adequate staffs it was found difficult to ensure the commitment and properly completion of works. Also, the limited facility of mobility at range level affected the required supervision and monitoring of activities and works executed under CAMPA.
- It has been also reported that due to limited power of transfers at office of forest division, the functionaries do not follow the instruction/ directions. This is again called non completion of work as per the required standards and norms.
- The beat and sub-beat level functionaries has limited orientation of ensuring the quality and standards which certainly be adhered with regularly monitoring and handholding support by Range officers at the time of construction and execution of activities at site level.

1.8 Recommendations & Suggestions

1.8.1 Afforestation, Growth & Survival

- The plantation sites require attention in order to combat the experience of extreme hot and cold during the year in different seasons. The watering of the plantations may be allowed for initial years in order to bear the extreme temperature crisis. In ANR, NFL and DFL plantation models, the provision of watering may be given at least 3-4 watering every year in the beginning at least for 3 years may between November – June or as required as per site condition. Provisions for watering in ANR sites may be included for first 3 years. The ANR plantation model needs to be revised based on the real time and site specific requirements.
- The system of replacement of casualty may be ensured for years till the maintenance has been sanctioned may be for 5 years so that the casualty can be reduced and more care can be given. This additional input will help in improving the vegetal cover and further address the issue of promotion of forestry which certainly adds value for Climate change (Sustainable Development Goals-13 (SDGs-13).
- The trees species under plantation may be taken up after complete assessment of the site – its topography, existing vegetation, species of trees etc. in order to have better productivity and survival.
- The initiatives of protection and guarding (*the protection from destruction by rats, porcupine (sevli), termite and Roze*) can be planned as per demand of the plantation site in order to have proper growth and development of plantation sites plants may be planned.
- After visiting the various plantation sites in various forest divisions, it has been experienced there strong need to have round the clock guarding i.e. site guards may be placed for 24 hours on turn basis. This will help in reduction in destruction during night.
- The analysis of success and failures of plantation sites and having interaction with forest officials, PRIs, local functionaries and VFPMC members, they were of the opinion that Cattle watcher (Chowkidar) appointed at the plantation sites may extend for 8-10 years in order to have better results and maximum results of the whole investment. This may hardly require 10-15% requirement of additional budget in the next 3-4 years.
- There is greater need to stop the grazing by village animals by creating proper fencing. The fencing wall should be of proper height looking to the site condition rather than the existing State norms of fencing. In some sites, stakeholders opined for raising the height of fencing wall from 1.2 meters to 1.6 meters. It will give better result and improve site conditions.
- There is need to revise the plantation models of ANR and DFL looking to the outcome/ result of afforestation and plantations. It has been reported that at some sites it becomes a problem to execute the model. Similarly, the case may be for other models, too.

- There is need to revise unit size of plantation for ANR and DFL models based on site conditions. It may be a unit of 5 to 20 hectares. This certainly will improve the coverage and success of the plantation work. In addition, the plantation sites should prefer the local species in order to have better response of the plantation activities. Site specific seedlings should be planted (as per topography & soil condition) at the plantation site.
- The plantation model needs to be revised now and it should be site specific rather than one model for the whole State. The component of plantation, protection and development of SMC structures need to be site specific. Also, the plantation activities should ensure that plants planted at site should be of more than one year and should pass through all the seasons namely, summer, winter and rainy seasons. In a span of one complete year time the plants at nursery will ensure hardening, adaptivity, resistance to larger extent.
- The model of NFL required to have site specific planning and may be the required budget. It needs to have customized budget based on its site and soil conditions. It has also reported the destruction by local population as the land in some cases in the use of local people. These issues need special attention and may be the budgetary provisions.

1.8.2 Strengthening formation & Functioning of Institution

- The sample project Forest Divisions did excellent job in fulfilling their responsibility of undertaking plantation and constriction activities with the help of VFPMC at the project sites. However, the real requirement is towards creating a system and institutions at village level, which should really undertake its responsibilities properly. In the whole CAMPA Fund supported project, the role of VFPMC is pivotal. Hence, there is stronger need to activate the VFPMC which should come forward to take active role in protection and management of forest related initiatives and plantations.
- At VFPMC level, the mechanism of operation and maintenance was not reported for assets created under CAMPA fund project at the SMC sites.
- There is need to review and support the various activities undertaken beyond the afforestation/ plantation & SMC works namely, Institution building i.e. VFPMC and capacity building by Forest division level. A regular review and facilitative support will be instrumental in understanding the local problems, and then it will be possible to provide required & timely support irrespective of financial releases.
- The Forest Division should perform its role as per the whole plan of action associated with CAMPA fund and achieving the SDGs - 13 related climate changes namely, ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of forestry and wild conservations. It is also true that stakeholders at Forest Division/ Range should also understand their importance and develop better coordination with project team and should understand their role in the project rather than completing the project activities anyhow.
- There should be provision of movement of range officials/ beat level stakeholders may be in terms of providing vehicles, POL, automation of range offices with computers and filling up the vacant posts of guards and providing travel claims timely etc. The Guards

posted need to be made regular at the sites. The incentives/ travelling allowances etc. should be given in time because the success of plan implementation is likely to depend on individual initiative, too.

- The records of works need to be maintained at the range level in addition to MB and total sanctions, expenditure should be reported along with completion date, and GPS location of the works sites (longitude and latitude).
- As per the Government norms and rules, the records and reports were maintained at Forest Divisions and Range offices level as a part of administrative formalities. However, a project report of CAMPA fund project works/ activities were not shared showing the year-wise or consolidated physical, financial, visible changes, what worked, what did not work, challenges, weaknesses of the project activities, strengths & results of whole investment etc. The report can be made at division/ range level, which certainly helps the State level stakeholders/ outsiders/ community to see the investments and outcomes of the project.
- The Quality of records needs to be improved specially meetings records of VFPMC. It was also observed that active participation of members in VFPMC meeting is the real need, which has to be thought-off urgently. Only Chairman & a few EC members of VFPMC were found active. There is strong need to work for institutional building and mobilizing local institutions.
- The VFPMC meetings need to be planned properly and should be treated as essence of the project. The fix date, adequate time suiting to the community/ EC members and deciding venue of meeting are some important elements. In addition, the meeting agenda need to be prepared for every meeting of VFPMC.

1.8.3 Records & Documentations of works

- Every Forest Division/ Range should have stock of the works with details such as physical and financial targets, completion date, GPS locations, Numbers etc. rather than locating everything with MB and financial reports.
- There should be proper system of record keeping so that the various works undertaken in the jurisdiction of range offices can be traced even after the transfer / retirement of officials/ functionaries.

1.8.4 Soil & Water Conservation and Improvement in Soil & Moisture Content

- The initial level planning for water conservation structures namely, Contour bunding (CBD), Check dam, trenches, Farm Pond, LB with Gabian, contour trenches, V-Ditch, PCT, MPT, and contour bunds etc. with required plan and estimate definitely would help in creating a quality and useful structures.
- The timely and proper maintenance of Soil and water conservation structures should be taken up under the project namely, Anicut, Gabian and PCT etc. in order to keep them functional for longer time period.
- The details of SMC works and other works details namely, name of work, year of construction, project fund, expenditures and sanctions etc. need to be taken up in order

to locate the works at the site. Nevertheless, the importance site level display of information cannot be negated. Although, it will be helpful too.

1.8.5 Support in Development of Nursery

- The nursery development may take into consideration present as well as future requirements in terms of infrastructure, expertise & capacity in order to have better use of the investment in the nursery.
- The expenditures in the particular nursery should be based on the requirements rather than taking the activities as per the provisions in the budget. It will help in developing the nurseries as per the need. This will help in proper functioning of the nursery.
- The plants lying at nurseries-may be of 3-4 years can be taken to plantation sites rather than increasing the burden of replacement of poly bags every year and maintenance.

1.8.6 Community Mobilization – Awareness camps & Meetings

- VFPMC meetings should be organized regularly. This will ensure involvement/ participation of VFPMC members in various other activities. The role of VFPMC members should be recognized by the local forest functionaries, too.
- The visit to the sample plantation sites and project villages to assess various activities executed under the CAMPA fund reflects that the community mobilization might be better. Hence, it is recommended to plan the activities related to community mobilization and awareness proper planning in advance.
- The effective community mobilization capsule definitely has powerful influence on individual and VFPMC members. The necessity is to have effective planning and management of the intervention related to community mobilization.
- The intervention of forestry development work namely, plantation, construction of SMC works and forest & wild life protection measures etc. should be taken up in holistic way so that the forest development and development of people should also be ensured in terms of social and economic development. Then only the association of people and real 'People's Participation' can be ensured. It is an essence for future activities and initiatives, which will be supported by the local level stakeholders.
- The involvement of local people both men and women in the process of forest development should be made right from the stage of planning, designing, implementation and monitoring and evaluation of various activities and initiatives at VFPMC.

1.8.7 Capacity Building Training

- The importance of capacity building inputs is instrumental in shaping the right skill at right time. It has been reported that various capacity-building trainings were undertaken for Forest Division, Range and VFPMC officials under the project. The training was mainly on the project background, objectives and purposes. The activities under the project were discussed. The roles of various level institutions were discussed. It would be better if the capacity building training would be planned in terms of inputs,

processes, outputs and outcomes expected under CAMPA. This would help in understanding the real purpose of each and every activity related to CAMPA Fund.

- The forest department functionaries/officials executing the activities related to plantations, SMC structures and assets creation should be oriented about the technicality of the various SMC structures and its importance. It has been experienced during evaluation of the sites that forest guards were not properly acquainted with the SMC structures and its technicality. The understanding and usefulness of each of the minor component is necessary.
- The functionaries namely, Forester, Asst. forester, Guard, cattle guard should be given training of various Water & Soil conservation structures, planning and preparedness in a systematic manner.

1.8.8 Ensuring Quality of works – Monitoring & Supervision

- Each of the Forest Division/ Range should play an important role in ensuring quality of works under the CAMPA fund activities. The role of Forest Division is required in ensuring quality works namely plantation and Afforestation, construction of boundary walls, boundary pillars, rescue wards and office buildings etc. The monthly review meeting at the Forest Division level may be organized with the whole team to discuss on the various inputs, processes and outputs as well as strengths and challenges.
- The project has a component of monitoring and supervision. However, it needs to be taken up properly and regularly at the division and range level in order to strengthen the project expenditures in terms of delivering quality works.
- It has been reported that the monitoring, supervision and guidance by DCFs/ACFs at field level was lagging periodically in order to ensure quality interventions. The plantation journal bearing the page for officials to note their observations in the column do not bear the note that to what extent the directions were followed at the site. The condition of the construction sites require regular supervision and monitoring in order to ensure the quality of construction.
- It has been observed at almost all the construction sites at the various sample ranges that, the works were carried out as per the estimates and drawings and budgetary provisions in the estimates. The real demands of the site were not assessed. Therefore, at some places it does not look a very useful initiative. Hence, it is recommended to undertake the work at sites as per the existing conditions and requirements.
- The monitoring should be done on real time basis using advanced GIS applications and mobile Apps by the Department Monitoring Unit involving the VFPMCs.

1.8.9 Policy Issues

- Transparency board should be installed at the VFPMC village, which gives details of overall project of CAMPA fund project & members of VFPMC etc.
- The protection in terms of cattle guards may be extended to 3-5 more years in order to have better results. In other way, it can be said that the whole investment may be guarded/protected for 3-5 years more in order to have better results.

- There is need to have required information painted at the construction and plantation sites bearing ID numbers on the transparency board so that one can get information about the year of activity/construction and under which project/ programme it has been constructed/ made and should also bear estimated cost and expenditures and completion date.
- Seed sowing should be promoted at the plantation sites. It should be sown properly not haphazardly. Plant grown from seed sown had more chance of survival. There should be provision of thinning of plants grown from seeds sown.
- The interventions of ANR should also be extended up to 8-10 years like NFL and DFL sites in order to have better results.
- It has been reported that due inadequate provisions in the plantation budget, the functionaries at range level were less interested in undertaking plantation activities. Therefore, it is recommended that the plantation budget should be sanctioned as per the real requirement of the site rather than working on the model estimate.
- The beat and sub-beat level functionaries has limited orientation of ensuring the quality and standards which certainly are adhered with regularly monitoring and handholding support by Range officers at the time of construction and execution of activities at site level.

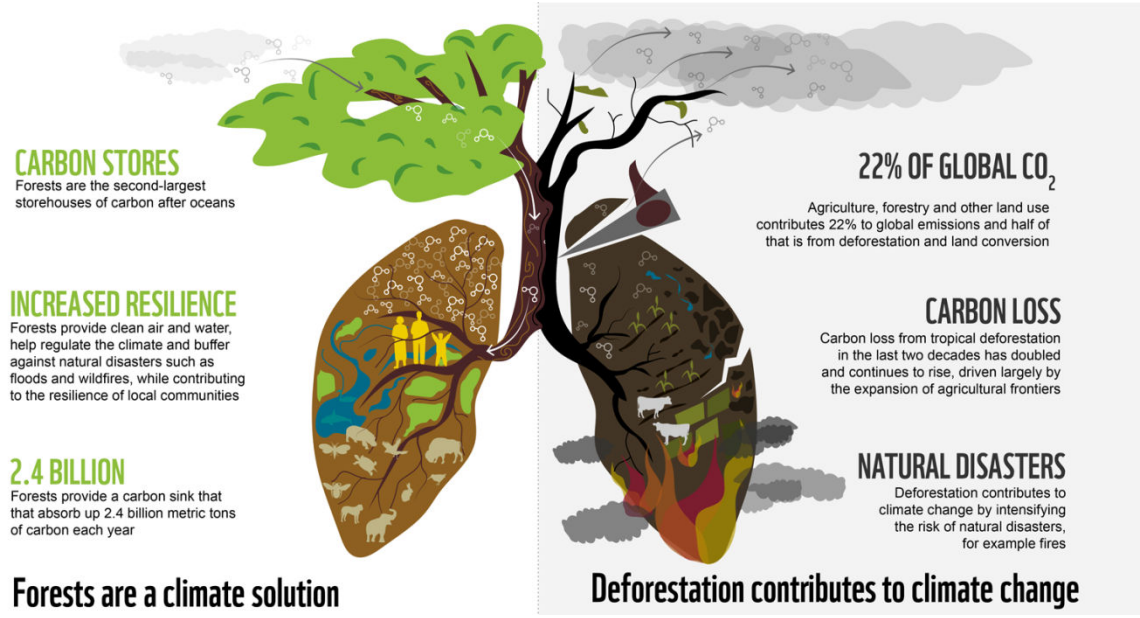
Chapter - 2

Introduction, Background, Purpose and Scope of Evaluation

2.1 Importance of Forest in Life

Forests cover around one-third of all land on Earth and breathe life into our world, but it's not just the planet that suffers when they are destroyed. Forests are important for people's lives, homes and livelihoods and have a crucial role to play in tackling the biodiversity and climate crises.

Over 1.6 billion people depend on forests for food or fuel, and some 70 million people worldwide - including many Indigenous communities - call forests home. Forests provide us with oxygen, shelter, jobs, water, nourishment and fuel. With so many people dependent on forests, the fate of our forests may determine our own fate as well.



Source: WWF

Forests help prevent erosion and enrich and conserve soil, helping to protect communities from landslides and floods and producing the rich topsoil needed to grow plants and crops. Forests also play an important role in the global water cycle, moving water across the earth by releasing water vapor and capturing rainfall. They also filter out pollution and chemicals, improving the quality of water available for human use. The destruction of forests has a knock-on effect on agriculture and can affect the production of the food we eat.

Importance of forests for the climate

Forests are the largest storehouses of carbon after the oceans, as they absorb this greenhouse gas from the air and lock it away above and below ground. So, it is no surprise that when we cut down or damage our forests, we release huge amounts of carbon emissions that contribute to the climate crisis.

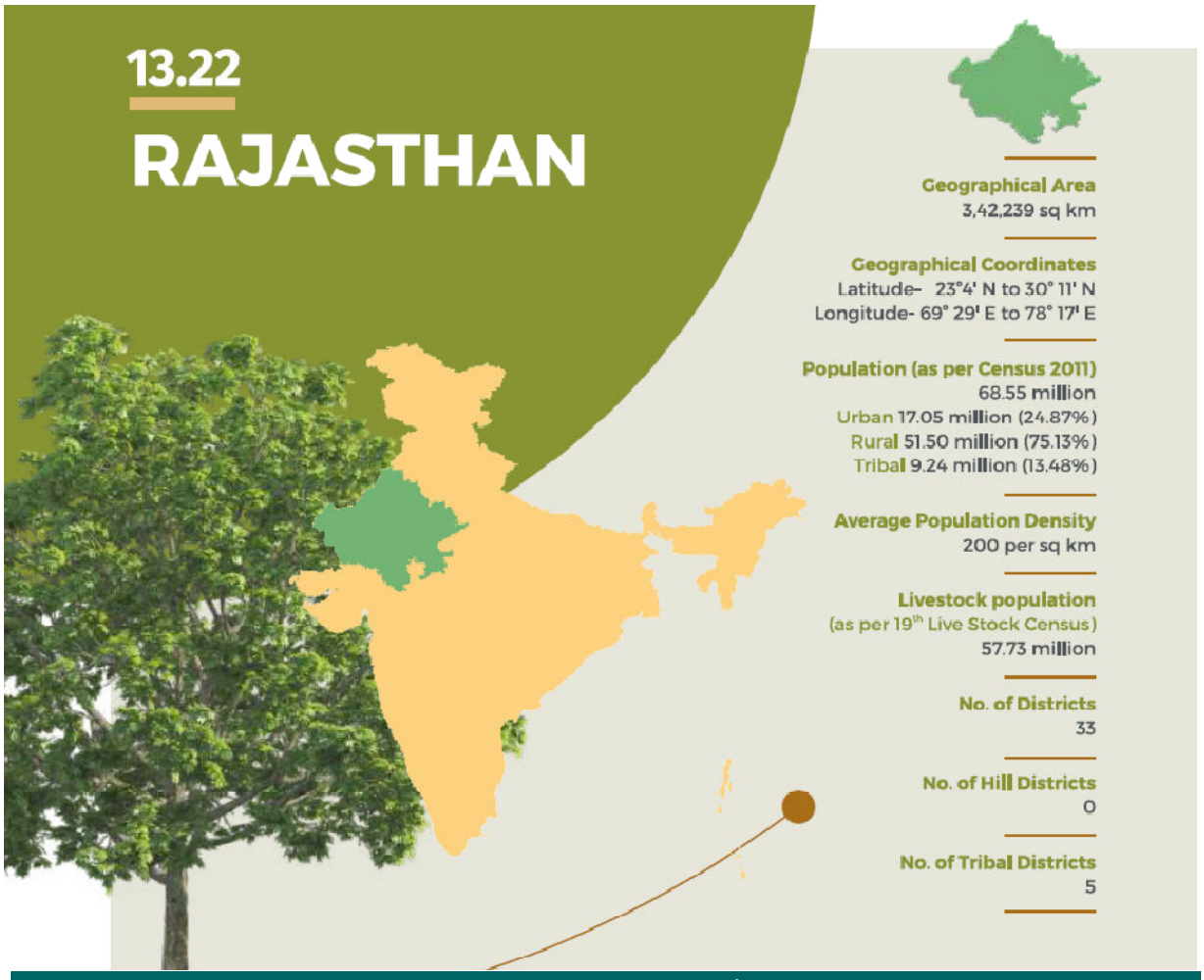
But forests are also important as they can help protect people and nature from the consequences of a warming world. As the impacts of climate change - including floods and storms from rising sea levels and increased precipitation - become more frequent and severe, forests can provide a crucial buffer for our communities.

Extreme events caused by climate change, such as more frequent wildfires, limit the ability of our forests to regenerate. At the same time, deforestation contributes to climate change by increasing the risk of fires. Stopping deforestation and restoring forests is a crucial part of climate action.

Human health is inextricably linked to forest health. Deforestation has serious consequences on the health of people directly dependent on forests, as well as those living in cities and towns, as it increases the risk of diseases crossing over from animals to humans. Meanwhile, time spent in forests has been shown to have a positive benefit on conditions including cardiovascular disease, respiratory concerns, diabetes and mental health.

2.2 Introduction & Background of State of Rajasthan

Rajasthan is the largest Indian state with 10.4% of India's geographical area, but with a population of around 6.85 crores, it accounts for only 5.66% (an increase from 5.49% in 2001) of India's total population as per the 2011 census. The state is sparsely populated, with an overall density of only 200 persons per km^2 in 2011 (an increase from 165 persons per



Source: ISFR -2021 Rajasthan

km^2 in 2001) as against a national average of 382 per km^2. However, the population density in the state varies widely from as low as 13 persons per km^2 in Jaisalmer district to as high as 471 persons per km^2 in Jaipur district. The high variation in density is due to the presence of the large, inhospitable Thar Desert.

The state of Rajasthan lies between 23° 30' to 30°11' North Latitudes and 69°29' to 78°17' East Longitudes. It shares its western boundary with Pakistan and is bounded by the Indian States, viz. by Punjab State in the north, Haryana and Uttar Pradesh States in the northeast, Madhya Pradesh State in the southeast and south and Gujarat State in the south (Map of Rajasthan).

The geographical area of the state is 34.22 million ha which is 10.41% of country's geographical area. There is mark difference in the physiographic features of the state. The Aravallis, one of the oldest mountain systems, divides the state into two unequal parts. The Aravallis cover over 30% of the state. A vast expanse of and semi-arid tract lies in the west of the Aravallis, The Vindhyan hill system, another important hill range in the south-east of the state, drains into Chambal and Banas rivers. Ravine formation is a very serious problem in the fragile sedimentary tracts of these rivers.

Rajasthan is the driest state in India. Two thirds of its geographical area is covered by Thar Desert, and the state has only 1.16% of surface water in India. The average rainfall in Rajasthan is 531 mm against the national average of 1,200 mm. In the absence of surface water, reliance on ground water is excessive, and water table is depleting at an alarming rate in most of the area except in canal command area. Due to the severe climatic conditions mentioned above, the forest & tree cover of Rajasthan State is only 7.11% (forest cover is 4.87%, and tree cover is 2.55% respectively), which is far below the national average of 23.4%, and the open forest cover out of the total forest is as high as 71.8%. Furthermore, the state faces a major challenge of desertification due to recurrent drought and increasing human and livestock pressures. Especially in western Rajasthan, desertification is causing wind erosion and deposition, followed by the water erosion, as well as water logging and salinity. More than 60% area of western Rajasthan is affected by the desertification and requires intensive management to contain desertification.

State Policy 2010 envisioned increasing 20% of vegetal cover in the state geographical area. Forest cover in the state actually increased around 82 sq.km from 2017 to 2021. There is now a clear need to provide much needed momentum to the efforts being made in this direction.

In the more recent times, a clear obligation has also been felt to integrate the vision of sustainable forest management through elements of ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of urban forestry and robust convergence with Sustainable Development Goals (SDGs).

In June 2023, Rajasthan Forest Policy 2023 has been brought out by the government. The policy aims to increase vegetation cover to 20 percent of the geographical area within next twenty years with special focus on increasing vegetation cover outside forests.

In order to achieve the above-mentioned target with sustainable forest management, people's participation is indispensable. In addition, it also focus to protect, conserve, restore and manage existing natural forests, wildlife and bio-diversity to enhance their productive

capacity for ecological security and flow of ecosystem services as well as to contribute towards economic and social well being. Moreover, the effort has been planned to increase the extent of forest cover/ tree cover in the state by encouraging reforestation, restoration and rehabilitation measures in the existing forest areas and by encouraging and expanding vegetal cover in urban and rural areas outside the forest areas. The policy also to encourage community participation and improve livelihood opportunities for people through sustainable use of forest and grassland based resources and ecosystem services etc

2.2.1 Physiography

The physiography of Rajasthan is the product of long years of erosion and depositional processes. The present landforms and drainage systems have been greatly influenced and determined by the geological formations and structures.

2.2.2 Administrative Divisions and Districts

Administratively, Rajasthan State is divided into 07 Divisions. Each Division is divided into Districts resulting in 33 Districts in Rajasthan State (table-3). These Districts are further divided into Sub-Divisions consisting of Tehsils, Sub-Tehsils and Villages.

Table-2.1: Administrative Divisions and Districts in Rajasthan State

S.No.	Division	Districts
1.	Ajmer	Ajmer, Bhilwara, Nagaur, Tonk
2.	Bharatpur	Bharatpur, Dholpur, Karauli, Sawai Madhopur
3.	Bikaner	Bikaner, Churu, Sri Ganganagar, Hanumangarh
4.	Jaipur	Jaipur, Alwar, Dausa, Jhunjhunu, Sikar
5.	Jodhpur	Jodhpur, Barmer, Jaisalmer, Jalore, Pali, Sirohi
6.	Kota	Kota, Baran, Bundi, Jhalawar
7.	Udaipur	Udaipur, Banswara, Chittorgarh, Dungarpur, Rajsamand, Pratapgarh

2.2.3 Topography

The physical variations in Rajasthan State are more than any other State of India. It has regions of rolling sand dunes in the west, lofty rocks of Aravalli Ranges in the middle and fertile plains in the east. The extensive topography of this State includes rolling sand dunes, rocky terrain, wetlands, barren tracts, land filled with thorny scrubs, river-drained plains, plateaus, ravines and wooded regions.

In a more broad way the topography of Rajasthan can be divided in the following regions-(i) the Aravalli or Hilly regions, (ii) the Thar and other arid regions, (iii) the Plateaus including Vindhaya and the Malwa, (iv) the Fertile plains including the Mewar, (v) the Forest Regions and (vi) the Water bodies including Rivers and Salt Lakes.

The Thar Desert or the Great Indian Desert encompasses about 70% of total landmass of Rajasthan and hence this State is identified as the "Desert State of India". The Rajasthan

desert which forms a major portion of the Thar Desert is the biggest desert in India and encompasses the districts of Jaisalmer, Barmer, Bikaner and Jodhpur.

Important rivers of State are Luni, Chambal, Banas, Banganga, Sabarmati, Mahi and West Banas, etc. The Luni river system that rises from the western slopes of Aravalli Ranges (near Ajmer) flows through the semi-arid transitional plains into the Rann of Kutch and Arabian Sea, while the Banas and other streams, rising from the eastern slopes of the Aravalli Ranges, join the Chambal. The rivers of the State are rainfed and identified by 14 major basins divided into 59 sub-basins.

2.2.4 Climatic conditions

In accordance of varying topography, Rajasthan has varying climate. The climate of Rajasthan can be broadly classified into four distinct seasons, viz. (i) Pre-monsoon season, which is the hot season and extends from April to June, (ii) Monsoon season that occurs in the month of June in the eastern region and mid- July in the western arid regions, (iii) Post monsoon season that commences from mid-September and continues till November and (iv) Winter season that extends from December to March, January being the coldest month of the year. The desert becomes very hot (50° C) during the summer and very cold (0° C) during winter. The average annual rainfall is less than 25 cm. Days are hot and the nights are cold. Sandy wind storms during summer and frost during winter are the usual phenomenon of the desert.

2.2.5 Soil Variance

The soil of Rajasthan alters with its wide-ranging topography and the availability of water. The varied kind of soils available in Rajasthan are mostly sandy, saline, alkaline and chalky (calcareous). Clay, loamy, black soil and nitrogenous soils are also found.

2.2.6 Status of Forests and Wildlife

The area under forest in the Rajasthan State recorded is 32,737 sq.km, which is 9.57% of its total geographical area. The reserved, protected and unclassed forests are 38.11%, 55.64% and 6.25% respectively. But the forest cover in Rajasthan State is 16654.98 sq.km, which is 4.87% of its geographical area (ISFR 2021: Rajasthan State).

Rajasthan is the abode of certain flora and fauna that are particularly endemic to arid regions and are specially adapted biologically to survive in the dry and waterless regions of the State. Owing to the varied topography one can find an assortment of flora and fauna and avifauna in Rajasthan.

The main tree species found in Rajasthan are *A. Tortilis, A. Senegal, Prosopis Cineraria, Acacia Nilotica, P. Juliflora*, *Zizyphus Mauritiana, Salvadora Oleoides, Azadirachta Indica, Butea Monosperma and Tectonagrandis, etc*. Numerous species of herbs and shrubs that have medicinal values are also found in this State.

The fauna of Rajasthan consists of 23 species of Lizards and 25 species of Serpents including the Spiny Tail Lizards and the Russel's Vipers. Other wildlife species include Antelopes, Indian Gazelles or Chinkaras, endangered Great Indian Bustard, Black Bucks, the Nilgai or the Bluebull, Wild Cats, Silver Foxes and so on. There are about 450 species of avifauna

including various migratory birds. For the wildlife conservation, Rajasthan State is managing about 5 National Parks and 23 wildlife sanctuaries.

2.3 About CAMPA

The Compensatory Afforestation Fund and Compensatory Afforestation Fund Management and Planning Authority (CAMPA) were established in 2004, after Supreme Court's orders in 2001.

The Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Act seeks to mitigate the impact of diversion of forest land for non-forest purposes by making sure through a well-defined institutional mechanism, that the funds are released and utilized quickly, efficiently and transparently. The CAMPA law is applicable to States, Union Territories, and the Centre as well.

Objectives of CAMPA

The objectives of the CAMPA Law are stated below:

- To promote afforestation and development activities in order to compensate for forest land that is intended to be diverted to non-forest uses.
- To law down effective guidelines for the State.
- To facilitate necessary assistance in terms of scientific, technological and other requisites that may be required by the authority responsible for the State CAMPA.
- To recommend measures based on strategic planning to the authorities of the State CAMPA.
- To resolve issues that arises between inter-state and Centre-State.

State CAMPA

The authority or the instrumenting body that is responsible for accelerating activities for the preservation of natural forests, effective management and monitoring of wildlife, infrastructure development in the sector and other allied works in the State is known as the State CAMPA.

CAMPA Fund

In simple terms, it can be called as the compensation in monetary values that has to be deposited along with the net value of the land under the CAMPA law by the authorities who are diverting the forest lands for non-forest purposes so as to raise the forest. This is done along with compensating the use of forest-land with the equivalent non-forest land that has to be taken up for afforestation. Authorities that divert the land have to bear the cost of Compensatory Afforestation.

A Few facts about the CAMPA fund

- The Supreme Court of India in 2002 (TN Godhavarman vs Union of India case) had ordered the creation of CAMPA fund.
- CAMPA was established in 2004 to manage the Compensatory Afforestation Fund (CAF) and it acts as the custodian of the CAMPA fund.

- After the CAG report of 2013 where it was mentioned that CAMPA funds are going unutilized, CAF Act, 2016 came into force on 30th September 2018
- National Compensatory Afforestation Fund under the Public Account of India and State Compensatory Afforestation Fund under the Public Account of each state was created
- The State Funds will receive 90% of the payments while the National Fund will receive the remaining 10%.
- All states except Nagaland have set up state CAMPAs following this notification, as of November 2019.

Compensatory Afforestation Fund

- The CAF Act was passed by the center in 2016 and the related rules were notified in 2018.
- The CAF Act was enacted to manage the funds collected for compensatory afforestation which till then was managed by ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
  - Compensatory afforestation means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.
- As per the rules, 90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.
- The funds can be used for the treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices, and allied activities.

2.3.1 About State CAMPA: Rajasthan

The Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Rajasthan was constituted vide Govt. of India Notification No. S.O. 4856 (E) dated 14.09.2018 with an objective of conservation, protection, regeneration and management of existing natural forests, wildlife and their habitat and raising site-specific compensatory afforestation, penal compensatory afforestation etc.

The State CAMPA formulates Annual Plan of Operation (APOs) every year to carry out its operations in the forestry sector. The activities of CAMPA include compensatory afforestation, plantations under Net Present Value scheme, maintenance of permanent nurseries, forest protection, natural forest management, biodiversity conservation, wildlife management, research, capacity building, strengthening and development of infrastructure for forest protection and management, information technology and communication, forest research, working plan works, awareness generation, and other allied activities etc.

Afforestation and several other forestry related works have been carried out by Rajasthan CAMPA under compensatory afforestation and other schemes through the assistance of Ministry of Environment, Forest & Climate Change, and Government of India in 225 ranges of 51 Forest Divisions distributed in all 33 districts of Rajasthan.

Under CAMPA, several activities have been taken up for compensatory afforestation, preservation & development of natural forests, afforestation of degraded forest areas, forest protection, management of wildlife, capacity building, research & development, infrastructure development and other allied activities from 2010-11 till now.

2.3.2 CAMPA Initiatives - Backdrop

More often than not, forest lands are diverted to non-forest purposes which are, of course, development activities such as irrigation, hydropower, mining, construction of industrial units, roads, railways, canal and urban expansion etc. No doubt, these activities assume great significance in a country like India, protecting and growing forest are equally or more important. While it is somewhat difficult to draw a line between the two indicating up to which point the nation can afford to address the development activities at the cost of forest, resilience of the forest is the bare minimum requirement that should be maintained to allow for its regeneration. However, several instances suggest especially in the Indian context that in many cases nothing of this sort is obeyed which is why plans/trees stop regenerating. This is what one call 'de-development', a process that has a stultifying effect on the growth of desertification in an arid state like Rajasthan. Besides, desertification, salinization of ground water and loss of soil nutrient are ecological risk especially in the western part of the state of Rajasthan.

It is distressing to note that a total of 11,467.83 Hectares (114.68 sq.km) of forest lands was diverted in 22 states between 01 January 2019 and 06 November, 2019 in order to implement 932 development projects. It is against the backdrop of destruction of vast areas of forest land the constitution of India under its realm has made a provision of "Compensatory Afforestation". It is institutionalized as a part of the compensatory Afforestation Fund Act, 2016. The Ministry of Environment and Forest, New Delhi notified on 23rd April, 2004 describing the institution, management and function of the CAMPA (Compensatory Afforestation Fund Management Act) committee, The Act was passed by Rajya Sabha on 28th July, 2016. The compensatory afforestation forest fund (CAF) is created by the money paid by those developers who have razed forest land for their development projects. The objective is that such destroyed land must be made good by means of regenerating forest elsewhere on non-forest lands.

The land for the afforestation should be in the non-forest land equivalent to the forest land which is destroyed. The land should be identified in proximity to a reserved forest or a protected forest. In case it is not available in the same district, compensatory afforestation must be undertaken anywhere else in the same state/Union territory. Even if it is not available within the state/ UTs, CA has to be carried out elsewhere outside the state, but the extent of plantation site should be twice the extent of the land diverted for non-forest use. However, one has to bear in mind that new plantations may fulfill the objective of tree cover but they cannot compensate for the actual loss of the ecosystem services provided by a full grown forest.

Despite all tall talks, several evidences suggest that the afforestation programme under CAMPA is far away from meeting its objectives although the central government spent around Rs 59,000 crore between 2009 and 2020. True, there may be some instances that may speak of its better implementation that has yielded positive results. But then in the overall context one may be inclined to examine its impact against the backdrop of India's commitment to international environmental laws, like the United Nations conventions on climate change and land degradation. It may be worthwhile to remind us that India has pledged to absorb between 2.5 and 3 billion tones of CO_2 by 2030 by planting trees. The country has also committed to foresting more than 26 million hectares of degraded land.

It is against this backdrop, the present exercise is undertaken to evaluate how CAMPA is implemented in the state of Rajasthan, progress being made and difficulties being faced during the years 2020-21 and 2021-22.

2.3.3 PROJECT OBJECTIVES

State CAMPA has following main objectives:

(a) conservation, protection, regeneration and management of existing natural forests;

(b) conservation, protection and management of wildlife and its habitat within and outside protected areas including the consolidation of the protected areas;

(c) compensatory afforestation;

(d) environmental services, which include:

(i) **provision of goods** such as wood, non-timber forest products, fuel, fodder and water, and provision of services such as grazing, tourism, wildlife protection and life support;

(ii) **regulating services** such as climate regulation, disease control, flood moderation, detoxification, carbon sequestration and health of soils, air and water regimes;

(iii) **non-material benefits** obtained from ecosystems, spiritual recreational, aesthetic, inspirational, educational and symbolic; and

(iv) **Supporting such other services** necessary for the production of ecosystem services, biodiversity, nutrient cycling and primary production.

(e) Research, training and capacity building

2.3.4 CAMPA has the following major components:

S.No.	Major Component	Brief Description
1	Afforestation	The following afforestation works are being undertaken in forest divisions: (a) Non Forest Land (NFL) (b) Degraded Forest Land (DFL) (c) Assisted Natural Regeneration (ANR) (d) Road Side Plantation (e) Silvi Pastoral Plantation
2	Construction of Buildings	(a) Forest Chowki (b) Office cum Residence (c) Rescue Centres
3	Soil & Moisture Conservation Structures (SMC)	(a) Anicut type-II (b) Anicut type -III
4	Construction of Boundary wall	(a) Construction of 4 feet high stone masonry wall in forest areas (b) Construction of 6 feet high stone masonry wall in wild life areas
5	Construction of Boundary Pillars	Boundary pillars
6.	Construction of MPT	Mini-percolation tanks

2. 4 The Evaluation Study

The Third Party Evaluation of "Evaluation study of Plantations and Construction of Soil & Water Conservation Structures and Buildings executed under CAMPA during 2020-21 to 2021-22" is taken up by the CDECS as per the project M&E requirement. As part of project Monitoring & Evaluation, Third Party evaluation / Study is to be conducted for evaluation of survival rate of plants on randomly selected sites (20% of all the Plantation sites) as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement. Under the Third Party evaluation, systematic stock taking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation would be undertaken. The third party will evaluate the CAMPA works undertaken as per Annual Plan of Operations (APO) of 2020-21 to 2021-22. The results and analysis derived from the assessment would enable the project to further improve the processes and strict adherence to the laid down guidelines.

2.5 The Objectives of Third Party Evaluation Study

The objectives of the Post-project evaluation/ Study are:

- Evaluation of survival rate including growth of plants and their impact on vegetal cover.
- To assess adherence to the procedures for construction, plantation and any other proceedings for asset creation in conformity with the guidelines and procedures laid down under the project or defined by the government.
- Stock taking of various assets created under the project in terms of quantity and quality.
- To check the documentation, record keeping, reports relating to assets created at Divisional level.
- To assess the overall impact of the various activities of the project.
- To identify and suggest areas for improvement and actions to be taken.

The Scope of Work under Evaluation Study

- Field verification and validation of plantations and quality of work done.
- Field verification and validation of Water Conservation Structures and eco-restoration closures.
- Field verification of various buildings/walls/assets constructed under the Project.
- Verification and comparison of related documents such as micro plan, plantation journal, plantation card, design and estimate for soil & water conservation structures and construction of wall/ buildings, store register and other necessary supporting documents in relation to the field situation and periodical progress reports submitted.
- Assessment of the procedures/norms of procurement, construction, plantation, payment and any other proceedings for asset creation in relation to the guidelines and procedures laid down under the project or defined by the government.
- Suggested Improvements.
- Compliance of official circulars/orders by the implementing authorities.

2.6 Overview of Physical & Financial Progress under CAMPA Activities during the Year 2020-21 to 2021-22

2.6.1 Physical Targets

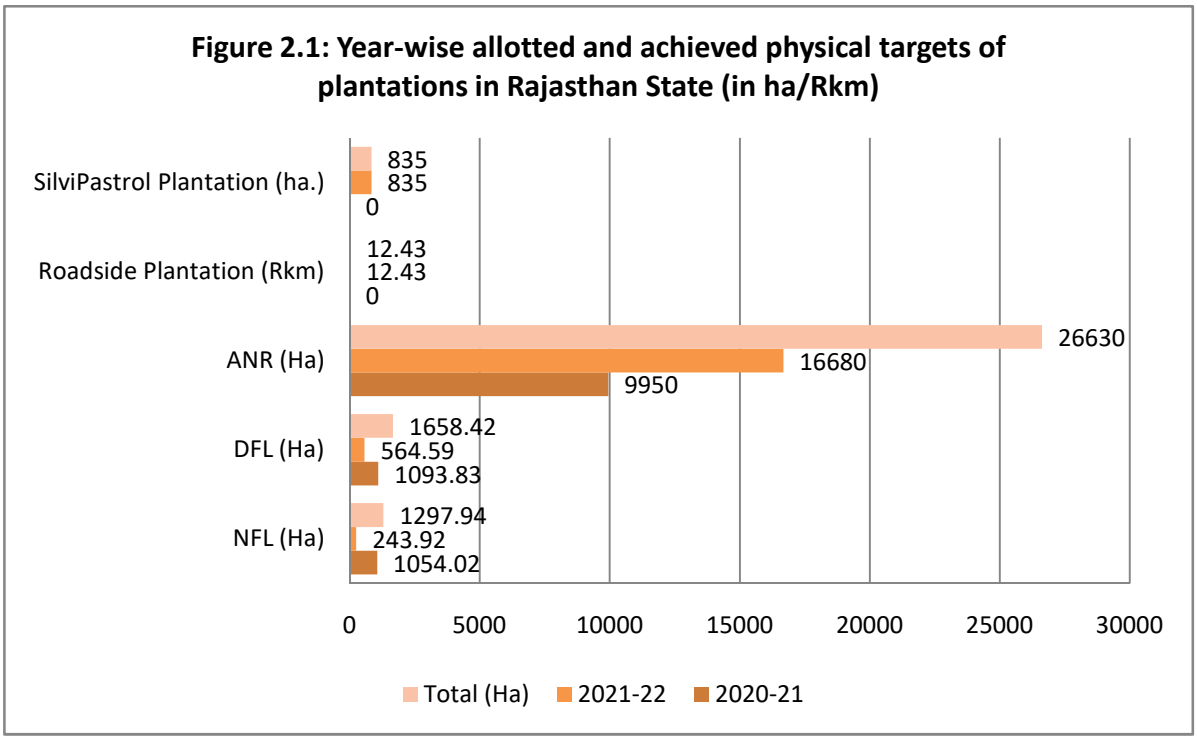
2.6.1.1 Plantations

The Division-wise and year-wise allotment and achievement of physical targets of afforestation/ plantations (in ha) during the years 2020-21 to 2021-22, under State CAMPA Funded Project is presented hereunder,

Abstract of year-wise allotted and achievement of physical targets of plantations (in ha) during the years 2020-21 to 2021-22, under State CAMPA Project in Rajasthan State were as given in table 2.2 and figure 2.1.

Table 2.2: Consolidated information of Plantations carried out (in ha.) during three years -. 2020-21 & 2021-22

Year	Model of Plantation with ha.				
	NFL (ha.)	DFL (ha.)	ANR (Ha.)	Roadside Plantation (Rkm)	Silvi-Pastrol Plantation (ha.)
2020-21	1054.02	1093.83	9950	-	-
2021-22	243.92	564.59	16680	12.43	835
TOTAL	1297.94	1658.42	26630	12.43	835



It is evident from the table and figure that during the project period of 02 years (2020-21 to 2021-22), physical target of NFL 1297.94 Ha, DFL 1658.42 Ha, ANR 26630 Ha, Silvi-Pastrol Plantation 835 Ha & Roadside Plantation 12.43 Rkm plantation was achieved against the allotted target of NFL 1297.94 Ha, DFL 1658.42 Ha, ANR 26630 Ha, Silvi-Pastrol

Plantation 835 Ha & Roadside Plantation 12.43 Rkm resulting in 100% achievement of plantation targets.

2.6.1.2 Asset Works

The Division-wise and year-wise allotted and achieved physical targets of construction activities (Soil and Moisture Conservation Works and other Construction Works) during the years 2020-21 to 2021-22 under State CAMPA Fund Project in Rajasthan are obtained from Office of PCCF (HoFF), Government of Rajasthan.

Abstract of year-wise allotted and achieved physical targets of construction activities (Soil and Moisture Conservation Works and other Construction Works) during the years 2020-21 to 2021-22 under State CAMPA Project in Rajasthan State were as given in table 2.3.

Table 2.3: Year-wise Soil and Moisture conservation works and other construction works done during 2020-21 to2021-22

Year	Construction activities								
	Anicut II (No.)	Anicut III (No.)	4 Ft. wall (m.)	6 Ft. wall (m.)	Forest Guard Chowki (No.)	Office - cum-residence (No.)	Rescue centre (ha.)	Boundary Pillars (No.)	MPT (No.)
2020-21	60	30	44901	35994	9	4	-	7071	-
2021-22	68	33	30681	20803.50	24	8	1000	7343	65
TOTAL	128	63	75582	56797.5	33	12	1000	14414	65

Note: Source of Data - Office of PCCF (HoFF), Government of Rajasthan

It is evident from the above table that during the project period of 02 years (2020-21 to 2021-22), physical targets of 128 Nos. of Anicut II, 63 Nos. of Anicut III, 75582 meters 4 ft. wall, 56797.5 meters 6ft. wall, 33 No. of Forest Guard Chowki, 12 No. of Range Office cum Residence, 100 Ha Rescue centre, 65 MPT & 14414 No. of Boundary Pillars activities were achieved against their targets. It shows 100% achievement of construction activities/ assets/SMC structures/Boundary wall etc. against the allotment.

Chapter - 3

The Methodology, Sampling & Approach

3.1 The Methodology

Under 3rd Party Evaluation study for various forestry works under CAMPA Project Activities, the Methodologies and approaches are an important aspect. As it has been said **'well begun is half done'**, this proverb reminds us about the wonderful beginning of the assignment which certainly will lead us to achieve better in terms of quality and quantity. But as far as Evaluation study is concerned, it is a stage which will help the project to drive in more planned and controlled way to reach the destination with all zeal and enthusiasm of what has been planned in the beginning. Thus, Third Party Evaluation study at this stage i.e. after 2-5 years of project implementation is a stage where lot more care is required to assess the success, achievements, procedures, problems & sustainability etc. This may be related to procedural, human, policy and may be execution, which will certainly need to be assessed if the planned rate, numbers and quantity are affected in the project.

The whole purpose is to assess the intervention of the State Forest Department, Rajasthan relating to implementation of various activities of forest protection, management and development by the funds received from CAMPA Fund. The various forestry works have been undertaken in 225 ranges of 51 Forest Divisions including protected areas in all the 33 districts of Rajasthan.

In accordance with the project proposal and logical framework, the Third Party Evaluation study of various activities under the project has been taken-up to assess what the project has achieved against agreed outputs and to guide further the project in terms of its focus, direction and staffing within the current policy and socio-economic environment. It should be emphasized that this follows the CAMPA Project activities.

The Third Party Evaluation of CAMPA assisted Project activities was largely focused on the assessment of achievements, strengths, weaknesses and largely the speed, direction and quality of interventions under the project.

This evaluation is an independent process that concentrates primarily on identifying problems encountered by the project, both in its design and its implementation to date and especially on the development of recommendations for improvements and modifications that could make the project more effective in attaining its stated objectives and outcomes.

In the evaluation, we have applied the evaluation criteria of relevance, effectiveness, efficiency, quality and level of satisfaction, usage and usefulness in the given situation. Under the assignment of Third party evaluation, the project design has been analyzed in the light of current situation against the project inputs, output & outcome vis-à-vis the objectives. In addition, under the planned Third Party evaluation, systematic stocktaking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation would be undertaken. The results and analysis derived from the assessment would enable the project to improve further the processes and strict adherence to the laid down objectives and guidelines.

The basic design logic that has been used in the Third party evaluation can be summarized hereunder,

- Status of plantations, afforestation, survival, soil & water conservation structures undertaken at Silvi-Pastrol Plantation, Roadside Plantation, Non Forest Land (NFL), Degrated Forest Land (DFL) and Assisted Natural Regeneration (ANR).
- To what extent the plan of action has been adhered to in terms of procedure, construction, plantation and asset creation in conformity with the guidelines etc. laid down in the project.
- Field verification and validation of plantations and nurseries and quality of work done.
- Field verification and validation of Water Conservation Structures namely, MPT, Anicut –II and Anicut –III) and buildings constructed namely, Rescue wards, Forest Chowki, Range Office cum Residence.
- Field verification and assessment of quantity, quality and usefulness of construction of building walls (4 feet and 6 feet walls) and boundary pillars under the CAMPA Fund.
- Verification of related documents such as micro plan, plantation journal, plantation card, design and estimate for SMC and building construction.
- Assessment of the procedures/ norms of procurement, construction, plantation, payment and any other proceedings for asset creation namely, rescue wards, boundary wall construction and construction of boundary pillars in relation to the guidelines and procedures laid down by the department.
- Stocktaking of the various Assets created under the project in terms of quality, quantity and usefulness.
- Assessment of the overall impact of the various packages of the project in terms of Identification of Strengths, Weaknesses, Opportunities and Threats.
- Analysis of cause of success and low performance.
- Identification of constraints or barriers to effective execution of the project in order to suggest areas for improvements and actions need to be taken.
- Suggesting Solutions in order to overcome barriers and also to address root causes & threats.

Five Criteria for Evaluation Study

The Evaluation Study focused on the five evaluation criteria:

- Relevance,
- Effectiveness,
- Efficiency,
- Sustainability and,
- Impact

Each criterion is associated with a number of key evaluation questions that are to be addressed and explored.

3.2 The Methodology of Third Party Evaluation Study

This 3rd Party Evaluation study has been conducted for evaluation of survival rate on randomly selected plantation sites as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement. Under the Third Party evaluation study, systematic stock taking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation would be undertaken. The results and analysis derived from the assessment would enable the project to further improve the processes and strict adherence to the laid down guidelines for the "Third Party Evaluation study of Plantations and Construction of Soil & Water Conservation Structures and Buildings executed under CAMPA during 2020-21 to 2021-22".

The quantitative and qualitative tools have been used for the Third Party Evaluation study of CAMPA assisted Project activities in all the sample districts i.e. 07 Forest circles/ Sambhags, 51 Forest Divisions (covering 225 Ranges) of the state.

The methods, tools and techniques used in the Third Party Evaluation study of CAMPA assisted Project activities are stated hereunder:

Methods	■ Quantitative: Empirical, Assessing the individual construction work, plantation and afforestation works, water conservation structures, and Agro forestry activities. ■ Nursery works, Agro-forestry, Trainings & capacity building initiatives ■ Statistical ■ Qualitative: Following standard procedures in execution, construction, trainings, GIS /GPS based monitoring, Use of monitoring tools, norms in construction, way of initiating construction works for Water conservations, WHS, civil work, etc.
Techniques for collecting information	■ Examining records, literature related to afforestation, nursery works, trainings & civil construction designs and their application at site ■ Observing/inspecting the sites of afforestation and construction activities – MPT, Anicut type II & III. ■ Quality, Standards and specifications ■ Interaction with the State officials, Division & Range officials, ■ Using secondary data & information ■ Listening to or interrogating informants: o Open interviews. ■ Visual Aids ■ Examining records of Forest Divisions
Tools	■ Questionnaire for assessing the survival rates of plantations & quality of works as per standards and norms. ■ Checklist for discussion with key stakeholders ■ Questionnaires, interview schedule, check lists,

	▪ (In total 07 different tools have been developed/ provided by the department)
Techniques for analysis	▪ Computer based data processing ▪ Statistical methods ▪ Transforming qualitative information into quantitative data. ▪ Photo & picture analysis

3.3 Evaluation Design & Approach

Qualitative Approach	Quantitative Approach
Key Purpose: To provide qualitative information to the study and develop achievement & correction plan by substantiating quantitative information	**Key Purpose**: To substantiate the Evaluation by putting quantify values to the project indicators.
1. In depth interviews with Divisions & Range level officials In-depth interviews with various management units namely, Divisions and Ranges. The in-depth guidelines will be semi-structure questionnaire.	**2. Secondary data collection on indicators** Some indicators of the CAMPA assisted Project activities Phase-1 will pertain to understanding of Project Memorandum and M&E framework under the project. The baseline data, reports namely, monthly reports, quarterly reports and related documents will be consulted and analyzed.
3. In-depth Discussions with partner Field level partners /NGOs and consultants To gain understanding of the system, process and outcome of the various initiatives namely, capacity building and skill development trainings, value additions, linkage with banks/ financial institutions, undertaking nursery training and plantation activities, etc. This has also given an insight into the effectiveness of the micro plans prepared and its extent of execution.	**4. Assessment of Vegetal indicators** It pertains to measurement of afforestation, agro-forestry, forest regeneration, growth and vegetal cover.
5. Field visits for quality assessments of survival rate of Plantations, in-situ soil & moisture (SMC) works and other assets created To assess the quality of works undertaken namely, Water conservation	**6. Field visits to ensure the type and number of assets created** Field verification and validation of plantations and nurseries and quality of work done. Field verification and validation of Water

structures created namely, Anicut type II & III. ▪ In situ soil and water conservation works like CBD, Check dams, LB with gabions) ▪ Plants distribution ▪ Afforestation & Plantation works/ survival ▪ Construction of Building (Forest Chowki, Office cum Residence & Rescue Centres), boundary wall & boundary pillars.	Conservation Structures, constructed building, boundary wall & boundary pillars. To assess the number of Water conservation structures created namely, Anicut II & III. GPS coordinates of the sites and assets verified during Third Party Evaluation.
7. Field level monitoring, reporting and documentations To an extent the field level Quality monitoring, reporting and documentations taken up – survey map/ treatment map, micro-plan, plantation journal, plantation card, site estimate, transparency board. Compliance of official circulars/order by the implementing agencies.	**8. Field level monitoring, reporting and documentations** To an extent the quantity of field level monitoring, reporting and documentations taken up – survey map/ treatment map, micro-plan, plantation journal, plantation card, site estimate, transparency board. To an extent the compliance of official circulars/order by the forest divisions under the project to ensure proper execution at sufficient level. Verification and comparison of related documents such as micro plan, plantation journal, plantation card, design and estimate for SMC and structure construction, store register and other necessary supporting documents in relation to the field situation and periodical progress reports submitted.

3.3.1 Approach of Field level evaluation of plantation sites

a) Finding the plantation site as per record and reaching along with forest functionaries and in charge of site
b) Meeting with Stake Holders
c) Checking of records
d) Signing of pre-panchnama
e) Move around the boundaries as per records and interaction with site in charge
f) Measurement of planted area (Preparation of KML file).
g) Counting of species-wise planted live/dead plants.
h) Measurement of height and girth of planted live plants.
i) Counting of plants of natural regeneration.

j) Estimation of plants of seed sowing.
k) Assessment of SMC works.
l) Re-survey of plantation site after completion of counting
m) Recording of field observations in assessment formats
n) Getting signature on formats to have consensus on the evaluation findings
o) Filling the post evaluation panchnamma and getting signatures

3.4 Sampling & Sample size

The Third Party Evaluation study was carried out in 07 Forest Circles/ Sambhags, 51 Forest Divisions (covering 225 Ranges) of CAMPA assisted Project activities of Rajasthan. The scope of work is stated hereunder:

c) The selection of sites has been done randomly by the office of A.P.C.C.F. (M&E) O/o of PCCF (HoFF) using stratified random sampling method. Division-wise list of selected sites were enclosed in separate envelopes and sealed. The sealed envelopes were handed over to the Evaluation agency 'CDECS Jaipur'. The sealed envelopes were opened at respective Forest Division headquarter in the Office of Deputy Conservator of Forests in the presence of Deputy Conservator of Forests or his representative of the Division.

d) Criteria for site selection:

- 20% sites of plantations of each Division have been randomly selected for evaluation.
- Plantation / afforestation Sites selected for evaluation were 100% and 10% evaluated based on odd and even criteria on the selected sample lists division-wise.
- 20% sites of Anicut in each division were evaluated.
- 20% constructions of Chowki/ office-cum-residences/Rescue Centers/Boundary Pillars/Rescue wards were evaluated in the same manner.

3.5 The Approach

The Evaluation Study has also followed the SWOT Analysis in order to assess the Strengths, Weaknesses, Opportunities and Threats and come out with the suggestions and recommendations to set the whole tune for successful completion of the project in-terms of achieving its set goals and objectives in the light of the present situations and circumstances.

This Third Party Evaluation study has been conducted for evaluation of survival rate on randomly selected plantation sites as well as for qualitative and quantitative assessment of various activities of the project and identification of areas for improvement. Under the Third Party evaluation study, systematic stock taking and verification of physical outputs/ performance/ achievements and identification of process adherence and quality consciousness at various levels of project implementation have been undertaken. The results and analysis derived from the assessment have enabled the project to further improve the processes and have strict adherence to the laid down guidelines for the Third Party Evaluation / study of CAMPA Project works/activities undertaken during the year 2020-21 to 2021-22.

Strengths, Weaknesses, Opportunities and Threats

STRENGTHS	**WEAKNESSES**
▪ In terms of teams and management structure ▪ Process, procedures and management ▪ Inputs ▪ Afforestation/ Plantations, Forest protection, ▪ Management & development ▪ Outcomes & Achievements ▪ Community mobilization ▪ Water conservation Structures and their benefits – immediate and long terms ▪ Documentation, Records and reporting	▪ System and processes ▪ Management ▪ Poor Execution & Achievements ▪ Trainings & Capacity building ▪ Designs and interventions ▪ Quality of execution, water conservation structures, afforestation (NFL/DFL/ANR), construction of buildings –forest Chowki, Range office cum Residence, Rescue centres, SMC structures (Anicut II & Anicut III),Boundary wall and boundary pillars ▪ Records, documents and reports
OPPORTUNITIES	**THREATS**
▪ Existing system – how beneficial and what is beneficial ▪ Consolidate and use the system strengthening measures ▪ Community involvement ▪ Monitoring system ▪ Team for execution ▪ Support system	▪ Areas, processes, system and activities need to be strengthened ▪ Factors and processes affecting the project and its quality execution ▪ Procedures and actions, norms and standards ▪ Physical structures for soil and water conservations & regular maintenance ▪ Community behaviour & practices ▪ Participation & ownership

OBJECTIVES vs. AREAS OF ASSESSMENT/ STUDY

The Key Objectives of External evaluation/ Study are:

S.No.	Objectives	Areas of Assessment/ study
1.	To evaluate the survival rate including growth of plants and their impact on vegetal cover.	▪ Spot/ Field verification and validation of Afforestation/ plantations and nurseries and quality of work done along with GPS locations. ▪ Survival rate of plantations under various models including growth and impact of plantation and, ▪ Improvement in vegetal cover.
2.	To assess adherence to the procedures, construction, plantation and any other proceedings for asset creation in conformity with the guidelines and procedures laid down under the project or defined by the government.	▪ Assessment of the procedures/norms of procurement, construction, plantation, payment and any other proceedings for asset creation in relation to the guidelines and procedures laid down under the project or defined by the government. ▪ In situ soil and water conservation works like CBD, Check dams, LB with gabions) ▪ SMC Structures -Anicut type-II & Anicut Type-III, Farm pond, PCT, WHS ▪ Creation of new /development of existing Nurseries ▪ Development of existing nurseries ▪ Construction of Forest chowki, Range Office cum Residence and Rescue Centres ▪ Constriction of boundary walls - Construction of 4 feet high stone masonry wall in forest areas & Construction of 6 feet high stone masonry wall in wild life areas ▪ Construction of Boundary Pillars
3.	To take the stock of various assets created under the project in terms of quantity and quality.	• Field verification and validation along with GPS locations of Water Conservation Structures, closures, and assets created under CAMPA Project fund. • Verifications of the various assets created under project namely, construction activities/ structures, Water conservation structures etc.
4.	To check the process and assets created in the Forest Divisions.	• Field verification of Quality, quantity and usefulness of buildings and boundary walls constructed. • Verification of related documents such as micro plan, plantation journal, plantation card, Estimates, design and estimate for SMC and

		building construction, and other necessary supporting documents in relation to the field situation and periodical progress reports submitted. The records / documentation were checked at plantation/ afforestation/ works site, ranges and Divisions were, • Survey map / treatment map. • Micro-plan • Plantation journal • Plantation card • Site estimate • Transparency board • VFPMC / EDC's records • Various Trainings & capacity building's as mentioned TOR.
5.	To assess the overall impact of the various packages of the project.	• Impact of afforestation and plantations made under various models namely, Silvi-Pastrol Plantation, Roadside Plantation NFL, DFL and ANR. • Review the benefits and outcome of the various activities undertaken - Plantations, creation of new nurseries & development of existing nurseries), soil and moistures conservation (SMC structures - contour bunding, check dams, MPT, Gabion, PCT, WHS, Anicut type II & III), records of VFPMC.
6.	To identify and suggest areas for improvement and actions to be taken.	• To identify the areas of the project which need improvement? • Recommendations for improvements.

The Methodology of the Study

The Third party evaluation has been taken up as per various circulars and guidelines of the Forest Department. Based on prevailing circulars and guidelines the Organization has developed detailed methodology to evaluate Status of plantations, afforestation, survival, soil & water conservation structures, construction of buildings, SMC works and Boundary walls and pillars as per the implementation plan and other activities.

A combination of quantitative and qualitative research techniques (plurality of tools and techniques) has been used for the Third Party Evaluation of CAMPA Fund activities executed in the State i.e. activities and works of the year 2020-21 to 2021-22 to draw the holistic picture of the issues and the problems and finally to ensure the successful completion of the project as per set aims and objectives.

The Methodological devices make a study organized, systematic and scientific - rational. The selection of methods also expresses the research aptitude of the researcher and his/ her objectivity towards the whole exercise of study. By using this objectivity, i.e. inter-subjective agreement, social researcher establishes the relationship between (1) ideas and ideas, (2) ideas and experiences, and (3) experiences and experiences. This 'triple synthesis' is necessary for making evaluative and assessment studies particular. In the study, we have constructed the triple syntheses in case of both the qualitative and the quantitative assessment. Since our purpose is to undertake third Party Evaluation of CAMPA Fund Project activities, our evaluation-team has discussed in detail the nature of tools of data collection. The works/ activities sites have been visited by the team members and related data collected with the help of observation and questionnaires/ schedules. The secondary data related to process of activities undertaken, civil constructions and overall management procedures have been collected from those documents which have been prepared by relevant authorities. Since the main effort of evaluation team is 'to make data rational', the conversations with the project officials/ functionaries VFPMC/ EDC, along with villagers in 'informal' space have also been given importance. The efforts of the team have also been associated with providing status of methods through the elements of flexibility, consistence and coherence so that evaluations would not lack direction. The quantitative and qualitative tools have been used for the Third Party Evaluation study of CAMPA fund works/ activities in all the sample Forest Divisions i.e. 51 Forest Divisions (covering 225 Ranges) of the state.

The coverage/ spread of sample Forest Divisions/ sites in the State is given in the State map below,

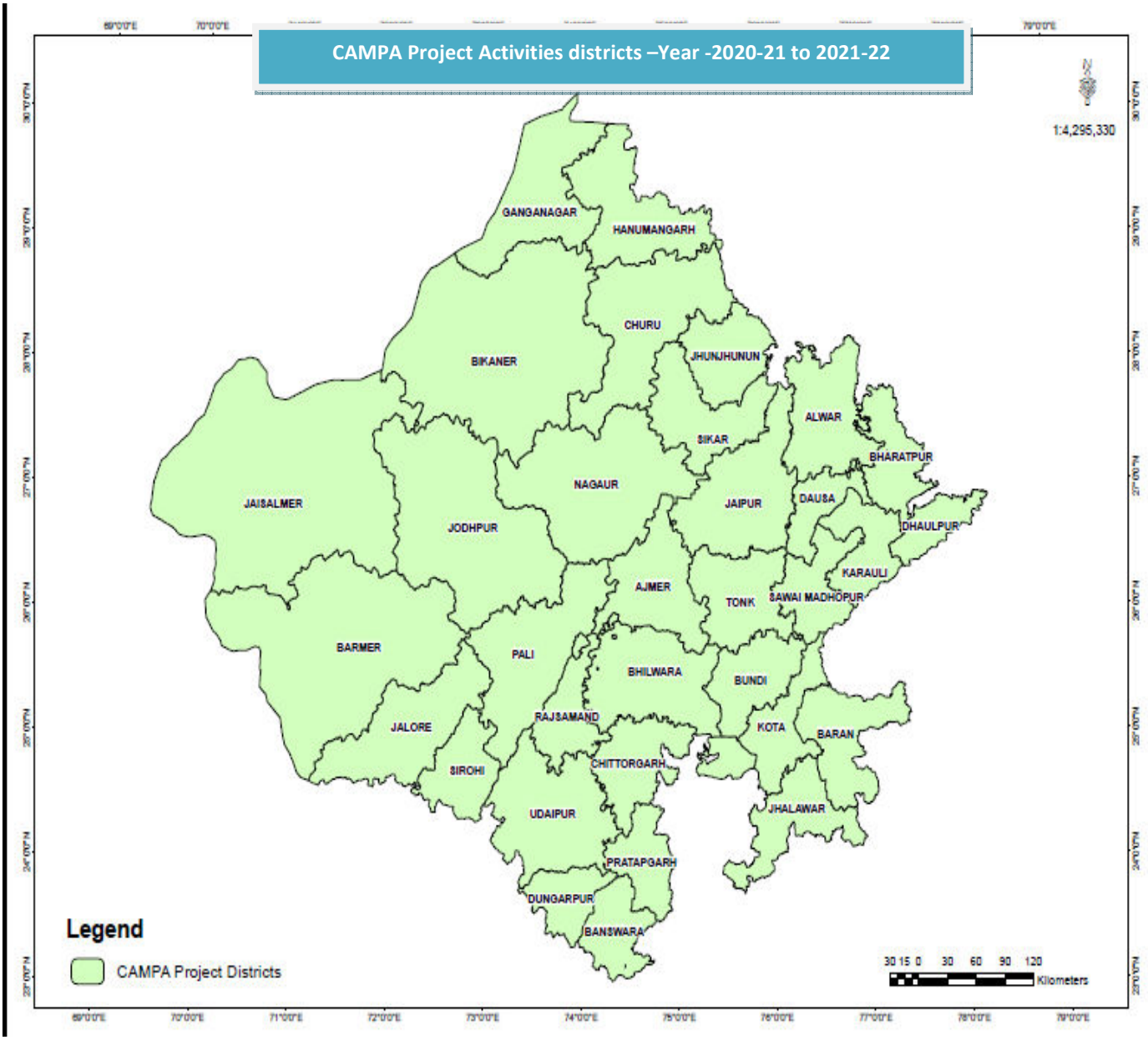

CAMPA Project Activities districts –Year -2020-21 to 2021-22
1:4,295,330
GANGANAGAR
HANUMANGARH
CHURU
BIKANER
JHUNJHUNUN
ALWAR
SIKAR
BHARATPUR
NAGAUR
JAISALMER
JODHPUR
JAIPUR
DAUSA
DHAULPUR
KARAULI
AJMER
TONK
SAWAI MADHOPUR
BARMER
PALI
BHILWARA
BUNDI
JALORE
RAJSAMAND
KOTA
BARAN
SIROHI
CHITTORGARH
UDAIPUR
JHALAWAR
PRATAPGARH
DUNGARPUR
BANSWARA
Legend
CAMPA Project Districts
30 15 0 30 60 90 120
Kilometers

Table 3.1: Samples covered for Assessment of Plantations survival

Sl.no	Administrative Division	Forest Division	Sample Range	Sample Plantation Area (Ha)	Covered Sample Site	100% Sample Site	10% Sample Site
1		Ajmer	3	112.7	3	2	1
2		Bhilwara	2	200	4	2	2
3		Tonk	2	185	4	2	2
4	Ajmer	Nagaur	2	200	5	3	2
5		Jaipur	2	155.51	4	2	2
6		Jaipur North	4	200	4	2	2
7		Jaipur WL	2	140	3	2	1
8		Alwar	3	264.6	5	3	2
9		Jhunjhunu	3	200	4	2	2
10		Sikar	4	250	5	3	2
11	Jaipur	Dausa	3	200	4	2	2
12		Bharatpur	2	150	3	2	1
13		S. Madhopur	3	202	5	3	2
14		S. Madhopur-RTR	2	100	2	1	1
15		S. Madhopur-Chambal WL	1	50	1	1	0
16		Karauli	3	150	3	2	1
17		Karauli-RTR	1	50	1	1	0
18	Bharatpur	Dholpur	3	200	4	2	2
19		Hanumangarh	2	50	2	1	1
20	Bikaner	Chhattargarh	2	108.7	2	1	1
21		Jodhpur	3	120	3	2	1
22		Pali	3	250	5	3	2
23		Jalore	3	150	3	2	1
24		Jaisalmer	1	67.06	2	1	1
25		IGNP II Jaisalmer	1	35	2	1	1
26		Sirohi	2	174.7	4	2	2
27	Jodhpur	Barmer	2	91.274	2	1	1
28		Kota	2	200	4	2	2
29		Bundi	2	229.44	4	2	2
30		Jhalawar	5	395	9	5	4
31	Kota	Baran	4	333	6	3	3
32		Udaipur	6	285.375	6	3	3
33		Udaipur North	5	359	7	4	3
34		Udaipur DOD	1	150	1	1	0
35		Udaipur WL	2	100	2	1	1
36		Chittorgarh	6	369.53	8	4	4
37		Chittorgarh WL	1	100	2	1	1
38		Rajsamand WL	4	200	4	2	2
39		Banswara	4	242.09	5	3	2
40		Dungarpur	4	312.528	6	3	3
41	Udaipur	Pratapgarh	3	250	5	3	2
	Total		**113**	**7578.6**	**158**	**88**	**70**

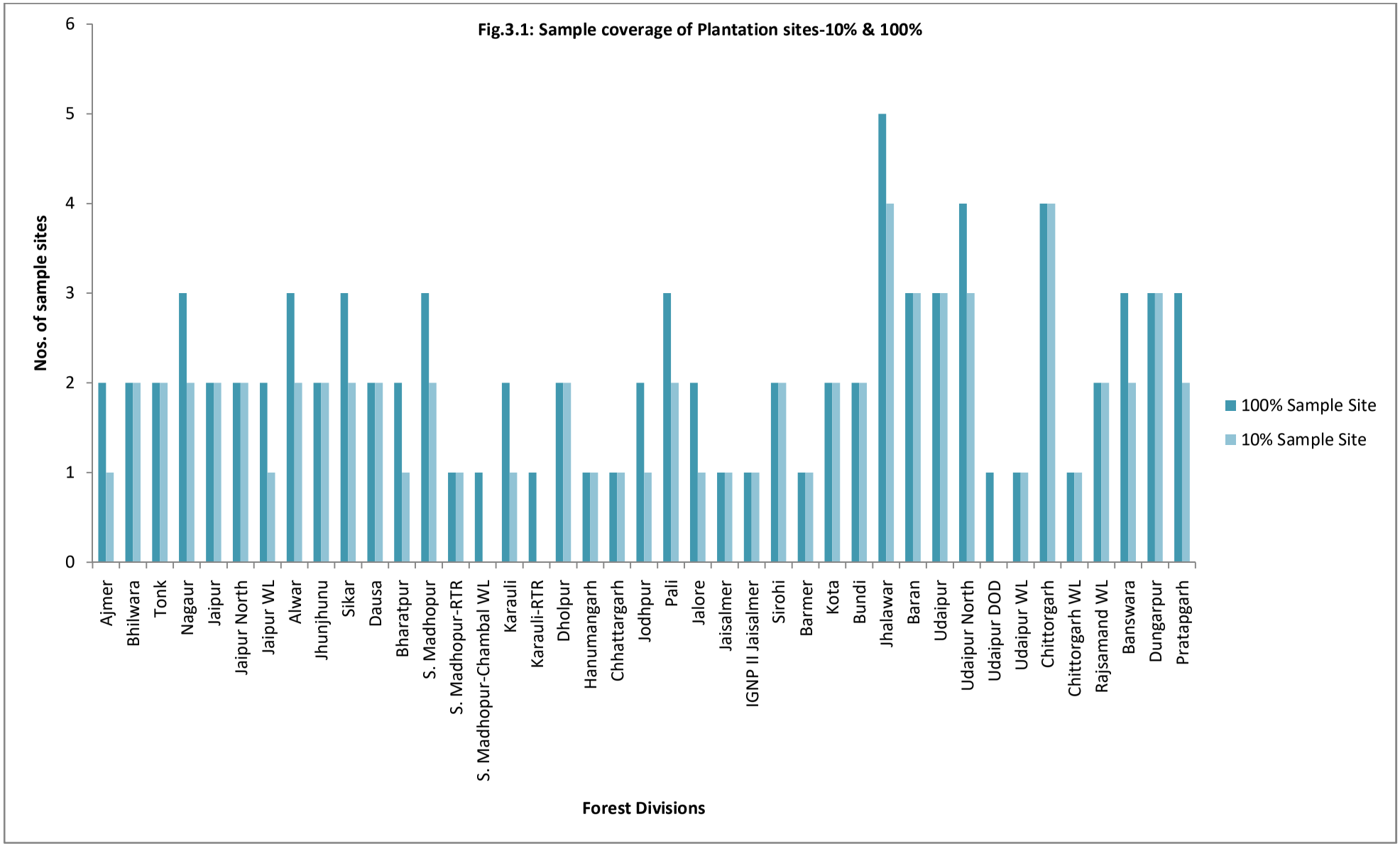


Fig.3.1: Sample coverage of Plantation sites-10% & 100%
Nos. of sample sites
0
1
2
3
4
5
6
Ajmer
Bhilwara
Tonk
Nagaur
Jaipur
Jaipur North
Jaipur WL
Alwar
Jhunjhunu
Sikar
Dausa
Bharatpur
S. Madhopur
S. Madhopur-RTR
S. Madhopur-Chambal WL
Karauli
Karauli-RTR
Dholpur
Hanumangarh
Chhattargarh
Jodhpur
Pali
Jalore
Jaisalmer
IGNP II Jaisalmer
Sirohi
Barmer
Kota
Bundi
Jhalawar
Baran
Udaipur
Udaipur North
Udaipur DOD
Udaipur WL
Chittorgarh
Chittorgarh WL
Rajsamand WL
Banswara
Dungarpur
Pratapgarh
Forest Divisions
100% Sample Site
10% Sample Site

In total, 158 plantation sites were covered in 41 Forest divisions under Third Party Evaluation of CAMPA Fund afforestation and plantation activities of the year 2020-21 & 2021-22. As per the TOR, the sample sites of 100 percent and 10 percent were provided by the Office of PCCF (HoFF). Also, the sample sites of boundary wall, boundary pillars, rescue wards, Forest Chowki and Range Office cum residence buildings and SMC works sites were selected randomly by the department and given signed copy in the sealed envelope to the evaluation agency. The sample sites of plantation selected for evaluation were evaluated based on sampling method i.e. 10% area of plantation and 100 % as per the official orders and TOR.

Out of 51 Forest divisions, 41 Forest Divisions sample sites of ANR, DFL, SPP, PEO and NFL were evaluated based on the scientific sampling method. The sample sites of 10% covered were 70 in number and 100% sample sites were 88 in number (table 3.1 & figure 3.1).

Under coverage in the 41 sample Forest divisions, the total coverage of sample area under plantations sites were 7578.62 hectares spread in 113 Forest ranges. The percentage of coverage of sample area under Third Party Evaluation of plantation works carried out during year 2020-21 & 2021-22 is 24.9 percent (Total Plantation area under plantation during year 2020-21 & 2021-22 is 30421 Hectares).

Table 3.2: Samples Covered for Assessment of Assets

Sr. no	Administrative Division	Forest Division	Sample Range	Assets								
				4 ft wall	6 ft wall	Anicut II	Anicut III	Pillar	Chowki/ Rescue	Range office	MPT	Total
1	Ajmer	Ajmer	1	2	0	0	0	0	0	0	0	**2**
2		Bhilwara	5	1	0	2	2	11	0	0	0	**16**
3		Tonk	5	2	0	0	0	13	0	0	6	**21**
4		Nagaur	0	0	0	0	0	0	0	0	0	**0**
	Total		**11**	**5**	**0**	**2**	**2**	**24**	**0**	**0**	**6**	**39**
5	Jaipur	Jaipur	3	2	0	0	0	2	0	0	0	**4**
6		Jaipur North	5	2	0	0	0	5	0	0	0	**7**
7		Jaipur Wildlife	3	0	4	2	0	1	1	0	0	**8**
8		Jaipur Chidiyaghar	1	0	1	0	1	0	0	0	0	**2**
9		Alwar	3	2	0	2	1	2	1	0	0	**8**
10		Alwar STR (Sariska)	5	0	2	0	0	5	0	0	0	**7**
11		Jhunjhunu	2	2	2	0	0	4	0	0	0	**8**
12		Sikar	4	1	1	0	0	14	0	0	1	**17**
13		Dausa	4	0	0	0	0	9	1	0	0	**10**
	Total		**30**	**9**	**10**	**4**	**2**	**42**	**3**	**0**	**1**	**71**
14	Bharatpur	Bharatpur	3	0	0	1	0	4	0	0	0	**5**
15		Bharatpur Wildlife	1	0	0	0	0	2	0	0	0	**2**
16		S.Madhopur	2	0	0	1	0	3	1	0	3	**8**

Sr. no	Administrative Division	Forest Division	Sample Range	Assets								
				4 ft wall	6 ft wall	Anicut II	Anicut III	Pillar	Chowki/ Rescue	Range office	MPT	Total
17		S.Madhopur RTR	2	0	2	0	0	0	0	0	0	**2**
18		S.Madhopur Chambal WL	4	0	0	2	2	0	0	0	0	**4**
19		Karauli	5	1	0	0	0	10	0	0	0	**11**
20		Karauli RTR	2	0	0	1	0	1	0	0	0	**2**
21		Dholpur	1	1	0	0	1	1	0	0	0	**3**
	Total		**20**	**2**	**2**	**5**	**3**	**21**	**1**	**0**	**3**	**37**
22	Kota	Kota	1	1	0	0	0	0	0	0	0	**1**
23		Kota Wildlife	1	0	1	2	1	0	0	0	0	**4**
24		Bundi	5	3	0	0	0	9	0	1	0	**13**
25		Jhalawar	3	1	0	1	1	3	0	0	0	**6**
26		Baran	0	0	0	0	0	0	0	0	0	**0**
	Total		**10**	**5**	**1**	**3**	**2**	**12**	**0**	**1**	**0**	**24**
27	Bikaner	Bikaner	1	1	0	0	0	0	0	0	0	**1**
28		Bikaner Wildlife	2	0	0	0	0	3	0	0	0	**3**
29		Chhattargarh	2	0	0	0	0	2	0	0	0	**2**
30		Churu	2	0	0	0	0	3	0	0	0	**3**
31		Hanumangarh	3	2	0	0	0	13	0	0	1	**16**
32		Ganganagar	1	0	0	0	0	4	0	0	0	**4**
	Total		**11**	**3**	**0**	**0**	**0**	**25**	**0**	**0**	**1**	**29**
33	Jodhpur	Jodhpur	4	1	0	0	0	3	0	0	0	**4**
34		Pali	4	1	0	0	0	4	0	0	0	**5**
35		Jalore	3	2	1	0	0	13	0	1	2	**19**
36		Jaisalmer	0	0	0	0	0	0	0	0	0	**0**
37		Jaisalmer IGNP	1	0	0	0	0	1	1	0	0	**2**
38		Jaisalmer Wildlife	2	0	1	0	0	0	1	0	0	**2**
39		Sirohi	2	0	0	2	1	0	0	0	0	**3**
40		Sirohi Wildlife	1	0	1	2	1	0	0	0	0	**4**
41		Barmer	2	0	0	0	0	2	0	0	0	**2**
	Total		**19**	**4**	**3**	**4**	**2**	**23**	**2**	**1**	**2**	**41**
42	Udaipur	Udaipur	7	0	0	1	0	9	0	0	0	**10**
43		Udaipur North	6	0	0	1	0	15	0	0	2	**18**
44		Udaipur Official	0	0	0	0	0	0	0	0	0	**0**
45		Udaipur Wildlife	4	0	2	2	1	3	1	0	3	**12**
46		Chittorgarh	8	1	0	2	0	11	1	0	0	**15**
47		Chittorgarh Wildlife	3	0	3	1	1	3	0	0	0	**8**
48		Rajsamand Wildlife	7	1	2	1	1	7	0	0	0	**12**
49		Dungarpur	5	2	0	2	0	17	0	0	0	**21**

Sr. no	Administrative Division	Forest Division	Sample Range	Assets								
				4 ft wall	6 ft wall	Anicut II	Anicut III	Pillar	Chowki/ Rescue	Range office	MPT	Total
50		Banswara	6	1	0	0	0	19	0	0	0	**20**
51		Pratapgarh	5	2	0	2	2	2	0	0	0	**8**
Total			**51**	**7**	**7**	**12**	**5**	**86**	**2**	**0**	**5**	**124**
Grand Total			**152**	**35**	**23**	**30**	**16**	**233**	**8**	**2**	**18**	**365**

Data Collection & Field Level evaluation

The collected data were tabulated in quantitative terms by giving standardized weightage to the responses generated from the field. The weightage includes availability counting one mark and non-availability counting 0 marks. This was necessary to eliminate any biases in data collection and compilation considering a large number of researchers involved in the study. It is pertinent to mention that in some cases data were given qualitative value assignment based on evaluator's assessment from his/her experience particularly, where information availability was poor or it was hard to quantify. In such cases assessments have been based on the judgment of the experts and triangulated to eliminate individual biases in value assignment. The processes of data collection, compilation, and quantification were made as objective as possible using objectively verifiable criteria and indicators.

The Report

As per the terms of reference, the draft report prepared covering 51 Forest Divisions (Alwar, STR- Sariska, Jaipur, Jaipur (North), Jaipur Zoo, Sikar, Jhunjhunu, Wildlife Jaipur, Dausa, Bhilwara, Nagaur, Tonk, Ajmer, Banswara, Udaipur, Udaipur (North), Pratapgarh, Dungarpur, Chittorgarh, Rajsamand WL, Udaipur WL, Udaipur DOD, WL Chittorgarh, Jhalawar, Baran, Kota, Bundi, WL Kota, Barmer, Jalore, Jodhpur, Sirohi, Mount Abu WL, WL Jaisalmer, Jaisalmer IGNP, Jaisalmer, Pali, Bharatpur, Dholpur, Karauli, Karauli RTR, WL Bharatpur, Sawai Madhopur, WL Chambal Ghadiyal, Sawai Madhopur RTR, Churu, WL Bikaner, Bikaner, Hanumangarh, Chhattargarh, Sri Ganganagar) is prepared and submitted to the department.

This Final Report has been prepared after incorporating the comments and suggestions of the Office of PCCF (HOFF) given on the draft report.

Chapter - 4

Assessment of Afforestation & Soil Moisture Conservation

The Third Party Evaluation study of Plantations and Construction of Soil & Water Conservation Structures and Buildings executed under CAMPA during 2020-2021 & 2021-22 in Rajasthan has been undertaken in 51 Forest Divisions covering 225 Forest Ranges distributed across 33 districts of State. Afforestation and several other forestry related works have been carried out by Rajasthan CAMPA under compensatory afforestation and other schemes through the assistance of Ministry of Environment, Forest & Climate Change, and Government of India in the 51 Forest Divisions.





This third party evaluation study has been commissioned for this purpose to evaluate the CAMPA works undertaken as per Annual Plan of Operations (APO) of 2020-21 & 2021-22. The project was in operation covering 05 key components of the project namely, Afforestation, construction of buildings, soil & moisture conservation structures (SMC), construction of boundary walls and construction of pillars.

Largely, the overall execution of CAMPA Fund works/ activities was executed in a planned manner as per the project design for afforestation of forest, forest protection, management and development. The results and analysis derived from the assessment would enable the project to further improve the processes and strict adherence to the laid down objectives and guidelines.

In the 3rd Party Evaluation study, the data have been collected based on the terms of reference (TOR) provided by Forest Department, Government of Rajasthan. The data analysis and findings of Evaluation study have been presented under the following sections on various components namely, afforestation, SMC structures, construction of buildings, construction of boundary walls and boundary pillars.

4.1 Assessment of Survival rate including growth of plants and impact on vegetal cover

The data have been collected at afforestation and plantation sample sites which were selected for Third Party Evaluation of CAMPA Fund works and activities. The aim has been to assess the **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats and accordingly efforts have been made to come out with the suggestions and recommendations to set the whole tune for successful completion of the project. It has also been tried to assess the success of the project in-terms of achieving its set goals and objectives in the light of the present situations and circumstances.



The major focus of the analysis is to analyze the data gathered during study in terms of the survival of the afforestation, plantations, SMC works, Building construction and construction of boundary wall and pillars done in two years (2020-21 to 2021-22), in terms of executing the CAMPA fund activities.

For the purpose of Third Party Evaluation of CAMPA fund, the data have been collected based on the terms of reference (TOR) provided by Additional Principal Chief Conservator of Forest, Monitoring & Evaluation, Office of the Principal Chief Conservator of Forest (HoFF), Government of Rajasthan. In response to the TOR, the data have been collected on 7 various tools approved by the department. The data analysis and findings of the evaluation have been presented under the following sections.



4.1.1 Survival Rate & Growth

One of the important components of the CAMPA fund is to enhance the vegetal coverage by adopting various plantation models as per the suitability of plantation sites looking to the

vegetal coverage of the district. Under different plantation models, plantation activities were taken up in the project districts with active participation of Village Forest Protection & Management Committee (VFPMC) and the local communities. It is clear that the visible results of the afforestation work can be achieved in considerable time period of 5-6 years period. The benefits of afforestation work to the community are somehow or other quite significant. However, targets for enhancing forest cover and restoration of degraded forest areas have been achieved satisfactorily under various models of afforestation outlined in the CAMPA

It has been reported that the plantation sites in the project districts were selected on the basis of project criteria for vegetal coverage under the project. Also, the species selection and



plantation activities namely, nursery raising, advance action, fencing etc. were undertaken as per the guidelines and directions under CAMPA.

Assessment of survival rate including growth rate

The table 4.1 & figure 4.1 show the survival percentage of plants in the sample sites (year-wise). In the year 2020-21, the survival percentage of the plants was in the range of 0-20%, & 21-40% at each of the 01 sample site, at 63 sample sites the survival percentage of the plants was in the range of 41-60% and at 06 sample sites the survival percentage of the plants was in the range of 61-80%. In the year 2021-22, at 01 sample site the survival percentage of the plants was in the range of 0-20%, survival percentage of the plants was in the range of 41-60% at 75 sample sites, at 08 sample sites the survival percentage of the plants was in the range of 61-80% and at 03 sites the survival percentage of the plants was in the range of 81-90%. In total, the survival percentage of the plants was in the range of 0-20 % at 02 sample sites, 21-40% at 01 sample site, 41-60% at 138 sample sites, 61-80% at 14 sample sites and 81-90% at 3 sample sites.

Table 4.1: Survival Rate of Planted Species at the Plantation Sites (Year wise)

Year	0-20%	21-40%	40-60%	61-80%	Above 80%	Total
2020-21	1	1	63	6	0	71
2021-22	1	0	75	8	3	87
Total	2	1	138	14	3	158

The survival percentages of the plants at sample sites are stated in the table 4.2. During third party evaluation 158 sample sites were visited to assess the survival rates of the planted species. The survival rates of the planted species vary from 13.8% (Chhapari) to 83.3% (Henabavdi). At 87.3% sample plantation sites (138 sites out of 158), the survival rates of the planted species range from 41-60 % across the sample units.

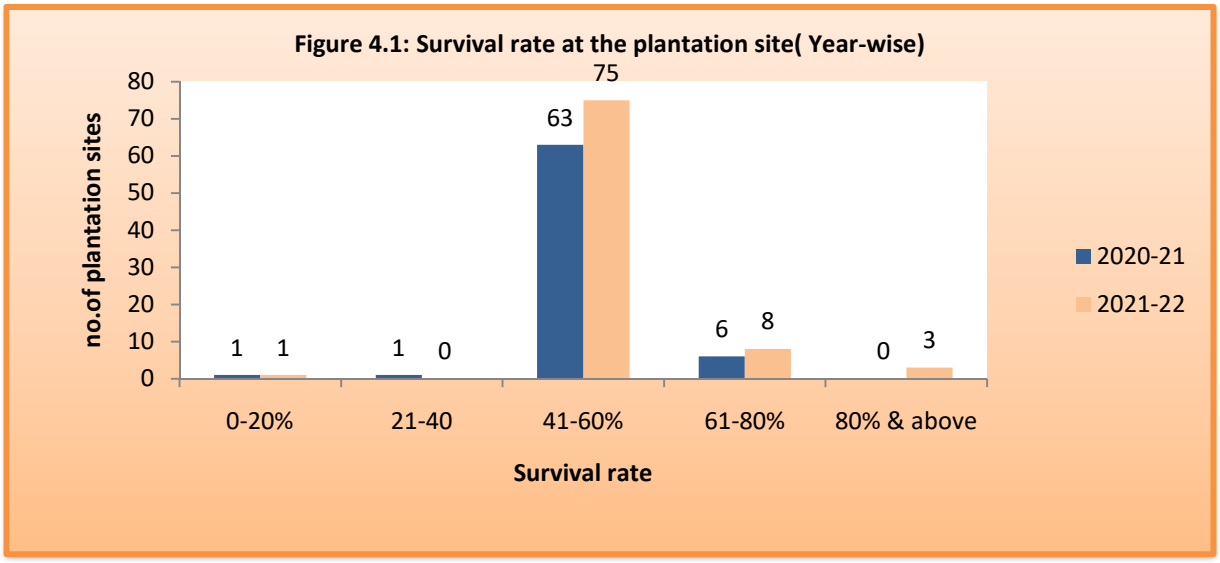


Table 4.2: Status of Survival % (Site-wise, range-wise & division-wise)

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
1.	Ajmer	Nasirabad	Hatundi Danta Rajosi	ANR	2020-21	50	100	51.3	6
2.	Ajmer	Pushkar	Kanas Banseli	DFL	2020-21	12.7	10	59.7	6
3.	Ajmer	Sarwar	Lamba	ANR	2021-22	50	100	40.7	5
4.	Alwar	Thanagazi	Jhiri-A	ANR	2020-21	50	100	51.2	6
5.	Alwar	Thanagazi	Kankad ki Dhani	DFL	2020-21	50	10	50.6	6
6.	Alwar	Rajgarh	Pada	ANR	2021-22	50	100	47.0	5
7.	Alwar	Tijara	Nakhnol	ANR	2021-22	50	10	53.2	6
8.	Alwar	Thanagazi	Lotawas	DFL	2021-22	64.6	100	56.8	6
9.	Banswara	Banswara	Ghatipada (Medumal Bhandar)	ANR	2020-21	50	100	49.8	5
10.	Banswara	Ghatol	Garjiya Magra (Kundali)	DFL	2021-22	42.09	10	50.4	6
11.	Banswara	Ghatol	Umarjhala Pathara	ANR	2021-22	50	100	53.2	6
12.	Banswara	Kushalgarh	Khuta Kundia (Bijori Chhoti)	ANR	2021-22	50	10	49.6	5
13.	Banswara	Doongra	Karmi (Borkhedi)	ANR	2021-22	50	100	43.6	5
14.	Baran	Kishanganj	Ranwasi	ANR	2020-21	50	100	42.7	5
15.	Baran	Chhipabarod	Saikud	NFL	2020-21	129	10	66.5	7
16.	Baran	Shahabad	Rajaghar	ANR	2020-21	50	100	48.1	5
17.	Baran	Kelwada	Saleri	ANR	2021-22	50	10	41.8	5
18.	Baran	Kishanganj	Pisai Road	ANR	2021-22	50	100	45.2	5

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
19.	Baran	Shahabad	Kasba thana to M.P. Border	Road Side Plantation	2021-22	4	10	62.2	7
20.	Barmer	Sindhari	Abadi Manji A	DFL	2020-21	41.274	100	50.3	6
21.	Barmer	Shiv	Kanasar	Silvi Pestrol	2021-22	50	10	47.8	5
22.	Bharatpur	Bayana	Jogipura	ANR	2020-21	50	100	57.1	6
23.	Bharatpur	Deeg	Jarkhor Gufa	ANR	2020-21	50	10	45.5	5
24.	Bharatpur	Bayana	Babu Baba II	ANR	2021-22	50	100	47.2	5
25.	Bhilwara	Jahajpur	Thalkala-II	ANR	2020-21	50	100	41.4	5
26.	Bhilwara	Mandalgarh	Dolji ka kheda D	ANR	2020-21	50	10	46.1	5
27.	Bhilwara	Mandalgarh	Tikhi part A	ANR	2021-22	50	100	41.7	5
28.	Bhilwara	Jahajpur	Dhandhola part A	ANR	2021-22	50	10	46.4	5
29.	Bundi	Hondoli	Devdungari-B	ANR	2020-21	50	100	41.6	5
30.	Bundi	Nainwa	Fuleta-C	ANR	2020-21	65	10	49.7	5
31.	Bundi	Hindoli	Depala Umarmata-C	DFL	2020-21	64.44	100	44.5	5
32.	Bundi	Hindoli	Dola ka khal	ANR	2021-22	50	10	48.6	5
33.	Chhattargarh	Dantor	5 MTM	ANR	2020-21	50	100	42.3	5
34.	Chhattargarh	Beriyawali	21 KJD	DFL	2020-21	58.7	10	42.2	5
35.	Chittorgarh	Chittorgarh	Bassi Mahadev	ANR	2020-21	50	100	47.3	5
36.	Chittorgarh	Borav	Dhagadmau khurd I	ANR	2020-21	50	10	52.4	6
37.	Chittorgarh	Kapasan	Modiya Magra	ANR	2020-21	50	100	44.1	5
38.	Chittorgarh	Vijaipur	Nimoda	DFL	2020-21	19.53	10	48.2	5
39.	Chittorgarh	Vijaipur	Chainpuriya Mahadev	ANR	2021-22	50	100	43.8	5
40.	Chittorgarh	Chittorgarh	Baldarkha	ANR	2021-22	50	10	44.5	5
41.	Chittorgarh	Begun	Samro ka leva	ANR	2021-22	50	100	42.5	5
42.	Chittorgarh	Nimbaheda	Rusi rani ka mahal	ANR	2021-22	50	10	43.9	5
43.	Chittorgarh WL	Badi sadari	Sangari kheda	ANR	2020-21	50	100	41.8	5
44.	Chittorgarh WL	Badi sadari	Kala Bhata-B	ANR	2021-22	50	10	45.0	5
45.	Dausa	Lalsot	Ghata	ANR	2020-21	50	100	55.6	6
46.	Dausa	Lalsot	Dhauli B	ANR	2021-22	50	10	19.5	4
47.	Dausa	Bandikui	Enchari	ANR	2021-22	50	100	45.2	5
48.	Dausa	Mahva	Mirzapur	ANR	2021-22	50	10	45.4	5
49.	Dholpur	Sarmathura	Ballapura-II	ANR	2021-22	50	100	45.9	5
50.	Dholpur	Badi	Kans ki Bawadi	ANR	2021-22	50	10	44.5	5
51.	Dholpur	Vanvihar	Raikho Ghatiya	DFL	2020-21	50	100	44.2	5
52.	Dholpur	Vanvihar	Kile ka Dada	DFL	2020-21	50	10	52.9	6
53.	Dungarpur	Antari	Aadamal	ANR	2020-21	100	100	44.9	5
54.	Dungarpur	Simalwara	Bansiya	ANR	2020-21	60	10	44.2	5
55.	Dungarpur	Dungarpur	Balwada	NFL	2020-21	12.52	100	41.1	5

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
						8			
56.	Dungarpur	Sagwara	Damaria Bodamagra	ANR	2021-22	40	10	52.5	6
57.	Dungarpur	Simalwara	Dhera Bhagat-II	ANR	2021-22	50	100	44.6	5
58.	Dungarpur	Dungarpur	Kanpur	ANR	2021-22	50	10	44.6	5
59.	Hanumangarh	Rawatsar	4 CLD	Silvi Pestrol	2021-22	25	100	44.8	5
60.	Hanumangarh	Nohar	Tidiyasar	Silvi Pestrol	2021-22	25	10	48.6	5
61.	IGNP II Jaisalmer	Mohangarh	KNM 0-3 RD C	NFL	2020-21	20	100	54.7	6
62.	IGNP II Jaisalmer	Mohangarh	0-3 RD KNM E	NFL	2021-22	15	10	51.3	6
63.	Jaipur	Dudu	Bichoon Keria	ANR	2020-21	50	100	44.0	5
64.	Jaipur	Amer	Jairampura Ist year	NFL	2020-21	5-51	10	44.3	5
65.	Jaipur	Amer	Bharthari	ANR	2021-22	50	100	43.1	5
66.	Jaipur	Dudu	Bhairuji Bichoon	ANR	2021-22	50	10	53.8	6
67.	Jaipur North	Paota	Antela Bawari	ANR	2020-21	50	100	62.0	7
68.	Jaipur North	Acharol	Samred khurd C	ANR	2021-22	50	10	52.6	6
69.	Jaipur North	Kotputali	Panch Pahadi (Hapuda)	ANR	2021-22	50	100	54.0	6
70.	Jaipur North	Viratnagar	Dhawali	ANR	2021-22	50	10	55.7	6
71.	Jaipur WL	Jamwaramgarh	Nimbi-A	ANR	2020-21	40	100	52.2	6
72.	Jaipur WL	Raisar	Kharad	ANR	2021-22	50	10	49.7	5
73.	Jaipur WL	Jamwaramgarh	Bhomiya Dyoda Dungar	ANR	2021-22	50	100	54.8	6
74.	Jaisamler	Jaisalmer	Dabla III	NFL	2020-21	42.06	100	71.9	8
75.	Jaisamler	Jaisalmer	Karahjod-C	Silvi Pestrol	2021-22	25	10	44.8	5
76.	Jalore	Raniwara	Raniwara khurd	ANR	2020-21	50	100	62.2	7
77.	Jalore	Jaswantpura	Panseri-B	ANR	2021-22	50	10	52.8	6
78.	Jalore	Jalore	Mada Jod	Silvi Pestrol	2021-22	50	100	45.8	5
79.	Jhalawar	Bakani	Guradkheda	ANR	2020-21	50	100	50.6	6
80.	Jhalawar	Khanpur	Chamlasa	NFL	2020-21	26.16	10	44.0	5
81.	Jhalawar	Khanpur	Chalet	NFL	2020-21	32.140	100	42.3	5
82.	Jhalawar	Khanpur	Khatakhedi	NFL	2020-21	36.00	10	53.5	6
83.	Jhalawar	Khanpur	Garayata	NFL	2020-21	23.70	100	56.8	6
84.	Jhalawar	Dug	Harnawada I	NFL	2020-21	77	10	52.3	6
85.	Jhalawar	Manoharthana	Kotra I	DFL	2021-22	50	100	42.5	5
86.	Jhalawar	Jhalawar	Bawadikheda	ANR	2021-22	50	10	51.6	6
87.	Jhalawar	Khanpur	Baisar	ANR	2021-22	50	100	46.9	5
88.	Jhunjhunu	Khetri	Makado-II	ANR	2020-21	50	100	44.2	5
89.	Jhunjhunu	Udaipurwati	Guda Dahar	ANR	2020-21	50	10	52.3	6
90.	Jhunjhunu	Udaipurwati	Girawadi	ANR	2021-22	50	100	46.7	5

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
91.	Jhunjhunu	Jhunjhunu	Beed Jhunjhunu	ANR	2021-22	50	10	61.8	7
92.	Jodhpur	Baap	Udat B	ANR	2021-22	45	100	45.7	5
93.	Jodhpur	Balesar	Vanbhoomi Agolai	ANR	2021-22	50	10	51.2	6
94.	Jodhpur	Osian	Punasar	ANR	2021-22	25	100	51.5	6
95.	Karauli	Karauli	Ataiba	ANR	2020-21	50	100	44.3	5
96.	Karauli	Mandrail	Todi	ANR	2020-21	50	10	58.3	6
97.	Karauli	Masalpur	Goder	ANR	2021-22	50	100	49.5	5
98.	Kota	Mandana	Singhpura-B	ANR	2020-21	50	100	43.7	5
99.	Kota	Kanwas	Dhani Aamli	ANR	2020-21	50	10	46.3	5
100.	Kota	Mandand	Badodiya II	ANR	2021-22	50	100	61.7	7
101.	Kota	Kanwas	Sankheda	ANR	2021-22	50	10	53.2	6
102.	Nagaur	Kuchaman	Chopra ki Dhani	ANR	2020-21	50	100	47.9	5
103.	Nagaur	Parbatsar	Pilwa	DFL	2020-21	20	10	52.2	6
104.	Nagaur	Kuchaman	Chhapari I	DFL	2020-21	30	100	13.8	4
105.	Nagaur	Kuchaman	Sawaipura Paladi B Balaji	ANR	2021-22	50	10	46.8	5
106.	Nagaur	Parbatsar	Dhokliya	ANR	2021-22	50	100	52.1	6
107.	Pali	Sendra	Jhala ki Chowki	ANR	2020-21	50	100	46.5	5
108.	Pali	Marwar	Jadan Jod	ANR	2020-21	50	10	48.2	5
109.	Pali	Bali	Lundara A	ANR	2021-22	50	100	45.4	5
110.	Pali	Bali	Lundara B	ANR	2021-22	50	10	46.6	5
111.	Pali	Bali	Las ka Gudha	Silvi Pestrol	2021-22	50	100	48.6	5
112.	Pratapgarh	Dhariyawad	Timaruwala Bhatada	ANR	2020-21	50	100	50.2	6
113.	Pratapgarh	Deogarh	Ramdevji	ANR	2021-22	50	10	45.5	5
114.	Pratapgarh	Bansi	Kabra Mangra	ANR	2021-22	50	100	46.3	5
115.	Pratapgarh	Bansi	Badliyanal	PEO (BAMBOO)	2021-22	50	10	82.0	9
116.	Pratapgarh	Dhariyawad	Henabavdi	PEO (BAMBOO)	2021-22	50	100	83.3	9
117.	Rajsamand WL	Jojawar	Bandki magri	ANR	2020-21	50	100	47.5	5
118.	Rajsamand WL	Ravali	Dalakhet Dabkabada	ANR	2021-22	50	10	42.5	5
119.	Rajsamand WL	Kumbhalgarh	Jaya	ANR	2021-22	50	100	45.5	5
120.	Rajsamand WL	Bokhada	Jwarka wala	ANR	2021-22	50	10	44.2	5
121.	RTR Karauli	Nainiyaki	Chir ki Naroli-C	ANR	2020-21	50	100	53.6	6
122.	RTR S. Madhopur	Baler	Rodawada	ANR	2020-21	50	100	49.4	5
123.	RTR S. Madhopur	Talada	Bai	ANR	2021-22	50	10	46.2	5
124.	S.Madhopur	S.Madhopur	Jhopadi-II	ANR	2020-21	50	100	45.2	5
125.	S.Madhopur	Gangapur	Murada Chowki	ANR	2020-21	50	10	69.8	7

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
126.	S.Madhopur	Gangapur	Gurjar Koleta	ANR	2021-22	50	100	58.7	6
127.	S.Madhopur	Baunli	Bhairuji Maidar	ANR	2021-22	35	10	52.3	6
128.	S.Madhopur	S.Madhopur	Trilokpura	DFL	2021-22	17	100	42.3	5
129.	S.Madhopur Chambal WL	Itava	Aamlada	ANR	2021-22	50	100	41.7	5
130.	Sikar	Srimadhopur	Paniharwas	ANR	2020-21	50	100	49.9	5
131.	Sikar	Danta	Ganoda	ANR	2020-21	50	10	59.5	6
132.	Sikar	Srimadhopur	Kotari	ANR	2021-22	50	100	53.3	6
133.	Sikar	Neemkathana	Aagari-II	ANR	2021-22	50	10	48.3	5
134.	Sikar	Patan	Mothuka	ANR	2021-22	50	100	45.6	5
135.	Sirohi	Pindwara	Arduwa Compartment No.7 Hura Magra	ANR	2020-21	50	100	47.5	5
136.	Sirohi	Sirohi	Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev	ANR	2020-21	50	10	45.7	5
137.	Sirohi	Sirohi	Matarmata Vankhand	DFL	2020-21	24.7	100	25.3	4
138.	Sirohi	Sirohi	Mal Pahadiya Compartment No.1,2 Banvda Mahadev	ANR	2021-22	50	10	46.3	5
139.	Tonk	Newai	Ganga Mataji	ANR	2020-21	50	100	46.9	5
140.	Tonk	Deoli	Kati Deori-IV	ANR	2020-21	50	10	62.0	7
141.	Tonk	Newai	Kasba Niwai	NFL	2020-21	35	100	53.4	6
142.	Tonk	Deoli	Kalabhata	ANR	2021-22	50	10	66.0	7
143.	Udaipur	Salumbar	Tikhi Pahadi (Bara)	ANR	2020-21	50	100	50.7	6
144.	Udaipur	Kurabad	Kumatiya Kutapana	ANR	2020-21	50	10	51.0	6
145.	Udaipur	Udaipur	Undari Poplty	ANR	2021-22	50	100	45.1	5
146.	Udaipur	Sarada	Rajol-ii	ANR	2021-22	65	10	54.9	6
147.	Udaipur	Jhadol	Saldari	ANR	2021-22	50	100	44.4	5
148.	Udaipur	Falasia	Thandiberi	NFL	2021-22	20.375	10	46.8	5
149.	Udaipur DOD	Deola DOD	Toran I Compartment no. 18	PEO (Bamboo)	2021-22	150	100	79.1	8
150.	Udaipur North	Deola	Kyari-I	ANR	2020-21	50	100	42.5	5
151.	Udaipur North	Sayara	Levo ka mathana-C	ANR	2020-21	50	10	44.0	5
152.	Udaipur North	Gogunda	Nathiyathal A	ANR	2021-22	50	100	48.1	5
153.	Udaipur North	Kotra	Junapadar-A	ANR	2021-22	50	10	53.0	6
154.	Udaipur	Udaipur	Karget-B	NFL	2021-22	59	100	67.6	7

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
	North								
155.	Udaipur North	Deola	Torana-12	PEO (Bamboo)	2021-22	50	10	76.3	8
156.	Udaipur North	Udaipur	Lakhawali	PEO (Bamboo)	2021-22	50	100	82.5	9
157.	Udaipur WL	Mamer	Ghodamari	ANR	2021-22	50	100	41.1	5
158.	Udaipur WL	Jaisamand	Surawala	ANR	2021-22	50	10	60.5	7

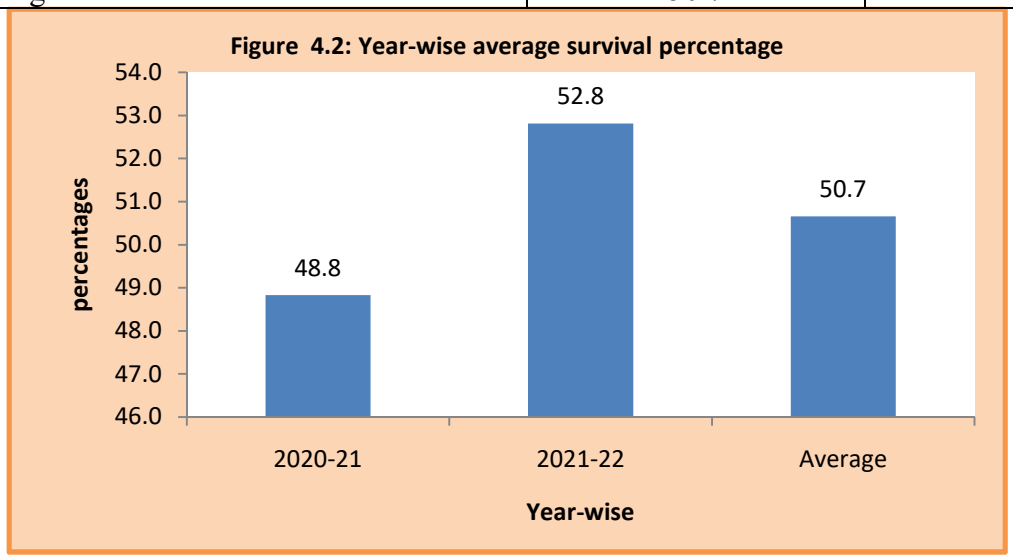
Ranking of Plantations

i. Total area of all the selected and evaluated 158 sites of plantations of 113 Ranges of 41 Divisions was 7578.62 ha.

ii The overall ranking of evaluated 7578.62 ha plantations was good (6) with average survival percentage of 50.7% (table 4.3 & figure 4.2).

Table 4.3: Year-wise survival % of plantations

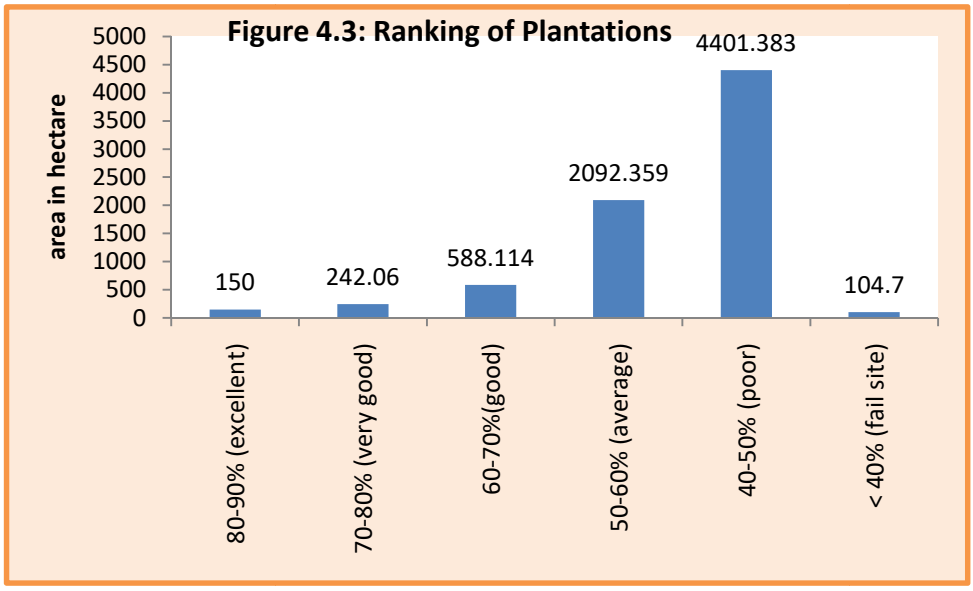
Year-wise	Survival %	Rank
2020-21	48.8	5
2021-22	52.8	6
Average	50.7	6



In terms of physical area, *the ranking of plantations (figure-* 4.2*) was:*

- Excellent (9) of 150 ha plantations having survival % between 80 and 90
- Very Good (8) of 242.06 ha plantation having survival % between 70 and 80%
- Good (7) of 588.114 ha plantation having survival % between 60 and 70%
- Average (6) of 2092.359 ha plantation having survival % between 50 and 60%
- Poor (5) of 4401.383 ha plantation having survival % between 40 and 50%

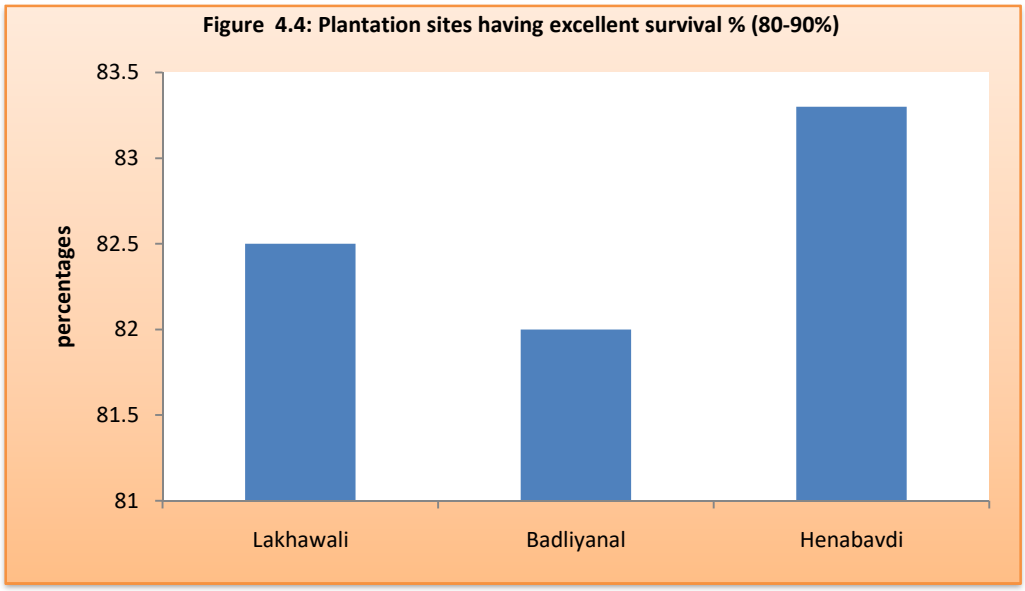
- Very Poor (4) of 104.7 ha plantation having survival % less than 40%



The survival percentage was Excellent (between 80 and 90%) with ranking of 150 ha plantation area of 3 sites of 3 Ranges of 2 Divisions (table 4.4 & figure 4.4).

Table 4.4: Plantation site having survival percentage between 80-90%

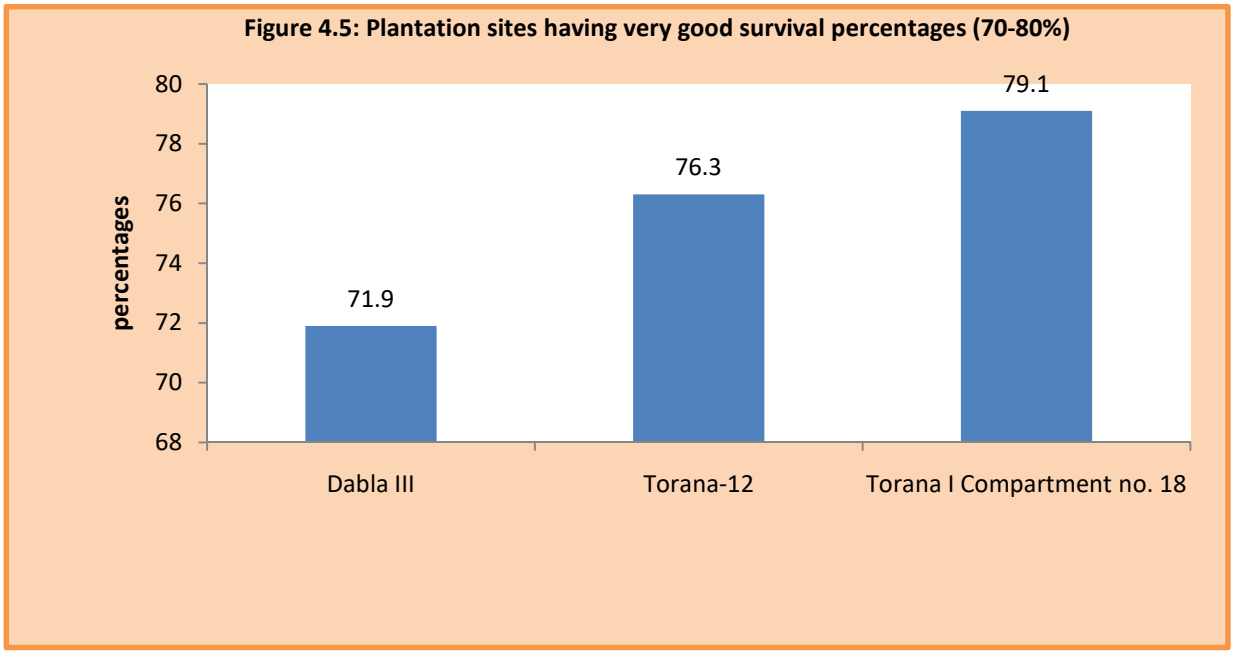
Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
1	Udaipur North	Udaipur	Lakhawali	PEO (Bamboo)	2021-22	50	100	82.5	9
2	Pratapgarh	Bansi	Badliyanal	PEO (Bamboo)	2021-22	50	10	82.0	9
3	Pratapgarh	Dhariyawad	Henabavdi	PEO (Bamboo)	2021-22	50	100	83.3	9



The survival percentage was Very Good (Between 70 and 80%) with 8 ranking of 242.06 ha plantation areas of 3 sites of 3 Ranges of 3 Divisions (table 4.5 and figure 4.5).

Table 4.5: Plantation site having survival percentage between 70-80%

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
1	Jaisalmer	Jaisalmer	Dabla III	NFL	2020-21	42.06	100	71.9	8
2	Udaipur North	Deola	Torana-12	PEO (Bamboo)	2021-22	50	10	76.3	8
3	Udaipur DOD	Deola DOD	Toran I Compartment no. 18	PEO (Bamboo)	2021-22	150	100	79.1	8



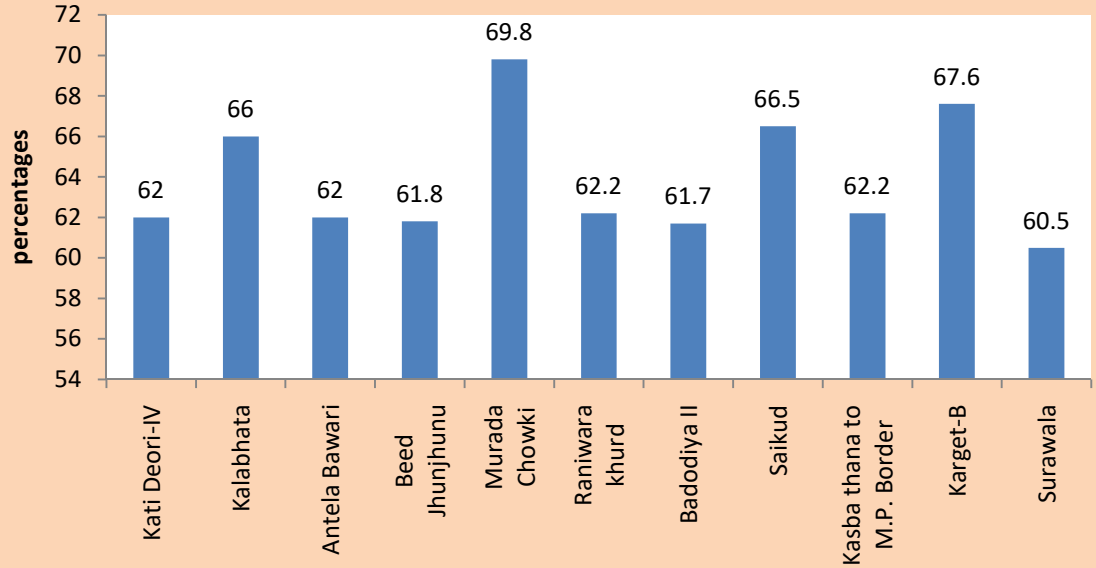
The survival percentage was good (Between 60 and 70%) with 7 ranking of 588.11 ha plantation areas of 11 sites of 10 Ranges of 9 Divisions (table 4.6 and figure 4.6).

Table 4.6: Plantation site having survival percentage between 60-70%

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
1.	Baran	Chhipabarod	Saikud	NFL	2020-21	129	10	66.5	7
2.	Baran	Shahabad	Kasba thana to M.P. Border	Road Side Plantation	2021-22	4	10	62.2	7
3.	Jaipur North	Paota	Antela	ANR	2020-	50	100	62.0	7

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
			Bawari		21				
4.	Jalore	Raniwara	Raniwara khurd	ANR	2020-21	50	100	62.2	7
5.	Jhunjhunu	Jhunjhunu	Beed Jhunjhunu	ANR	2021-22	50	10	61.8	7
6.	Kota	Mandand	Badodiya II	ANR	2021-22	50	100	61.7	7
7.	S.Madhopur	Gangapur	Murada Chowki	ANR	2020-21	50	10	69.8	7
8.	Tonk	Deoli	Kati Deori-IV	ANR	2020-21	50	10	62.0	7
9.	Tonk	Deoli	Kalabhata	ANR	2021-22	50	10	66.0	7
10.	Udaipur North	Udaipur	Karget-B	NFL	2021-22	59	100	67.6	7
11.	Udaipur WL	Jaisamand	Surawala	ANR	2021-22	50	10	60.5	7

Figure 4.6: Plantation sites having good survival percentages (60-70%)

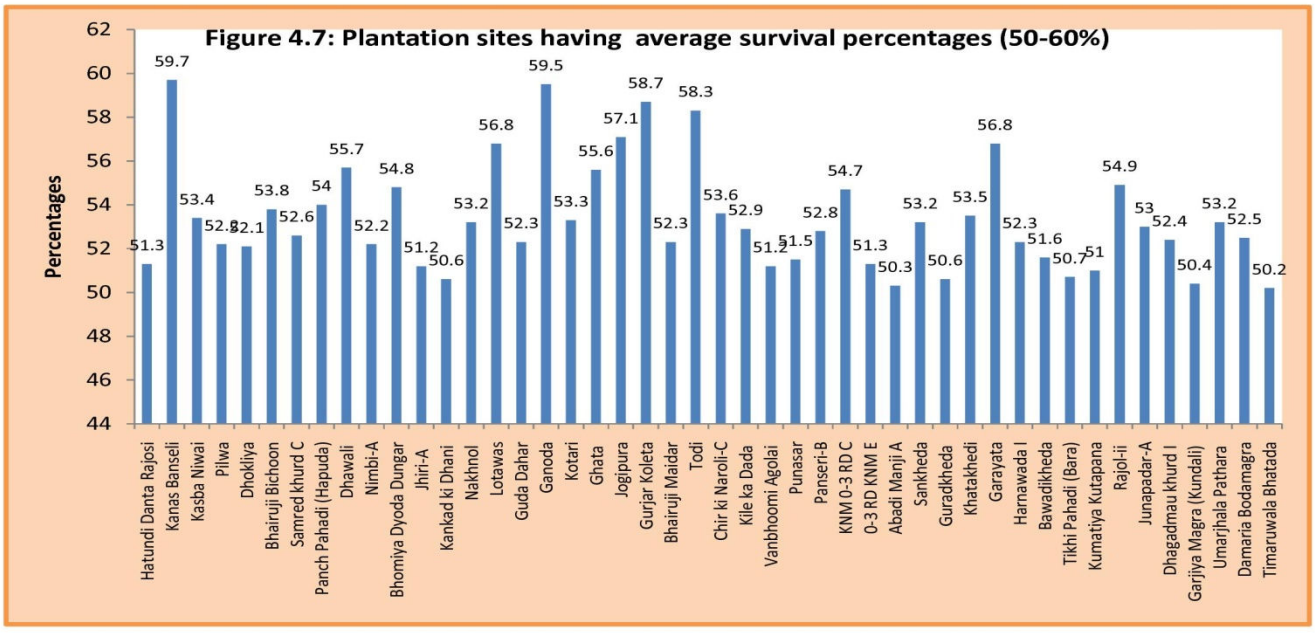


The survival percentage was average (Between 50 and 60%) with 6 ranking of 2092.4 ha plantation areas of 46 **sites of 39 Ranges of** 28 **Divisions (table 4.7 and figure 4.7).**

Table 4.7: Plantation site having survival percentage between 50-60%

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
1.	Ajmer	Nasirabad	Hatundi Danta Rajosi	ANR	2020-21	50	100	51.3	6
2.	Ajmer	Pushkar	Kanas Banseli	DFL	2020-21	12.70	10	59.7	6
3.	Alwar	Thanagazi	Jhiri-A	ANR	2020-21	50	100	51.2	6
4.	Alwar	Thanagazi	Kankad ki Dhani	DFL	2020-21	50	10	50.6	6
5.	Alwar	Tijara	Nakhnol	ANR	2021-22	50	10	53.2	6
6.	Alwar	Thanagazi	Lotawas	DFL	2021-22	64.6	100	56.8	6
7.	Banswara	Ghatol	Garjiya Magra (Kundali)	DFL	2021-22	42.09	10	50.4	6
8.	Banswara	Ghatol	Umarjhala Pathara	ANR	2021-22	50	100	53.2	6
9.	Barmer	Sindhari	Abadi Manji A	DFL	2020-21	41.274	100	50.3	6
10.	Bharatpur	Bayana	Jogipura	ANR	2020-21	50	100	57.1	6
11.	Chittorgarh	Borav	Dhagadmau khurd I	ANR	2020-21	50	10	52.4	6
12.	Dausa	Lalsot	Ghata	ANR	2020-21	50	100	55.6	6
13.	Dholpur	Vanvihar	Kile ka Dada	DFL	2020-21	50	10	52.9	6
14.	Dungarpur	Sagwara	Damaria Bodamagra	ANR	2021-22	40	10	52.5	6
15.	IGNP II Jaisalmer	Mohangarh	KNM 0-3 RD C	NFL	2020-21	20	100	54.7	6
16.	IGNP II Jaisalmer	Mohangarh	0-3 RD KNM E	NFL	2021-22	15	10	51.3	6
17.	Jaipur	Dudu	Bhairuji Bichoon	ANR	2021-22	50	10	53.8	6
18.	Jaipur North	Acharol	Samred khurd C	ANR	2021-22	50	10	52.6	6
19.	Jaipur North	Kotputali	Panch Pahadi (Hapuda)	ANR	2021-22	50	100	54.0	6
20.	Jaipur North	Viratnagar	Dhawali	ANR	2021-22	50	10	55.7	6
21.	Jaipur WL	Jamwaramgarh	Nimbi-A	ANR	2020-21	40	100	52.2	6
22.	Jaipur WL	Jamwaramgarh	Bhomiya Dyoda Dungar	ANR	2021-22	50	100	54.8	6
23.	Jalore	Jaswantpura	Panseri-B	ANR	2021-22	50	10	52.8	6
24.	Jhalawar	Bakani	Guradkheda	ANR	2020-21	50	100	50.6	6
25.	Jhalawar	Khanpur	Khatakhedi	NFL	2020-21	36.00	10	53.5	6
26.	Jhalawar	Khanpur	Garayata	NFL	2020-21	23.700	100	56.8	6
27.	Jhalawar	Dug	Harnawada I	NFL	2020-21	77	10	52.3	6
28.	Jhalawar	Jhalawar	Bawadikheda	ANR	2021-22	50	10	51.6	6
29.	Jhunjhunu	Udaipurwati	Guda Dahar	ANR	2020-21	50	10	52.3	6
30.	Jodhpur	Balesar	Vanbhoomi Agolai	ANR	2021-22	50	10	51.2	6

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
31.	Jodhpur	Osian	Punasar	ANR	2021-22	25	100	51.5	6
32.	Karauli	Mandrail	Todi	ANR	2020-21	50	10	58.3	6
33.	Kota	Kanwas	Sankheda	ANR	2021-22	50	10	53.2	6
34.	Nagaur	Parbatsar	Pilwa	DFL	2020-21	20	10	52.2	6
35.	Nagaur	Parbatsar	Dhokliya	ANR	2021-22	50	100	52.1	6
36.	Pratapgarh	Dhariyawad	Timaruwala Bhatada	ANR	2020-21	50	100	50.2	6
37.	RTR Karauli	Nainiyaki	Chir ki Naroli-C	ANR	2020-21	50	100	53.6	6
38.	S.Madhopur	Gangapur	Gurjar Koleta	ANR	2021-22	50	100	58.7	6
39.	S.Madhopur	Baunli	Bhairuji Maidar	ANR	2021-22	35	10	52.3	6
40.	Sikar	Danta	Ganoda	ANR	2020-21	50	10	59.5	6
41.	Sikar	Srimadhopur	Kotari	ANR	2021-22	50	100	53.3	6
42.	Tonk	Newai	Kasba Niwai	NFL	2020-21	35	100	53.4	6
43.	Udaipur	Salumbar	Tikhi Pahadi (Bara)	ANR	2020-21	50	100	50.7	6
44.	Udaipur	Kurabad	Kumatiya Kutapana	ANR	2020-21	50	10	51.0	6
45.	Udaipur	Sarada	Rajol-ii	ANR	2021-22	65	10	54.9	6
46.	Udaipur North	Kotra	Junapadar-A	ANR	2021-22	50	10	53.0	6



The survival percentage was poor (Between 40 and 50%) with 5 ranking of 4401.4 ha plantation areas of 92 sites of 76 Ranges of 37 Divisions (table 4.8 and figure 4.8 I & II)

Table 4.8: Plantation sites having survival percentage between 40-50%

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
1.	Ajmer	Sarwar	Lamba	ANR	2021-22	50	100	40.7	5
2.	Alwar	Rajgarh	Pada	ANR	2021-22	50	100	47.0	5

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
3.	Banswara	Banswara	Ghatipada (Medumal Bhandar)	ANR	2020-21	50	100	49.8	5
4.	Banswara	Kushalgarh	Khuta Kundia (Bijori Chhoti)	ANR	2021-22	50	10	49.6	5
5.	Banswara	Doongra	Karmi (Borkhedi)	ANR	2021-22	50	100	43.6	5
6.	Baran	Kishanganj	Ranwasi	ANR	2020-21	50	100	42.7	5
7.	Baran	Shahabad	Rajaghar	ANR	2020-21	50	100	48.1	5
8.	Baran	Kelwada	Saleri	ANR	2021-22	50	10	41.8	5
9.	Baran	Kishanganj	Pisai Road	ANR	2021-22	50	100	45.2	5
10.	Barmer	Shiv	Kanasar	Silvi Pestrol	2021-22	50	10	47.8	5
11.	Bharatpur	Deeg	Jarkhor Gufa	ANR	2020-21	50	10	45.5	5
12.	Bharatpur	Bayana	Babu Baba II	ANR	2021-22	50	100	47.2	5
13.	Bhilwara	Jahajpur	Thalkala-II	ANR	2020-21	50	100	41.4	5
14.	Bhilwara	Mandalgarh	Dolji ka kheda D	ANR	2020-21	50	10	46.1	5
15.	Bhilwara	Mandalgarh	Tikhi part A	ANR	2021-22	50	100	41.7	5
16.	Bhilwara	Jahajpur	Dhandhola part A	ANR	2021-22	50	10	46.4	5
17.	Bundi	Hindoli	Devdungari-B	ANR	2020-21	50	100	41.6	5
18.	Bundi	Nainwa	Fuleta-C	ANR	2020-21	65	10	49.7	5
19.	Bundi	Hindoli	Depala Umarmata-C	DFL	2020-21	64.440	100	44.5	5
20.	Bundi	Hindoli	Dola ka khal	ANR	2021-22	50	10	48.6	5
21.	Chhattargarh	Dantor	5 MTM	ANR	2020-21	50	100	42.3	5
22.	Chhattargarh	Beriyawali	21 KJD	DFL	2020-21	58.7	10	42.2	5
23.	Chittorgarh	Chittorgarh	Bassi Mahadev	ANR	2020-21	50	100	47.3	5
24.	Chittorgarh	Kapasan	Modiya Magra	ANR	2020-21	50	100	44.1	5
25.	Chittorgarh	Vijaipur	Nimoda	DFL	2020-21	19.53	10	48.2	5
26.	Chittorgarh	Vijaipur	Chainpuriya Mahadev	ANR	2021-22	50	100	43.8	5
27.	Chittorgarh	Chittorgarh	Baldarkha	ANR	2021-22	50	10	44.5	5
28.	Chittorgarh	Begun	Samro ka leva	ANR	2021-22	50	100	42.5	5
29.	Chittorgarh	Nimbaheda	Rusi rani ka mahal	ANR	2021-22	50	10	43.9	5
30.	Chittorgarh WL	Badi Sadari	Sangari kheda	ANR	2020-21	50	100	41.8	5
31.	Chittorgarh WL	Badi Sadari	Kala Bhata-B	ANR	2021-22	50	10	45.0	5
32.	Dausa	Bandikui	Enchari	ANR	2021-22	50	100	45.2	5
33.	Dausa	Mahva	Mirzapur	ANR	2021-22	50	10	45.4	5
34.	Dholpur	Sarmathura	Ballapura-II	ANR	2021-22	50	100	45.9	5
35.	Dholpur	Badi	Kans ki Bawadi	ANR	2021-22	50	10	44.5	5
36.	Dholpur	Vanvihar	Raikho Ghatiya	DFL	2020-21	50	100	44.2	5
37.	Dungarpur	Antari	Aadamal	ANR	2020-21	100	100	44.9	5
38.	Dungarpur	Simalwara	Bansiya	ANR	2020-21	60	10	44.2	5
39.	Dungarpur	Dungarpur	Balwada	NFL	2020-21	12.528	100	41.1	5
40.	Dungarpur	Simalwara	Dhera Bhagat-II	ANR	2021-22	50	100	44.6	5
41.	Dungarpur	Dungarpur	Kanpur	ANR	2021-22	50	10	44.6	5
42.	Hanumangarh	Rawatsar	4 CLD	Silvi Pestrol	2021-22	25	100	44.8	5

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
43.	Hanumangarh	Nohar	Tidiyasar	Silvi Pestrol	2021-22	25	10	48.6	5
44.	Jaipur	Dudu	Bichoon Keria	ANR	2020-21	50	100	44.0	5
45.	Jaipur	Amer	Jairampura Ist year	NFL	2020-21	5-510	10	44.3	5
46.	Jaipur	Amer	Bharthari	ANR	2021-22	50	100	43.1	5
47.	Jaipur WL	Raisar	Kharad	ANR	2021-22	50	10	49.7	5
48.	Jaisalmer	Jaisalmer	Karahjod-C	Silvi Pestrol	2021-22	25	10	44.8	5
49.	Jalore	Jalore	Mada Jod	Silvi Pestrol	2021-22	50	100	45.8	5
50.	Jhalawar	Khanpur	Chamlasa	NFL	2020-21	26.160	10	44.0	5
51.	Jhalawar	Khanpur	Chalet	NFL	2020-21	32.140	100	42.3	5
52.	Jhalawar	Manoharthana	Kotra I	DFL	2021-22	50	100	42.5	5
53.	Jhalawar	Khanpur	Baisar	ANR	2021-22	50	100	46.9	5
54.	Jhunjhunu	Khetri	Makado-II	ANR	2020-21	50	100	44.2	5
55.	Jhunjhunu	Udaipurwati	Girawadi	ANR	2021-22	50	100	46.7	5
56.	Jodhpur	Baap	Udat B	ANR	2021-22	45	100	45.7	5
57.	Karauli	Karauli	Ataiba	ANR	2020-21	50	100	44.3	5
58.	Karauli	Masalpur	Goder	ANR	2021-22	50	100	49.5	5
59.	Kota	Mandana	Singhpura-B	ANR	2020-21	50	100	43.7	5
60.	Kota	Kanwas	Dhani Aamli	ANR	2020-21	50	10	46.3	5
61.	Nagaur	Kuchaman	Chopra ki Dhani	ANR	2020-21	50	100	47.9	5
62.	Nagaur	Kuchaman	Sawaipura Paladi B Balaji	ANR	2021-22	50	10	46.8	5
63.	Pali	Sendra	Jhala ki Chowki	ANR	2020-21	50	100	46.5	5
64.	Pali	Marwar	Jadan Jod	ANR	2020-21	50	10	48.2	5
65.	Pali	Bali	Lundara A	ANR	2021-22	50	100	45.4	5
66.	Pali	Bali	Lundara B	ANR	2021-22	50	10	46.6	5
67.	Pali	Bali	Las ka Gudha	Silvi Pestrol	2021-22	50	100	48.6	5
68.	Pratapgarh	Deogarh	Ramdevji	ANR	2021-22	50	10	45.5	5
69.	Pratapgarh	Bansi	Kabra Mangra	ANR	2021-22	50	100	46.3	5
70.	Rajsamand WL	Jojawar	Bandki magri	ANR	2020-21	50	100	47.5	5
71.	Rajsamand WL	Ravali	Dalakhet Dabkabada	ANR	2021-22	50	10	42.5	5
72.	Rajsamand WL	Kumbhalgarh	Jaya	ANR	2021-22	50	100	45.5	5
73.	Rajsamand WL	Bokhada	Jwarka wala	ANR	2021-22	50	10	44.2	5
74.	RTR S. Madhopur	Baler	Rodawada	ANR	2020-21	50	100	49.4	5
75.	RTR S. Madhopur	Talada	Bai	ANR	2021-22	50	10	46.2	5
76.	S.Madhopur	S.Madhopur	Jhopadi-II	ANR	2020-21	50	100	45.2	5
77.	S.Madhopur	S.Madhopur	Trilokpura	DFL	2021-22	17	100	42.3	5
78.	S.Madhopur Chambal WL	Itava	Aamlada	ANR	2021-22	50	100	41.7	5
79.	Sikar	Srimadhopur	Paniharwas	ANR	2020-21	50	100	49.9	5
80.	Sikar	Neemkathana	Aagari-II	ANR	2021-22	50	10	48.3	5

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
81.	Sikar	Patan	Mothuka	ANR	2021-22	50	100	45.6	5
82.	Sirohi	Pindwara	Arduwa Compartment No.7 Hura Magra	ANR	2020-21	50	100	47.5	5
83.	Sirohi	Sirohi	Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev	ANR	2020-21	50	10	45.7	5
84.	Sirohi	Sirohi	Mal Pahadiya Compartment No.1,2 Banvda Mahadev	ANR	2021-22	50	10	46.3	5
85.	Tonk	Newai	Ganga Mataji	ANR	2020-21	50	100	46.9	5
86.	Udaipur	Udaipur	Undari Poplty	ANR	2021-22	50	100	45.1	5
87.	Udaipur	Jhadol	Saldari	ANR	2021-22	50	100	44.4	5
88.	Udaipur	Falasia	Thandiberi	NFL	2021-22	20.375	10	46.8	5
89.	Udaipur North	Deola	Kyari-I	ANR	2020-21	50	100	42.5	5
90.	Udaipur North	Sayara	Levo ka mathana-C	ANR	2020-21	50	10	44.0	5
91.	Udaipur North	Gogunda	Nathiyathal A	ANR	2021-22	50	100	48.1	5
92.	Udaipur WL	Mamer	Ghodamari	ANR	2021-22	50	100	41.1	5

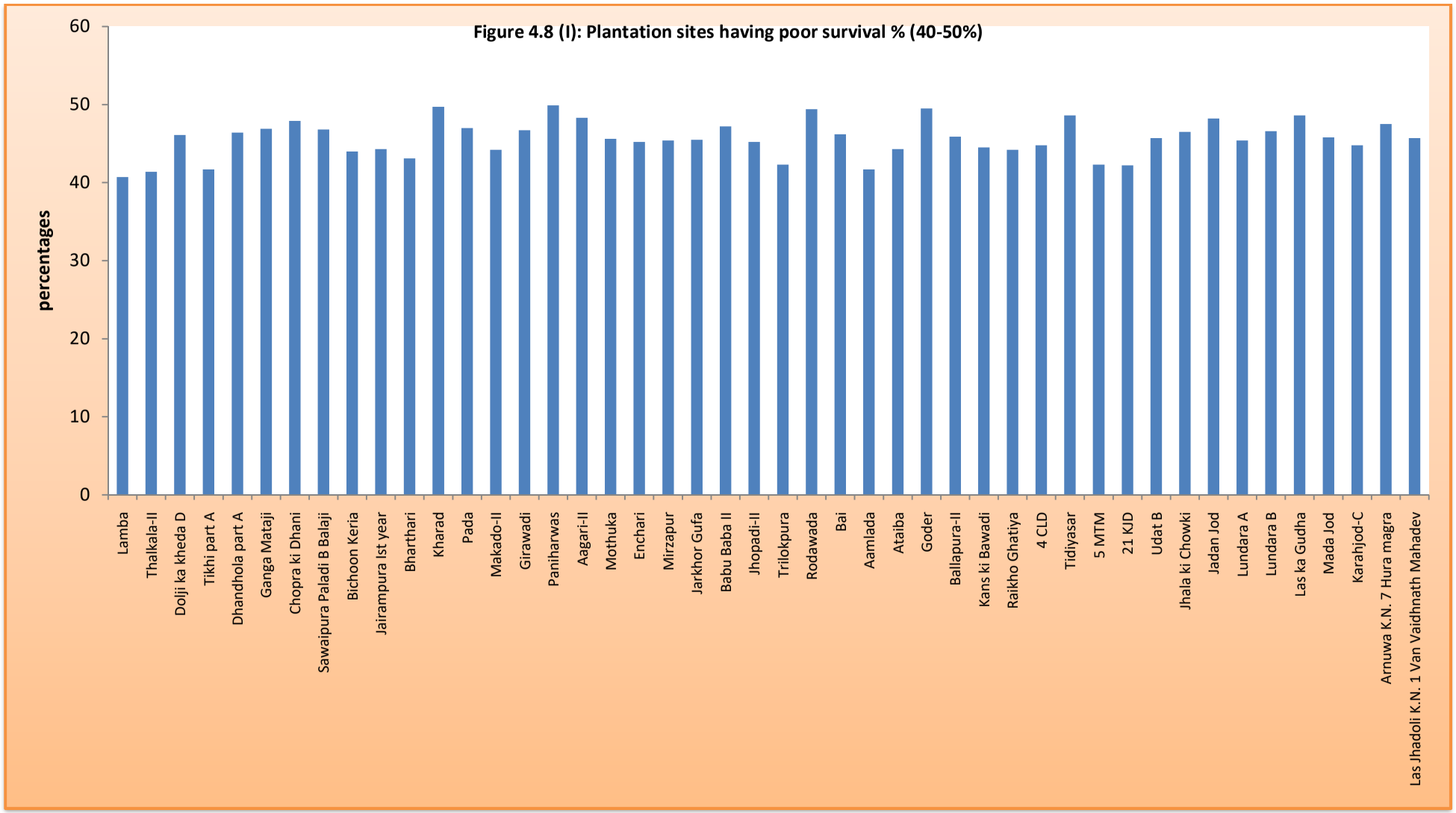


Figure 4.8 (I): Plantation sites having poor survival % (40-50%)
percentages
60
50
40
30
20
10
0
Lamba
Thalkala-II
Dolji ka kheda D
Tikhi part A
Dhandhola part A
Ganga Mataji
Chopra ki Dhani
Sawaipura Paladi B Balaji
Bichoon Keria
Jairampura Ist year
Bharthari
Kharad
Pada
Makado-II
Girawadi
Paniharwas
Aagari-II
Mothuka
Enchari
Mirzapur
Jarkhor Gufa
Babu Baba II
Jhopadi-II
Trilokpura
Rodawada
Bai
Aamlada
Ataiba
Goder
Ballapura-II
Kans ki Bawadi
Raikho Ghatiya
4 CLD
Tidiyasar
5 MTM
21 KJD
Udat B
Jhala ki Chowki
Jadan Jod
Lundara A
Lundara B
Las ka Gudha
Mada Jod
Karahjod-C
Arnuwa K.N. 7 Hura magra
Las Jhadoli K.N. 1 Van Vaidhnath Mahadev

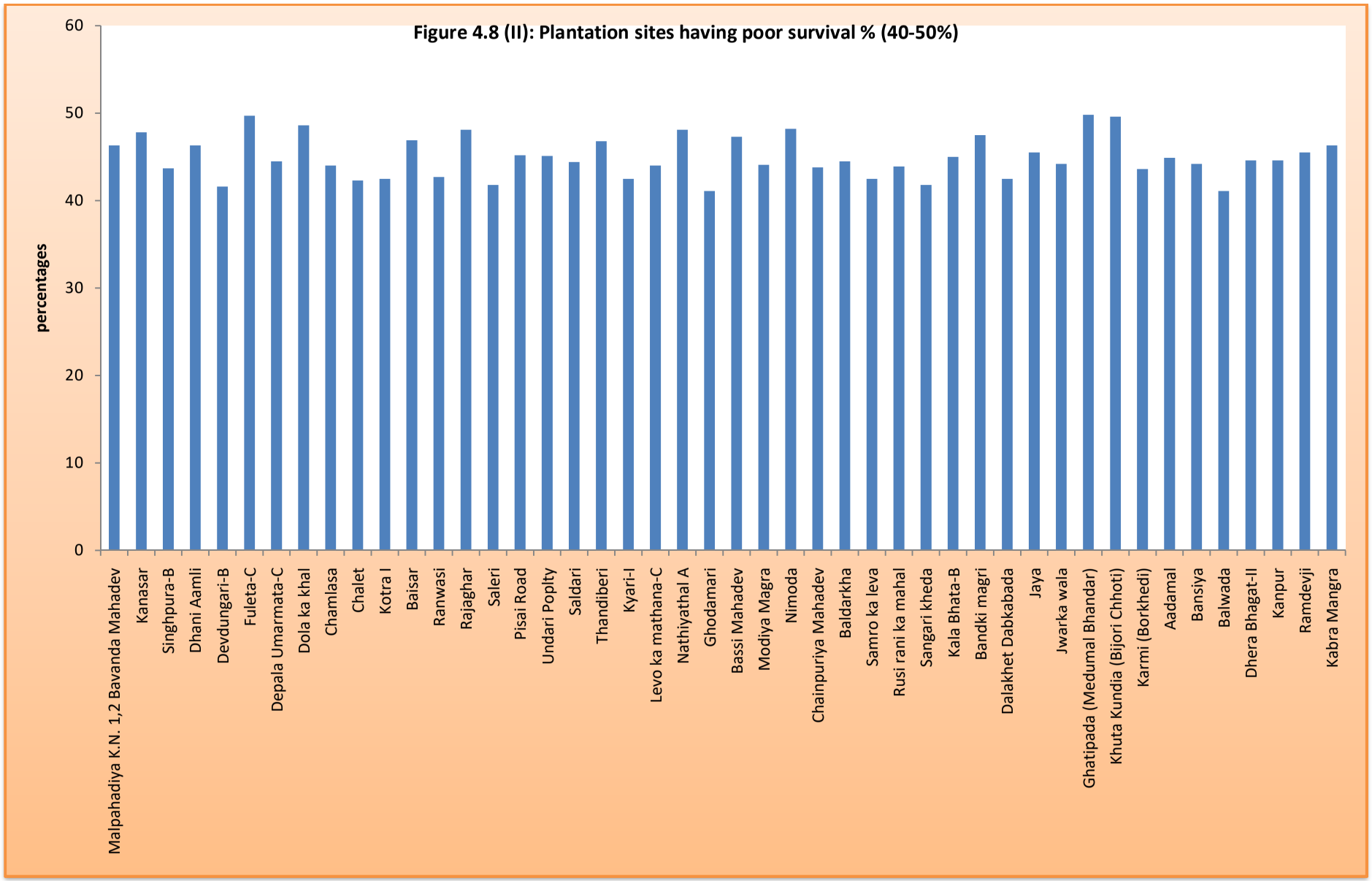


Figure 4.8 (II): Plantation sites having poor survival % (40-50%)
percentages
60
50
40
30
20
10
0
Malpahadiya K.N. 1,2 Bavanda Mahadev
Kanasar
Singhpura-B
Dhani Aamli
Devdungari-B
Fuleta-C
Depala Umarmata-C
Dola ka khal
Chamlasa
Chalet
Kotra I
Baisar
Ranwasi
Rajaghar
Saleri
Pisai Road
Undari Poplty
Saldari
Thandiberi
Kyari-I
Levo ka mathana-C
Nathiyathal A
Ghodamari
Bassi Mahadev
Modiya Magra
Nimoda
Chainpuriya Mahadev
Baldarkha
Samro ka leva
Rusi rani ka mahal
Sangari kheda
Kala Bhata-B
Bandki magri
Dalakhet Dabkabada
Jaya
Jwarka wala
Ghatipada (Medumal Bhandar)
Khuta Kundia (Bijori Chhoti)
Karmi (Borkhedi)
Aadamal
Bansiya
Balwada
Dhera Bhagat-II
Kanpur
Ramdevji
Kabra Mangra

The survival percentage was very poor (less than 40 %) with 4 & below ranking of 104.7 ha plantation areas of 3 sites of 3 ranges of 3 Divisions (table 4.9 and figure 4.9).

Table 4.9: Plantation sites having survival percentage less than 40%

Sl.no	Division	Range	Site name	Model	Year	Area (Ha)	Sample	Survival %	Rank
1.	Dausa	Lalsot	Dhauli B	ANR	2021-22	50	10	19.5	4
2.	Nagaur	Kuchaman	Chhapari I	DFL	2020-21	30	100	13.8	4
3.	Sirohi	Sirohi	Matarmata Vankhand	DFL	2020-21	24.7	100	25.3	4

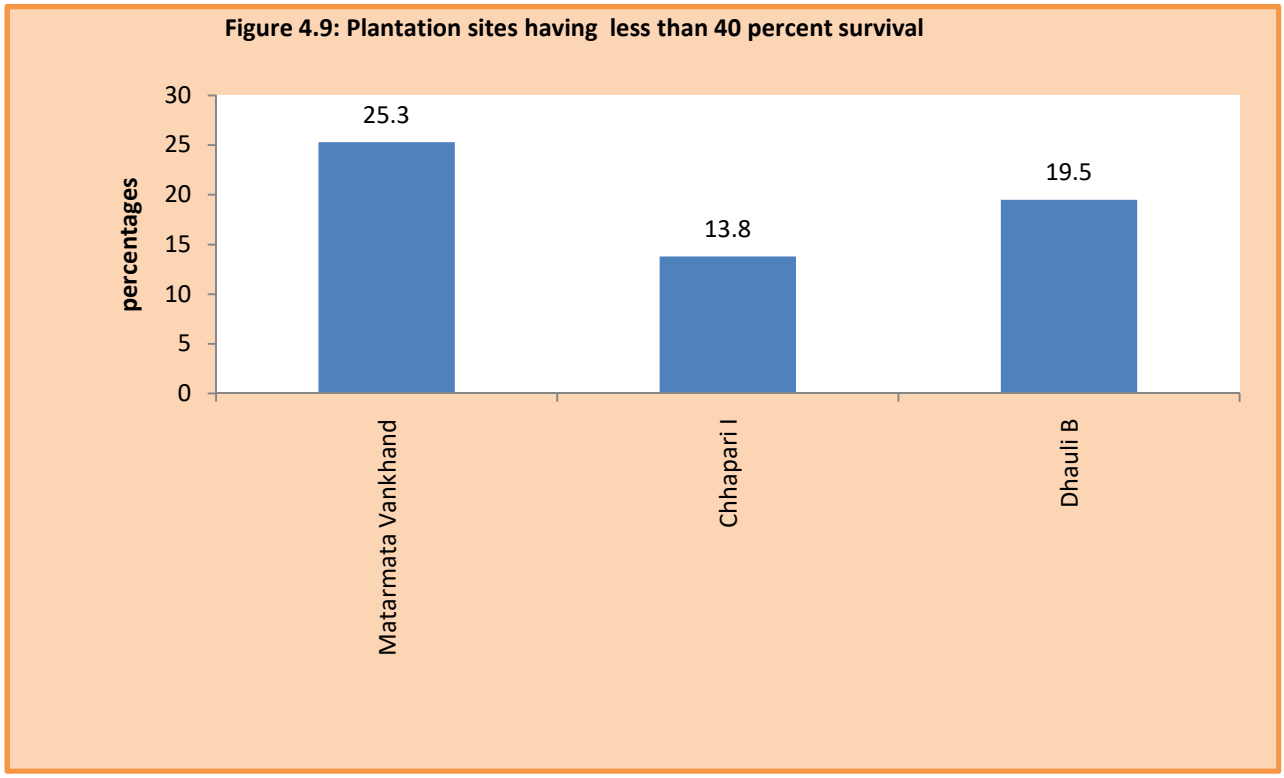


Table 4.10: Survival & Growth of Plants

Sl.no	Forest Division	Name of Range	Name of Site	Name of Model	VFPMC/ EDC	Latitude	Longitude	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %
1.	Ajmer	Nasirabad	Hatundi Danta Rajosi	ANR	Hatundi	26.34461	74.65935	2020-21	50	100	10000	10000	5127	51.3
2.	Ajmer	Pushkar	Kanas Banseli	DFL	Nedaliya	26.50135	74.56675	2020-21	12.70	10	8990	1415	845	59.7
3.	Ajmer	Sarwar	Lamba	ANR	Lamba	26.37836	74.99501	2021-22	50	100	10000	10000	4070	40.7
4.	Alwar	Thanagazi	Jhiri-A	ANR	Jhiri	27.24394	76.22742	2020-21	50	100	10000	10000	5122	51.2
5.	Alwar	Thanagazi	Kankad ki Dhani	DFL	Jal ki Ghati	27.3459	76.19628	2020-21	50	10	35000	3500	1771	50.6
6.	Alwar	Rajgarh	Pada	ANR	Kaneti	27.23767	76.70258	2021-22	50	100	10000	10000	4702	47.0
7.	Alwar	Tijara	Nakhnol	ANR	Milakpur Khurd	28.11548	76.86126	2021-22	50	10	10003	1000	532	53.2
8.	Alwar	Thanagazi	Lotawas	DFL	Palsana	27.2038	76.15965	2021-22	64.6	100	45220	45220	25700	56.8
9.	Banswara	Banswara	Ghatipada (Medumal Bhandar)	ANR	Khair Dabra	23.62605	74.47732	2020-21	50	100	10000	10000	4983	49.8
10.	Banswara	Ghatol	Garjiya Magra (Kundali)	DFL	Kundali	23.80759	74.37062	2021-22	42.09	10	29462	2946	1486	50.4
11.	Banswara	Ghatol	Umarjhala Pathara	ANR	Tandafala Jagpura	23.5319	74.2142	2021-22	50	100	10000	10000	5323	53.2
12.	Banswara	Kushalgarh	Khuta Kundia (Bijori Chhoti)	ANR	Bijori Choti	23.1512	74.3043	2021-22	50	10	10000	1000	496	49.6
13.	Banswara	Doongra	Karmi (Borkhedi)	ANR	Karmi	23.13435	74.3761	2021-22	50	100	10000	10000	4362	43.6
14.	Baran	Kishanganj	Ranwasi	ANR	Ranwasi	25°7'10"	76°51'3"	2020-21	50	100	10000	10000	4265	42.7
15.	Baran	Chhipabarod	Saikud	NFL	Digod Jagir	24°26'36"	76°37'24"	2020-21	129	10	141900	14190	9438	66.5
16.	Baran	Shahabad	Rajaghar	ANR	Shahabad	25°14'32"	77°17'19"	2020-21	50	100	10100	10100	4860	48.1
17.	Baran	Kelwada	Saleri	ANR	Kalaubiya	25°12'9"	76°54'33"	2021-22	50	10	10000	1000	418	41.8
18.	Baran	Kishanganj	Pisai Road	ANR	Kishanganj	25°7'25"	76°38'48"	2021-22	50	100	10000	10000	4520	45.2
19.	Baran	Shahabad	Kasba thana to M.P. Border	Road Side	Baik Sangathan Hara	25°14'18"	77°22'4"	2021-22	4 Km	10	3784	378	235	62.2
20.	Barmer	Sindhari	Abadi Manji A	DFL	Goyna Mahadev	26.6606	71.97428	2020-21	41.274	100	20637	20637	10384	50.3

Sl.no	Forest Division	Name of Range	Name of Site	Name of Model	VFPMC/ EDC	Latitude	Longitude	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %
21.	Barmer	Shiv	Kanasar	SPP	Kanasar	26.3284	71.59236	2021-22	50	10	10000	1000	478	47.8
22.	Bharatpur	Bayana	Jogipura	ANR	Jogipura	26°55'57"	77°8'2"	2020-21	50	100	10000	10000	5710	57.1
23.	Bharatpur	Deeg	Jarkhor Gufa	ANR	Seu	27°34'5"	77°17'1"	2020-21	50	10	10000	1000	455	45.5
24.	Bharatpur	Bayana	Babu Baba II	ANR	Govindpura	26°56'25"	77°7'21"	2021-22	50	100	10000	10000	4715	47.2
25.	Bhilwara	Jahajpur	Thalkala-II	ANR	Kataria Kheda	25°20'13"	75°5'44"	2020-21	50	100	10000	10000	4135	41.4
26.	Bhilwara	Mandalgarh	Dolji ka kheda D	ANR	Daulji Ka Kheda	25°10'8"	75°11'15"	2020-21	50	10	10000	1000	461	46.1
27.	Bhilwara	Mandalgarh	Tikhi part A	ANR	Mangarh	25°10'31"	75°14'27"	2021-22	50	100	10150	10150	4233	41.7
28.	Bhilwara	Jahajpur	Dhandhola part A	ANR	Dhandhola	25°37'52"	75°20'9"	2021-22	50	10	10000	1000	464	46.4
29.	Bundi	Hondoli	Devdungari-B	ANR	Devtalai	25°38'22"	75°31'51"	2020-21	50	100	10000	10000	4156	41.6
30.	Bundi	Nainwa	Fuleta-C	ANR	Fuleta	25.74482	75.87017	2020-21	65	10	13000	1300	646	49.7
31.	Bundi	Hindoli	Depala Umarmata-C	DFL	Umarmata (Daglaka Kheda)	25°22'41"	75°21'16"	2020-21	64.44	100	30000	30000	13336	44.5
32.	Bundi	Hindoli	Dola ka khal	ANR	Hathi Bar	25.45656	75.42974	2021-22	50	10	10000	1000	486	48.6
33.	Chhattargarh	Dantor	5 MTM	ANR	3/5 MTM	28.5076	72.48319	2020-21	50	100	10000	10000	4232	42.3
34.	Chhattargarh	Beriyawali	21 KJD	DFL	21 KJD	28°39'54"	72°31'20"	2020-21	58.7	10	41090	4200	1772	42.2
35.	Chittorgarh	Chittorgarh	Bassi Mahadev	ANR	Vijaykheda	24°56'49"	74°42'8"	2020-21	50	100	10000	10000	4727	47.3
36.	Chittorgarh	Borav	Dhagadmau Khurd I	ANR	Dhagadmau Khurd	24.934	75.39021	2020-21	50	10	10000	1000	524	52.4
37.	Chittorgarh	Kapasan	Modiya Magra	ANR	Amoliya	24°58'43"	74°36'58"	2020-21	50	100	10010	10010	4417	44.1
38.	Chittorgarh	Vijaipur	Nimoda	DFL	Nimoda	24.69838	74.99523	2020-21	19.53	10	12671	1267	611	48.2
39.	Chittorgarh	Vijaipur	Chainpuriya Mahadev	ANR	Udpura	24.78587	74.77404	2021-22	50	100	10000	10000	4382	43.8
40.	Chittorgarh	Chittorgarh	Baldarkha	ANR	Anwalheda	24°58'54"	74°43'51"	2021-22	50	10	10000	1000	445	44.5
41.	Chittorgarh	Begun	Samro ka leva	ANR	Jandoli	24.88602	75.10417	2021-22	50	100	10000	10000	4246	42.5
42.	Chittorgarh	Nimbaheda	Rusi rani ka mahal	ANR	Sajanpur	24.5358	74.63863	2021-22	50	10	10000	1000	439	43.9
43.	Chittorgarh WL	Badi sadari	Sangari kheda	ANR	Sangrikheda	24°18'16"	74°34'14"	2020-21	50	100	10500	10500	4391	41.8

Sl.no	Forest Division	Name of Range	Name of Site	Name of Model	VFPMC/ EDC	Latitude	Longitude	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %
44.	Chittorgarh WL	Badi sadari	Kala Bhata-B	ANR	Sangrikheda	24°17'33"	74°34'27"	2021-22	50	10	10000	1000	450	45.0
45.	Dausa	Lalsot	Ghata	ANR	Ghata	26.65783	76.43437	2020-21	50	100	10000	10000	5560	55.6
46.	Dausa	Lalsot	Dhauli B	ANR	Dhouli	26.70399	76.41247	2021-22	50	10	10000	1000	195	19.5
47.	Dausa	Bandikui	Enchari	ANR	Encheri	27.10993	76.50028	2021-22	50	100	10000	10000	4520	45.2
48.	Dausa	Mahva	Mirzapur	ANR	Gagwana	27°1'56"	76°49'8"	2021-22	50	10	10000	1000	454	45.4
49.	Dholpur	Sarmathura	Ballapura-II	ANR	Kaliteer	26°28'44"	77°28'47"	2021-22	50	100	10000	10000	4590	45.9
50.	Dholpur	Badi	Kans ki Bawari	ANR	Basrai	26°42'12"	77°23'10"	2021-22	50	10	10000	1000	445	44.5
51.	Dholpur	Vanvihar	Raikho Ghatiya	DFL	Kudinna	26°30'33"	77°37'7"	2020-21	50	100	35000	35000	15458	44.2
52.	Dholpur	Vanvihar	Kile ka Dada	DFL	Kudinna	26°30'28"	77°37'17"	2020-21	50	10	35000	3500	1853	52.9
53.	Dungarpur	Antari	Aadamal	ANR	Aadamal Ghata	23.5057	73.5555	2020-21	100	100	20000	20000	8980	44.9
54.	Dungarpur	Simalwara	Bansiya	ANR	Bansiya	23.362	73.517	2020-21	60	10	12000	1199	530	44.2
55.	Dungarpur	Dungarpur	Balwada	NFL	Suliyadara Balwara	23.4827	73.3837	2020-21	12.528	100	13830	13830	5686	41.1
56.	Dungarpur	Sagwara	Damaria Bodamagra	ANR	Jadela	23.342	73.5446	2021-22	40	10	8000	800	420	52.5
57.	Dungarpur	Simalwara	Dhera Bhagat-II	ANR	Dhechra Bhagat	23.48141	73.71112	2021-22	50	100	10000	10000	4462	44.6
58.	Dungarpur	Dungarpur	Kanpur	ANR	Kanpur	23.64803	73.54224	2021-22	50	10	10000	1000	446	44.6
59.	Hanumangarh	Rawatsar	4 CLD	SPP	Kesardesar	29°11'3"	74°15'42"	2021-22	25	100	5000	5000	2240	44.8
60.	Hanumangarh	Nohar	Tidiyasar	SPP	Tidiyasar	28°51'9"	74°47'3"	2021-22	25	10	5000	500	243	48.6
61.	IGNP II Jaisalmer	Mohangarh	KNM 0-3 RD C	NFL	Kanod/Miner	27.23047	71.19719	2020-21	20	100	22000	22000	12034	54.7
62.	IGNP II Jaisalmer	Mohangarh	0-3 RD KNM E	NFL	Kanod/Miner	27.22395	71.18783	2021-22	15	10	16500	1650	846	51.3
63.	Jaipur	Dudu	Bichoon Keria	ANR	Kairiya	26.79971	75.32926	2020-21	50	100	10000	10000	4404	44.0
64.	Jaipur	Amer	Jairampura	NFL	Jairampura	27.06602	75.68134	2020-21	5.51	10	6000	1150	510	44.3
65.	Jaipur	Amer	Bharthari	ANR	Kukas	27°3'37"	75°53'28"	2021-22	50	100	10000	10000	4313	43.1

Sl.no	Forest Division	Name of Range	Name of Site	Name of Model	VFPMC/ EDC	Latitude	Longitude	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %
66.	Jaipur	Dudu	Bhairuji Bichoon	ANR	Bichoon Main Bhairuji Ka Bas	26.79792	75.32998	2021-22	50	10	10000	1000	538	53.8
67.	Jaipur North	Paota	Antela Bawari	ANR	Ganeshpura, Bawari	27°29'21"	75°59'56"	2020-21	50	100	10226	10226	6338	62.0
68.	Jaipur North	Acharol	Samred khurd C	ANR	Samred	27°7'16"	76°4'1"	2021-22	50	10	10000	1000	526	52.6
69.	Jaipur North	Kotputali	Panch Pahadi (Hapuda)	ANR	Panchpahadi (Hapuda)	26°31'44.3"	76°11'39.9"	2021-22	50	100	10000	10000	5402	54.0
70.	Jaipur North	Viratnagar	Dhawali	ANR	Chetawala	27°17'38"	76°4'23"	2021-22	50	10	10000	1000	557	55.7
71.	Jaipur WL	Jamwaramgarh	Nimbi-A	ANR	Nimbi	27.0814	76.01743	2020-21	40	100	8000	8000	4174	52.2
72.	Jaipur WL	Raisar	Kharad	ANR	Kharad	27.09761	76.12195	2021-22	50	10	10000	1000	497	49.7
73.	Jaipur WL	Jamwaramgarh	Bhomiya Dyoda Dungar	ANR	Dayoda Dungar	26.9323	76.03607	2021-22	50	100	10000	10000	5475	54.8
74.	Jaisamler	Jaisalmer	Dabla III	NFL	Ranaram ki Dhani	26.84041	71.04042	2020-21	42.06	100	46266	46266	33277	71.9
75.	Jaisamler	Jaisalmer	Karahjod-C	SPP	Kishanghat	26.99314	70.99455	2021-22	25	10	5000	500	224	44.8
76.	Jalore	Raniwara	Raniwara khurd	ANR	Meda	24.76792	72.21621	2020-21	50	100	10000	10000	6220	62.2
77.	Jalore	Jaswantpura	Panseri-B	ANR	Panseri	24.80973	72.3413	2021-22	50	10	10000	1000	528	52.8
78.	Jalore	Jalore	Mada Jod	SPP	Rajanwadi	25.22873	72.77727	2021-22	50	100	10000	10000	4580	45.8
79.	Jhalawar	Bakani	Guradkheda	ANR	Guradkheda	24°20'22"	76°20'33"	2020-21	50	100	10000	10000	5064	50.6
80.	Jhalawar	Khanpur	Chamlasa	NFL	Khanpur	24°41'44"	76°14'40"	2020-21	26.16	10	21000	2100	925	44.0
81.	Jhalawar	Khanpur	Chalet	NFL	Khanpur	24°43'1"	76°13'31"	2020-21	32.14	100	35360	35360	14950	42.3
82.	Jhalawar	Khanpur	Khatakhedi	NFL	Khanpur/Bhagwanpura	24°48'52"	76°17'54"	2020-21	36.00	10	39600	3960	2120	53.5
83.	Jhalawar	Khanpur	Garayata	NFL	Khanpur	24°41'35"	76°18'37"	2020-21	23.70	100	26070	26070	14800	56.8
84.	Jhalawar	Dug	Harnawada I	NFL	Harnawada	24.03559	75.86564	2020-21	77	10	77000	7700	4030	52.3
85.	Jhalawar	Manoharthana	Kotra I	DFL	Bharuveh	24°25'27"	76°47'40"	2021-22	50	100	35000	35000	14886	42.5
86.	Jhalawar	Jhalawar	Bawadikheda	ANR	Bawarikheda	24°37'32"	76°9'13"	2021-22	50	10	10000	1000	516	51.6
87.	Jhalawar	Khanpur	Baisar	ANR	Baisar	24°45'55"	76°26'14"	2021-22	50	100	10000	10000	4685	46.9

Sl.no	Forest Division	Name of Range	Name of Site	Name of Model	VFPMC/ EDC	Latitude	Longitude	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %
88.	Jhunjhunu	Khetri	Makado-II	ANR	Makdo	28.08791	75.79868	2020-21	50	100	10000	10000	4423	44.2
89.	Jhunjhunu	Udaipurwati	Guda Dahar	ANR	Guda	27.82692	75.64658	2020-21	50	10	10000	1000	523	52.3
90.	Jhunjhunu	Udaipurwati	Girawadi	ANR	Girawadi	27.71912	75.53384	2021-22	50	100	10000	10000	4674	46.7
91.	Jhunjhunu	Jhunjhunu	Beed Jhunjhunu	ANR	Deshusar	28.1706	75.44829	2021-22	50	10	10000	1000	618	61.8
92.	Jodhpur	Baap	Udat B	ANR	Udat	27.54864	72.70802	2021-22	45	100	9000	9000	4112	45.7
93.	Jodhpur	Balesar	Vanbhoomi Agolai	ANR	Agolai	26.28185	72.63948	2021-22	50	10	10000	1000	512	51.2
94.	Jodhpur	Osian	Punasar	ANR	Punasar	27.06367	73.07733	2021-22	25	100	5000	5000	2576	51.5
95.	Karauli	Karauli	Ataiba	ANR	Rajor	26°22'24"	76°58'0"	2020-21	50	100	10000	10000	4425	44.3
96.	Karauli	Mandrail	Todi	ANR	Ranipura	26°16'59"	77°16'6"	2020-21	50	10	10000	1000	583	58.3
97.	Karauli	Masalpur	Goder	ANR	Mahua Kher	26°31'59"	77°12'58"	2021-22	50	100	10000	10000	4950	49.5
98.	Kota	Mandana	Singhpura-B	ANR	Singhpura	24°88'681"	76°011'35"	2020-21	50	100	10000	10000	4365	43.7
99.	Kota	Kanwas	Dhani Aamli	ANR	Dhani Aamli	24.89856	76.43776	2020-21	50	10	10000	1000	463	46.3
100.	Kota	Mandand	Badodiya II	ANR	Badodiya	25°022'2"	75°97'82"	2021-22	50	100	10000	10000	6172	61.7
101.	Kota	Kanwas	Sankheda	ANR	Dhani Aamli	24.87575	76.45097	2021-22	50	10	10000	1000	532	53.2
102.	Nagaur	Kuchaman	Chopra ki Dhani	ANR	Chopra Ki Dhani	27.0757	74.80157	2020-21	50	100	10000	10000	4786	47.9
103.	Nagaur	Parbatsar	Pilwa	DFL	Pilwa	26.68542	76.61813	2020-21	20	10	14004	1400.4	731	52.2
104.	Nagaur	Kuchaman	Chhapari I	DFL	Chapri	27.2721	74.94105	2020-21	30	100	21000	21000	2900	13.8
105.	Nagaur	Kuchaman	Sawaipura Paladi B Balaji	ANR	Hariyajure Sawaipura	27.01151	74.88086	2021-22	50	10	10000	1000	468	46.8
106.	Nagaur	Parbatsar	Dhokliya	ANR	Dhokliya	26.95543	74.83425	2021-22	50	100	10000	10000	5210	52.1
107.	Pali	Sendra	Jhala ki Chowki	ANR	Jhala Ki Chowki Mod	26.09292	74.15568	2020-21	50	100	10000	10000	4650	46.5
108.	Pali	Marwar	Jadan Jod	ANR	Jadan	25.86042	73.53988	2020-21	50	10	10000	1000	482	48.2
109.	Pali	Bali	Lundara A	ANR	Lundara	25.2822	73.32839	2021-22	50	100	10000	10000	4540	45.4
110.	Pali	Bali	Lundara B	ANR	Lundara	24.92595	73.01028	2021-22	50	10	10000	1000	466	46.6
111.	Pali	Bali	Las ka Gudha	SPP	Ramniya	25.2822	73.32836	2021-22	50	100	10000	10000	4860	48.6
112.	Pratapgarh	Dhariyawad	Timaruwala Bhatada	ANR	Aarampura	24.21291	74.43277	2020-21	50	100	10000	10000	5020	50.2

Sl.no	Forest Division	Name of Range	Name of Site	Name of Model	VFPMC/ EDC	Latitude	Longitude	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %
113.	Pratapgarh	Deogarh	Ramdevji	ANR	Samantpura	24.1945	74.75858	2021-22	50	10	10000	1000	455	45.5
114.	Pratapgarh	Bansi	Kabra Mangra	ANR	Manpura	24.25603	74.34552	2021-22	50	100	10000	10000	4630	46.3
115.	Pratapgarh	Bansi	Badliyanal	PEO (BAMBOO)	Umer Kot	24.21434	74.39728	2021-22	50	10	7500	750	615	82.0
116.	Pratapgarh	Dhariyawad	Henabavdi	PEO (BAMBOO)	Aarampura	24.19771	74.43808	2021-22	50	100	7500	7500	6250	83.3
117.	Rajsamand WL	Jojawar	Bandki magri	ANR	Karwada	25°34'29"	73°48'8"	2020-21	50	100	10000	10000	4752	47.5
118.	Rajsamand WL	Ravali	Dalakhet Dabkabada	ANR	Dabgabada	25°41'13"	73°55'38"	2021-22	50	10	10000	1000	425	42.5
119.	Rajsamand WL	Kumbhalgarh	Jaya	ANR	Kotda	25°7'47"	73°51'53"	2021-22	50	100	10000	10000	4549	45.5
120.	Rajsamand WL	Bokhada	Jwarka wala	ANR	Godara	24°58'35"	73°23'15"	2021-22	50	10	10000	1000	442	44.2
121.	RTR Karauli	Nainiyaki	Chir ki Naroli-C	ANR	Rasilpur	26°14'35"	76°49'60"	2020-21	50	100	10000	10000	5360	53.6
122.	RTR S. Madhopur	Baler	Rodawada	ANR	Roravad	25.97571	76.76762	2020-21	50	100	10000	10000	4943	49.4
123.	RTR S. Madhopur	Talada	Bai	ANR	Bhuri Pahari	26°15'3"	76°34'24"	2021-22	50	10	10000	1000	462	46.2
124.	S.Madhopur	S.Madhopur	Jhopadi-II	ANR	Jhopra	26.16998	76.18715	2020-21	50	100	10000	10000	4521	45.2
125.	S.Madhopur	Gangapur	Murada Chowki	ANR	Murada	26°21'14"	76°34'56"	2020-21	50	10	10000	1000	698	69.8
126.	S.Madhopur	Gangapur	Gurjar Koleta	ANR	Jagrampura	26°38'25"	76°31'37"	2021-22	50	100	10000	10000	5872	58.7
127.	S.Madhopur	Baunli	Bhairuji Maidar	ANR	Gothara	26°21.430'	76°13.388'	2021-22	35	10	7000	700	366	52.3
128.	S.Madhopur	S.Madhopur	Trilokpura	DFL	Trilokpura	26.18006	76.25171	2021-22	17	100	11900	11900	5036	42.3
129.	S.Madhopur Chambal WL	Itava	Aamlada	ANR	Gaita	25.5641	76.30044	2021-22	50	100	10000	10000	4168	41.7
130.	Sikar	Srimadhopur	Paniharwas	ANR	Paniharwas	27.68468	75.49523	2020-21	50	100	10000	10000	4986	49.9
131.	Sikar	Danta	Ganoda	ANR	Dantala	27.38576	75.26081	2020-21	50	10	10000	1000	595	59.5

Sl.no	Forest Division	Name of Range	Name of Site	Name of Model	VFPMC/ EDC	Latitude	Longitude	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %
132.	Sikar	Srimadhopur	Kotari	ANR	Kotdi Luharwas	27.68911	75.53695	2021-22	50	100	10000	10000	5326	53.3
133.	Sikar	Neemkathana	Aagari-II	ANR	Aagri	27.63996	75.8484	2021-22	50	10	10000	1000	483	48.3
134.	Sikar	Patan	Mothuka	ANR	Mothuka	27.80951	76.08122	2021-22	50	100	10000	10000	4563	45.6
135.	Sirohi	Pindwara	Arduwa Compartment No.7 Hura Magra	ANR	Arnua Moras	24.66266	73.06788	2020-21	50	100	10000	10000	4752	47.5
136.	Sirohi	Sirohi	Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev	ANR	Van	25.07168	72.87662	2020-21	50	10	10000	1000	457	45.7
137.	Sirohi	Sirohi	Matarmata Vankhand	DFL	Motal	24.88754	72.87315	2020-21	24.7	100	10000	10000	2531	25.3
138.	Sirohi	Sirohi	Mal Pahadiya Compartment No.1,2 Banvda Mahadev	ANR	Gajpadani	25.07152	72.90963	2021-22	50	10	10000	1000	463	46.3
139.	Tonk	Newai	Ganga Mataji	ANR	Nohta	26°17'45"	76°3'14"	2020-21	50	100	10000	10000	4693	46.9
140.	Tonk	Deoli	Kati Deori-IV	ANR	Aawan	25°46'18"	75°33'50"	2020-21	50	10	10000	1000	620	62.0
141.	Tonk	Newai	Kasba Niwai	NFL	Newai Rural	26°21'48"	75°54'14"	2020-21	35	100	17500	17500	9350	53.4
142.	Tonk	Deoli	Kalabhata	ANR	Nayagaon	25°44'20"	75°33'42"	2021-22	50	10	10000	1000	660	66.0
143.	Udaipur	Salumbar	Tikhi Pahadi (Bara)	ANR	Malpur	24.15986	74.14279	2020-21	50	100	10000	10000	5070	50.7
144.	Udaipur	Kurabad	Kumatiya Kutapana	ANR	Railpatliya	24.38771	73.85189	2020-21	50	10	10000	1000	510	51.0
145.	Udaipur	Udaipur	Undari Poplty	ANR	Poplty	24°30'50"	73°35'32"	2021-22	50	100	10050	10050	4530	45.1
146.	Udaipur	Sarada	Rajol-ii	ANR	Kundal	23.99971	73.80575	2021-22	65	10	13000	1300	714	54.9
147.	Udaipur	Jhadol	Saldari	ANR	Saldari	24.35712	73.54795	2021-22	50	100	10000	10000	4440	44.4
148.	Udaipur	Falasia	Thandiberi	NFL	Amod	24.35703	73.54807	2021-22	20.375	10	22610	2219	1038	46.8
149.	Udaipur DODl	Deola DOD	Toran I Compartment no. 18	PEO (BAMBOO)	Ranikhet	24°36'45"	73°18'9"	2021-22	150	100	69500	69500	55000	79.1
150.	Udaipur North	Deola	Kyari-I	ANR	Kyari	24.68057	73.14688	2020-21	50	100	10000	10000	4250	42.5
151.	Udaipur	Sayara	Levo ka mathana-C	ANR	Padrada	24°53'30"	73°22'5"	2020-21	50	10	10000	1000	440	44.0

Sl.no	Forest Division	Name of Range	Name of Site	Name of Model	VFPMC/ EDC	Latitude	Longitude	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %
	North													
152.	Udaipur North	Gogunda	Nathiyathal A	ANR	Naal	24°37'803"	73°27'144"	2021-22	50	100	10000	10000	4809	48.1
153.	Udaipur North	Kotra	Junapadar-A	ANR	Junapadar	24°31'18"	73°13'43"	2021-22	50	10	10000	1000	530	53.0
154.	Udaipur North	Udaipur	Karget-B	NFL	Karget	24°31'44"	73°51'39"	2021-22	59	100	11830	11830	7994	67.6
155.	Udaipur North	Deola	Torana-12	PEO (BAMBOO)	Malviya/ Merpur	24.61095	73.26105	2021-22	50	10	6500	650	496	76.3
156.	Udaipur North	Udaipur	Lakhawali	PEO (BAMBOO)	Lakhawali	24°42'2"	73°41'17"	2021-22	50	100	5000	5000	4125	82.5
157.	Udaipur WL	Mamer	Ghodamari	ANR	Mahadi	24°13'12"	73°9'34"	2021-22	50	100	10000	10000	4108	41.1
158.	Udaipur WL	Jaisamand	Surawala	ANR	Rahatgudia	24°15'48"	73°54'38"	2021-22	50	10	10200	1020	617	60.5

Comparison of Area of Plantations with KML files

Year- wise plantation areas calculated in the field from the KML files and the areas charged in the APO were as given in table 4.11- and figure 4.9.

Table 4.11: Year-wise plantation area calculated in the field from the KML files & the areas charged in the APO

Year of Plantation	Area (ha) charged in the APO	Area (ha) calculated from KML Files	Less area (ha) charged in the APO
2020-21	12098	12098	0
2021-22	18324	18324	0
Total	30421	30421	0

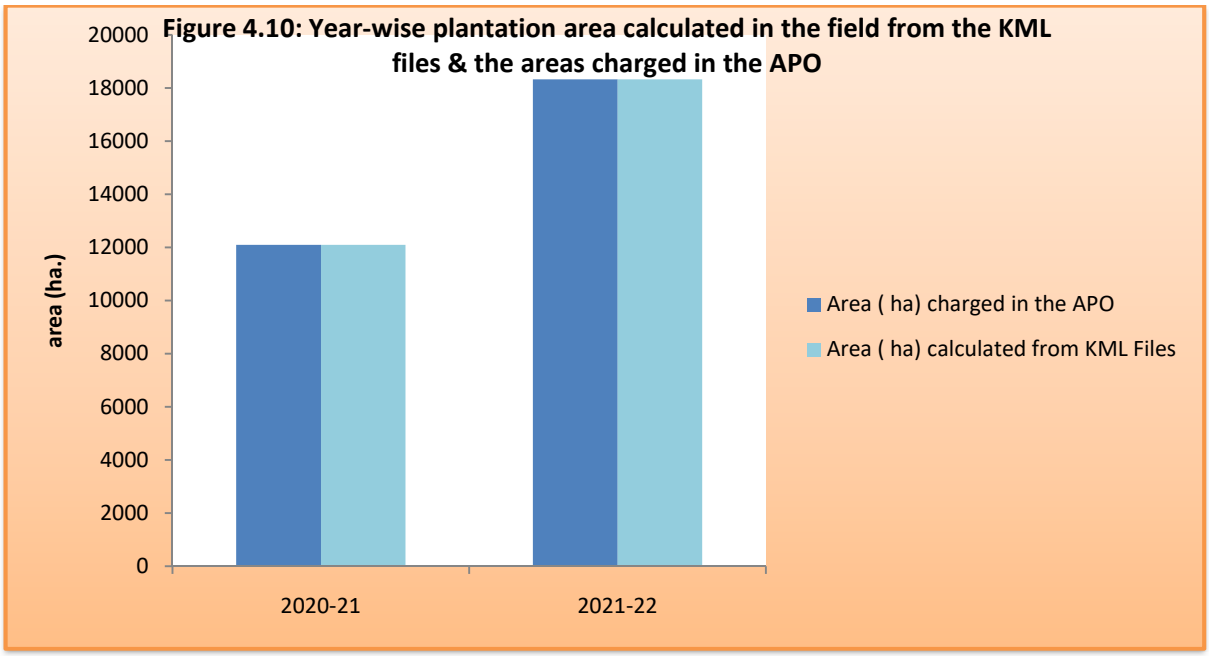


Figure 4.10: Year-wise plantation area calculated in the field from the KML files & the areas charged in the APO

It is evident from table 4.11 and figure 4.10 that no excess area was charged in the APOs.

Confidence Level of the Sample on Overall Projection to the Population/ Universe

The confidence level of the sample studied under third party evaluation Study to assess the survival percentage has been calculated in order to project the sample result of survival on the overall populations.

Statistical Methods Used

Half width of 95% Confidence Limit method has been used to calculate the confidence level of the sample survival percentage of plants in the plantation sites on overall populations. The Upper and Lower level of 95% Confidence Limit has been calculated. If the half width of 95% Confidence Limit is 0 then it can be said that the confidence level is close to the sample result.

The point estimate, i.e., the best estimate of the proportion of the survival of plants with the survival of plants against the planted calculated for 51 forest divisions. The 95% confidence interval computed for each forest division.

95% confidence interval = effect size ± 1.96 x standard error of the effect size

Thus, we are 95% confident that the true proportion of survival of plants is between 38% and 60%. There are few forest divisions where the survival rate of plants against that survived against plantation is lower compared to other divisions. Overall survival is closely 40% in all the divisions.

Table 4.12: Showing the Confidence level of sample result to overall Populations

Sl.no	Forest Division	Name of Site	Name of Model	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %	sample mean (p)	(1-p)	p (1-p)/n	Square root (margin error)	95% Confidence limit		Half width of 95% CI
															Upper limit	Lower limit	
1	Ajmer	Hatundi Danta Rajosi	ANR	2020-21	50	100	10000	10000	5127	51.3	0.513	0.487	0.00002498387	0.004998	52.25	50.29	1.0
2	Ajmer	Kanas Banseli	DFL	2020-21	12.7	10	8990	1415	845	59.7	0.597	0.403	0.00017000522	0.013039	62.27	57.16	2.6
3	Ajmer	Lamba	ANR	2021-22	50	100	10000	10000	4070	40.7	0.407	0.593	0.00002413510	0.004913	41.66	39.74	1.0
4	Alwar	Jhiri-A	ANR	2020-21	50	100	10000	10000	5122	51.2	0.512	0.488	0.00002498512	0.004999	52.20	50.24	1.0
5	Alwar	Kankad ki Dhani	DFL	2020-21	50	10	35000	3500	1771	50.6	0.506	0.494	0.00007141829	0.008451	52.26	48.94	1.7
6	Alwar	Pada	ANR	2021-22	50	100	10000	10000	4702	47.0	0.470	0.530	0.00002491120	0.004991	48.00	46.04	1.0
7	Alwar	Nakhnol	ANR	2021-22	50	10	10003	1000	532	53.2	0.532	0.468	0.00024891151	0.015777	56.28	50.09	3.1
8	Alwar	Lotawas	DFL	2021-22	64.6	100	45220	45220	25700	56.8	0.568	0.432	0.00000542527	0.002329	57.29	56.38	0.5
9	Banswara	Ghatipada (Medumal Bhandar)	ANR	2020-21	50	100	10000	10000	4983	49.8	0.498	0.502	0.00002499971	0.005	50.81	48.85	1.0
10	Banswara	Garjiya Magra (Kundali)	DFL	2021-22	42.09	10	29462	2946	1486	50.4	0.504	0.496	0.00008484856	0.009211	52.24	48.63	1.8
11	Banswara	Umarjhala Pathara	ANR	2021-22	50	100	10000	10000	5323	53.2	0.532	0.468	0.00002489567	0.00499	54.21	52.25	1.0
12	Banswara	Khuta Kundia (Bijori Chhoti)	ANR	2021-22	50	10	10000	1000	496	49.6	0.496	0.504	0.00024998400	0.015811	52.70	46.50	3.1
13	Banswara	Karmi (Borkhedi)	ANR	2021-22	50	100	10000	10000	4362	43.6	0.436	0.564	0.00002459296	0.004959	44.59	42.65	1.0
14	Baran	Ranwasi	ANR	2020-21	50	100	10000	10000	4265	42.7	0.427	0.574	0.00002445978	0.004946	43.62	41.68	1.0
15	Baran	Saikud	NFL	2020-21	129	10	141900	14190	9438	66.5	0.665	0.335	0.00001569673	0.003962	67.29	65.74	0.8
16	Baran	Rajaghar	ANR	2020-21	50	100	10100	10100	4860	48.1	0.481	0.519	0.00002471744	0.004972	49.09	47.14	1.0
17	Baran	Saleri	ANR	2021-22	50	10	10000	1000	418	41.8	0.418	0.582	0.00024327600	0.015597	44.86	38.74	3.1
18	Baran	Pisai Road	ANR	2021-22	50	100	10000	10000	4520	45.2	0.452	0.548	0.00002476960	0.004977	46.18	44.22	1.0
19	Baran	Kasba thana to M.P. Border	Road Side	2021-22	4 Km	10	3784	378	235	62.2	0.622	0.378	0.00062219784	0.024944	67.06	57.28	4.9
20	Barmer	Abadi Manji A	DFL	2020-21	41.274	100	20637	20637	10384	50.3	0.503	0.497	0.00001211368	0.00348	51.00	49.64	0.7
21	Barmer	Kanasar	Silvi Pestrol	2021-22	50	10	10000	1000	478	47.8	0.478	0.522	0.00024951600	0.015796	50.90	44.70	3.1
22	Bharatpur	Jogipura	ANR	2020-21	50	100	10000	10000	5710	57.1	0.571	0.429	0.00002449590	0.004949	58.07	56.13	1.0
23	Bharatpur	Jarkhor Gufa	ANR	2020-21	50	10	10000	1000	455	45.5	0.455	0.545	0.00024797500	0.015747	48.59	42.41	3.1

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															Upper limit	Lower limit	
24	Bharatpur	Babu Baba II	ANR	2021-22	50	100	10000	10000	4715	47.2	0.472	0.529	0.00002491878	0.004992	48.13	46.17	1.0
25	Bhilwara	Thalkala-II	ANR	2020-21	50	100	10000	10000	4135	41.4	0.414	0.587	0.00002425178	0.004925	42.32	40.38	1.0
26	Bhilwara	Dolji ka kheda D	ANR	2020-21	50	10	10000	1000	461	46.1	0.461	0.539	0.00024847900	0.015763	49.19	43.01	3.1
27	Bhilwara	Tikhi part A	ANR	2021-22	50	100	10150	10150	4233	41.7	0.417	0.583	0.00002395255	0.004894	42.66	40.75	1.0
28	Bhilwara	Dhandhola part A	ANR	2021-22	50	10	10000	1000	464	46.4	0.464	0.536	0.00024870400	0.01577	49.49	43.31	3.1
29	Bundi	Devdungari-B	ANR	2020-21	50	100	10000	10000	4156	41.6	0.416	0.584	0.00002428766	0.004928	42.53	40.59	1.0
30	Bundi	Fuleta-C	ANR	2020-21	65	10	13000	1300	646	49.7	0.497	0.503	0.00019230041	0.013867	52.41	46.97	2.7
31	Bundi	Depala Umarmata-C	DFL	2020-21	64.44	100	30000	30000	13336	44.5	0.445	0.555	0.00000823078	0.002869	45.02	43.89	0.6
32	Bundi	Dola ka khal	ANR	2021-22	50	10	10000	1000	486	48.6	0.486	0.514	0.00024980400	0.015805	51.70	45.50	3.1
33	Chhattargarh IGNP I	5 MTM	ANR	2020-21	50	100	10000	10000	4232	42.3	0.423	0.577	0.00002441018	0.004941	43.29	41.35	1.0
34	Chhattargarh IGNP I	21 KJD	DFL	2020-21	58.7	10	41090	4200	1772	42.2	0.422	0.578	0.00005807170	0.00762	43.68	40.70	1.5
35	Chittorgarh	Bassi Mahadev	ANR	2020-21	50	100	10000	10000	4727	47.3	0.473	0.527	0.00002492547	0.004993	48.25	46.29	1.0
36	Chittorgarh	Dhagadmau khurd I	ANR	2020-21	50	10	10000	1000	524	52.4	0.524	0.476	0.00024942400	0.015793	55.50	49.30	3.1
37	Chittorgarh	Modiya Magra	ANR	2020-21	50	100	10010	10010	4417	44.1	0.441	0.559	0.00002463032	0.004963	45.10	43.15	1.0
38	Chittorgarh	Nimoda	DFL	2020-21	19.53	10	12671	1267	611	48.2	0.482	0.518	0.00019705097	0.014037	50.97	45.47	2.8
39	Chittorgarh	Chainpuriya Mahadev	ANR	2021-22	50	100	10000	10000	4382	43.8	0.438	0.562	0.00002461808	0.004962	44.79	42.85	1.0
40	Chittorgarh	Baldarkha	ANR	2021-22	50	10	10000	1000	445	44.5	0.445	0.555	0.00024697500	0.015715	47.58	41.42	3.1
41	Chittorgarh	Samro ka leva	ANR	2021-22	50	100	10000	10000	4246	42.5	0.425	0.575	0.00002443148	0.004943	43.43	41.49	1.0
42	Chittorgarh	Rusi rani ka mahal	ANR	2021-22	50	10	10000	1000	439	43.9	0.439	0.561	0.00024627900	0.015693	46.98	40.82	3.1
43	Chittorgarh WL	Sangari kheda	ANR	2020-21	50	100	10500	10500	4391	41.8	0.418	0.582	0.00002317211	0.004814	42.76	40.88	0.9
44	Chittorgarh WL	Kala Bhata-B	ANR	2021-22	50	10	10000	1000	450	45.0	0.450	0.550	0.00024750000	0.015732	48.08	41.92	3.1
45	Dausa	Ghata	ANR	2020-21	50	100	10000	10000	5560	55.6	0.556	0.444	0.00002468640	0.004969	56.57	54.63	1.0
46	Dausa	Dhauli B	ANR	2021-22	50	10	10000	1000	195	19.5	0.195	0.805	0.00015697500	0.012529	21.96	17.04	2.5
47	Dausa	Enchari	ANR	2021-22	50	100	10000	10000	4520	45.2	0.452	0.548	0.00002476960	0.004977	46.18	44.22	1.0
48	Dausa	Mirzapur	ANR	2021-22	50	10	10000	1000	454	45.4	0.454	0.546	0.00024788400	0.015744	48.49	42.31	3.1

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															Upper limit	Lower limit	
49	Dholpur	Ballapura-II	ANR	2021-22	50	100	10000	10000	4590	45.9	0.459	0.541	0.00002483190	0.004983	46.88	44.92	1.0
50	Dholpur	Kans ki Bawari	ANR	2021-22	50	10	10000	1000	445	44.5	0.445	0.555	0.00024697500	0.015715	47.58	41.42	3.1
51	Dholpur	Raikho Ghatiya	DFL	2020-21	50	100	35000	35000	15458	44.2	0.442	0.558	0.00000704560	0.002654	44.69	43.65	0.5
52	Dholpur	Kile ka Dada	DFL	2020-21	50	10	35000	3500	1853	52.9	0.529	0.471	0.00007118113	0.008437	54.60	51.29	1.7
53	Dungarpur	Aadamal	ANR	2020-21	100	100	20000	20000	8980	44.9	0.449	0.551	0.00001236995	0.003517	45.59	44.21	0.7
54	Dungarpur	Bansiya	ANR	2020-21	60	10	12000	1199	530	44.2	0.442	0.558	0.00020570481	0.014342	47.01	41.39	2.8
55	Dungarpur	Balwada	NFL	2020-21	12.528	100	13830	13830	5686	41.1	0.411	0.589	0.00001750564	0.004184	41.93	40.29	0.8
56	Dungarpur	Damaria Bodamagra	ANR	2021-22	40	10	8000	800	420	52.5	0.525	0.475	0.00031171875	0.017656	55.96	49.04	3.5
57	Dungarpur	Dhera Bhagat-II	ANR	2021-22	50	100	10000	10000	4462	44.6	0.446	0.554	0.00002471056	0.004971	45.59	43.65	1.0
58	Dungarpur	Kanpur	ANR	2021-22	50	10	10000	1000	446	44.6	0.446	0.554	0.00024708400	0.015719	47.68	41.52	3.1
59	Hanumangarh	4 CLD	Silvi Pestrol	2021-22	25	100	5000	5000	2240	44.8	0.448	0.552	0.00004945920	0.007033	46.18	43.42	1.4
60	Hanumangarh	Tidiyasar	Silvi Pestrol	2021-22	25	10	5000	500	243	48.6	0.486	0.514	0.00049960800	0.022352	52.98	44.22	4.4
61	Jaipur	Bichoon Keria	ANR	2020-21	50	100	10000	10000	4404	44.0	0.440	0.560	0.00002464478	0.004964	45.01	43.07	1.0
62	Jaipur	Jairampura	NFL	2020-21	5.51	10	6000	1150	510	44.3	0.443	0.557	0.00021461330	0.01465	47.22	41.48	2.9
63	Jaipur	Bharthari	ANR	2021-22	50	100	10000	10000	4313	43.1	0.431	0.569	0.00002452803	0.004953	44.10	42.16	1.0
64	Jaipur	Bhairuji Bichoon	ANR	2021-22	50	10	10000	1000	538	53.8	0.538	0.462	0.00024855600	0.015766	56.89	50.71	3.1
65	Jaipur North	Antela Bawari	ANR	2020-21	50	100	10226	10226	6338	62.0	0.620	0.380	0.00002304417	0.0048	62.92	61.04	0.9
66	Jaipur North	Samred khurd C	ANR	2021-22	50	10	10000	1000	526	52.6	0.526	0.474	0.00024932400	0.01579	55.69	49.51	3.1
67	Jaipur North	Panch Pahadi (Hapuda)	ANR	2021-22	50	100	10000	10000	5402	54.0	0.540	0.460	0.00002483840	0.004984	55.00	53.04	1.0
68	Jaipur North	Dhawali	ANR	2021-22	50	10	10000	1000	557	55.7	0.557	0.443	0.00024675100	0.015708	58.78	52.62	3.1
69	Jaipur WL	Nimbi-A	ANR	2020-21	40	100	8000	8000	4174	52.2	0.522	0.478	0.00003119087	0.005585	53.27	51.08	1.1
70	Jaipur WL	Kharad	ANR	2021-22	50	10	10000	1000	497	49.7	0.497	0.503	0.00024999100	0.015811	52.80	46.60	3.1
71	Jaipur WL	Bhomiya Dyoda Dungar	ANR	2021-22	50	100	10000	10000	5475	54.8	0.548	0.453	0.00002477438	0.004977	55.73	53.77	1.0
72	Jaisalmer	Dabla III	NFL	2020-21	42.06	100	46266	46266	33277	71.9	0.719	0.281	0.00000436450	0.002089	72.33	71.52	0.4
73	Jaisalmer	Karahjod-C	Silvi Pestrol	2021-22	25	10	5000	500	224	44.8	0.448	0.552	0.00049459200	0.022239	49.16	40.44	4.4

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74	Jaisalmer IGNP II	KNM 0-3 RD C	NFL	2020-21	20	100	22000	22000	12034	54.7	0.547	0.453	0.00001126323	0.003356	55.36	54.04	0.7
75	Jaisalmer IGNP II	0-3 RD KNM E	NFL	2021-22	15	10	16500	1650	846	51.3	0.513	0.487	0.00015141698	0.012305	53.68	48.86	2.4
76	Jalore	Raniwara khurd	ANR	2020-21	50	100	10000	10000	6220	62.2	0.622	0.378	0.00002351160	0.004849	63.15	61.25	1.0
77	Jalore	Panseri-B	ANR	2021-22	50	10	10000	1000	528	52.8	0.528	0.472	0.00024921600	0.015787	55.89	49.71	3.1
78	Jalore	Mada Jod	Silvi Pestrol	2021-22	50	100	10000	10000	4580	45.8	0.458	0.542	0.00002482360	0.004982	46.78	44.82	1.0
79	Jhalawar	Guradkheda	ANR	2020-21	50	100	10000	10000	5064	50.6	0.506	0.494	0.00002499590	0.005	51.62	49.66	1.0
80	Jhalawar	Chamlasa	NFL	2020-21	26.16	10	21000	2100	925	44.0	0.440	0.560	0.00011736044	0.010833	46.17	41.92	2.1
81	Jhalawar	Chalet	NFL	2020-21	32.14	100	35360	35360	14950	42.3	0.423	0.577	0.00000690156	0.002627	42.79	41.76	0.5
82	Jhalawar	Khatakhedi	NFL	2020-21	36.00	10	39600	3960	2120	53.5	0.535	0.465	0.00006281569	0.007926	55.09	51.98	1.6
83	Jhalawar	Garayata	NFL	2020-21	23.70	100	26070	26070	14800	56.8	0.568	0.432	0.00000941375	0.003068	57.37	56.17	0.6
84	Jhalawar	Harnawada I	NFL	2020-21	77	10	77000	7700	4030	52.3	0.523	0.477	0.00003239656	0.005692	53.45	51.22	1.1
85	Jhalawar	Kotra I	DFL	2021-22	50	100	35000	35000	14886	42.5	0.425	0.575	0.00000698349	0.002643	43.05	42.01	0.5
86	Jhalawar	Bawadikheda	ANR	2021-22	50	10	10000	1000	516	51.6	0.516	0.484	0.00024974400	0.015803	54.70	48.50	3.1
87	Jhalawar	Baisar	ANR	2021-22	50	100	10000	10000	4685	46.9	0.469	0.532	0.00002490078	0.00499	47.83	45.87	1.0
88	Jhunjhunu	Makado-II	ANR	2020-21	50	100	10000	10000	4423	44.2	0.442	0.558	0.00002466707	0.004967	45.20	43.26	1.0
89	Jhunjhunu	Guda Dahar	ANR	2020-21	50	10	10000	1000	523	52.3	0.523	0.477	0.00024947100	0.015795	55.40	49.20	3.1
90	Jhunjhunu	Girawadi	ANR	2021-22	50	100	10000	10000	4674	46.7	0.467	0.533	0.00002489372	0.004989	47.72	45.76	1.0
91	Jhunjhunu	Beed Jhunjhunu	ANR	2021-22	50	10	10000	1000	618	61.8	0.618	0.382	0.00023607600	0.015365	64.81	58.79	3.0
92	Jodhpur	Udat B	ANR	2021-22	45	100	9000	9000	4112	45.7	0.457	0.543	0.00002757127	0.005251	46.72	44.66	1.0
93	Jodhpur	Vanbhoomi Agolai	ANR	2021-22	50	10	10000	1000	512	51.2	0.512	0.488	0.00024985600	0.015807	54.30	48.10	3.1
94	Jodhpur	Punasar	ANR	2021-22	25	100	5000	5000	2576	51.5	0.515	0.485	0.00004995379	0.007068	52.91	50.13	1.4
95	Karauli	Ataiba	ANR	2020-21	50	100	10000	10000	4425	44.3	0.443	0.558	0.00002466938	0.004967	45.22	43.28	1.0
96	Karauli	Todi	ANR	2020-21	50	10	10000	1000	583	58.3	0.583	0.417	0.00024311100	0.015592	61.36	55.24	3.1
97	Karauli	Goder	ANR	2021-22	50	100	10000	10000	4950	49.5	0.495	0.505	0.00002499750	0.005	50.48	48.52	1.0
98	Karauli RTR	Chir ki Naroli-C	ANR	2020-21	50	100	10000	10000	5360	53.6	0.536	0.464	0.00002487040	0.004987	54.58	52.62	1.0
99	Kota	Singhpura-B	ANR	2020-21	50	100	10000	10000	4365	43.7	0.437	0.564	0.00002459678	0.00496	44.62	42.68	1.0
100	Kota	Dhani Aamli	ANR	2020-21	50	10	10000	1000	463	46.3	0.463	0.537	0.00024863100	0.015768	49.39	43.21	3.1

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101	Kota	Badodiya II	ANR	2021-22	50	100	10000	10000	6172	61.7	0.617	0.383	0.00002362642	0.004861	62.67	60.77	1.0
102	Kota	Sankheda	ANR	2021-22	50	10	10000	1000	532	53.2	0.532	0.468	0.00024897600	0.015779	56.29	50.11	3.1
103	Nagaur	Chopra ki Dhani	ANR	2020-21	50	100	10000	10000	4786	47.9	0.479	0.521	0.00002495420	0.004995	48.84	46.88	1.0
104	Nagaur	Pilwa	DFL	2020-21	20	10	14004	1400.4	731	52.2	0.522	0.478	0.00017817500	0.013348	54.82	49.58	2.6
105	Nagaur	Chhapari I	DFL	2020-21	30	100	21000	21000	2900	13.8	0.138	0.862	0.00000566785	0.002381	14.28	13.34	0.5
106	Nagaur	Sawaipura Paladi B Balaji	ANR	2021-22	50	10	10000	1000	468	46.8	0.468	0.532	0.00024897600	0.015779	49.89	43.71	3.1
107	Nagaur	Dhokliya	ANR	2021-22	50	100	10000	10000	5210	52.1	0.521	0.479	0.00002495590	0.004996	53.08	51.12	1.0
108	Pali	Jhala ki Chowki	ANR	2020-21	50	100	10000	10000	4650	46.5	0.465	0.535	0.00002487750	0.004988	47.48	45.52	1.0
109	Pali	Jadan Jod	ANR	2020-21	50	10	10000	1000	482	48.2	0.482	0.518	0.00024967600	0.015801	51.30	45.10	3.1
110	Pali	Lundara A	ANR	2021-22	50	100	10000	10000	4540	45.4	0.454	0.546	0.00002478840	0.004979	46.38	44.42	1.0
111	Pali	Lundara B	ANR	2021-22	50	10	10000	1000	466	46.6	0.466	0.534	0.00024884400	0.015775	49.69	43.51	3.1
112	Pali	Las ka Gudha	Silvi Pestrol	2021-22	50	100	10000	10000	4860	48.6	0.486	0.514	0.00002498040	0.004998	49.58	47.62	1.0
113	Pratapgarh	Timaruwala Bhatada	ANR	2020-21	50	100	10000	10000	5020	50.2	0.502	0.498	0.00002499960	0.005	51.18	49.22	1.0
114	Pratapgarh	Ramdevji	ANR	2021-22	50	10	10000	1000	455	45.5	0.455	0.545	0.00024797500	0.015747	48.59	42.41	3.1
115	Pratapgarh	Kabra Mangra	ANR	2021-22	50	100	10000	10000	4630	46.3	0.463	0.537	0.00002486310	0.004986	47.28	45.32	1.0
116	Pratapgarh	Badliyanal	PEO (Bamboo)	2021-22	50	10	7500	750	615	82.0	0.820	0.180	0.00019680000	0.014029	84.75	79.25	2.7
117	Pratapgarh	Henabavdi	PEO (Bamboo)	2021-22	50	100	7500	7500	6250	83.3	0.833	0.167	0.00001851852	0.004303	84.18	82.49	0.8
118	Rajsamand WL	Bandki magri	ANR	2020-21	50	100	10000	10000	4752	47.5	0.475	0.525	0.00002493850	0.004994	48.50	46.54	1.0
119	Rajsamand WL	Dalakhet Dabkabada	ANR	2021-22	50	10	10000	1000	425	42.5	0.425	0.575	0.00024437500	0.015632	45.56	39.44	3.1
120	Rajsamand WL	Jaya	ANR	2021-22	50	100	10000	10000	4549	45.5	0.455	0.545	0.00002479660	0.00498	46.47	44.51	1.0
121	Rajsamand WL	Jwarka wala	ANR	2021-22	50	10	10000	1000	442	44.2	0.442	0.558	0.00024663600	0.015705	47.28	41.12	3.1
122	S.Madhopur	Jhopadi-II	ANR	2020-21	50	100	10000	10000	4521	45.2	0.452	0.548	0.00002477056	0.004977	46.19	44.23	1.0

Sl.no	Forest Division	Name of Site	Name of Model	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %	sample mean (p)	(1-p)	p (1-p)/n	Square root (margin error)	95% Confidence limit		Half width of 95% CI
															Upper limit	Lower limit	
123	S.Madhopur	Murada Chowki	ANR	2020-21	50	10	10000	1000	698	69.8	0.698	0.302	0.00021079600	0.014519	72.65	66.95	2.8
124	S.Madhopur	Gurjar Koleta	ANR	2021-22	50	100	10000	10000	5872	58.7	0.587	0.413	0.00002423962	0.004923	59.68	57.76	1.0
125	S.Madhopur	Bhairuji Maidar	ANR	2021-22	35	10	7000	700	366	52.3	0.523	0.477	0.00035639650	0.018878	55.99	48.59	3.7
126	S.Madhopur	Trilokpura	DFL	2021-22	17	100	11900	11900	5036	42.3	0.423	0.577	0.00002051267	0.004529	43.21	41.43	0.9
127	S.Madhopur Chambal WL	Aamlada	ANR	2021-22	50	100	10000	10000	4168	41.7	0.417	0.583	0.00002430778	0.00493	42.65	40.71	1.0
128	S.Madhopur RTR	Rodawada	ANR	2020-21	50	100	10000	10000	4943	49.4	0.494	0.506	0.00002499675	0.005	50.41	48.45	1.0
129	S.Madhopur RTR	Bai	ANR	2021-22	50	10	10000	1000	462	46.2	0.462	0.538	0.00024855600	0.015766	49.29	43.11	3.1
130	Sikar	Paniharwas	ANR	2020-21	50	100	10000	10000	4986	49.9	0.499	0.501	0.00002499980	0.005	50.84	48.88	1.0
131	Sikar	Ganoda	ANR	2020-21	50	10	10000	1000	595	59.5	0.595	0.405	0.00024097500	0.015523	62.54	56.46	3.0
132	Sikar	Kotari	ANR	2021-22	50	100	10000	10000	5326	53.3	0.533	0.467	0.00002489372	0.004989	54.24	52.28	1.0
133	Sikar	Aagari-II	ANR	2021-22	50	10	10000	1000	483	48.3	0.483	0.517	0.00024971100	0.015802	51.40	45.20	3.1
134	Sikar	Mothuka	ANR	2021-22	50	100	10000	10000	4563	45.6	0.456	0.544	0.00002480903	0.004981	46.61	44.65	1.0
135	Sirohi	Arnuwa K.N. 7 Hura magra	ANR	2020-21	50	100	10000	10000	4752	47.5	0.475	0.525	0.00002493850	0.004994	48.50	46.54	1.0
136	Sirohi	Las Jhadoli K.N. 1 Van Vaidhnath Mahadev	ANR	2020-21	50	10	10000	1000	457	45.7	0.457	0.543	0.00024815100	0.015753	48.79	42.61	3.1
137	Sirohi	Matarmata Vankhand	DFL	2020-21	24.7	100	10000	10000	2531	25.3	0.253	0.747	0.00001890404	0.004348	26.16	24.46	0.9
138	Sirohi	Malpahadiya K.N. 1,2 Bavanda Mahadev	ANR	2021-22	50	10	10000	1000	463	46.3	0.463	0.537	0.00024863100	0.015768	49.39	43.21	3.1
139	Tonk	Ganga Mataji	ANR	2020-21	50	100	10000	10000	4693	46.9	0.469	0.531	0.00002490575	0.004991	47.91	45.95	1.0
140	Tonk	Kati Deori-IV	ANR	2020-21	50	10	10000	1000	620	62.0	0.620	0.380	0.00023560000	0.015349	65.01	58.99	3.0
141	Tonk	Kasba Niwai	NFL	2020-21	35	100	17500	17500	9350	53.4	0.534	0.466	0.00001421854	0.003771	54.17	52.69	0.7
142	Tonk	Kalabhata	ANR	2021-22	50	10	10000	1000	660	66.0	0.660	0.340	0.00022440000	0.01498	68.94	63.06	2.9
143	Udaipur	Tikhi Pahadi (Bara)	ANR	2020-21	50	100	10000	10000	5070	50.7	0.507	0.493	0.00002499510	0.005	51.68	49.72	1.0

Sl.no	Forest Division	Name of Site	Name of Model	Plantation Year	Area (ha)	Sample	Total Plants Planted	Sample size	Survival plants	Survival %	sample mean (p)	(1-p)	p (1-p)/n	Square root (margin error)	95% Confidence limit		Half width of 95% CI
															Upper limit	Lower limit	
144	Udaipur	Kumatiya Kutapana	ANR	2020-21	50	10	10000	1000	510	51.0	0.510	0.490	0.00024990000	0.015808	54.10	47.90	3.1
145	Udaipur	Undari Poplty	ANR	2021-22	50	100	10050	10050	4530	45.1	0.451	0.549	0.00002463424	0.004963	46.05	44.10	1.0
146	Udaipur	Rajol-ii	ANR	2021-22	65	10	13000	1300	714	54.9	0.549	0.451	0.00019044333	0.0138	57.63	52.22	2.7
147	Udaipur	Saldari	ANR	2021-22	50	100	10000	10000	4440	44.4	0.444	0.556	0.00002468640	0.004969	45.37	43.43	1.0
148	Udaipur	Thandiberi	NFL	2021-22	20.375	10	22610	2219	1038	46.8	0.468	0.532	0.00011217357	0.010591	48.85	44.69	2.1
149	Udaipur DOD	Torana I	PEO (Bamboo)	2021-22	150	100	69500	69500	55000	79.1	0.791	0.209	0.00000237562	0.001541	79.44	78.83	0.3
150	Udaipur North	Kyari-I	ANR	2020-21	50	100	10000	10000	4250	42.5	0.425	0.575	0.00002443750	0.004943	43.47	41.53	1.0
151	Udaipur North	Levo ka mathana-C	ANR	2020-21	50	10	10000	1000	440	44.0	0.440	0.560	0.00024640000	0.015697	47.08	40.92	3.1
152	Udaipur North	Nathiyathal A	ANR	2021-22	50	100	10000	10000	4809	48.1	0.481	0.519	0.00002496352	0.004996	49.07	47.11	1.0
153	Udaipur North	Junapadar-A	ANR	2021-22	50	10	10000	1000	530	53.0	0.530	0.470	0.00024910000	0.015783	56.09	49.91	3.1
154	Udaipur North	Karget-B	NFL	2021-22	59	100	11830	11830	7994	67.6	0.676	0.324	0.00001852203	0.004304	68.42	66.73	0.8
155	Udaipur North	Torana-12	PEO (Bamboo)	2021-22	50	10	6500	650	496	76.3	0.763	0.237	0.00027813928	0.016678	79.58	73.04	3.3
156	Udaipur North	Lakhawali	PEO (Bamboo)	2021-22	50	100	5000	5000	4125	82.5	0.825	0.175	0.00002887500	0.005374	83.55	81.45	1.1
157	Udaipur WL	Ghodamari	ANR	2021-22	50	100	10000	10000	4108	41.1	0.411	0.589	0.00002420434	0.00492	42.04	40.12	1.0
158	Udaipur WL	Surawala	ANR	2021-22	50	10	10200	1020	617	60.5	0.605	0.395	0.00023430939	0.015307	63.49	57.49	3.0

Field verification & validation of plantations Survival

The field verification of plantations at the sample plantation sites was done. It includes verification of per hectare plantations norms as per the given models, spacing and assessment of the claimed plantations in evaluation of 100 percent sites.

For the purpose of undertaking field verifications of the plantations, the plantation journal and plantation cards have been consulted.

While undertaking field level assessment of plantations, the plants growth in terms of height and collar girth/DBH (for the taller plants height above 2 meters) has been measured to know the variations in the growth of the plants. The table given below shows the findings related to validation and verifications of planted plants, average norms of plantations have been followed or not and largely to assess the survival rate of the planted plants.

Table 4.13: Sample Plants Species Height & Collar Girth

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
1	Ajmer	Nasirabad	Hatundi Danta Rajosi	ANR	2020-21	50	10000	200	Acacia tortilis (Totalis)	98	21
	Ajmer								Acacia nilotica (Desi babool)	122	21
	Ajmer								Acacia leucopholea (Ronj)	100	24
	Ajmer								Acacia senegal (Kumtha)	90	21
	Ajmer								*Azadirachta indica (Neem)*	90	21
2	Ajmer	Pushkar	Kanas Banseli	DFL	2020-21	12.7	8990	708	Acacia tortilis (Totalis)	139	38
	Ajmer								Zizyphus mauritiana (Ber)	90	21
	Ajmer								Holoptelea integrifolia (Churel)	90	21
	Ajmer								Acacia leucopholea (Ronj)	90	21
	Ajmer								Dalbergia sissoo (Shisham)	90	21
3	Ajmer	Sarwar	Lamba	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	97	22
	Ajmer								Acacia leucopholea (Ronj)	90	21
	Ajmer								Others	90	21
4	Alwar	Thanagazi	Jhiri-A	ANR	2020-21	50	10000	200	Holoptelea integrifolia (Churel)	98	30
	Alwar								Acacia nilotica (Desi babool)	143	29
	Alwar								Acacia leucopholea (Ronj)	90	21
	Alwar								Zizyphus mauritiana (Ber)	90	21
	Alwar								*Azadirachta indica (Neem)*	90	21
5	Alwar	Thanagazi	Kankad ki Dhani	DFL	2020-21	50	35000	700	Holoptelea integrifolia (Churel)	90	32
	Alwar								Acacia nilotica (Desi babool)	120	35
	Alwar								*Azadirachta indica (Neem)*	70	25

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Alwar								Acacia leucopholea (Ronj)	70	19
	Alwar								Zizyphus mauritiana (Ber)	90	25
	Alwar								Pongamia pinnata (Karanj)	70	19
	Alwar								*Bauhinia sp. (*Kachnar*)*	60	19
	Alwar								Dalbergia sissoo (Shisham)	120	36
6	Alwar	Rajgarh	Pada	ANR	2021-22	50	10000	200	Holoptelea integrifolia (Churel)	104	22
	Alwar								Acacia leucopholea (Ronj)	94	21
	Alwar								Acacia nilotica (Desi babool)	111	25
	Alwar								Dalbergia sissoo (Shisham)	105	24
	Alwar								Pithecellobium dulce (Jangal Jalebi)	108	26
	Alwar								Prosopis juliflora (Khejri)	90	21
	Alwar								Wrightia tinctoria (Khirani)	98	21
	Alwar								Zizyphus mauritiana (Ber)	103	23
	Alwar								*Azadirachta indica (Neem)*	100	23
	Alwar								Others	90	21
7	Alwar	Tijara	Nakhnol	ANR	2021-22	50	10003	200	Dalbergia sissoo (Shisham)	112	21
	Alwar								Acacia tortilis (Totalis)	107	22
	Alwar								Acacia leucopholea (Ronj)	90	21
	Alwar								Zizyphus mauritiana (Ber)	90	21
	Alwar								*Azadirachta indica (Neem)*	93	21
8	Alwar	Thanagazi	Lotawas	DFL	2021-22	64.6	45220	700	Acacia nilotica (Desi babool)	129	33
	Alwar								Holoptelea integrifolia (Churel)	111	27
	Alwar								*Azadirachta indica (Neem)*	125	26

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Alwar								Dalbergia sissoo (Shisham)	169	27
	Alwar								Zizyphus mauritiana (Ber)	90	21
9	Banswara	Banswara	Ghatipada (Medumal Bhandar)	ANR	2020-21	50	10000	200	Tectona grandis (Sagwan)	143	27
	Banswara								Acacia catechu (Khair)	90	21
	Banswara								Holoptelea integrifolia (Churel)	90	21
	Banswara								Dendrocalamus strictus (Bamboo)	93	24
	Banswara								Emblica officinalis (Amla)	90	21
	Banswara								Madhuka latifolia (Mahua)	90	21
	Banswara								Syzygium cumini (Jamun)	88	20
	Banswara								*Bauhinia sp. (*Kachnar*)*	90	21
	Banswara								Terminalia arjuna (Arjun)	87	19
	Banswara								Pithecellobium dulce (Jangal Jalebi)	90	21
10	Banswara	Ghatol	Garjiya Magra (Kundali)	DFL	2021-22	42.09	29462	699.99	Tectona grandis (Sagwan)	113	31
	Banswara								Acacia catechu (Khair)	90	22
	Banswara								Acacia leucopholea (Ronj)	90	21
	Banswara								Emblica officinalis (Amla)	90	27
	Banswara								Dendrocalamus strictus (Bamboo)	126	26
	Banswara								*Azadirachta indica (Neem)*	90	21
	Banswara								Terminalia bellirica (Baheda)	90	21
	Banswara								Madhuka latifolia (Mahua)	90	21
	Banswara								Zizyphus mauritiana (Ber)	90	21
	Banswara								Holoptelea integrifolia	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
									(Churel)		
11	Banswara	Ghatol	Umarjhala Pathara	ANR	2021-22	50	10000	200	Tectona grandis (Sagwan)	114	34
	Banswara								Acacia catechu (Khair)	91	27
	Banswara								Emblica officinalis (Amla)	90	21
	Banswara								Dendrocalamus strictus (Bamboo)	143	27
	Banswara								Holoptelea integrifolia (Churel)	90	23
	Banswara								*Azadirachta indica (Neem)*	90	21
	Banswara								Terminalia bellirica (Baheda)	91	21
	Banswara								Madhuka latifolia (Mahua)	90	21
	Banswara								Syzygium cumini (Jamun)	95	22
	Banswara								Zizyphus mauritiana (Ber)	90	21
12	Banswara	Kushalgarh	Khuta Kundia (Bijori Chhoti)	ANR	2021-22	50	10000	200	Tectona grandis (Sagwan)	108	23
	Banswara								Acacia nilotica (Desi babool)	105	22
	Banswara								Holoptelea integrifolia (Churel)	106	23
	Banswara								Dendrocalamus strictus (Bamboo)	116	24
	Banswara								Cassia fistula (Amaltas)	119	23
13	Banswara	Doongra	Karmi (Borkhedi)	ANR	2021-22	50	10000	200	Dendrocalamus strictus (Bamboo)	98	18
	Banswara								Emblica officinalis (Amla)	92	21
	Banswara								Tectona grandis (Sagwan)	100	24
	Banswara								*Azadirachta indica (Neem)*	90	21
	Banswara								Holoptelea integrifolia (Churel)	92	22

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Banswara								Acacia catechu (Khair)	91	21
	Banswara								Zizyphus mauritiana (Ber)	90	21
	Banswara								Dalbergia sissoo (Shisham)	91	20
	Banswara								Pithecellobium dulce (Jangal Jalebi)	90	20
	Banswara								*Aegle marmelos* (Bilpatra)	91	21
	Banswara								Tamarindus indica (Imli)	88	18
	Banswara								Syzygium cumini (Jamun)	86	18
	Banswara								Terminalia bellirica (Baheda)	89	19
14	Baran	Kishanganj	Ranwasi	ANR	2020-21	50	10000	200	Terminalia arjuna (Arjun)	98	21
	Baran								Emblica officinalis (Amla)	96	21
	Baran								Dalbergia sissoo (Shisham)	101	21
	Baran								Pongamia pinnata (Karanj)	108	24
	Baran								Pithecellobium dulce (Jangal Jalebi)	105	22
	Baran								Dendrocalamus strictus (Bamboo)	116	24
	Baran								Holoptelea integrifolia (Churel)	102	21
15	Baran	Chhipabarod	Saikud	NFL	2020-21	129	141900	1100	Acacia catechu (Khair)	109	22
	Baran								Holoptelea integrifolia (Churel)	100	22
	Baran								Acacia leucopholea (Ronj)	102	21
	Baran								Acacia nilotica (Desi babool)	102	23
	Baran								*Azadirachta indica (Neem)*	102	21
	Baran								Pithecellobium dulce (Jangal Jalebi)	110	22
	Baran								Others	99	22

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
16	Baran	Shahabad	Rajaghar	ANR	2020-21	50	10100	202	Pithecellobium dulce (Jangal Jalebi)	99	21
	Baran								Holoptelea integrifolia (Churel)	100	21
	Baran								Pongamia pinnata (Karanj)	105	21
	Baran								Zizyphus mauritiana (Ber)	95	21
	Baran								Tectona grandis (Sagwan)	110	23
17	Baran	Kelwada	Saleri	ANR	2021-22	50	10000	200	Pithecellobium dulce (Jangal Jalebi)	110	22
	Baran								Madhuka latifolia (Mahua)	101	21
	Baran								Holoptelea integrifolia (Churel)	105	23
	Baran								Terminalia arjuna (Arjun)	101	21
	Baran								Terminalia bellirica (Baheda)	101	21
	Baran								Emblica officinalis (Amla)	111	23
18	Baran	Kishanganj	Pisai Road	ANR	2021-22	50	10000	200	Pithecellobium dulce (Jangal Jalebi)	100	22
	Baran								Holoptelea integrifolia (Churel)	106	22
	Baran								Dalbergia sissoo (Shisham)	105	21
	Baran								Emblica officinalis (Amla)	110	24
	Baran								Pongamia pinnata (Karanj)	108	23
	Baran								Terminalia bellirica (Baheda)	90	21
19	Baran	Shahabad	Kasba thana to M.P. Border	Road Side	2021-22	4 Km	3784		*Azadirachta indica (Neem)*	106	22
	Baran								*Ficus bengalensis* (bargad)	105	23
	Baran								Dalbergia sissoo (Shisham)	90	21
	Baran								*Bauhinia sp. (*Kachnar*)*	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Baran								Ficus religiosa (Pipal))	90	21
	Baran								Terminalia arjuna (Arjun)	90	21
	Baran								*Syzygium cumini (*Jamun)	90	21
	Baran								*Mangifera indica (*Mango*)*	90	21
20	Barmer	Sindhari	Abadi Manji A	DFL	2020-21	41.27	20637	500	Acacia tortilis (Totalis)	108	21
	Barmer								Acacia senegal (Kumtha)	90	23
	Barmer								Zizyphus mauritiana (Ber)	90	21
	Barmer								Prosopis juliflora (Khejri)	90	21
	Barmer								Kakeda	90	21
	Barmer								Tecomella undulata (Rohida)	90	21
	Barmer								Cordia sinensis (Gundi)	90	21
21	Barmer	Shiv	Kanasar	SPP	2021-22	50	10000	200	Acacia tortilis (Totalis)	99	21
	Barmer								Zizyphus mauritiana (Ber)	90	21
	Barmer								Tecomella undulata (Rohida)	90	21
	Barmer								*Salvadora persica* (Jaal)	90	21
22	Bharatpur	Bayana	Jogipura	ANR	2020-21	50	10000	200	Acacia tortilis (Totalis)	123	31
	Bharatpur								Acacia nilotica (Desi babool)	135	27
	Bharatpur								Acacia leucopholea (Ronj)	117	24
	Bharatpur								Holoptelea integrifolia (Churel)	135	31
	Bharatpur								*Butea monosperma (*Palash)	117	28
23	Bharatpur	Deeg	Jarkhor Gufa	ANR	2020-21	50	10000	200	Acacia leucopholea (Ronj)	130	25
	Bharatpur								Acacia nilotica (Desi babool)	163	33
	Bharatpur								Holoptelea integrifolia (Churel)	147	28
	Bharatpur								Acacia tortilis (Totalis)	156	33

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Bharatpur								Zizyphus mauritiana (Ber)	118	23
24	Bharatpur	Bayana	Babu Baba II	ANR	2021-22	50	10000	200	Zizyphus mauritiana (Ber)	104	22
	Bharatpur								Acacia leucopholea (Ronj)	129	26
	Bharatpur								Acacia nilotica (Desi babool)	133	28
	Bharatpur								Holoptelea integrifolia (Churel)	113	25
	Bharatpur								*Syzygium cumini (*Jamun)	90	21
	Bharatpur								Dalbergia sissoo (Shisham)	105	25
	Bharatpur								Tamarindus indica (Imli)	90	21
25	Bhilwara	Jahajpur	Thalkala-II	ANR	2020-21	50	10000	200	Acacia leucopholea (Ronj)	92	21
	Bhilwara								Acacia nilotica (Desi babool)	93	23
	Bhilwara								Zizyphus mauritiana (Ber)	92	22
	Bhilwara								*Butea monosperma* (Palash)	93	22
	Bhilwara								*Azadirachta indica (Neem)*	90	20
	Bhilwara								Dalbergia sissoo (Shisham)	90	21
26	Bhilwara	Mandalgarh	Dolji ka kheda D	ANR	2020-21	50	10000	200	Acacia leucopholea (Ronj)	94	24
	Bhilwara								Acacia catechu (Khair)	92	22
	Bhilwara								Acacia nilotica (Desi babool)	95	23
	Bhilwara								Pongamia pinnata (Karanj)	93	23
	Bhilwara								Emblica officinalis (Amla)	92	21
	Bhilwara								Holoptelea integrifolia (Churel)	95	23
27	Bhilwara	Mandalgarh	Tikhi part A	ANR	2021-22	50	10150	203	Zizyphus mauritiana (Ber)	90	21
	Bhilwara								Acacia leucopholea (Ronj)	91	21
	Bhilwara								Holoptelea integrifolia (Churel)	92	22
	Bhilwara								Acacia nilotica (Desi babool)	92	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Bhilwara								Acacia catechu (Khair)	90	21
	Bhilwara								Others	90	21
28	Bhilwara	Jahajpur	Dhandhola part A	ANR	2021-22	50	10000	200	Zizyphus mauritiana (Ber)	90	22
	Bhilwara								Acacia leucopholea (Ronj)	86	20
	Bhilwara								Acacia nilotica (Desi babool)	92	21
	Bhilwara								Dalbergia sissoo (Shisham)	91	21
29	Bundi	Hondoli	Devdungari-B	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	180	26
	Bundi								Holoptelea integrifolia (Churel)	28	16
	Bundi								Pithecellobium dulce (Jangal Jalebi)	72	18
	Bundi								*Azadirachta indica (Neem)*	34	14
	Bundi								Dalbergia sissoo (Shisham)	32	14
	Bundi								Zizyphus mauritiana (Ber)	28	10
	Bundi								Acacia leucopholea (Ronj)	42	17
30	Bundi	Nainwa	Fuleta-C	ANR	2020-21	65	13000	200	Acacia nilotica (Desi babool)	82	18
	Bundi								Zizyphus mauritiana (Ber)	50	8
	Bundi								Acacia leucopholea (Ronj)	45	10
	Bundi								*Azadirachta indica (Neem)*	35	9
	Bundi								Acacia catechu (Khair)	32	8
	Bundi								Holoptelea integrifolia (Churel)	42	14
31	Bundi	Hindoli	Depala Umarmata-C	DFL	2020-21	64.44	30000	465.55	Acacia leucopholea (Ronj)	35	13
	Bundi								Acacia nilotica (Desi babool)	82	17
	Bundi								Holoptelea integrifolia (Churel)	30	8
	Bundi								Zizyphus mauritiana (Ber)	34	12

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Bundi								Pithecellobium dulce (Jangal Jalebi)	75	20
32	Bundi	Hindoli	Dola ka khal	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	185	38
	Bundi								Pithecellobium dulce (Jangal Jalebi)	70	21
	Bundi								Holoptelea integrifolia (Churel)	78	22
	Bundi								*Azadirachta indica (Neem)*	83	20
	Bundi								Acacia leucopholea (Ronj)	72	20
	Bundi								Dalbergia sissoo (Shisham)	68	18
33	Chhattargarh	Dantor	5 MTM	ANR	2020-21	50	10000	200	Prosopis juliflora (Khejri)	55	14
	Chhattargarh								Zizyphus mauritiana (Ber)	70	15
	Chhattargarh								Acacia tortilis (Totalis)	96	21
	Chhattargarh								*Azadirachta indica (Neem)*	60	15
	Chhattargarh								Albizzia lebbeck (Siras)	65	16
34	Chhattargarh	Beriyawali	21 KJD	DFL	2020-21	58.7	41090	700	Acacia tortilis (Totalis)	115	25
	Chhattargarh								Prosopis juliflora (Khejri)	80	19
	Chhattargarh								Zizyphus mauritiana (Ber)	90	20
	Chhattargarh								Acacia leucopholea (Ronj)	85	21
35	Chittorgarh	Chittorgarh	Bassi Mahadev	ANR	2020-21	50	10000	200	Acacia leucopholea (Ronj)	102	22
	Chittorgarh								Acacia nilotica (Desi babool)	123	27
	Chittorgarh								Dendrocalamus strictus (Bamboo)	143	21
	Chittorgarh								Emblica officinalis (Amla)	93	24
	Chittorgarh								Holoptelea integrifolia (Churel)	107	23
	Chittorgarh								*Azadirachta indica (Neem)*	117	26

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Chittorgarh								Cassia fistula (Amaltas)	111	24
	Chittorgarh								Pongamia pinnata (Karanj)	123	25
	Chittorgarh								*Annona squamosa* (Sitafal)	113	21
36	Chittorgarh	Borav	Dhagadmau khurd I	ANR	2020-21	50	10000	200	Emblica officinalis (Amla)	114	27
	Chittorgarh								Acacia catechu (Khair)	104	21
	Chittorgarh								Zizyphus mauritiana (Ber)	90	21
	Chittorgarh								Terminalia bellirica (Baheda)	113	21
	Chittorgarh								Cassia fistula (Amaltas)	90	21
	Chittorgarh								*Azadirachta indica (Neem)*	90	21
	Chittorgarh								Holoptelea integrifolia (Churel)	90	21
	Chittorgarh								*Bauhinia sp. (*Kachnar*)*	90	21
37	Chittorgarh	Kapasan	Modiya Magra	ANR	2020-21	50	10010	200.2	Wrightia tinctoria (Khirani)	110	22
	Chittorgarh								Zizyphus mauritiana (Ber)	105	22
	Chittorgarh								*Annona squamosa* (Sitafal)	108	21
	Chittorgarh								Dendrocalamus strictus (Bamboo)	108	22
	Chittorgarh								Pongamia pinnata (Karanj)	110	22
	Chittorgarh								Holoptelea integrifolia (Churel)	123	23
	Chittorgarh								Cassia fistula (Amaltas)	107	23
	Chittorgarh								Acacia catechu (Khair)	102	22
	Chittorgarh								Emblica officinalis (Amla)	114	23
	Chittorgarh								Pithecellobium dulce (Jangal Jalebi)	107	21
	Chittorgarh								*Commiphora sp.* (Guggal)	113	22
38	Chittorgarh	Vijaipur	Nimoda	DFL	2020-21	19.53	12671	649	Acacia catechu (Khair)	90	22

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Chittorgarh								Emblica officinalis (Amla)	92	22
	Chittorgarh								Acacia leucopholea (Ronj)	86	20
	Chittorgarh								Zizyphus mauritiana (Ber)	93	21
	Chittorgarh								Holoptelea integrifolia (Churel)	92	22
	Chittorgarh								Acacia nilotica (Desi babool)	92	21
	Chittorgarh								Cassia fistula (Amaltas)	94	22
	Chittorgarh								Dendrocalamus strictus (Bamboo)	91	21
	Chittorgarh								*Annona squamosa* (Sitafal)	88	20
39	Chittorgarh	Vijaipur	Chainpuriya Mahadev	ANR	2021-22	50	10000	200	Acacia catechu (Khair)	95	22
	Chittorgarh								Acacia leucopholea (Ronj)	95	22
	Chittorgarh								Zizyphus mauritiana (Ber)	90	22
	Chittorgarh								Emblica officinalis (Amla)	92	23
	Chittorgarh								*Azadirachta indica (Neem)*	100	22
	Chittorgarh								Syzygium cumini (Jamun)	90	21
	Chittorgarh								Pithecellobium dulce (Jangal Jalebi)	90	21
	Chittorgarh								Madhuka latifolia (Mahua)	90	22
	Chittorgarh								Holoptelea integrifolia (Churel)	91	22
	Chittorgarh								Cassia fistula (Amaltas)	90	22
	Chittorgarh								Sahjan	90	23
	Chittorgarh								Terminalia bellirica (Baheda)	101	24
	Chittorgarh								Pongamia pinnata (Karanj)	100	23
	Chittorgarh								Dendrocalamus strictus (Bamboo)	115	24

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Chittorgarh								Sadad	95	21
40	Chittorgarh	Chittorgarh	Baldarkha	ANR	2021-22	50	10000	200	Acacia catechu (Khair)	90	21
	Chittorgarh								Dendrocalamus strictus (Bamboo)	97	21
	Chittorgarh								Emblica officinalis (Amla)	90	21
	Chittorgarh								Holoptelea integrifolia (Churel)	99	21
	Chittorgarh								Pongamia pinnata (Karanj)	96	21
	Chittorgarh								*Annona squamosa* (Sitafal)	108	23
41	Chittorgarh	Begun	Samro ka leva	ANR	2021-22	50	10000	200	Acacia catechu (Khair)	92	21
	Chittorgarh								Zizyphus mauritiana (Ber)	90	21
	Chittorgarh								Acacia leucopholea (Ronj)	92	21
	Chittorgarh								Holoptelea integrifolia (Churel)	91	21
	Chittorgarh								Terminalia bellirica (Baheda)	93	24
	Chittorgarh								*Azadirachta indica (Neem)*	90	21
	Chittorgarh								Pongamia pinnata (Karanj)	93	22
	Chittorgarh								Emblica officinalis (Amla)	91	21
	Chittorgarh								Dendrocalamus strictus (Bamboo)	112	24
	Chittorgarh								Albizzia lebbeck (Siras)	91	21
	Chittorgarh								Madhuka latifolia (Mahua)	91	22
	Chittorgarh								*Annona squamosa* (Sitafal)	96	22
42	Chittorgarh	Nimbaheda	Rusi rani ka mahal	ANR	2021-22	50	10000	200	Acacia catechu (Khair)	91	22
	Chittorgarh								Zizyphus mauritiana (Ber)	90	21
	Chittorgarh								Holoptelea integrifolia (Churel)	92	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Chittorgarh								Dendrocalamus strictus (Bamboo)	95	21
	Chittorgarh								Cassia fistula (Amaltas)	90	20
	Chittorgarh								Sapindus sp. (Aritha)	90	20
	Chittorgarh								Emblica officinalis (Amla)	92	21
	Chittorgarh								Tectona grandis (Sagwan)	94	22
	Chittorgarh								Pithecellobium dulce (Jangal Jalebi)	92	22
	Chittorgarh								Wrightia tinctoria (Khirani)	90	21
43	Chittorgarh WL	Badi sadari	Sangari kheda	ANR	2020-21	50	10500	210	Dendrocalamus strictus (Bamboo)	130	24
	Chittorgarh WL								*Azadirachta indica (Neem)*	90	20
	Chittorgarh WL								Tamarindus indica (Imli)	93	23
	Chittorgarh WL								Acacia catechu (Khair)	92	22
	Chittorgarh WL								Emblica officinalis (Amla)	93	22
	Chittorgarh WL								Tectona grandis (Sagwan)	140	30
	Chittorgarh WL								Pongamia pinnata (Karanj)	90	21
	Chittorgarh WL								Holoptelea integrifolia (Churel)	92	22
	Chittorgarh WL								Cassia fistula (Amaltas)	90	21
44	Chittorgarh WL	Badi sadari	Kala Bhata-B	ANR	2021-22	50	10000	200	Dendrocalamus strictus (Bamboo)	110	24
	Chittorgarh WL								Emblica officinalis (Amla)	92	21
	Chittorgarh WL								Acacia catechu (Khair)	92	22
	Chittorgarh WL								Zizyphus mauritiana (Ber)	90	20
	Chittorgarh WL								*Syzygium cumini (*Jamun)	90	20
45	Dholpur	Sarmathura	Ballapura-II	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	129	29

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Dholpur								Acacia senegal (Kumtha)	100	25
	Dholpur								Zizyphus mauritiana (Ber)	108	23
	Dholpur								Anogeissus pendula (Dhok)	90	21
	Dholpur								Holoptelea integrifolia (Churel)	105	25
	Dholpur								Pongamia pinnata (Karanj)	105	25
	Dholpur								Dalbergia sissoo (Shisham)	90	21
	Dholpur								*Azadirachta indica (Neem)*	90	21
46	Dholpur	Badi	Kans ki Bawari	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	90	25
	Dholpur								Acacia tortilis (Totalis)	70	19
	Dholpur								Zizyphus mauritiana (Ber)	90	25
	Dholpur								Holoptelea integrifolia (Churel)	90	26
47	Dholpur	Vanvihar	Raikho Ghatiya	DFL	2020-21	50	35000	700	Acacia nilotica (Desi babool)	145	24
	Dholpur								Acacia senegal (Kumtha)	98	21
	Dholpur								Pithecellobium dulce (Jangal Jalebi)	108	26
	Dholpur								Zizyphus mauritiana (Ber)	103	23
	Dholpur								Holoptelea integrifolia (Churel)	104	22
	Dholpur								Acacia leucopholea (Ronj)	100	22
48	Dholpur	Vanvihar	Kile ka Dada	DFL	2020-21	50	35000	700	Acacia nilotica (Desi babool)	160	24
	Dholpur								Acacia leucopholea (Ronj)	140	23
49	Dungarpur	Antari	Aadamal	ANR	2020-21	100	20000	200	Tectona grandis (Sagwan)	106	24
	Dungarpur								Dendrocalamus strictus (Bamboo)	99	21
	Dungarpur								Syzygium cumini (Jamun)	90	23

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Dungarpur								Wrightia tinctoria (Khirani)	98	22
	Dungarpur								*Bombax ceiba* (Semal)	95	21
	Dungarpur								*Aegle marmelos* (Bilpatra)	90	21
	Dungarpur								Cassia fistula (Amaltas)	96	23
	Dungarpur								Holoptelea integrifolia (Churel)	92	22
	Dungarpur								Dalbergia sissoo (Shisham)	117	21
50	Dungarpur	Simalwara	Bansiya	ANR	2020-21	60	12000	200	Tectona grandis (Sagwan)	102	23
	Dungarpur								Dendrocalamus strictus (Bamboo)	105	20
	Dungarpur								Emblica officinalis (Amla)	88	18
	Dungarpur								Zizyphus mauritiana (Ber)	90	20
51	Dungarpur	Dungarpur	Balwada	NFL	2020-21	12.528	13830	1104	Tectona grandis (Sagwan)	58	24
	Dungarpur								Acacia leucopholea (Ronj)	24	21
	Dungarpur								Dendrocalamus strictus (Bamboo)	62	18
	Dungarpur								Terminalia arjuna (Arjun)	28	16
	Dungarpur								Tamarindus indica (Imli)	30	15
	Dungarpur								Beda	26	16
	Dungarpur								Wrightia tinctoria (Khirani)	28	18
	Dungarpur								*Azadirachta indica (Neem)*	26	16
	Dungarpur								*Annona squamosa* (Sitafal)	30	18
52	Dungarpur	Sagwara	Damaria Bodamagra	ANR	2021-22	40	8000	200	Tectona grandis (Sagwan)	99	23
	Dungarpur								Dendrocalamus strictus (Bamboo)	115	22
	Dungarpur								Pongamia pinnata (Karanj)	116	23
	Dungarpur								Emblica officinalis (Amla)	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Dungarpur								Cassia fistula (Amaltas)	107	21
	Dungarpur								Holoptelea integrifolia (Churel)	96	24
53	Dungarpur	Simalwara	Dhera Bhagat-II	ANR	2021-22	50	10000	200	Tectona grandis (Sagwan)	112	24
	Dungarpur								Dendrocalamus strictus (Bamboo)	104	29
	Dungarpur								Tamarindus indica (Imli)	90	20
	Dungarpur								Terminalia bellirica (Baheda)	90	21
54	Dungarpur	Dungarpur	Kanpur	ANR	2021-22	50	10000	200	Tectona grandis (Sagwan)	98	23
	Dungarpur								Acacia catechu (Khair)	92	21
	Dungarpur								Emblica officinalis (Amla)	90	20
	Dungarpur								Dendrocalamus strictus (Bamboo)	91	21
	Dungarpur								Holoptelea integrifolia (Churel)	102	22
55	Hanumangarh	Rawatsar	4 CLD	SPP	2021-22	25	5000	200	Acacia tortilis (Totalis)	90	30
	Hanumangarh								Zizyphus mauritiana (Ber)	30	7
	Hanumangarh								Prosopis juliflora (Khejri)	30	5
56	Hanumangarh	Nohar	Tidiyasar	SPP	2021-22	25	5000	200	Acacia tortilis (Totalis)	90	30
	Hanumangarh								Acacia nilotica (Desi babool)	220	32
	Hanumangarh								Zizyphus mauritiana (Ber)	220	29
	Hanumangarh								Dalbergia sissoo (Shisham)	230	33
57	IGNP II Jaisalmer	Mohangarh	KNM 0-3 RD C	NFL	2020-21	20	22000	1100	Acacia tortilis (Totalis)	139	22
	IGNP II Jaisalmer								Acacia senegal (Kumtha)	90	21
	IGNP II Jaisalmer								Tecomella undulata (Rohida)	113	21
	IGNP II Jaisalmer								Prosopis juliflora (Khejri)	90	21
58	IGNP II Jaisalmer	Mohangarh	0-3 RD KNM E	NFL	2021-22	15	16500	1100	Tecomella undulata (Rohida)	92	22

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	IGNP II Jaisalmer								Acacia tortilis (Totalis)	94	22
	IGNP II Jaisalmer								Zizyphus mauritiana (Ber)	90	21
	IGNP II Jaisalmer								*Salvadora persica* (Jaal)	90	21
59	Jaipur	Dudu	Bichoon Keria	ANR	2020-21	50	10000	200	Acacia senegal (Kumtha)	90	30
	Jaipur								Zizyphus mauritiana (Ber)	60	19
	Jaipur								Dalbergia sissoo (Shisham)	70	25
	Jaipur								Holoptelea integrifolia (Churel)	60	19
	Jaipur								*Azadirachta indica (Neem)*	60	21
	Jaipur								Acacia leucopholea (Ronj)	50	18
	Jaipur								Acacia tortilis (Totalis)	45	13
	Jaipur								Albizzia lebbeck (Siras)	50	18
	Jaipur								Other	50	17
60	Jaipur	Amer	Jairampura	NFL	2020-21	5.51	6000	1089	Holoptelea integrifolia (Churel)	90	24
	Jaipur								Dalbergia sissoo (Shisham)	150	36
	Jaipur								Acacia nilotica (Desi babool)	150	35
	Jaipur								*Azadirachta indica (Neem)*	100	28
	Jaipur								Zizyphus mauritiana (Ber)	140	30
	Jaipur								Pongamia pinnata (Karanj)	90	24
61	Jaipur		Bharthari	ANR	2021-22	50	10000	200	Holoptelea integrifolia (Churel)	90	25
	Jaipur	Amer							Dalbergia sissoo (Shisham)	90	26
	Jaipur								*Azadirachta indica (Neem)*	120	27
	Jaipur								Acacia nilotica (Desi babool)	150	32
	Jaipur								Acacia tortilis (Totalis)	140	32
62	Jaipur	Dudu	Bhairuji Bichoon	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	150	25

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Jaipur								Acacia senegal (Kumtha)	45	16
	Jaipur								Acacia tortilis (Totalis)	60	21
	Jaipur								Holoptelea integrifolia (Churel)	65	19
	Jaipur								*Azadirachta indica (Neem)*	65	19
	Jaipur								Prosopis juliflora (Khejri)	65	19
	Jaipur								Acacia leucopholea (Ronj)	65	19
63	Jaipur North	Paota	Antela Bawari	ANR	2020-21	50	10226	205	Acacia tortilis (Totalis)	171	31
	Jaipur North								Holoptelea integrifolia (Churel)	103	22
	Jaipur North								Dalbergia sissoo (Shisham)	123	27
	Jaipur North								Acacia leucopholea (Ronj)	90	21
	Jaipur North								Zizyphus mauritiana (Ber)	90	23
	Jaipur North								Anogeissus pendula (Dhok)	90	27
	Jaipur North								*Azadirachta indica (Neem)*	90	21
	Jaipur North								Acacia nilotica (Desi babool)	105	25
	Jaipur North								Kakeda	96	21
	Jaipur North								Tecomella undulata (Rohida)	90	33
	Jaipur North								Others	101	24
64	Jaipur North	Acharol	Samred khurd C	ANR	2021-22	50	10000	200	Acacia tortilis (Totalis)	100	30
	Jaipur North								Acacia nilotica (Desi babool)	90	30
	Jaipur North								Holoptelea integrifolia (Churel)	90	27
	Jaipur North								Zizyphus mauritiana (Ber)	120	35
	Jaipur North								Dalbergia sissoo (Shisham)	105	32
	Jaipur North								Acacia leucopholea (Ronj)	70	21
65	Jaipur North	Kotputali	Panch Pahadi	ANR	2021-22	50	10000	200	Holoptelea integrifolia	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
			(Hapuda)						(Churel)		
	Jaipur North								Acacia leucopholea (Ronj)	90	21
	Jaipur North								Anogeissus pendula (Dhok)	90	21
	Jaipur North								*Azadirachta indica (Neem)*	90	21
	Jaipur North								Acacia nilotica (Desi babool)	143	36
	Jaipur North								Acacia senegal (Kumtha)	90	27
66	Jaipur North	Viratnagar	Dhawali	ANR	2021-22	50	10000	200	Acacia tortilis (Totalis)	148	37
	Jaipur North								Acacia leucopholea (Ronj)	90	21
	Jaipur North								Holoptelea integrifolia (Churel)	90	26
	Jaipur North								Acacia nilotica (Desi babool)	146	35
	Jaipur North								Dalbergia sissoo (Shisham)	105	37
	Jaipur North								Prosopis juliflora (Khejri)	90	27
	Jaipur North								Zizyphus mauritiana (Ber)	104	28
	Jaipur North								Tamarindus indica (Imli)	90	28
	Jaipur North								Albizzia lebbeck (Siras)	90	21
67	Jaipur WL	Jamwaramgarh	Nimbi-A	ANR	2020-21	40	8000	200	Dalbergia sissoo (Shisham)	120	25
	Jaipur WL								Holoptelea integrifolia (Churel)	90	24
	Jaipur WL								Zizyphus mauritiana (Ber)	45	19
	Jaipur WL								Acacia tortilis (Totalis)	70	19
	Jaipur WL								Acacia leucopholea (Ronj)	60	21
	Jaipur WL								Acacia nilotica (Desi babool)	75	22
	Jaipur WL								Ficus religiosa (Pipal))	65	19
68	Jaipur WL	Raisar	Kharad	ANR	2021-22	50	10000	200	Holoptelea integrifolia (Churel)	60	24
	Jaipur WL								Acacia nilotica (Desi babool)	90	23

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Jaipur WL								*Azadirachta indica (Neem)*	75	25
	Jaipur WL								Zizyphus mauritiana (Ber)	75	26
	Jaipur WL								Others	75	27
69	Jaipur WL	Jamwaramgarh	Bhomiya Dyoda Dungar	ANR	2021-22	50	10000	200	Acacia tortilis (Totalis)	101	22
	Jaipur WL								Dalbergia sissoo (Shisham)	118	23
	Jaipur WL								Acacia leucopholea (Ronj)	90	21
	Jaipur WL								Zizyphus mauritiana (Ber)	90	21
	Jaipur WL								Holoptelea integrifolia (Churel)	90	21
	Jaipur WL								Acacia nilotica (Desi babool)	101	21
70	Jaisalmer	Jaisalmer	Dabla III	NFL	2020-21	42.06	46266	1100	Acacia tortilis (Totalis)	130	24
	Jaisalmer								Prosopis juliflora (Khejri)	90	21
	Jaisalmer								Tecomella undulata (Rohida)	90	21
	Jaisalmer								Zizyphus mauritiana (Ber)	90	21
	Jaisalmer								Acacia senegal (Kumtha)	102	21
	Jaisalmer								*Salvadora persica* (Jaal)	90	21
71	Jaisalmer	Jaisalmer	Karahjod-C	SPP	2021-22	25	5000	200	Acacia tortilis (Totalis)	92	22
	Jaisalmer								Zizyphus mauritiana (Ber)	90	21
	Jaisalmer								Acacia senegal (Kumtha)	90	21
	Jaisalmer								*Salvadora persica* (Jaal)	90	21
72	Jalore	Raniwara	Raniwara khurd	ANR	2020-21	50	10000	200	Acacia tortilis (Totalis)	127	29
	Jalore								Acacia senegal (Kumtha)	99	26
73	Jalore	Jaswantpura	Panseri-B	ANR	2021-22	50	10000	200	Acacia tortilis (Totalis)	101	23
	Jalore								Acacia senegal (Kumtha)	96	22
	Jalore								Zizyphus mauritiana (Ber)	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
74	Jalore	Jalore	Mada Jod	SPP	2021-22	50	10000	200	Acacia tortilis (Totalis)	92	22
	Jalore								Acacia senegal (Kumtha)	91	21
	Jalore								Tecomella undulata (Rohida)	90	21
	Jalore								Zizyphus mauritiana (Ber)	92	21
	Jalore								*Salvadora persica* (Jaal)	90	21
75	Jhalawar	Bakani	Guradkheda	ANR	2020-21	50	10000	200	Acacia catechu (Khair)	127	23
	Jhalawar								Acacia leucopholea (Ronj)	117	23
	Jhalawar								Acacia nilotica (Desi babool)	132	24
	Jhalawar								Emblica officinalis (Amla)	94	21
	Jhalawar								Holoptelea integrifolia (Churel)	117	25
	Jhalawar								*Azadirachta indica (Neem)*	112	23
	Jhalawar								Pongamia pinnata (Karanj)	116	22
	Jhalawar								Dalbergia sissoo (Shisham)	104	22
	Jhalawar								Pithecellobium dulce (Jangal Jalebi)	104	21
	Jhalawar								Zizyphus mauritiana (Ber)	100	22
76	Jhalawar	Khanpur	Chamlasa	NFL	2020-21	26.16	21000	802.75	Acacia catechu (Khair)	106	23
	Jhalawar								Acacia leucopholea (Ronj)	118	24
	Jhalawar								Holoptelea integrifolia (Churel)	123	23
	Jhalawar								*Azadirachta indica (Neem)*	130	21
	Jhalawar								Zizyphus mauritiana (Ber)	118	22
77	Jhalawar	Khanpur	Chalet	NFL	2020-21	32.14	35360	1100.2	Acacia catechu (Khair)	99	21
	Jhalawar								Acacia leucopholea (Ronj)	117	23
	Jhalawar								Acacia nilotica (Desi babool)	118	22

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Jhalawar								Holoptelea integrifolia (Churel)	100	21
	Jhalawar								Zizyphus mauritiana (Ber)	98	21
	Jhalawar								Pongamia pinnata (Karanj)	105	21
78	Jhalawar	Khanpur	Khatakhedi	NFL	2020-21	36	39600	1100	Acacia catechu (Khair)	100	21
	Jhalawar								Acacia leucopholea (Ronj)	96	21
	Jhalawar								Acacia nilotica (Desi babool)	107	23
	Jhalawar								*Syzygium cumini (*Jamun)	105	21
	Jhalawar								Pongamia pinnata (Karanj)	114	23
79	Jhalawar	Khanpur	Garayata	NFL	2020-21	23.7	26070	1100	Acacia catechu (Khair)	105	22
	Jhalawar								Acacia leucopholea (Ronj)	112	22
	Jhalawar								Acacia nilotica (Desi babool)	108	22
	Jhalawar								Holoptelea integrifolia (Churel)	107	22
	Jhalawar								Syzygium cumini (Jamun)	100	21
	Jhalawar								Zizyphus mauritiana (Ber)	92	21
	Jhalawar								Dalbergia sissoo (Shisham)	103	22
	Jhalawar								Cassia fistula (Amaltas)	103	21
	Jhalawar								Tamarindus indica (Imli)	105	23
	Jhalawar								Pongamia pinnata (Karanj)	105	22
80	Jhalawar	Dug	Harnawada I	NFL	2020-21	77	77000	1000	Acacia catechu (Khair)	103	23
	Jhalawar								Acacia leucopholea (Ronj)	110	21
	Jhalawar								Holoptelea integrifolia (Churel)	96	21
	Jhalawar								Pongamia pinnata (Karanj)	106	21
	Jhalawar								Dalbergia sissoo (Shisham)	112	23
	Jhalawar								Zizyphus mauritiana (Ber)	95	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Jhalawar								Pithecellobium dulce (Jangal Jalebi)	103	21
81	Jhalawar	Manoharthana	Kotra I	DFL	2021-22	50	35000	700	Acacia catechu (Khair)	105	21
	Jhalawar								Acacia leucopholea (Ronj)	92	21
	Jhalawar								Acacia nilotica (Desi babool)	93	21
	Jhalawar								Terminalia arjuna (Arjun)	100	21
	Jhalawar								Emblica officinalis (Amla)	91	21
	Jhalawar								Holoptelea integrifolia (Churel)	103	21
	Jhalawar								*Azadirachta indica (Neem)*	100	21
	Jhalawar								Zizyphus mauritiana (Ber)	96	21
	Jhalawar								Tectona grandis (Sagwan)	91	23
	Jhalawar								Pithecellobium dulce (Jangal Jalebi)	102	23
	Jhalawar								Pongamia pinnata (Karanj)	98	22
82	Jhalawar	Jhalawar	Bawadikheda	ANR	2021-22	50	10000	200	Holoptelea integrifolia (Churel)	108	22
	Jhalawar								Acacia nilotica (Desi babool)	114	23
	Jhalawar								Emblica officinalis (Amla)	90	21
	Jhalawar								Dalbergia sissoo (Shisham)	116	22
	Jhalawar								Pongamia pinnata (Karanj)	105	25
	Jhalawar								Terminalia arjuna (Arjun)	90	27
83	Jhalawar	Khanpur	Baisar	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	98	21
	Jhalawar								Emblica officinalis (Amla)	101	21
	Jhalawar								Holoptelea integrifolia (Churel)	99	21
	Jhalawar								Pongamia pinnata (Karanj)	103	23

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Jhalawar								Zizyphus mauritiana (Ber)	115	26
	Jhalawar								Dalbergia sissoo (Shisham)	101	21
84	Jhunjhunu	Khetri	Makado-II	ANR	2020-21	50	10000	200	*Azadirachta indica (Neem)*	90	20
	Jhunjhunu								Zizyphus mauritiana (Ber)	92	21
	Jhunjhunu								Holoptelea integrifolia (Churel)	95	22
	Jhunjhunu								Dalbergia sissoo (Shisham)	90	22
	Jhunjhunu								Acacia leucopholea (Ronj)	91	21
85	Jhunjhunu	Udaipurwati	Guda Dahar	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	92	23
	Jhunjhunu								Zizyphus mauritiana (Ber)	90	21
	Jhunjhunu								Acacia leucopholea (Ronj)	92	22
86	Jhunjhunu	Udaipurwati	Girawadi	ANR	2021-22	50	10000	200	Acacia leucopholea (Ronj)	92	21
	Jhunjhunu								Holoptelea integrifolia (Churel)	92	22
	Jhunjhunu								Acacia nilotica (Desi babool)	93	22
	Jhunjhunu								*Butea monosperma* (Palash)	90	21
	Jhunjhunu								Others	90	21
87	Jhunjhunu	Jhunjhunu	Beed Jhunjhunu	ANR	2021-22	50	10000	200	Zizyphus mauritiana (Ber)	90	22
	Jhunjhunu								Prosopis juliflora (Khejri)	60	20
	Jhunjhunu								Tecomella undulata (Rohida)	45	18
88	Jodhpur	Baap	Udat B	ANR	2021-22	45	9000	200	Acacia tortilis (Totalis)	102	22
	Jodhpur								Acacia senegal (Kumtha)	90	21
	Jodhpur								Zizyphus mauritiana (Ber)	90	21
	Jodhpur								Prosopis juliflora (Khejri)	90	21
89	Jodhpur	Balesar	Vanbhoomi Agolai	ANR	2021-22	50	10000	200	Acacia senegal (Kumtha)	92	21
	Jodhpur								Acacia tortilis (Totalis)	94	22

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Jodhpur								Zizyphus mauritiana (Ber)	90	21
90	Jodhpur	Osian	Punasar	ANR	2021-22	25	5000	200	Acacia tortilis (Totalis)	93	21
	Jodhpur								Zizyphus mauritiana (Ber)	90	21
	Jodhpur								Prosopis juliflora (Khejri)	90	21
91	Karauli	Karauli	Ataiba	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	118	26
	Karauli								Zizyphus mauritiana (Ber)	105	21
	Karauli								Holoptelea integrifolia (Churel)	90	21
	Karauli								Acacia leucopholea (Ronj)	90	21
92	Karauli	Mandrail	Todi	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	141	27
	Karauli								Dalbergia sissoo (Shisham)	90	21
	Karauli								Acacia tortilis (Totalis)	138	28
	Karauli								Acacia leucopholea (Ronj)	90	21
93	Karauli	Masalpur	Goder	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	130	26
	Karauli								Acacia leucopholea (Ronj)	95	21
	Karauli								Holoptelea integrifolia (Churel)	90	21
	Karauli								Pongamia pinnata (Karanj)	105	25
	Karauli								Zizyphus mauritiana (Ber)	108	24
94	Kota	Mandana	Singhpura-B	ANR	2020-21	50	10000	200	Holoptelea integrifolia (Churel)	90	21
	Kota								Zizyphus mauritiana (Ber)	90	21
	Kota								Acacia leucopholea (Ronj)	93	22
	Kota								Acacia nilotica (Desi babool)	90	21
	Kota								Cassia fistula (Amaltas)	90	21
95	Kota	Kanwas	Dhani Aamli	ANR	2020-21	50	10000	200	Prosopis juliflora (Khejri)	44	16
	Kota								Zizyphus mauritiana (Ber)	52	18

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Kota								Acacia nilotica (Desi babool)	80	21
	Kota								Acacia catechu (Khair)	42	14
	Kota								*Azadirachta indica (Neem)*	26	12
	Kota								Holoptelea integrifolia (Churel)	40	14
	Kota								Pithecellobium dulce (Jangal Jalebi)	45	14
	Kota								Albizzia lebbeck (Siras)	36	12
	Kota								Terminalia arjuna (Arjun)	38	10
96	Kota	Mandand	Badodiya II	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	85	23
	Kota								Acacia leucopholea (Ronj)	55	16
	Kota								Zizyphus mauritiana (Ber)	58	14
	Kota								Acacia catechu (Khair)	56	15
	Kota								Emblica officinalis (Amla)	48	12
97	Kota	Kanwas	Sankheda	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	82	22
	Kota								Acacia leucopholea (Ronj)	48	16
	Kota								Zizyphus mauritiana (Ber)	52	16
	Kota								Holoptelea integrifolia (Churel)	65	18
	Kota								Emblica officinalis (Amla)	46	14
	Kota								Pithecellobium dulce (Jangal Jalebi)	56	18
	Kota								Terminalia arjuna (Arjun)	44	14
98	Nagaur	Kuchaman	Chopra ki Dhani	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	135	25
	Nagaur								Tamarindus indica (Imli)	90	21
	Nagaur								Holoptelea integrifolia (Churel)	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Nagaur								Pongamia pinnata (Karanj)	90	21
	Nagaur								Acacia tortilis (Totalis)	119	24
	Nagaur								Zizyphus mauritiana (Ber)	93	21
99	Nagaur	Parbatsar	Pilwa	DFL	2020-21	20	14004	700.2	Acacia nilotica (Desi babool)	135	33
	Nagaur								Acacia tortilis (Totalis)	144	35
	Nagaur								Acacia leucopholea (Ronj)	117	33
	Nagaur								Prosopis juliflora (Khejri)	90	21
	Nagaur								Tamarindus indica (Imli)	90	21
	Nagaur								Dalbergia sissoo (Shisham)	135	21
	Nagaur								Ficus religiosa (Pipal))	90	21
100	Nagaur	Kuchaman	Chhapari I	DFL	2020-21	30	21000	700	Acacia tortilis (Totalis)	95	21
	Nagaur								Zizyphus mauritiana (Ber)	93	21
101	Nagaur	Kuchaman	Sawaipura Paladi B Balaji	ANR	2021-22	50	10000	200	Acacia tortilis (Totalis)	97	22
	Nagaur								Acacia nilotica (Desi babool)	95	22
	Nagaur								Prosopis juliflora (Khejri)	90	21
	Nagaur								Acacia leucopholea (Ronj)	92	21
	Nagaur								Zizyphus mauritiana (Ber)	90	21
102	Nagaur	Parbatsar	Dhokliya	ANR	2021-22	50	10000	200	Acacia tortilis (Totalis)	93	22
	Nagaur								Acacia nilotica (Desi babool)	93	21
	Nagaur								Zizyphus mauritiana (Ber)	90	21
	Nagaur								Acacia leucopholea (Ronj)	90	21
	Nagaur								Pithecellobium dulce (Jangal Jalebi)	90	21
	Nagaur								Subabool	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Nagaur								Holoptelea integrifolia (Churel)	90	21
	Nagaur								Pongamia pinnata (Karanj)	90	21
103	Pali	Sendra	Jhala ki Chowki	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	93	22
	Pali								Acacia leucopholea (Ronj)	90	21
	Pali								Prosopis juliflora (Khejri)	92	21
	Pali								Zizyphus mauritiana (Ber)	95	22
	Pali								Holoptelea integrifolia (Churel)	90	21
104	Pali	Marwar	Jadan Jod	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	114	23
	Pali								Acacia senegal (Kumtha)	90	21
	Pali								Zizyphus mauritiana (Ber)	95	21
	Pali								Prosopis juliflora (Khejri)	90	21
105	Pali	Bali	Lundara A	ANR	2021-22	50	10000	200	Zizyphus mauritiana (Ber)	93	22
	Pali								Acacia nilotica (Desi babool)	95	22
	Pali								Acacia leucopholea (Ronj)	92	21
	Pali								Acacia catechu (Khair)	90	21
106	Pali	Bali	Lundara B	ANR	2021-22	50	10000	200	Zizyphus mauritiana (Ber)	98	21
	Pali								Acacia leucopholea (Ronj)	92	21
	Pali								Acacia nilotica (Desi babool)	109	22
	Pali								Pithecellobium dulce (Jangal Jalebi)	90	21
107	Pali	Bali	Las ka Gudha	SPP	2021-22	50	10000	200	Holoptelea integrifolia (Churel)	90	21
	Pali								Pithecellobium dulce (Jangal Jalebi)	90	21
	Pali								Acacia nilotica (Desi babool)	101	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Pali								Acacia leucopholea (Ronj)	90	21
	Pali								Acacia tortilis (Totalis)	90	21
	Pali								Zizyphus mauritiana (Ber)	91	21
108	Pratapgarh	Dhariyawad	Timaruwala Bhatada	ANR	2020-21	50	10000	200	Acacia catechu (Khair)	90	21
	Pratapgarh								Emblica officinalis (Amla)	129	26
	Pratapgarh								Dendrocalamus strictus (Bamboo)	191	39
	Pratapgarh								Tectona grandis (Sagwan)	129	30
	Pratapgarh								Terminalia bellirica (Baheda)	90	21
	Pratapgarh								Madhuka latifolia (Mahua)	117	28
109	Pratapgarh	Deogarh	Ramdevji	ANR	2021-22	50	10000	200	Tectona grandis (Sagwan)	131	33
	Pratapgarh								*Azadirachta indica (Neem)*	90	21
	Pratapgarh								Emblica officinalis (Amla)	117	28
	Pratapgarh								Holoptelea integrifolia (Churel)	90	21
	Pratapgarh								Dendrocalamus strictus (Bamboo)	150	25
	Pratapgarh								Ficus racemosa (Hawan)	90	21
110	Pratapgarh	Bansi	Kabra Mangra	ANR	2021-22	50	10000	200	Emblica officinalis (Amla)	65	18
	Pratapgarh								Dendrocalamus strictus (Bamboo)	110	17
	Pratapgarh								Holoptelea integrifolia (Churel)	85	22
	Pratapgarh								*Azadirachta indica (Neem)*	60	19
	Pratapgarh								Pongamia pinnata (Karanj)	90	23
	Pratapgarh								Terminalia arjuna (Arjun)	50	18
	Pratapgarh								*Annona squamosa* (Sitafal)	80	22

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Pratapgarh								Tectona grandis (Sagwan)	75	25
	Pratapgarh								Tamarindus indica (Imli)	40	19
	Pratapgarh								Madhuka latifolia (Mahua)	65	21
	Pratapgarh								Others	60	21
111	Pratapgarh	Bansi	Badliyanal	PEO (Bamboo)	2021-22	50	7500	150	Dendrocalamus strictus (Bamboo)	210	24
112	Pratapgarh	Dhariyawad	Henabavdi	PEO (Bamboo)	2021-22	50	7500	150	Dendrocalamus strictus (Bamboo)	300	25
113	Rajsamand WL	Jojawar	Bandki magri	ANR	2020-21	50	10000	200	Zizyphus mauritiana (Ber)	94	21
	Rajsamand WL								Acacia nilotica (Desi babool)	100	22
	Rajsamand WL								Acacia catechu (Khair)	97	21
	Rajsamand WL								Cassia fistula (Amaltas)	101	21
	Rajsamand WL								Jhinjha	109	22
	Rajsamand WL								Dalbergia sissoo (Shisham)	113	27
	Rajsamand WL								*Azadirachta indica (Neem)*	103	21
	Rajsamand WL								Emblica officinalis (Amla)	90	21
	Rajsamand WL								Wrightia tinctoria (Khirani)	90	21
	Rajsamand WL								Holoptelea integrifolia (Churel)	105	21
114	Rajsamand WL	Ravali	Dalakhet Dabkabada	ANR	2021-22	50	10000	200	Zizyphus mauritiana (Ber)	109	22
	Rajsamand WL								Acacia nilotica (Desi babool)	111	22
	Rajsamand WL								Syzygium cumini (Jamun)	90	21
	Rajsamand WL								Pongamia pinnata (Karanj)	99	21
	Rajsamand WL								Acacia catechu (Khair)	100	23
115	Rajsamand WL	Kumbhalgarh	Jaya	ANR	2021-22	50	10000	200	Syzygium cumini (Jamun)	103	21
	Rajsamand WL								*Mangifera indica (*Mango*)*	95	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Rajsamand WL								*Cordia gharaf (*Gunda*)*	99	21
	Rajsamand WL								Zizyphus mauritiana (Ber)	94	21
	Rajsamand WL								Emblica officinalis (Amla)	94	21
	Rajsamand WL								Cassia fistula (Amaltas)	97	21
	Rajsamand WL								Tamarindus indica (Imli)	99	22
	Rajsamand WL								*Annona squamosa* (Sitafal)	108	23
116	Rajsamand WL	Bokhada	Jwarka wala	ANR	2021-22	50	10000	200	Dendrocalamus strictus (Bamboo)	113	27
	Rajsamand WL								Acacia catechu (Khair)	103	21
	Rajsamand WL								Pongamia pinnata (Karanj)	108	21
	Rajsamand WL								Cassia fistula (Amaltas)	90	21
	Rajsamand WL								Syzygium cumini (Jamun)	90	21
	Rajsamand WL								Wrightia tinctoria (Khirani)	90	21
	Rajsamand WL								Emblica officinalis (Amla)	90	21
	Rajsamand WL								Tamarindus indica (Imli)	90	21
	Rajsamand WL								Dalbergia sissoo (Shisham)	90	21
	Rajsamand WL								Zizyphus mauritiana (Ber)	98	22
117	RTR Karauli	Nainiyaki	Chir ki Naroli-C	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	107	27
	RTR Karauli								Zizyphus mauritiana (Ber)	105	27
	RTR Karauli								Acacia leucopholea (Ronj)	104	26
118	RTR S. Madhopur	Baler	Rodawada	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	179	23
	RTR S. Madhopur								Acacia leucopholea (Ronj)	146	21
	RTR S. Madhopur								Acacia tortilis (Totalis)	117	22
	RTR S. Madhopur								Holoptelea integrifolia (Churel)	98	21
	RTR S. Madhopur								Pongamia pinnata (Karanj)	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	RTR S. Madhopur								*Azadirachta indica (Neem)*	102	21
	RTR S. Madhopur								Sahjan	110	21
119	RTR S. Madhopur	Talada	Bai	ANR	2021-22	50	10000	200	Acacia tortilis (Totalis)	90	20
	RTR S. Madhopur								Acacia nilotica (Desi babool)	95	21
	RTR S. Madhopur								Dalbergia sissoo (Shisham)	82	18
	RTR S. Madhopur								Zizyphus mauritiana (Ber)	90	20
	RTR S. Madhopur								*Azadirachta indica (Neem)*	85	18
	RTR S. Madhopur								Pongamia pinnata (Karanj)	90	20
	RTR S. Madhopur								Holoptelea integrifolia (Churel)	90	21
	RTR S. Madhopur								Acacia leucopholea (Ronj)	88	21
120	S.Madhopur	S.Madhopur	Jhopadi-II	ANR	2020-21	50	10000	200	*Cassia fistula (*Amaltas)	90	21
	S.Madhopur								Zizyphus mauritiana (Ber)	105	21
	S.Madhopur								Emblica officinalis (Amla)	90	21
	S.Madhopur								*Azadirachta indica (Neem)*	90	21
	S.Madhopur								Pongamia pinnata (Karanj)	90	21
	S.Madhopur								Ficus religiosa (Pipal))	90	21
	S.Madhopur								*Syzygium cumini (*Jamun)	90	21
	S.Madhopur								Dalbergia sissoo (Shisham)	95	21
	S.Madhopur								Acacia nilotica (Desi babool)	118	26
	S.Madhopur								Holoptelea integrifolia (Churel)	90	21
	S.Madhopur								Dendrocalamus strictus (Bamboo)	90	21
	S.Madhopur								Tendu	90	21
	S.Madhopur								Acacia leucopholea (Ronj)	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	S.Madhopur								Acacia catechu (Khair)	90	21
121	S.Madhopur	Gangapur	Murada Chowki	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	141	27
	S.Madhopur								Acacia tortilis (Totalis)	138	28
	S.Madhopur								Holoptelea integrifolia (Churel)	90	21
	S.Madhopur								*Azadirachta indica (Neem)*	90	21
	S.Madhopur								Zizyphus mauritiana (Ber)	90	21
	S.Madhopur								Dalbergia sissoo (Shisham)	90	21
	S.Madhopur								*Ailanthus excelsa* (Ardu)	310	38
	S.Madhopur								*Ficus glomerata (*Gular*)*	90	21
	S.Madhopur								Acacia leucopholea (Ronj)	90	21
122	S.Madhopur	Gangapur	Gurjar Koleta	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	157	26
	S.Madhopur								Acacia tortilis (Totalis)	164	30
	S.Madhopur								Acacia leucopholea (Ronj)	99	21
	S.Madhopur								Zizyphus mauritiana (Ber)	108	24
	S.Madhopur								Holoptelea integrifolia (Churel)	90	21
	S.Madhopur								*Azadirachta indica (Neem)*	90	21
	S.Madhopur								*Syzygium cumini (*Jamun)	90	21
	S.Madhopur								Dalbergia sissoo (Shisham)	90	21
	S.Madhopur								Albizzia lebbeck (Siras)	90	21
	S.Madhopur								Bad, Pipal	90	21
	S.Madhopur								*Ficus glomerata (*Gular*)*	90	21
123	S.Madhopur	Baunli	Bhairuji Maidar	ANR	2021-22	35	7000	200	Acacia tortilis (Totalis)	133	28
	S.Madhopur								*Azadirachta indica (Neem)*	90	21
	S.Madhopur								Acacia nilotica (Desi babool)	165	43

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	S.Madhopur								Holoptelea integrifolia (Churel)	90	21
	S.Madhopur								Acacia leucopholea (Ronj)	90	21
	S.Madhopur								*Ailanthus excelsa* (Ardu)	195	43
	S.Madhopur								Albizzia lebbeck (Siras)	90	21
	S.Madhopur								Dalbergia sissoo (Shisham)	90	21
124	S.Madhopur	S.Madhopur	Trilokpura	DFL	2021-22	17	11900	700	Acacia nilotica (Desi babool)	103	24
	S.Madhopur								Acacia tortilis (Totalis)	90	23
	S.Madhopur								Acacia leucopholea (Ronj)	90	21
	S.Madhopur								Zizyphus mauritiana (Ber)	90	21
	S.Madhopur								Pongamia pinnata (Karanj)	90	21
	S.Madhopur								Holoptelea integrifolia (Churel)	94	21
	S.Madhopur								Dalbergia sissoo (Shisham)	90	21
	S.Madhopur								Terminalia arjuna (Arjun)	90	21
	S.Madhopur								*Syzygium cumini (*Jamun)	90	21
	S.Madhopur								Albizzia lebbeck (Siras)	90	21
	S.Madhopur								*Azadirachta indica (Neem)*	90	21
	S.Madhopur								Ficus benghalensis (Vad)	90	21
	S.Madhopur								Ficus religiosa (Pipal))	90	21
125	S.Madhopur Chambal WL	Itava	Aamlada	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	42	14
	S.Madhopur Chambal WL								Zizyphus mauritiana (Ber)	36	12
	S.Madhopur Chambal WL								Pithecellobium dulce (Jangal Jalebi)	30	16
	S.Madhopur Chambal WL								Sahjan	28	16

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	S.Madhopur Chambal WL								Holoptelea integrifolia (Churel)	36	15
	S.Madhopur Chambal WL								Acacia leucopholea (Ronj)	36	18
	S.Madhopur Chambal WL								Cassia fistula (Amaltas)	30	17
126	Sikar	Srimadhopur	Paniharwas	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	90	22
	Sikar								Acacia leucopholea (Ronj)	90	21
	Sikar								Holoptelea integrifolia (Churel)	90	22
	Sikar								Zizyphus mauritiana (Ber)	90	21
127	Sikar	Danta	Ganoda	ANR	2020-21	50	10000	200	Acacia tortilis (Totalis)	90	30
	Sikar								Dalbergia sissoo (Shisham)	100	20
	Sikar								Acacia leucopholea (Ronj)	25	20
	Sikar								Zizyphus mauritiana (Ber)	20	20
	Sikar								Acacia nilotica (Desi babool)	90	30
	Sikar								Holoptelea integrifolia (Churel)	30	20
	Sikar								Prosopis juliflora (Khejri)	30	20
128	Sikar	Srimadhopur	Kotari	ANR	2021-22	50	10000	200	Acacia leucopholea (Ronj)	92	21
	Sikar								Acacia catechu (Khair)	90	21
	Sikar								Zizyphus mauritiana (Ber)	90	21
	Sikar								Holoptelea integrifolia (Churel)	92	22
	Sikar								Acacia nilotica (Desi babool)	93	22
129	Sikar	Neemkathana	Aagari-II	ANR	2021-22	50	10000	200	Holoptelea integrifolia (Churel)	95	21
	Sikar								Acacia leucopholea (Ronj)	85	20

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Sikar								Acacia nilotica (Desi babool)	90	22
	Sikar								Acacia senegal (Kumtha)	90	21
130	Sikar	Patan	Mothuka	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	93	22
	Sikar								Zizyphus mauritiana (Ber)	90	21
	Sikar								Holoptelea integrifolia (Churel)	92	22
	Sikar								Anogeissus pendula (Dhok)	90	21
	Sikar								*Azadirachta indica (Neem)*	90	22
	Sikar								Dalbergia sissoo (Shisham)	92	21
131	Sikar	Lalsot	Ghata	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	134	26
	Sikar								Acacia senegal (Kumtha)	111	25
	Sikar								Acacia leucopholea (Ronj)	124	28
	Sikar								Holoptelea integrifolia (Churel)	107	27
	Sikar								Dalbergia sissoo (Shisham)	110	25
	Sikar								*Butea monosperma (*Chhila)	110	27
132	Sikar	Lalsot	Dhauli B	ANR	2021-22	50	10000	200	Acacia tortilis (Totalis)	90	21
133	Sikar	Bandikui	Enchari	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	93	22
	Sikar								Holoptelea integrifolia (Churel)	92	22
	Sikar								Acacia leucopholea (Ronj)	90	21
	Sikar								Acacia senegal (Kumtha)	90	21
	Sikar								Dendrocalamus strictus (Bamboo)	95	23
	Sikar								Pithecellobium dulce (Jangal Jalebi)	90	21
	Sikar								Zizyphus mauritiana (Ber)	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Sikar								*Azadirachta indica (Neem)*	90	22
134	Sikar	Mahva	Mirzapur	ANR	2021-22	50	10000	200	Acacia tortilis (Totalis)	94	24
	Sikar								Holoptelea integrifolia (Churel)	100	21
	Sikar								Acacia nilotica (Desi babool)	97	24
	Sikar								Ailanthus excelsa (Ardu)	90	33
	Sikar								Dalbergia sissoo (Shisham)	103	21
	Sikar								Wrightia tinctoria (Khirani)	90	21
	Sikar								*Azadirachta indica (Neem)*	90	21
135	Sirohi	Pindwara	Arduwa Compartment No.7 Hura Magra	ANR	2020-21	50	10000	200	Emblica officinalis (Amla)	90	21
	Sirohi								Acacia catechu (Khair)	90	21
	Sirohi								Zizyphus mauritiana (Ber)	90	21
	Sirohi								Wrightia tinctoria (Khirani)	90	21
	Sirohi								Dendrocalamus strictus (Bamboo)	90	21
	Sirohi								Pongamia pinnata (Karanj)	90	21
136	Sirohi	Sirohi	Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev	ANR	2020-21	50	10000	200	*Azadirachta indica (Neem)*	104	21
	Sirohi								Zizyphus mauritiana (Ber)	90	21
	Sirohi								Holoptelea integrifolia (Churel)	90	21
	Sirohi								Acacia catechu (Khair)	90	21
	Sirohi								*Commiphora sp.* (Guggal)	90	21
	Sirohi								Acacia senegal (Kumtha)	90	21
	Sirohi								Acacia tortilis (Totalis)	108	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Sirohi								Pongamia pinnata (Karanj)	90	21
137	Sirohi	Sirohi	Matarmata Vankhand	DFL	2020-21	24.7	10000	405	Zizyphus mauritiana (Ber)	90	21
	Sirohi								Acacia catechu (Khair)	90	21
	Sirohi								Acacia nilotica (Desi babool)	90	21
	Sirohi								Holoptelea integrifolia (Churel)	90	21
	Sirohi								Dendrocalamus strictus (Bamboo)	90	21
	Sirohi								Pongamia pinnata (Karanj)	90	21
	Sirohi								*Azadirachta indica (Neem)*	90	21
	Sirohi								Acacia senegal (Kumtha)	90	21
	Sirohi								Emblica officinalis (Amla)	90	21
	Sirohi								Terminalia bellarica (Baheda)	90	21
	Sirohi								*Bauhinia sp. (*Kachnar*)*	90	21
138	Sirohi	Sirohi	Mal Pahadiya Compartment No.1,2 Banvda Mahadev	ANR	2021-22	50	10000	200	Zizyphus mauritiana (Ber)	98	23
	Sirohi								Acacia senegal (Kumtha)	90	21
	Sirohi								Holoptelea integrifolia (Churel)	90	21
	Sirohi								Tecomella undulata (Rohida)	90	21
	Sirohi								*Azadirachta indica (Neem)*	120	25
	Sirohi								Pongamia pinnata (Karanj)	90	21
139	Tonk	Newai	Ganga Mataji	ANR	2020-21	50	10000	200	Acacia tortilis (Totalis)	108	22
	Tonk								Acacia nilotica (Desi babool)	99	22
	Tonk								Holoptelea integrifolia (Churel)	90	21
	Tonk								Ailanthus excelsa (Ardu)	90	21

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Tonk								Zizyphus mauritiana (Ber)	102	21
	Tonk								Dalbergia sissoo (Shisham)	92	21
140	Tonk	Deoli	Kati Deori-IV	ANR	2020-21	50	10000	200	Acacia nilotica (Desi babool)	111	24
	Tonk								Zizyphus mauritiana (Ber)	90	21
	Tonk								Holoptelea integrifolia (Churel)	90	21
	Tonk								Prosopis juliflora (Khejri)	90	21
	Tonk								Acacia leucopholea (Ronj)	90	21
141	Tonk	Newai	Kasba Niwai	NFL	2020-21	35	17500	500	Acacia tortilis (Totalis)	91	22
	Tonk								Acacia nilotica (Desi babool)	90	22
	Tonk								*Azadirachta indica (Neem)*	90	21
	Tonk								Dalbergia sissoo (Shisham)	90	21
	Tonk								Zizyphus mauritiana (Ber)	100	22
142	Tonk	Deoli	Kalabhata	ANR	2021-22	50	10000	200	Acacia nilotica (Desi babool)	100	21
	Tonk								Acacia leucopholea (Ronj)	90	21
	Tonk								Zizyphus mauritiana (Ber)	90	21
	Tonk								Holoptelea integrifolia (Churel)	90	21
143	Udaipur	Salumbar	Tikhi Pahadi (Bara)	ANR	2020-21	50	10000	200	Emblica officinalis (Amla)	118	29
	Udaipur								Dendrocalamus strictus (Bamboo)	163	32
	Udaipur								Acacia catechu (Khair)	90	21
	Udaipur								*Azadirachta indica (Neem)*	90	21
	Udaipur								Sapindus sp. (Aritha)	90	21
	Udaipur								Holoptelea integrifolia (Churel)	120	29
	Udaipur								Zizyphus mauritiana (Ber)	120	29

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
144	Udaipur	Kurabad	Kumatiya Kutapana	ANR	2020-21	50	10000	200	Dendrocalamus strictus (Bamboo)	159	41
	Udaipur								Acacia catechu (Khair)	108	28
	Udaipur								Zizyphus mauritiana (Ber)	90	21
	Udaipur								Madhuka latifolia (Mahua)	117	28
	Udaipur								Pongamia pinnata (Karanj)	90	21
	Udaipur								Terminalia arjuna (Arjun)	90	21
	Udaipur								Emblica officinalis (Amla)	117	28
145	Udaipur	Udaipur	Undari Poplty	ANR	2021-22	50	10050	201	Emblica officinalis (Amla)	124	24
	Udaipur								Dendrocalamus strictus (Bamboo)	120	29
	Udaipur								Pongamia pinnata (Karanj)	90	21
	Udaipur								Wrightia tinctoria (Khirani)	90	21
	Udaipur								Terminalia bellirica (Baheda)	90	21
	Udaipur								Ficus racemosa (Hawan)	100	23
	Udaipur								Acacia catechu (Khair)	90	21
	Udaipur								*Annona squamosa* (Sitafal)	90	21
	Udaipur								Holoptelea integrifolia (Churel)	96	23
	Udaipur								*Azadirachta indica (Neem)*	90	21
146	Udaipur	Sarada	Rajol-ii	ANR	2021-22	65	13000	200	Emblica officinalis (Amla)	105	21
	Udaipur								Dendrocalamus strictus (Bamboo)	184	21
	Udaipur								Tectona grandis (Sagwan)	96	21
	Udaipur								Acacia catechu (Khair)	90	21
147	Udaipur	Jhadol	Saldari	ANR	2021-22	50	10000	200	Acacia catechu (Khair)	90	21
	Udaipur								Emblica officinalis (Amla)	100	25

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Udaipur								Dendrocalamus strictus (Bamboo)	129	30
	Udaipur								Holoptelea integrifolia (Churel)	90	21
	Udaipur								Wrightia tinctoria (Khirani)	90	21
	Udaipur								Pongamia pinnata (Karanj)	90	21
	Udaipur								Ficus racemosa (Hawan)	90	21
	Udaipur								Terminalia bellirica (Baheda)	90	21
	Udaipur								Madhuka latifolia (Mahua)	90	21
148	Udaipur	Falasia	Thandiberi	NFL	2021-22	20.375	22610	1109.7	Dendrocalamus strictus (Bamboo)	150	19
	Udaipur								Tectona grandis (Sagwan)	115	26
	Udaipur								Terminalia arjuna (Arjun)	60	18
	Udaipur								Terminalia bellirica (Baheda)	45	14
	Udaipur								Madhuka latifolia (Mahua)	80	20
	Udaipur								*Bauhinia sp. (*Kachnar*)*	46	14
	Udaipur								Holoptelea integrifolia (Churel)	58	18
	Udaipur								Syzygium cumini (Jamun)	56	16
	Udaipur								*Annona squamosa* (Sitafal)	72	24
	Udaipur								Ficus racemosa (Hawan)	52	18
	Udaipur								Dalbergia sissoo (Shisham)	54	16
	Udaipur								*Ficus bengalensis* (bargad)	56	18
	Udaipur								Ficus religiosa (Pipal))	52	14
	Udaipur								Acacia catechu (Khair)	44	13
	Udaipur								*Bombax ceiba* (Semal)	46	14
	Udaipur								Emblica officinalis (Amla)	42	14

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Udaipur								Wrightia tinctoria (Khirani)	48	14
	Udaipur								*Azadirachta indica (Neem)*	52	15
	Udaipur								Pongamia pinnata (Karanj)	62	18
	Udaipur								Albizia lebbeck (Kala Siras)	58	16
149	Udaipur DOD	Deola DOD	Toran I Compartment no. 18	PEO (Bamboo)	2021-22	150	69500	463.33	Dendrocalamus strictus (Bamboo)	315	30
150	Udaipur North	Deola	Kyari-I	ANR	2020-21	50	10000	200	Emblica officinalis (Amla)	114	21
	Udaipur North								Ficus racemosa (Hawan)	101	21
	Udaipur North								Acacia catechu (Khair)	101	21
	Udaipur North								Dendrocalamus strictus (Bamboo)	142	21
	Udaipur North								Tamarindus indica (Imli)	101	21
	Udaipur North								Terminalia bellirica (Baheda)	107	22
	Udaipur North								Syzygium cumini (Jamun)	118	24
	Udaipur North								Pongamia pinnata (Karanj)	108	21
151	Udaipur North	Sayara	Levo ka mathana-C	ANR	2020-21	50	10000	200	Dendrocalamus strictus (Bamboo)	199	21
	Udaipur North								Acacia catechu (Khair)	113	21
	Udaipur North								Wrightia tinctoria (Khirani)	113	21
	Udaipur North								Terminalia arjuna (Arjun)	124	21
	Udaipur North								Emblica officinalis (Amla)	125	21
152	Udaipur North	Gogunda	Nathiyathal A	ANR	2021-22	50	10000	200	Dendrocalamus strictus (Bamboo)	172	22
	Udaipur North								Acacia catechu (Khair)	90	21
	Udaipur North								Ficus racemosa (Hawan)	99	21
	Udaipur North								Emblica officinalis (Amla)	98	22

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Udaipur North								*Mangifera indica (*Mango*)*	109	21
	Udaipur North								Madhuka latifolia (Mahua)	113	21
	Udaipur North								Shivnag	133	21
153	Udaipur North	Kotra	Junapadar-A	ANR	2021-22	50	10000	200	Dalbergia sissoo (Shisham)	95	22
	Udaipur North								*Bombax ceiba* (Semal)	158	20
	Udaipur North								Terminalia arjuna (Arjun)	102	22
	Udaipur North								Holoptelea integrifolia (Churel)	126	21
	Udaipur North								Dendrocalamus strictus (Bamboo)	62	6
	Udaipur North								Ficus racemosa (Hawan)	108	23
	Udaipur North								Madhuka latifolia (Mahua)	102	24
	Udaipur North								Wrightia tinctoria (Khirani)	98	22
	Udaipur North								Zizyphus mauritiana (Ber)	102	22
	Udaipur North								Tectona grandis (Sagwan)	145	24
	Udaipur North								Cassia fistula (Amaltas)	105	23
154	Udaipur North	Udaipur	Karget-B	NFL	2021-22	59	11830	200	Holoptelea integrifolia (Churel)	115	22
	Udaipur North								Albizia lebbeck (Kala Siras)	96	21
	Udaipur North								Syzygium cumini (Jamun)	98	22
	Udaipur North								Dendrocalamus strictus (Bamboo)	180	20
	Udaipur North								Terminalia bellirica (Baheda)	95	20
	Udaipur North								Terminalia arjuna (Arjun)	100	14
	Udaipur North								*Azadirachta indica (Neem)*	92	18
	Udaipur North								Pongamia pinnata (Karanj)	122	11
	Udaipur North								Acacia catechu (Khair)	75	9

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Udaipur North								Kesar Adusa	94	19
	Udaipur North								Wrightia tinctoria (Khirani)	95	20
	Udaipur North								Ficus religiosa (Pipal))	94	19
	Udaipur North								Ficus racemosa (Hawan)	140	20
	Udaipur North								*Ficus glomerata (*Gular*)*	96	18
155	Udaipur North	Deola	Torana-12	PEO (Bamboo)	2021-22	50	6500	130	Dendrocalamus strictus (Bamboo)	230	22
156	Udaipur North	Udaipur	Lakhawali	PEO (Bamboo)	2021-22	50	5000	100	Dendrocalamus strictus (Bamboo)	600	50
157	Udaipur WL	Mamer	Ghodamari	ANR	2021-22	50	10000	200	Terminalia bellirica (Baheda)	78	8
	Udaipur WL								Emblica officinalis (Amla)	82	8
	Udaipur WL								Holoptelea integrifolia (Churel)	81	7
	Udaipur WL								*Ficus glomerata (*Gular*)*	75	7
	Udaipur WL								*Cordia gharaf (*Gunda*)*	70	7
	Udaipur WL								Ficus racemosa (Hawan)	78	8
	Udaipur WL								Pongamia pinnata (Karanj)	70	7
	Udaipur WL								*Azadirachta indica (Neem)*	65	6
	Udaipur WL								Ficus religiosa (Pipal))	68	7
	Udaipur WL								Dalbergia sissoo (Shisham)	70	7
158	Udaipur WL	Jaisamand	Surawala	ANR	2021-22	50	10200	204	Emblica officinalis (Amla)	160	22
	Udaipur WL								*Azadirachta indica (Neem)*	145	21
	Udaipur WL								Acacia catechu (Khair)	135	22
	Udaipur WL								Zizyphus mauritiana (Ber)	190	22
	Udaipur WL								Dendrocalamus strictus (Bamboo)	225	23
	Udaipur WL								Tectona grandis (Sagwan)	205	24

Sl.no	Division	Range	Site	Model	Year	Area (ha)	Total Plants Planted	Average plants planted per hectare	Name of Species	Average height (Cm)	Average collar girth (mm)
	Udaipur WL								Syzygium cumini (Jamun)	170	23
	Udaipur WL								Pithecellobium dulce (Jangal Jalebi)	185	21
	Udaipur WL								*Bauhinia sp. (*Kachnar*)*	165	21
	Udaipur WL								Terminalia bellirica (Baheda)	160	21
	Udaipur WL								Pongamia pinnata (Karanj)	145	22
	Udaipur WL								Holoptelea integrifolia (Churel)	168	22

4.1.2 Factors affecting Growth & survival (Biotic and Abiotic)

The plantation sites have been observed the affect of the destruction of the plants which has inhibited the growth and development of plants. The destructions were reported both by biotic and abiotic causal agents. It was by animals and pests namely, Roze (Neelgai), Wild Boar, porcupine, rat and termite etc. At the sample sites, it has been observed that the plantations were grazed by the domestic and stray animals namely, cows, oxen, bulls, goats and sheep etc.





The sample plantation sites also received extreme seasonal temperature variations. During summer some sites received extreme high temperature may be $+45^0$C. Also, low rainfall, scarcity of water & soil quality affects the survival of planted seedling.

The details of destructions and protections and guarding are stated in the table 4.14 given below.

Table 4.14: Obstacles in growth

Sl.no	Division	Site name	Obstacles in growth
1.	Ajmer	Hatundi Danta Rajausi	Neelgai, stray animals, termite & soil quality
2.	Ajmer	Kanas Banseli	Neelgai, stray animals, water quantity, termite & attack by pest
3.	Ajmer	Lamba	Neelgai, stray animals, termite & soil quality
4.	Alwar	Jhiri A	Neelgai, stray animals & termite
5.	Alwar	Kankan Ki Dhani	Neelgai, stray animals, soil quality, water quality & termite
6.	Alwar	Pada	Neelgai, stray animals, soil quality, water quality & termite
7.	Alwar	Nakhnol	Neelgai, stray animals, water quantity & termite
8.	Alwar	Lotawas	Neelgai, stray animals, & termite
9.	Banswara	Ghatipada (Medimal Bhandar)	Neelgai, stray animals, termite & attack by pest
10.	Banswara	Garjiya Magra (Kundali)	Neelgai, stray animals, termite & attack by pest
11.	Banswara	Umarjhala Pathara (Jagpura Tandafala)	Neelgai, stray animals, termite & attack by pest
12.	Banswara	Khuta Kundiya (Bijori Choti)	Neelgai, stray animals, termite & attack by pest
13.	Banswara	Karmi (Borkhedi)	Neelgai, stray animals, termite & attack by pest
14.	Baran	Ranwasi	Neelgai, stray animals, soil quality, water quantity, & termite
15.	Baran	Saikud	Neelgai, stray animals, soil quality, water quantity, & termite
16.	Baran	Rajaghar	Neelgai, stray animals, soil quality, water quantity, & termite

Sl.no	Division	Site name	Obstacles in growth
17.	Baran	Saleri	Neelgai, stray animals, soil quality, water quantity, & termite
18.	Baran	Pisai Road	Neelgai, stray animals, soil quality, water quantity, & termite
19.	Baran	Kasbathana Se MP Border	Neelgai, stray animals, soil quality, water quantity, & termite
20.	Barmer	Abadi Manji-A	Neelgai, stray animals, water quantity, & termite
21.	Barmer	Kanasar	Neelgai, stray animals, water quantity, & termite
22.	Bharatpur	Jogipura	Neelgai, stray animals, & termite
23.	Bharatpur	Jarkhor Gufa	Neelgai, stray animals, & termite
24.	Bharatpur	Babu Baba -II	Neelgai, stray animals, & termite
25.	Bhilwara	Thalkala Second Year	Neelgai, stray animals, termite & attack by pest
26.	Bhilwara	Daulji Ka Kheda D	Neelgai, stray animals, termite & attack by pest
27.	Bhilwara	Tikhi Part A	Neelgai, stray animals, termite & attack by pest
28.	Bhilwara	Dhandhola Part A	Neelgai, stray animals, termite & attack by pest
29.	Bundi	Dev Dungri B	Neelgai, stray animals, termite & attack by pest
30.	Bundi	Fuleta C	Neelgai, stray animals, termite & attack by pest
31.	Bundi	Depala Umarmata C	Neelgai, stray animals, termite & attack by pest
32.	Bundi	Dola Ka Khal	Neelgai, stray animals, termite & attack by pest
33.	Chatargarh	ANR 5 MTM	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
34.	Chatargarh	DLF 21 KJD	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
35.	Chittorgarh	Bassi Mahadev	Neelgai, stray animals, termite & attack by pest
36.	Chittorgarh	Dhangdamkhurd I	Neelgai, stray animals, termite & attack by pest
37.	Chittorgarh	Modiya Magra	Neelgai, stray animals, termite & attack by pest
38.	Chittorgarh	Nimoda	Neelgai, stray animals, termite & attack by pest
39.	Chittorgarh	Chainpuriya Mahadev	Neelgai, stray animals, termite & attack by pest
40.	Chittorgarh	Baldarkha	Neelgai, stray animals, termite & attack by pest
41.	Chittorgarh	Samron Ka Lewa	Neelgai, stray animals, termite & attack by pest
42.	Chittorgarh	Rusi Rani Ka Mahal	Neelgai, stray animals, soil quality, termite & attack by pest
43.	Chittorgarh Wildlife	Sangrikheda	Neelgai, stray animals, termite & attack by pest
44.	Chittorgarh Wildlife	Kalabhata B	Neelgai, stray animals, termite & attack by pest
45.	Dausa	Ghata	Neelgai, stray animals, soil quality, water quantity, & termite
46.	Dausa	Dhouli B	Neelgai, stray animals, soil quality, water quantity, & termite
47.	Dausa	Encheri A	Neelgai, stray animals, soil quality, water quantity, & termite
48.	Dausa	Mirzapur	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
49.	Dholpur	Ballapura II	Neelgai, stray animals & termite
50.	Dholpur	Kans Ki Bawri -C	Neelgai, stray animals & termite
51.	Dholpur	Raikho-Ghatiya	Neelgai, stray animals, soil quality & termite
52.	Dholpur	Kile Ka Dada	Neelgai, stray animals, soil quality & termite
53.	Dungarpur	Aadamal	Neelgai, stray animals, termite & attack by pest
54.	Dungarpur	Bansiya	Neelgai, stray animals, termite, water quantity & attack by pest
55.	Dungarpur	Balwara	Neelgai, stray animals, termite, soil quality, water quantity & attack by pest
56.	Dungarpur	Damariya Bodamagra	Neelgai, stray animals, termite, water quantity & attack by pest
57.	Dungarpur	Dhechra Bhagat II	Neelgai, stray animals, termite, soil quality, water quantity &

Sl.no	Division	Site name	Obstacles in growth
			attack by pest
58.	Dungarpur	Kanpur C. No.3	Neelgai, stray animals, termite, water quantity & attack by pest
59.	Hanumangarh	4CLD	Neelgai, stray animals, termite & soil quality
60.	Hanumangarh	Tidiyasar	Neelgai, stray animals & termite
61.	Jaipur	Bichoon Kairiya	Neelgai, stray animals, termite, water quality & attack by pest
62.	Jaipur	Jairampura 1st Year	Neelgai, stray animals, termite, water quality & attack by pest
63.	Jaipur	Bharthari	Neelgai, stray animals, termite, water quality & attack by pest
64.	Jaipur	Bhairuji Bichoon Main	Neelgai, stray animals, termite, water quality & attack by pest
65.	Jaipur North	Aatela Bawri	Neelgai, stray animals, water quantity, termite & attack by pest
66.	Jaipur North	Samred Khurd 'C'	Neelgai, stray animals, water quantity, termite & attack by pest
67.	Jaipur North	Panchpahadi (Hapuda)	Neelgai, stray animals, water quantity, termite & attack by pest
68.	Jaipur North	Dhawali- A	Neelgai, stray animals, water quantity, termite & attack by pest
69.	Jaipur Wild Life	Nimbi-A	Neelgai, stray animals, water quantity & termite
70.	Jaipur Wild Life	Kharad	Neelgai, stray animals, water quantity, termite & attack by pest
71.	Jaipur Wild Life	Bhomiya Dayoda Dungar	Neelgai, stray animals, termite, water quality & attack by pest
72.	Jaisalmer	CA NFL Dabla III	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
73.	Jaisalmer	Karahjor-C	Neelgai, stray animals, soil quality, water quantity, & termite
74.	Jaisalmer Stage II	CA Planting KNM 0-3 RD-C	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
75.	Jaisalmer Stage II	CA 0-3 RD KNM E	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
76.	Jalore	Raniwara Khurd	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
77.	Jalore	Panseri B	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
78.	Jalore	Meda Jod	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
79.	Jhalawar	Guradkheda	Neelgai, stray animals, termite & attack by pest
80.	Jhalawar	Chamlasa	Neelgai, stray animals, termite & attack by pest
81.	Jhalawar	Chalet	Neelgai, stray animals, termite & attack by pest
82.	Jhalawar	Khatakheri	Neelgai, stray animals, termite & attack by pest
83.	Jhalawar	Garayata	Neelgai, stray animals, termite & attack by pest
84.	Jhalawar	Harnawada I	Neelgai, stray animals, termite & attack by pest
85.	Jhalawar	Kotda I	Neelgai, stray animals, termite & attack by pest
86.	Jhalawar	Bawarikheda	Neelgai, stray animals, termite & attack by pest
87.	Jhalawar	Baisar	Neelgai, stray animals, termite & attack by pest
88.	Jhunjhunu	Makdo II	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
89.	Jhunjhunu	Guda Dhahar	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
90.	Jhunjhunu	Girawadi	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
91.	Jhunjhunu	Beed Jhunjhunu	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest

Sl.no	Division	Site name	Obstacles in growth
92.	Jodhpur	Udat	Neelgai, stray animals, water quantity, & termite
93.	Jodhpur	Vanbhoomi Agolai	Neelgai, stray animals, water quantity, & termite
94.	Jodhpur	Vankhetra Punasar	Neelgai, stray animals, water quantity, & termite
95.	Karauli	Ataiba	Neelgai, stray animals, water quantity, & termite
96.	Karauli	Todi	Neelgai, stray animals, water quantity, & termite
97.	Karauli	Goder	Neelgai, stray animals, water quantity, & termite
98.	Karauli RTR	Chir Ki Narauli C	Neelgai, stray animals & termite
99.	Kota	Singhpura B	Neelgai, stray animals, termite & attack by pest
100.	Kota	Dhani Aamli	Neelgai, stray animals, termite & attack by pest
101.	Kota	Badodiya II	Neelgai, stray animals, termite & attack by pest
102.	Kota	Sankheda	Neelgai, stray animals, termite & attack by pest
103.	Nagaur	ANR Chopra Ki Dhani	Neelgai, stray animals, soil quality, water quantity, & termite
104.	Nagaur	DFL Pilwa	Neelgai, stray animals, soil quality, water quantity, & termite
105.	Nagaur	DFL Chapri (First)	Neelgai, stray animals, soil quality, water quantity, & termite
106.	Nagaur	Sawaipura Paldi B Balaji	Neelgai, stray animals, soil quality, water quantity, & termite
107.	Nagaur	Dhokliya	Neelgai, stray animals, soil quality, water quantity, & termite
108.	Pali	Jhala Ki Chowki	Neelgai, stray animals, soil quality, water quantity, & termite
109.	Pali	Jadan Jod	Neelgai, stray animals, soil quality, water quantity, & termite
110.	Pali	Lundara A	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
111.	Pali	Lundara B	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
112.	Pali	Las Ka Gudha	Neelgai, stray animals, soil quality, water quantity, & termite
113.	Pratapgarh	Timruwala Bhatda	Neelgai, stray animals, termite & attack by pest
114.	Pratapgarh	Ramdevji	Neelgai, stray animals, termite & attack by pest
115.	Pratapgarh	Kabra Mangra	Neelgai, stray animals, termite & attack by pest
116.	Pratapgarh	Badliyanal	Neelgai, stray animals, termite & attack by pest
117.	Pratapgarh	Henabawdi	Neelgai, stray animals, termite & attack by pest
118.	Rajsamand Wildlife	Bandki Mangri	Neelgai, stray animals, soil quality, termite, & attack by pest
119.	Rajsamand Wildlife	Dalakhet Dabgabada	Neelgai, stray animals, soil quality, termite, & attack by pest
120.	Rajsamand Wildlife	Jaya	Neelgai, stray animals, soil quality, termite, & attack by pest
121.	Rajsamand Wildlife	Jwar Ka Wala	Neelgai, stray animals, soil quality, termite, & attack by pest
122.	S. Madhopur	Jhopri- II	Neelgai, stray animals, water quantity, & termite
123.	S. Madhopur	Murada Chowki	Neelgai, stray animals, water quantity, & termite
124.	S. Madhopur	Gurjar Koleta	Neelgai, stray animals, water quantity, & termite
125.	S. Madhopur	Bhairuji Maidar	Neelgai, stray animals, water quantity, & termite
126.	S. Madhopur	Trilokpura	Neelgai, stray animals, water quantity, & termite
127.	S. Madhopur RTR	Rodavad	Neelgai, stray animals, soil quality, termite, & attack by pest
128.	S. Madhopur RTR	Bai	Neelgai, stray animals, soil quality, termite, & attack by pest
129.	S.Madhopur Chambal WL	Aamalda	Neelgai, stray animals, termite, & attack by pest
130.	Sikar	Paniharwas	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
131.	Sikar	Ganoda	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest

Sl.no	Division	Site name	Obstacles in growth
132.	Sikar	Kotdi	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
133.	Sikar	Aagri II	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
134.	Sikar	Mothuka	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
135.	Sirohi	Arnua C. No. 7 Hura Magra 50 H	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
136.	Sirohi	Las Jhadoli C. No.1 Van Vaidhyanath Mahadev	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
137.	Sirohi	Matarmata Vankhand Vriksharopan	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
138.	Sirohi	Malpahadiya C. No.1,2	Neelgai, stray animals, soil quality, water quantity, termite & attack by pest
139.	Tonk	Ganga Mataji	Neelgai, stray animals, termite & attack by pest
140.	Tonk	Kali Deori-IV	Neelgai, stray animals, termite & attack by pest
141.	Tonk	Kasba Newai	Neelgai, stray animals, termite & attack by pest
142.	Tonk	Kalabhata	Neelgai, stray animals, termite & attack by pest
143.	Udaipur	Tikhipahadi (Bara)	Neelgai, stray animals, termite & attack by pest
144.	Udaipur	Kumtiya Kutapana	Neelgai, stray animals, termite & attack by pest
145.	Udaipur	Undari Poplty	Neelgai, stray animals, termite & attack by pest
146.	Udaipur	Rajoi-II	Neelgai, stray animals, termite & attack by pest
147.	Udaipur	Saldari	Neelgai, stray animals, termite & attack by pest
148.	Udaipur	Thandiberi	Neelgai, stray animals, termite & attack by pest
149.	Udaipur DOD	Tourna I Compartment. No. 18	Neelgai, stray animals, termite & attack by pest
150.	Udaipur North	Kyari-1	Neelgai, stray animals, termite & attack by pest
151.	Udaipur North	Lewon Ka Mathana C	Neelgai, stray animals, termite & attack by pest
152.	Udaipur North	Nathiyathal A	Neelgai, stray animals, termite & attack by pest
153.	Udaipur North	Junapadar A	Neelgai, stray animals, termite & attack by pest
154.	Udaipur North	Karget B	Neelgai, stray animals, termite & attack by pest
155.	Udaipur North	Tourna-12	Neelgai, stray animals, termite & attack by pest
156.	Udaipur North	Lakhawali	Neelgai, stray animals, termite & attack by pest
157.	Udaipur Wildlife	Ghoramari	Neelgai, stray animals, termite & attack by pest
158.	Udaipur Wildlife	Surawala Nala Jamuda	Neelgai, stray animals, & attack by pest

Overall Comments

- Widely growth of termite & attack by pest obstruct the growth of planted seedling in almost all the plantation sites.
- Grazing by stray animals, cattle's & destruction by Neelgai, Chinkara, Wild boar, Rabbit & Rat was reported at the plantation site. In Chambal WL Ghadiyal division at Amalda site, heavy grazing by cattle's was reported at the site.

- Wild animals viz. Neelgai and village animals ate the branches and leaves of plants. The growth and survival of plants was affected due to grazing by Neelgai and village animals (Sheep, Goats, Cows, Bulls and Buffaloes etc.).



- Watering of plants was not reported at the sample sites. The survival and growth of plants was affected due to non- watering of plants.
- Ditch fencing was damaged at many places. At some places, the locals made route from ditch fencing to plantation site for cattle grazing. Village and wild animals grazed almost all planted species. Loose stone wall fencing was damaged at many places. The stones of loose stone fencing were removed from many places and route to plantation site was made by the locals.
- Grazing by wild and village animals was reported at the site. In addition, termites obstruct growth of planted species at the site.
- Low rainfall was reported at the plantation site during last 2 to 3 years. This affects the survival & growth of planted species.
- Soil quality obstructs the growth of planted seedling. The soil was rocky & sandy at many plantation sites. The chances of survival of seedlings in rocky & sandy soil are low.

Impact on Vegetal cover

In the sample sites of the sample forest divisions, a clear obligation has also been felt to integrate the vision of sustainable forest management through elements of ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of urban forestry and robust convergence with Sustainable Development Goals (SDGs). The core focus on increasing vegetation covers outside forests.

Moreover, the effort has been planned to increase the extent of forest cover/ tree cover in the state by encouraging reforestation, restoration and rehabilitation measures in the existing forest areas and by encouraging and expanding vegetal cover in the forest areas. The plantation sites also reported encouraged community participation through sustainable use of forest and grassland based resources and ecosystem services etc



In the direction, the plantation and soil & moisture conservation activities at the plantation sites have certainly added value in terms of increase in the vegetal cover namely, trees (Plash, Neem, Mahuva, Tendu, Baheda, Sagwan, kher, Neem, Ronj, Shesham, Bamboo, Churel etc.) shrubs (Ber, Lentana, Ber, Juliflora, Hingot, Jaal, Bui & Kheep), herbs (Neem giloi, Satavari, Peelvan, Googal, Bazardanti) and natural grasses (Lapla, Bharut & Dhaman) etc. The third party evaluation team experienced the increase in vegetation due to forest closure and construction of soil and moisture conservation structures. In addition to plantation works undertaken on thanwalas, the sowing of seeds on contour, ditch fencing, across the boundary and around thawlas has shown satisfactory to good and very good results at some of the sample sites covered for evaluation.



For the purpose, the impacts of vegetal cover were estimated with the help of observing plant abundance. The most common way to measure cover is the visual estimation method.

There has been reported increase and improvement in vegetal cover at the sample plantation sites viz. DFL, NFL RDF & ANR. The vegetation abundance has been reported fairly higher in ANR models as compared to NFL & DFL models.

Table 4.15: Maintenance/increase in Extent of Vegetation and Forest Cover

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
1.	Ajmer	Nasirabad	ANR	Hatundi Danta Rajausi	Deshi Babool, Kumtha, Ronj	Juliflora		Lapla, Karad
2.	Ajmer	Pushkar	DFL	Kanas Banseli	Totalis	Amla, Kheep		Munza, Dhaman, Bui
3.	Ajmer	Sarwad	ANR	Lamba	Hingot, Deshi Babool, Ronj	Juliflora		Lapla, Duv
4.	Alwar	Thanagaji	ANR	Jhiri A	Dhok, Salar, Palash	Dansar		Lapla
5.	Alwar	Thanagaji	DFL	Kankan Ki Dhani	Deshi Babool	Dansar	Vazradanti	Lapla, Dhaman
6.	Alwar	Rajgarh	ANR	Pada	Shisham, Neem, Kadam	Ber, Hingot		Lapla
7.	Alwar	Tijara	ANR	Nakhnol	Khirani	Boli, Juliflora		Lapla
8.	Alwar	Thanagaji	DFL	Lotawas	Dhok, Salar, Palash, Ronj	Dansar		Lapla, Dhaman
9.	Banswara	Banswara	ANR	Ghatipada (Medimal Bhandar)	Sangwan, Churail, Baheda, Khirani	Ber, Timru, Khirani, Lentana	Mahua, Kalihari	Lapla, Siyalpos, Duni
10.	Banswara	Ghatol	DFL	Garjiya Magra (Kundali)	Sangwan, Baheda, Neem, Ronj, Shisham	Lentana, Juliflora, Junglee Tulsi		Lapla
11.	Banswara	Ghatol	ANR	Umarjhala Pathara (Jagpura Tandafala)	Sangwan, Neem, Sadar, Salar, Timru, Kalam, Khkhra, Dhok	Lentana, Akadiya, Ber, Arjun	Neem	Koth, Lapla
12.	Banswara	Kushalgarh	ANR	Khuta Kundiya (Bijori Choti)	Salar, Sagwan, Khakhra, Aakol, Baheda, Deshi Babool	Lentana, Koda, Dudhi		Bedi, Lapla
13.	Banswara	Dungra	ANR	Karmi (Borkhedi)	Deshi Babool, Dhok, Khair, Sangwan	Ber	Lemon Ghas, Awal Chal	Medi, Lapla, Dhaman
14.	Baran	Kishanganj	ANR	Ranwasi	Palas, Sangwan, Mahua, Baheda	Kakhala, Kakun	Amla, Neem	Lapla, Gadel
15.	Baran	Chhipabarod	NFL	Saikud	Kaldi, Dhok, Neem	Khair, Ber, Ronj	Neem	Lapla, Duv

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
16.	Baran	Shahabad	ANR	Rajaghar	Palas, Kadaya, Saal, Guwar, Safed, Dhok, Kala Dhok	Ber, Khair, Ronj	Shankhpushpi, Satavari, Narkay	Lapla
17.	Baran	Kailwara	ANR	Saleri	Palas, Dudhi, Arjun	Ber		Lapla
18.	Baran	Kishanganj	ANR	Pisai Road	Palas, Sangwan, Shisham, Churail, Jungle Jalebi	Ber	Thor, Dudhi, Katel, Neem	Lapla
19.	Baran	Shahabad	Road Side	Kasbathana Se MP Border	Babool, Palas	Kuretha		Lapla
20.	Barmer	Sindhari	DFL	Abadi Manji-A	Kumtha, Ber, Kakeda	Ber, Jaal		Murat Ghas
21.	Barmer	Shiv	Silvi Pestrol	Kanasar	Rohida, Khejri	Kair	Bui	Lapla, Bharut, Dhaman
22.	Bharatpur	Bayana	ANR	Jogipura	Ronj,Totalis, Khair	Dhok	Shankhpushpi, Satavari, Safed Mushli	Lapla, Duv
23.	Bharatpur	Deeg	ANR	Jarkhor Gufa	Churail, Neem, Deshi Babool, Dhok	Ber, Goya, Khair	Satavari, Amarbel, Harjudi	Lapla, Duv
24.	Bharatpur	Bayana	ANR	Babu Baba -II	Dhok, Ronj, Totalis,	Dhok, Ber	Junglee Tulsi	Dhaman, Lalpa, Duv
25.	Bhilwara	Jahajpur	ANR	Thalkala Second Year	Ronj, Dhok, Neem, Totalis, Deshi Babool	Ber	Amarbel, Neem, Golai	Lapla, Bharut
26.	Bhilwara	Mandalgarh	ANR	Daulji Ka Kheda D	Plas, Khair, Totalis	Lentana, Ber	Neem, Amla	Lapla, Bari
27.	Bhilwara	Mandalgarh	ANR	Tikhi Part A	Dhok, Deshi Babool, Ronj, Dhak, Khair	Ber, Lentana	Amla, Arjun	Lapla
28.	Bhilwara	Jahajpur	ANR	Dhandhola Part A	Ronj, Dhok, Neem, Churail	Ber, Chhila, Hingot	Jaal	Lapla
29.	Bundi	Hindoli	ANR	Dev Dungri B	Ronj, Ber, Deshi Babool, Prosopis	Hingot, Lentana, Ber		Lapla, Buari
30.	Bundi	Nainwan	ANR	Fuleta C	Ronj, Babool	Jaal, Kair	Gokharu	Lapla
31.	Bundi	Hindoli	DFL	Depala Umarmata C	Ronj, Juliflora, Plas	Ber		Dhaman
32.	Bundi	Hindoli	ANR	Dola Ka Khal	Dhok, Khejri	Juliflora		Lapla

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
33.	Chittorgarh	Chittorgarh	ANR	Bassi Mahadev	Amla, Tendu, Neem, Dhok, Khair, Bans, Amaltash	Karodi, Lentana		Lapla
34.	Chittorgarh	Borav	ANR	Dhangdamkhurd I	Dhak, Dhok, Tendu	Lentana, Ber	Nava	Lapla, Dhaman, Buwari
35.	Chittorgarh	Kapasan	ANR	Modiya Magra	Dhok, Ronj, Amaltash, Churail, Kumtha	Lentana, Dhok, Ber	Alovera, Amla, Neem, Shatavari	Lapla, Karad
36.	Chittorgarh	Vijaypur	DFL	Nimoda	Ronj, Khair, Kurpi, Khakhra, Tendu, Kumtha	Lentana, Karuwi, Ber	Satavari, Gugal	Lapla, Karad, Buwari, Sawar
37.	Chittorgarh	Vijaypur	ANR	Chainpuriya Mahadev	Khair, Dhok, Amla, Salar, Tendu	Lentana, Ber	Amla, Gwarpatha, Gugal	Lapla, Fuleri, Gundel
38.	Chittorgarh	Chittorgarh	ANR	Baldarkha	Dhok, Khair, Tendu, Bans	Lentana, Vilayati Babool		Lapla
39.	Chittorgarh	Bengu	ANR	Samron Ka Lewa	Tendu, Safed Dhok, Khair, Amla, Ronj, Salar, Hingot	Lentana, Ber, Kurundi	Naharkata	Buwari, Lapla
40.	Chittorgarh	Nimbaheda	ANR	Rusi Rani Ka Mahal	Khair, Ronj, Gadbhor, Dhok, Tendu	Lentana, Ber	Amla, Neem, Junglee Tulsi, Shatavari	Lapla, Bori
41.	Chittorgarh Wildlife	Badisadri	ANR	Sangrikheda	Mahua, Sangwan, Tendu, Bans	Harsingar, Lentana	Harsingar, Marodfali, Kali Musli, Shatavari	Lapla, Staila, Buari, Bunderi
42.	Chittorgarh Wildlife	Badisadri	ANR	Kalabhata B	Tendu, Salar, Karjan	Harsingar, Lentana	Shatavari, Harsingar, Kali Musli	Lapla, Buhari
43.	Dausa	Lalsot	ANR	Ghata	Dhok, Chhila, Ronj, Amaltash, Totalis,,	Ber		Lapla

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
					Churail			
44.	Dausa	Lalsot	ANR	Dhouli B	Totalis,, Deshi Babool, Churail	Ber		Munja
45.	Dausa	Bandikui	ANR	Encheri A	Dhok, Babool, Churail	Ber, Thor Khatiuna		Lapla
46.	Dausa	Mahwa	ANR	Mirzapur	Deshi Babool, Kumtha, Totalis	Ber	Gokharu	Lapla, Bharut
47.	Dholpur	Sarmathura	ANR	Ballapura II	Churail, Ronj, Khair	Ber, Loch Chameli	Satavari	Lapla
48.	Dholpur	Bair	ANR	Kans Ki Bawri -C	Khair, Churail, Deshi Babool, Kumtha, Ber			
49.	Dholpur	Vanvihar	DFL	Raikho-Ghatiya	Dhok, Goya, Khair	Juliflora	Satavari	Durh
50.	Dholpur	Vanvihar	DFL	Kile Ka Dada	Dhok, Googly	Juliflora	Satavari	Durh
51.	Dungarpur	Aantri	ANR	Aadamal	Ronj, Churail, Sagwan, Khirani, Dhak, Amla, Neem	Lentana, Harsingar, Ber	Hingot, Shatavari, Amla, Khirani	Lapla, Junglee Tulsi
52.	Dungarpur	Seemalwada	ANR	Bansiya	Sangwan, Khakhra, Ronj	Lentana		Dhaman
53.	Dungarpur	Dungarpur	NFL	Balwara	Ronj, Khakhra, Juliflora	Lentana		
54.	Dungarpur	Sagwada	ANR	Damariya Bodamagra	Sagwan, Churail, Deshi Babool	Lentana		Beran, Dhaman, Heran, Lapla, Katsar
55.	Dungarpur	Seemalwada	ANR	Dhechra Bhagat II	Sagwan, Ronj, Khakhra, Timru	Avanl Chhal, Lentana, Kada Akaj, Safed Akda, Kanthar	Junglee Tulsi	Lapla, Puad, Galar Ghas
56.	Dungarpur	Dungarpur	ANR	Kanpur C. No.3	Sagwan, Tendu, Gungal, Salar	Tamet, Goda, Kadhaya, Lentana		Lapla
57.	Hanumangarh	Rawatsar	Silvi	4CLD	Totalis, Khejri	Ber, Bawle	Tumba	Dhaman, Sevan,

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
			Pestrol			jhari		Bhurut, Bui
58.	Hanumangarh	Nohar	Silvi Pestrol	Tidiyasar	Totalis,, Khejri	Ber, Jhar Ber, Kheep	Sata, Bhakri	Gadhil Bhurut
59.	IGNP Stage 1 Chhatargarh	Dantour	ANR	ANR 5 MTM	Ber, Totalis,, Khejri	Kheep	Gokhru	Gothiya, Sevan, Dhaman, Khichiya
60.	IGNP Stage 1 Chhatargarh	Beriyawali	DFL	DLF 21 KJD	Khejri, Deshi Babool, Totalis,	Kheep, Ber, Kair	Kheep	Rothad, Siniya, Sevan
61.	IGNP Stage-II Jaisalmer	1438 RD Mohangarh	NFL	CA Planting KNM 0-3 RD-C	Khejri	Aak, Kair, Ber, Kheep		Saniya, Metha, Dhaman
62.	IGNP Stage-II Jaisalmer	1438 RD Mohangarh	NFL	CA 0-3 RD KNM E	Rohida, Totalis	Juliflora, Kheep, Aak, Kair		Gothiya, Sevan
63.	Jaipur	Dudu	ANR	Bichoon Kairiya	Kumtha, Dhok, Kakeda, Juliflora	Gugli, Dansar, Jhojham	Vazradanti. Satavari, Ashwagandh a	Dub, Sati
64.	Jaipur	Amer	NFL	Jairampura 1st Year	Deshi Babool, Churail, Shisham	Ber		
65.	Jaipur	Amer	ANR	Bharthari	Deshi Babool, Kumtha, Totalis	Ber, Jhari, Chaprel	Vazradanti, Satavari, Beel	Dhaman, Lapla
66.	Jaipur	Dudu	ANR	Bhairuji Bichoon Main	Deshi Babool, Khirani, Dhok, Juliflora	Dansar	Vazradanti	Local Grass
67.	Jaipur North	Pawta	ANR	Aatela Bawri	Dhok, Chhila, Kumtha	Ber, Dansar	Vazradanti, Gugli	Lapla, Dhaman
68.	Jaipur North	Achrol	ANR	Samred Khurd 'C'	Totalis, Deshi Babool, Ronj, Dhok, Neem	Dansar, Ber, Chapra	Vazradanti	Lapla
69.	Jaipur North	Kotputli	ANR	Panchpahadi (Hapuda)	Kumtha, Dhok, Chhila	Dansar, Thor		Lapla, Dubghas
70.	Jaipur North	Viratnagar	ANR	Dhawali- A	Totalis, Deshi Babool, Churail, Ardu,	Ber, Adusa, Dansar, Khair	Vazradanti, Satavari	Lapla, Sevan, Dhaman

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
					Kakeda, Dhok, Chhila			
71.	Jaipur Wild Life	Jamvaramgarh	ANR	Nimbi-A	Deshi Babool, Kumtha, Totalis,, Dhok, Khirani	Ber, Kakeda, Dansar	Vazradanti	Lapla
72.	Jaipur Wild Life	Raisar	ANR	Kharad	Deshi Babool, Dhok, Ronj	Ber, Dansar, Kakeda	Vazradanti, Satavari, Gokharu	Lapla
73.	Jaipur Wild Life	Jamvaramgarh	ANR	Bhomiya Dayoda Dungar	Totalis,, Deshi Babool, Churail, Khair	Ber,		Lapla
74.	Jaisalmer	Jaisalmer	NFL	CA NFL Dabla III	Jaal, Ber, Khejri	Kair, Kheep, Ber, Aak	Aak, Jaal, Gugal	Gathiya, Sevan, Lana
75.	Jaisalmer	Jaisalmer	Silvi Pestrol	Karahjor-C	Babool, Khejri	Jaal, Ber, Kheep, Kair		Lapla, Gothiya, Dhaman
76.	Jalore	Raniwara	ANR	Raniwara Khurd	Totalis, Deshi Babool, Churail, Shisham, Juliflora	Ber, Kheep, Bui,	Junglee pyaz, Googal	Lapla
77.	Jalore	Jaswantpura	ANR	Panseri B	Totalis, Kumtha	Ber, Aval, Bhu-bamli	Satavari	Bharut, Bhairna, Mumtha, Kheep
78.	Jalore	Jalore	Silvi Pestrol	Meda Jod	Deshi Babool, Kumtha	Jaal, Ber, Kair, Juliflora		Lapla, Dhaman
79.	Jhalawar	Bakani	ANR	Guradkheda	Palas, Neem, Bans, Khejri, Babool	Juliflora	Amla, Junglee Tulsi, Amarbel	Lapla, Gudad
80.	Jhalawar	Khanpur	NFL	Chamlasa	Ronj, Churail, Karanj, Bad, Peepal,	Ber	Neem, Amla	Lapla
81.	Jhalawar	Khanpur	NFL	Chalet	Ronj, Jhadi, Churail	Ber Ki Jhadiyan		Lapla
82.	Jhalawar	Khanpur	NFL	Khatakheri	Deshi Babool, Juliflora, Aam, Jamun	Jhadi, Ber, Kair	Amarbel	Kamd
83.	Jhalawar	Khanpur	NFL	Garayata	Deshi Babool, Khejri,	Ber, Padmuli	Neem	Lapla

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
					Juliflora			
84.	Jhalawar	Dag	NFL	Harnawada I	Ronj, Palas, Khair, Deshi Babool	Ber, Shipli, Bekla		Lapla
85.	Jhalawar	Manoharthana	DFL	Kotda I	Palas, Khair, Ronj, Dudhi, Khirani	Bekal	Kubad, Junglee Tulsi, Safed musli, Goti lata	Karad, Naplela
86.	Jhalawar	Jhalawar	ANR	Bawarikheda	Khair, Palas, Deshi Babool	Ber, Khetana, Junglee Patthar	Nav, Shankhpushpi, Panwar	Lapla
87.	Jhalawar	Khanpur	ANR	Baisar	Palas, Churail, Ronj	Ber, Karonda	Kharota, Galpa	Lapla, Puad, Jwala
88.	Jhunjhunu	Khetdi	ANR	Makdo II	Juliflora, Dhok, Dansar, Kumtha, Ronj	Ber	Adusa, Gokhru, Harjud, Gugal	Lapla, Mordi,
89.	Jhunjhunu	Udaipur Vati	ANR	Guda Dhahar	Deshi Babool, Juliflora	Ber, Ker		Lapla, Bharut
90.	Jhunjhunu	Udaipur Vati	ANR	Girawadi	Juliflora, Deshi Babool, Ronj	Dansar, Gagren, Chapren		Lapla, Bharut
91.	Jhunjhunu	Jhunjhunu	ANR	Beed Jhunjhunu	Totalis,, Rohida, Kumtha	Ber, Kair, Jaal	Greetu	Dhaman
92.	Jodhpur	Baap	ANR	Udat	Peepal, Totalis,	Ber, Kheep, Fog, Buari		Gathiya, Dhaman
93.	Jodhpur	Balesar	ANR	Vanbhoomi Agolai	Totalis, Kumtha	Juliflora, Ber, Kair		Dhaman, Gathiya
94.	Jodhpur	Ausiyan	ANR	Vankhetra Punasar	Kumtha, Totalis, Khejri	Kheep, Ber, Khair		Gathiya, Siniya
95.	Karauli	Karauli	ANR	Ataiba	Dhok, Barbara, Babool, Totalis,	Ber	Satavari	Lapla, Dhaman

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
					Kumtha			
96.	Karauli	Mandrayal	ANR	Todi	Totalis, Deshi Babool, Goya, Khair	Ber, Goya, Khair, Jaal	Satavari	Lapla, Dab
97.	Karauli	Masalpura	ANR	Goder	Babool, Khair, Ronj, Dhok, Goya Khair	Ber	Satavari	Lapla, Dhaman
98.	Karauli RTR	Nainiyaki	ANR	Chir Ki Narauli C	Dhok, Deshi Babool, Ronj, Ber, Karanj	Ber, Dhok, Chobibi	Dudi	Lapla, Duv
99.	Kota	Mandana	ANR	Singhpura B	Ronj, Khair, Chhila, Churail	Ber		Lapla, Gandel
100.	Kota	Kanwas	ANR	Dhani Aamli	Khejri, Churail	Ber, Juliflora		Lapla
101.	Kota	Mandana	ANR	Badodiya II	Ronj, Kumtha, Chhila	Ber, Satyanashi		Lapla, Dob
102.	Kota	Kanwas	ANR	Sankheda	Khejri, Churail	Ber		Lapla
103.	Nagaur	Kuchaman	ANR	ANR Chopra Ki Dhani	Deshi Babool, Totalis, Dhok, ronj	Ber, Kheep, Munja	Gartumba	Kakera, Bharut, Jogiya, Lapla
104.	Nagaur	Parbatsar	DFL	DFL Pilwa	Totalis	Ber		Lapla, Bharut, Jhareniya
105.	Nagaur	Kuchaman	DFL	DFL Chapri (First)	Deshi Babool, Ronj, Neem	Kair, Ber	Neem	Lapla
106.	Nagaur	Kuchaman	ANR	Sawaipura Paldi B Balaji	Dhok, Totalis,, Kakeda, Jaal	Ber		Lapla, Bharut, bhakdi
107.	Nagaur	Parbatsar	ANR	Dhokliya	Totalis,, Deshi Babool, Khair	Banwali, Dansar, Gegarni		Bharut, Lapla
108.	Pali	Sendara	ANR	Jhala Ki Chowki	Dhok, Kumtha, Deshi Babool, Totalis, Ber	Kair, Gagan Khip Fagan, Gugal		Lapla, Dhaman
109.	Pali	Marwar Jn.	ANR	Jadan Jod	Totalis, Khejri, Kumtha, Ronj	Ber, Jaal, Kair		Lapla, Getha
110.	Pali	Bali	ANR	Lundara A	Deshi Babool, Ronj	Ber Ki Jhari		Lapla
111.	Pali	Bali	ANR	Lundara B	Ronj, Palas, Kumtha	Ber, Kair, Jaal	Kunen	Lapla

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
112.	Pali	Bali	Silvi Pestrol	Las Ka Gudha	Khejri, Ronj, Totalis, Palas	Ber, Kair, Hingot	Neem	Lapla, Bharut, Karad
113.	Pratapgarh	Dhariyawad	ANR	Timruwala Bhatda	Sagwan, Safed Dhok, Tendu, Godal, Umiya, Amaltash	Lentana		Lapla, Dhaman
114.	Pratapgarh	Devgarh	ANR	Ramdevji	Sagwan, Palash, Tendu	Lentana		Lapla
115.	Pratapgarh	Bansi	ANR	Kabra Mangra	Palash, Sagwan, Tendu, Salar, Godal	Lentana, Karotitya	Alovera, Shatavari, Amla	Lapla
116.	Pratapgarh	Bansi	PEO (Bamboo)	Badliyanal	Sagwan, Tendu, Siras, Godal, Palash	Lentana, Karotitya	Shatavari	Lapla, Bhangta
117.	Pratapgarh	Dhariyawad	PEO (Bamboo)	Henabawdi	Amla, Sagwan, Tendu, Baheda, Mahua, Amaltash	Lentana, Harsingar, Marodfali, Karotiya		Lapla
118.	Rajsamand WL	Jojawar	ANR	Bandki magri	Dhok, Khejri, Kumtha	Aanwal Chal	Alovera, Amla	Lapla
119.	Rajsamand WL	Ravali	ANR	Dalakhet Dabkabada	Salar, Dhok, Godal, Ber	Faragani, Gangan	Amla, Aam, Jamun	Lapla, Dhaman
120.	Rajsamand WL	Kumbhalgarh	ANR	Jaya	Aam, Mahua, Salar, Ber, Amla, Jamun, Dhok	Lentana	Amla, Amaltash, Safed Musli	Lapla, Heran, Junglee Pyaz
121.	Rajsamand WL	Bokhada	ANR	Jwarka wala	Salar, Godal, Humima, Khakhra, Timru	Lentana	Amla	Lapla
122.	S. Madhopur	S. Madhopur	ANR	Jhopri- II	Deshi Babool,	Ber, Jaal, Kair	Satavari	Lapla
123.	S. Madhopur	Gangapur	ANR	Murada Chowki	Babool	Ber, Khair		Dhaman, Lapla
124.	S. Madhopur	Gangapur	ANR	Gurjar Koleta	Deshi Babool	Kair, Ber, Jaal, Kheep	Amarbel, Satavari	Lapla, Karad
125.	S. Madhopur	Bonli	ANR	Bhairuji Maidar	Totalis,, Ronj, Deshi	Jaal, Khair,	Dhamasa	Dhaman, Lapla

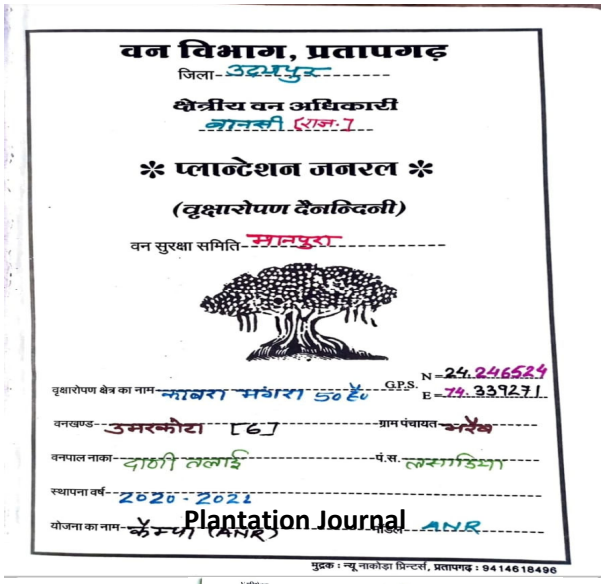
Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
					Babool	Bhins, Kheep		
126.	S. Madhopur	S. Madhopur	DFL	Trilokpura	Peel, Deshi Babool	Hingot, Ber, Kair	Satavari	Lapla
127.	S. Madhopur Chambal WL	Itava	ANR	Aamlada	Juliflora, Hingot	Kair, Jaal, Ber		
128.	S. Madhopur RTR	Baler	ANR	Rodawada	Deshi Babool, Goya khair	Juliflora, Hingot, Ber, Kair	Satavari, Vantulsi	Lapla, Dab, Duv, Mankda
129.	S. Madhopur RTR	Talada	ANR	Bai	Deshi Babool, Ronj	Ber, Hingot, Jaal	Kakora	Dhaman, Lapla
130.	Sikar	Shrimadhopur	ANR	Paniharwas	Deshi Babool, Ronj, Shisham	Dansar, Berki	Gugal,	Lapla
131.	Sikar	Danta	ANR	Ganoda	Totalis,, Shisham, Ronj, Churail, Khejri	Gilly	Kheep, Munja	Bharut
132.	Sikar	Shrimadhopur	ANR	Kotdi	Khair, Deshi Babool, Ronj	Kakeda, Ber	Thor	Lapla, Seen, Bokna, Bharut, Sukhala
133.	Sikar	Neemkathana	ANR	Aagri II	Ronj, Deshi Babool	Ber, Thor	Vazradanti, Gugal	Lapla, Bharut
134.	Sikar	Patan	ANR	Mothuka	Ronj, Kumtha, Deshi Babool	Ber	Neem, Gokhru	Lapla,
135.	Sirohi	Pindwara	ANR	Arduwa Compartment No.7 Hura Magra	Khirani, Salar, Palas	Awal, Kuruwa, Dhok, Ber		Lapla, Bar, Duv
136.	Sirohi	Sirohi	ANR	Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev	Dhok, Neem, Kumtha, Khejri	Ber, Kheep, Kair	Gogal, Gangroth	Lapla
137.	Sirohi	Sirohi	DFL	Matarmata Vankhand Vriksharopan	Totalis, Kumtha, Dhok, Gugal	Juliflora, Ber	Gugal	Lapla, Bharut
138.	Sirohi	Sirohi	ANR	Mal Pahadiya Compartment No.1,2	Totalis, Rohida, Kumtha, Dhok,	Ber	Gangroth, Kakeda,	Lapla, Dhaman, Sinecha

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
				Banvda Mahadev	Khejri, Neem		Gugal, Kothar	
139.	Tonk	Newai	ANR	Ganga Mataji	Totalis, Deshi Babool	Kair, Ber, Jaal, Kheep	Vazradanti, Satavari	Sukhal, Lapla, Bharut
140.	Tonk	Deoli	ANR	Kali Deori-IV	Ronj, Khejri, Deshi Babool	Ber, Kair	Gokhru	Lapla
141.	Tonk	Newai	NFL	Kasba Newai	Totalis, Deshi Babool	Ber	Kheep, Gokhru	Lapla
142.	Tonk	Deoli	ANR	Kalabhata	Chhila, Kumtha, Deshi Babool, Bilayati Babool, Totalis	Hingot, Kair, Ber	Kheep, Kachri, Bel	Lapla
143.	Udaipur	Salumber	ANR	Tikhipahadi (Bara)	Sagwan, Salar, Tendu, Godal, Palash	Lentana		Lapla, Baru, Bhangta, Gandel
144.	Udaipur	Kurabad	ANR	Kumtiya Kutapana	Ronj, Salar, Godal, Khirani, Dhok, Kumtha, Goya Khair, Kadaya, Palash	Ber, Tamath, Faragani		Lapla, Dan, Buari, Seraj
145.	Udaipur	Udaipur	ANR	Undari Poplty	Ronj, Kumtha,Neem, Khair, Churail, Ber, Salar	Lentana		Lapla, Heran, Bhantha, Karad
146.	Udaipur	Sarada	ANR	Rajoi-II	Ronj, Sangwan, Khirani, Salar, Godal	Lentana, Ber, Thor, Ghangheran	Kunen, Thor, Giloy	Lapla, Bhanta, Bedi
147.	Udaipur	Jhadol	ANR	Saldari	Ambiya, Khirani, Tendu, Ronj, Amaltash, Palash, Salar, Godal	Lentana, Negad, Harsinghar, Ratanjot		Lapla, Bhangta, Sewan, Herpa
148.	Udaipur	Falasiya	NFL	Thandiberi	Khirani, Salar, Godal, Baheda, Karanj	Lentana	Khirani	Lapla
149.	Udaipur DOD	Dewla DOD	PEO	Toran I	Bans, Salar, Dawda,	Amla, Chhaal,	Shatavari,	Dhaman, Sewan

Sl.no.	Division	Range	Model	Name of Site	Tree Species	Shrubs Species	Herbs Species	Grass Species
			(Bamboo)	Compartment no. 18	Tendu, Godal, Khirani	Hingot, Kair, Karonda, Jaal, Ber	Junglee Haldi, Chirmi	
150.	Udaipur North	Dewla	ANR	Kyari-1	Godal, Khirani, Salar, Umiya	Marathfali	Kat Karanj	Lapla
151.	Udaipur North	Saira	ANR	Lewon Ka Mathana C	Ronj, Mahua Bad, Godal, Salar	Lentana, Kadwa		Lapla
152.	Udaipur North	Gogunda	ANR	Nathiyathal A	Bans, Khair, Havan, Amla, Baheda, Arjun	Lentana, Kadwa	Alovera	Lapla
153.	Udaipur North	Kotda	ANR	Junapadar A	Godal, Salar, Khirani, Churail, Tendu	Kadwa, Sitafal, Palas		Lapla, Bharut
154.	Udaipur North	Udaipur	NFL	Karget B	Ber, Ronj, Khair	Lentana, Ber		Lapla, Bharut
155.	Udaipur North	Dewla	PEO (Bamboo)	Tourna-12	Tendu, Salar, Godal	Ber	Kat Karanj	
156.	Udaipur North	Udaipur	PEO (Bamboo)	Lakhawali	Salar, Tendu, Godal, Ronj, Dhok		Amla	
157.	Udaipur Wildlife	Mamer	ANR	Ghoramari	Khirani, Tendu, Salar, Godal, Churail, Khakhra, Mahua, Umbiya	Harsingar	Neem	Chhota Lapla
158.	Udaipur Wildlife	Jaisamand	ANR	Surawala Nala Jamuda	Vilayati Babool, Ronj, Churail, Neem, Dhok, Bans, Gular, Havan	Lentana, Vilayati Babool, Akosh, Gingchi, Ber	Neem	Lapla, Seran, Bhamata, Hamata

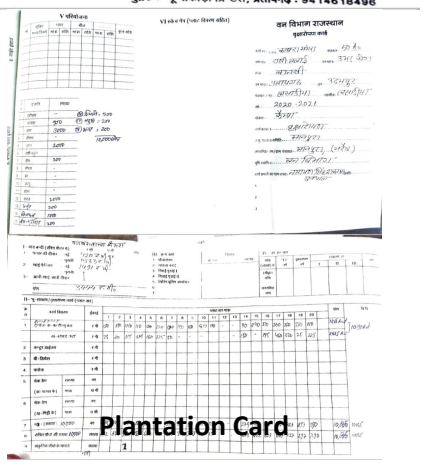
4.1.3 Adherence to Norms, operation guidelines, directions and estimates in plantation works/ activities

The CAMPA fund projects are very rich in terms of documents, preparation of operation guidelines, directions and estimates available at State level made available to Forest Divisions & Range offices to be followed for execution of the project activities. Based on the available guidelines and estimates the district prepared the plan, which was sanctioned by the State as per the annual budget. The State office has also developed operational guidelines for execution of various plantation models namely, ANR, NFL and DFL. The model estimates for plantations also cover the estimates for plantations & SMC works. The guidelines for various models issued by the State fixed per day labour cost as per the minimum wage act.



Plantation Journal

The State has also issued guidelines for various construction activities namely, construction of Forest Chowki, Office cum residence, rescue wards, Boundary wall and boundary pillars.


Plantation Card

The model estimates for ANR, DFL and NFL have been largely followed at the Forest Division level.

As far as availability of records at the plantation sites during the third party evaluation is concerned, availability of measurement book was reported at all the 158 plantation sites followed by availability of plantation journal at 156 plantation sites, KML file of plantation at 158 plantation sites, plantation card at 62 plantation sites, micro plan at 37 plantation sites & survey map at 156 plantation sites & treatment map at 150 plantation sites.

Table 4.16: Adherence to Norms, Directions and Guidelines

Sl. no	Division	Range	Name of Model	Site name	Preparation & availability of Micro plan	Availability of Plantation journal	Availability of Survey map/treatment map	Availability of Treatment plan	Availability of plantation card	KML file of plantation	MB
1.	Ajmer	Nasirabad	ANR	Hatundi Danta Rajausi	Yes	Yes	Yes	No	Yes	Yes	Yes
2.	Ajmer	Pushkar	DFL	Kanas Banseli	Yes	Yes	Yes	No	No	Yes	Yes
3.	Ajmer	Sarwad	ANR	Lamba	No	Yes	Yes	No	Yes	Yes	Yes
4.	Alwar	Thanagaji	ANR	Jhiri A	No	Yes	Yes	No	No	Yes	Yes
5.	Alwar	Thanagaji	DFL	Kankan Ki Dhani	Yes	Yes	Yes	Yes	No	Yes	Yes

Sl. no	Division	Range	Name of Model	Site name	Preparation & availability of Micro plan	Availability of Plantation journal	Availability of Survey map/treatment map	Availability of Treatment plan	Availability of plantation card	KML file of plantation	MB
6.	Alwar	Rajgarh	ANR	Pada	No	Yes	No	No	Yes	Yes	Yes
7.	Alwar	Tijara	ANR	Nakhnol	No	Yes	Yes	Yes	Yes	Yes	Yes
8.	Alwar	Thanagaji	DFL	Lotawas	No	Yes	Yes	No	No	Yes	Yes
9.	Banswara	Banswara	ANR	Ghatipada (Medimal Bhandar)	No	Yes	Yes	Yes	No	Yes	Yes
10.	Banswara	Ghatol	DFL	Garjiya Magra (Kundali)	No	Yes	Yes	Yes	No	Yes	Yes
11.	Banswara	Ghatol	ANR	Umarjhala Pathara (Jagpura Tandafala)	No	Yes	Yes	No	No	Yes	Yes
12.	Banswara	Kushalgarh	ANR	Khuta Kundiya (Bijori Choti)	No	Yes	Yes	Yes	Yes	Yes	Yes
13.	Banswara	Dungra	ANR	Karmi (Borkhedi)	No	Yes	Yes	Yes	Yes	Yes	Yes
14.	Baran	Kishanganj	ANR	Ranwasi	No	Yes	Yes	Yes	No	Yes	Yes
15.	Baran	Chhipabarod	NFL	Saikud	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16.	Baran	Shahabad	ANR	Rajaghar	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17.	Baran	Kailwara	ANR	Saleri	No	Yes	Yes	Yes	No	Yes	Yes
18.	Baran	Kishanganj	ANR	Pisai Road	No	Yes	Yes	Yes	No	Yes	Yes
19.	Baran	Shahabad	Road Side	Kasbathana Se MP Border	No	Yes	Yes	Yes	No	Yes	Yes
20.	Barmer	Sindhari	DFL	Abadi Manji-A	No	Yes	Yes	Yes	Yes	Yes	Yes
21.	Barmer	Shiv	Silvi Pestrol	Kanasar	No	Yes	Yes	Yes	Yes	Yes	Yes
22.	Bharatpur	Bayana	ANR	Jogipura	No	Yes	Yes	Yes	No	Yes	Yes
23.	Bharatpur	Deeg	ANR	Jarkhor Gufa	Yes	Yes	Yes	Yes	No	Yes	Yes
24.	Bharatpur	Bayana	ANR	Babu Baba -II	Yes	Yes	Yes	Yes	No	Yes	Yes
25.	Bhilwara	Jahajpur	ANR	Thalkala Second Year	No	Yes	Yes	Yes	No	Yes	Yes
26.	Bhilwara	Mandalgarh	ANR	Daulji Ka Kheda D	No	Yes	Yes	Yes	No	Yes	Yes
27.	Bhilwara	Mandalgarh	ANR	Tikhi Part A	No	Yes	Yes	Yes	No	Yes	Yes
28.	Bhilwara	Jahajpur	ANR	Dhandhola Part A	No	Yes	Yes	Yes	No	Yes	Yes
29.	Bundi	Hindoli	ANR	Dev Dungri B	No	Yes	Yes	Yes	Yes	Yes	Yes
30.	Bundi	Nainwan	ANR	Fuleta C	No	Yes	Yes	Yes	Yes	Yes	Yes
31.	Bundi	Hindoli	DFL	Depala Umarmata C	No	Yes	Yes	Yes	Yes	Yes	Yes
32.	Bundi	Hindoli	ANR	Dola Ka Khal	No	Yes	Yes	Yes	Yes	Yes	Yes
33.	Chatargarh	Dantour	ANR	ANR 5 MTM	No	Yes	Yes	Yes	Yes	Yes	Yes
34.	Chatargarh	Beriyawali	DFL	DLF 21 KJD	No	Yes	Yes	Yes	No	Yes	Yes
35.	Chittorgarh	Chittorgarh	ANR	Bassi Mahadev	No	Yes	Yes	Yes	No	Yes	Yes
36.	Chittorgarh	Borav	ANR	Dhangdamkhurd I	No	Yes	Yes	Yes	Yes	Yes	Yes
37.	Chittorgarh	Kapasan	ANR	Modiya Magra	No	Yes	Yes	Yes	No	Yes	Yes
38.	Chittorgarh	Vijaypur	DFL	Nimoda	No	Yes	Yes	Yes	Yes	Yes	Yes

Sl. no	Division	Range	Name of Model	Site name	Preparation & availability of Micro plan	Availability of Plantation journal	Availability of Survey map/treatment map	Availability of Treatment plan	Availability of plantation card	KML file of plantation	MB
39.	Chittorgarh	Vijaypur	ANR	Chainpuriya Mahadev	No	Yes	Yes	Yes	Yes	Yes	Yes
40.	Chittorgarh	Chittorgarh	ANR	Baldarkha	No	Yes	Yes	Yes	No	Yes	Yes
41.	Chittorgarh	Bengu	ANR	Samron Ka Lewa	No	Yes	Yes	Yes	Yes	Yes	Yes
42.	Chittorgarh	Nimbaheda	ANR	Rusi Rani Ka Mahal	No	Yes	Yes	Yes	No	Yes	Yes
43.	Chittorgarh WL	Badisadri	ANR	Sangrikheda	No	Yes	Yes	Yes	No	Yes	Yes
44.	Chittorgarh WL	Badisadri	ANR	Kalabhata B	No	Yes	Yes	Yes	No	Yes	Yes
45.	Dausa	Lalsot	ANR	Ghata	Yes	Yes	Yes	No	Yes	Yes	Yes
46.	Dausa	Lalsot	ANR	Dhouli B	No	Yes	Yes	No	Yes	Yes	Yes
47.	Dausa	Bandikui	ANR	Encheri A	Yes	Yes	Yes	No	Yes	Yes	Yes
48.	Dausa	Mahwa	ANR	Mirzapur	Yes	Yes	Yes	No	Yes	Yes	Yes
49.	Dholpur	Sarmathura	ANR	Ballapura II	Yes	Yes	Yes	Yes	No	Yes	Yes
50.	Dholpur	Bair	ANR	Kans Ki Bawri -C	No	Yes	Yes	Yes	No	Yes	Yes
51.	Dholpur	Vanvihar	DFL	Raikho-Ghatiya	No	Yes	Yes	Yes	No	Yes	Yes
52.	Dholpur	Vanvihar	DFL	Kile Ka Dada	No	Yes	Yes	Yes	No	Yes	Yes
53.	Dungarpur	Aantri	ANR	Aadamal	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54.	Dungarpur	Seemalwada	ANR	Bansiya	No	Yes	Yes	Yes	Yes	Yes	Yes
55.	Dungarpur	Dungarpur	NFL	Balwara	No	Yes	No	No	Yes	Yes	Yes
56.	Dungarpur	Sagwada	ANR	Damariya Bodamagra	No	Yes	Yes	Yes	Yes	Yes	Yes
57.	Dungarpur	Seemalwada	ANR	Dhechra Bhagat II	No	Yes	Yes	Yes	Yes	Yes	Yes
58.	Dungarpur	Dungarpur	ANR	Kanpur C. No.3	No	Yes	Yes	Yes	Yes	Yes	Yes
59.	Hanumangarh	Rawatsar	Silvi Pestrol	4CLD	No	Yes	Yes	Yes	No	Yes	Yes
60.	Hanumangarh	Nohar	Silvi Pestrol	Tidiyasar	No	Yes	Yes	Yes	No	Yes	Yes
61.	Jaipur	Dudu	ANR	Bichoon Kairiya	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62.	Jaipur	Amer	NFL	Jairampura 1st Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63.	Jaipur	Amer	ANR	Bharthari	Yes	Yes	Yes	Yes	No	Yes	Yes
64.	Jaipur	Dudu	ANR	Bhairuji Bichoon Main	Yes	Yes	Yes	Yes	No	Yes	Yes
65.	Jaipur North	Pawta	ANR	Aatela Bawri 50 H	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66.	Jaipur North	Achrol	ANR	Samred Khurd 'C' 50 H	Yes	Yes	Yes	No	No	Yes	Yes
67.	Jaipur North	Kotputli	ANR	Panchpahadi (Hapuda)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68.	Jaipur North	Viratnagar	ANR	Dhawali- A 50 H	Yes	Yes	Yes	Yes	No	Yes	Yes
69.	Jaipur Wild	Jamwaramgar	ANR	Nimbi-A	Yes	Yes	Yes	Yes	No	Yes	Yes

Sl. no	Division	Range	Name of Model	Site name	Preparation & availability of Micro plan	Availability of Plantation journal	Availability of Survey map/treatment map	Availability of Treatment plan	Availability of plantation card	KML file of plantation	MB
	Life	h									
70.	Jaipur Wild Life	Raisar	ANR	Kharad	Yes	Yes	Yes	Yes	No	Yes	Yes
71.	Jaipur Wild Life	Jamwaramgarh	ANR	Bhomiya Dayoda Dungar	No	Yes	Yes	No	Yes	Yes	Yes
72.	Jaisalmer	Jaisalmer	NFL	CA NFL Dabla III	No	Yes	Yes	Yes	Yes	Yes	Yes
73.	Jaisalmer	Jaisalmer	Silvi Pestrol	Karahjor-C	No	Yes	Yes	Yes	Yes	Yes	Yes
74.	Jalore	Raniwara	ANR	Raniwara Khurd	No	Yes	Yes	Yes	Yes	Yes	Yes
75.	Jalore	Jaswantpura	ANR	Panseri B	No	Yes	Yes	Yes	Yes	Yes	Yes
76.	Jalore	Jalore	Silvi Pestrol	Meda Jod	No	Yes	No	No	No	Yes	Yes
77.	Jhalawar	Bakani	ANR	Guradkheda	No	Yes	Yes	Yes	No	Yes	Yes
78.	Jhalawar	Khanpur	NFL	Chamlasa	Yes	Yes	Yes	Yes	No	Yes	Yes
79.	Jhalawar	Khanpur	NFL	Chalet	Yes	Yes	Yes	Yes	No	Yes	Yes
80.	Jhalawar	Khanpur	NFL	Khatakheri	No	Yes	Yes	Yes	No	Yes	Yes
81.	Jhalawar	Khanpur	NFL	Garayata	No	Yes	Yes	Yes	No	Yes	Yes
82.	Jhalawar	Dag	NFL	Harnawada I	No	Yes	Yes	Yes	No	Yes	Yes
83.	Jhalawar	Manoharthana	DFL	Kotda I	No	Yes	Yes	Yes	No	Yes	Yes
84.	Jhalawar	Jhalawar	ANR	Bawarikheda	No	Yes	Yes	Yes	No	Yes	Yes
85.	Jhalawar	Khanpur	ANR	Baisar	No	Yes	Yes	Yes	No	Yes	Yes
86.	Jhunjhunu	Khetdi	ANR	Makdo II	No	Yes	Yes	Yes	No	Yes	Yes
87.	Jhunjhunu	Udaipur Vati	ANR	Guda Dhahar	No	Yes	Yes	Yes	No	Yes	Yes
88.	Jhunjhunu	Udaipur Vati	ANR	Girawadi	No	Yes	Yes	Yes	No	Yes	Yes
89.	Jhunjhunu	Jhunjhunu	ANR	Beed Jhunjhunu	Yes	Yes	Yes	Yes	No	Yes	Yes
90.	Jodhpur	Baap	ANR	Udat	No	Yes	Yes	Yes	No	Yes	Yes
91.	Jodhpur	Balesar	ANR	Vanbhoomi Agolai	No	Yes	Yes	Yes	No	Yes	Yes
92.	Jodhpur	Ausiyan	ANR	Vankhetra Punasar	No	Yes	Yes	Yes	No	Yes	Yes
93.	Karauli	Karauli	ANR	Ataiba	No	Yes	Yes	Yes	No	Yes	Yes
94.	Karauli	Mandrayal	ANR	Todi	No	Yes	Yes	Yes	No	Yes	Yes
95.	Karauli	Masalpura	ANR	Goder	No	Yes	Yes	Yes	No	Yes	Yes
96.	Karauli RTR	Nainiyaki	ANR	Chir Ki Narauli C	No	Yes	Yes	Yes	No	Yes	Yes
97.	Kota	Mandana	ANR	Singhpura B	Yes	Yes	Yes	Yes	Yes	Yes	Yes
98.	Kota	Kanwas	ANR	Dhani Aamli	No	Yes	Yes	Yes	No	Yes	Yes
99.	Kota	Mandana	ANR	Badodiya II	Yes	Yes	Yes	Yes	Yes	Yes	Yes
100.	Kota	Kanwas	ANR	Sankheda	No	Yes	No	No	Yes	Yes	Yes
101.	Nagaur	Kuchaman	ANR	ANR Chopra Ki Dhani	No	Yes	No	No	No	Yes	Yes
102.	Nagaur	Parbatsar	DFL	DFL Pilwa	No	Yes	Yes	No	Yes	Yes	Yes
103.	Nagaur	Kuchaman	DFL	DFL Chapri	No	Yes	Yes	No	Yes	Yes	Yes

Sl. no	Division	Range	Name of Model	Site name	Preparation & availability of Micro plan	Availability of Plantation journal	Availability of Survey map/treatment map	Availability of Treatment plan	Availability of plantation card	KML file of plantation	MB
				(First)							
104.	Nagaur	Kuchaman	ANR	Sawaipura Paldi B Balaji	No	Yes	Yes	No	Yes	Yes	Yes
105.	Nagaur	Parbatsar	ANR	Dhokliya	No	Yes	Yes	No	Yes	Yes	Yes
106.	Pali	Sendara	ANR	Jhala Ki Chowki	No	Yes	Yes	Yes	Yes	Yes	Yes
107.	Pali	Marwar Jn.	ANR	Jadan Jod	No	Yes	Yes	Yes	No	Yes	Yes
108.	Pali	Bali	ANR	Lundara A	No	Yes	Yes	Yes	No	Yes	Yes
109.	Pali	Bali	ANR	Lundara B	No	Yes	Yes	Yes	Yes	Yes	Yes
110.	Pali	Bali	Silvi Pestrol	Las Ka Gudha	No	Yes	Yes	Yes	Yes	Yes	Yes
111.	Pratapgarh	Dhariyawad	ANR	Timruwala Bhatda	No	Yes	Yes	No	Yes	Yes	Yes
112.	Pratapgarh	Devgarh	ANR	Ramdevji	No	Yes	Yes	No	Yes	Yes	Yes
113.	Pratapgarh	Bansi	ANR	Kabra Mangra	No	Yes	Yes	Yes	Yes	Yes	Yes
114.	Pratapgarh	Bansi	PEO (Bamboo)	Badliyanal	No	Yes	Yes	Yes	No	Yes	Yes
115.	Pratapgarh	Dhariyawad	PEO (Bamboo)	Henabawdi	No	Yes	Yes	No	No	Yes	Yes
116.	Rajsamand WL	Jojawar	ANR	Bandki Mangri	Yes	Yes	Yes	Yes	No	Yes	Yes
117.	Rajsamand WL	Rawli	ANR	Dalakhet Dabgabada	No	Yes	Yes	Yes	No	Yes	Yes
118.	Rajsamand WL	Kumbhalgarh	ANR	Jaya	No	Yes	Yes	Yes	No	Yes	Yes
119.	Rajsamand WL	Bokhada	ANR	Jwar Ka Wala	No	Yes	Yes	Yes	No	Yes	Yes
120.	S. Madhopur	S. Madhopur	ANR	Jhopri- II	No	Yes	Yes	Yes	Yes	Yes	Yes
121.	S. Madhopur	Gangapur	ANR	Murada Chowki	No	Yes	Yes	Yes	No	Yes	Yes
122.	S. Madhopur	Gangapur	ANR	Gurjar Koleta	No	Yes	Yes	Yes	No	Yes	Yes
123.	S. Madhopur	Bonli	ANR	Bhairuji Maidar	No	Yes	Yes	Yes	No	Yes	Yes
124.	S. Madhopur	S. Madhopur	DFL	Trilokpura	No	Yes	Yes	Yes	Yes	Yes	Yes
125.	S. Madhopur Chambal WL	Itawa	ANR	Aamalda	No	Yes	Yes	Yes	Yes	Yes	Yes
126.	S. Madhopur RTR	Baler	ANR	Rodavada	No	Yes	Yes	Yes	No	Yes	Yes
127.	S. Madhopur RTR	Talda	ANR	Bai	Yes	Yes	Yes	Yes	No	Yes	Yes
128.	Sikar	Shrimadhopur	ANR	Paniharwas	No	Yes	Yes	Yes	No	Yes	Yes
129.	Sikar	Danta	ANR	Ganoda	Yes	Yes	Yes	Yes	No	Yes	Yes
130.	Sikar	Shrimadhopur	ANR	Kotdi	No	Yes	Yes	Yes	Yes	Yes	Yes
131.	Sikar	Neemkathana	ANR	Aagri II	No	Yes	Yes	Yes	Yes	Yes	Yes

Sl. no	Division	Range	Name of Model	Site name	Preparation & availability of Micro plan	Availability of Plantation journal	Availability of Survey map/treatment map	Availability of Treatment plan	Availability of plantation card	KML file of plantation	MB
132.	Sikar	Patan	ANR	Mothuka	No	Yes	Yes	Yes	No	Yes	Yes
133.	Sirohi	Pindwara	ANR	Arduwa Compartment No.7 Hura Magra	No	Yes	Yes	Yes	No	Yes	Yes
134.	Sirohi	Sirohi	ANR	Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev	No	Yes	Yes	Yes	Yes	Yes	Yes
135.	Sirohi	Sirohi	DFL	Matarmata Vankhand Vriksharopan	No	Yes	Yes	Yes	No	Yes	Yes
136.	Sirohi	Sirohi	ANR	Mal Pahadiya Compartment No.1,2 Banvda Mahadev	No	Yes	Yes	Yes	Yes	Yes	Yes
137.	Stage-II Jaisalmer	Third 1438 RD Sub-division Mohangarh	NFL	CA Planting KNM 0-3 RD-C	No	Yes	Yes	No	No	Yes	Yes
138.	Stage-II Jaisalmer	Second	NFL	CA 0-3 RD KNM E	No	Yes	Yes	Yes	No	Yes	Yes
139.	Tonk	Newai	ANR	Ganga Mataji	Yes	Yes	Yes	Yes	No	Yes	Yes
140.	Tonk	Deoli	ANR	Kali Deori-IV	Yes	Yes	Yes	Yes	No	Yes	Yes
141.	Tonk	Newai	NFL	Kasba Newai	Yes	No	Yes	Yes	No	Yes	Yes
142.	Tonk	Deoli	ANR	Kalabhata	Yes	Yes	Yes	Yes	No	Yes	Yes
143.	Udaipur	Salumber	ANR	Tikhipahadi (Bara)	No	Yes	No	No	No	Yes	Yes
144.	Udaipur	Kurabad	ANR	Kumtiya Kutapana	No	Yes	No	No	No	Yes	Yes
145.	Udaipur	Udaipur	ANR	Undari Poplty	No	Yes	Yes	No	No	Yes	Yes
146.	Udaipur	Sarada	ANR	Rajoi-II	No	Yes	Yes	Yes	No	Yes	Yes
147.	Udaipur	Jhadol	ANR	Saldari	No	Yes	Yes	Yes	Yes	Yes	Yes
148.	Udaipur	Falasiya	NFL	Thandiberi	No	Yes	Yes	Yes	No	Yes	Yes
149.	Udaipur DOD	Dewla DOD	PEO (Bamboo)	Toran I Compartment no. 18	No	Yes	Yes	Yes	No	Yes	Yes
150.	Udaipur North	Dewla	ANR	Kyari-1	No	Yes	Yes	Yes	No	Yes	Yes
151.	Udaipur North	Saira	ANR	Lewon Ka Mathana C	No	Yes	Yes	Yes	Yes	Yes	Yes
152.	Udaipur North	Gogunda	ANR	Nathiyathal A	No	Yes	Yes	Yes	No	Yes	Yes
153.	Udaipur North	Kotda	ANR	Junapadar A	Yes	Yes	Yes	Yes	No	Yes	Yes
154.	Udaipur	Udaipur	NFL	Karget B	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Sl. no	Division	Range	Name of Model	Site name	Preparation & availability of Micro plan	Availability of Plantation journal	Availability of Survey map/treatment map	Availability of Treatment plan	Availability of plantation card	KML file of plantation	MB
	North										
155.	Udaipur North	Dewla	PEO (Bamboo)	Tourna-12	No	No	Yes	Yes	No	Yes	Yes
156.	Udaipur North	Udaipur	PEO (Bamboo)	Lakhawali	No	Yes	Yes	Yes	No	Yes	Yes
157.	Udaipur Wildlife	Mamer	ANR	Ghoramari	Yes	Yes	Yes	Yes	Yes	Yes	Yes
158.	Udaipur Wildlife	Jaisamand	ANR	Surawala Nala Jamuda	No	Yes	Yes	Yes	No	Yes	Yes

4.1.4 Protection & Management

The plantation area has been reported protected properly during the execution phase by closing the boundary of the plantation sites either by trench fencing, loose, barbed wire or by loose stone walls in order to ensure proper health of forests and plantations executed under CAMPA. The protection and management measures include both scientific and traditional measures in order to maintain the health of plants & care of the area. The site specific measures have been taken at large at the sample sites.



Also, it has been taken care that the species of trees selected for plantation in the sites should survive in the existing physical conditions and climate. The tree species planted in the area were Desi Babool, Shisham, Sagwan Karanj, Bamboo, Tortilis, Khair, Aanwla, Bamboo, Bair, Kumtha & Churail. The species have also been reported planted which require very less water. Also, these plants can survive even in the extreme climate both during summer and winter.



During visit to the project sites for third party evaluation it was reported that the plantation sites boundaries were constructed as per norms i.e. loose stone wall, Ditch fencing and barbed wire fencing etc. It was also observed at the sample sites that the fencing on the boundaries has been damaged. Also, the plantation sites have withdrawn the cattle guards who were placed during execution phase. The plantation sites were reported open and the village animals were reported entering into the plantation sites for grazing.



The table given below shows various types of fencing reported at the plantation sites for protection of planted species. Ditch fencing was reported at 107 sample sites. The length of ditch fencing varies from 120 rmt. (Jhala Ki Chowki-Sendara) to 5827 rmt. (Khatakheri-Khanpur). Like-wise, loose stone wall fencing was reported at 104 sample sites. The length of loose stone wall fencing varies from 50 rmt.(Garayta-Khanpur) to 49700 rmt at 03 sites each. (Toran 12- Dewla), (Lakhawali-Udaipur) & (Toran I Compartment no.18-Dewla DOD). Also, other types of fencing were reported at 49 sample plantation sites. Other types of fencing at plantation sites include barbed wire, pucca wall, hedge fencing & dola fencing.

Table 4.17 (I): Status of Fencing at 100% plantation sites as per record & actual

Sl.no	Division	Range	Model	Site name	Loose stone wall			Ditch fencing			Barbed wire			Others		
					As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
1.	Ajmer	Nasirabad	ANR	Hatundi Danta Rajausi	72	72	0	3348	3348	0						
2.	Ajmer	Sarwad	ANR	Lamba				3465	3465	0						
3.	Alwar	Thanagaji	ANR	Jhiri A	1465	1465	0	990	990	0						
4.	Alwar	Rajgarh	ANR	Pada	1800	1800	0	1600	1600	0						
5.	Alwar	Thanagaji	DFL	Lotawas	1600	1600	0	1370	1370	0						
6.	Banswara	Banswara	ANR	Ghatipada (Medimal Bhandar)	300	300	0	1670	1670	0	100	100	0			
7.	Banswara	Ghatol	ANR	Umarjhala Pathara (Jagpura Tandafala)	1100	1100	0	2400	2400	0						
8.	Banswara	Dungra	ANR	Karmi (Borkhedi)	90	90	0	3735	3735	0						
9.	Baran	Kishanganj	ANR	Ranwasi	3400	3400	0									
10.	Baran	Shahabad	ANR	Rajaghar	3518	3518	0									
11.	Baran	Kishanganj	ANR	Pisai Road	3400	3400	0									
12.	Barmer	Sindhari	DFL	Abadi Manji-A							2681	2681	0			
13.	Bharatpur	Bayana	ANR	Jogipura	3821	3821	0									
14.	Bharatpur	Bayana	ANR	Babu Baba -II	950	950	0	2900	2900	0						
15.	Bhilwara	Jahajpur	ANR	Thalkala IInd Year				2940	2940	0						
16.	Bhilwara	Mandalgarh	ANR	Tikhi Part A	2430	2430	0	980	980	0						
17.	Bundi	Hindoli	ANR	Dev Dungri B				4150	4150	0						
18.	Bundi	Hindoli	DFL	Depala Umarmata C				2572	2572	0						
19.	Chatargarh IGNP I	Dantour	ANR	ANR 5 MTM							8250	8250	0			
20.	Chittorgarh	Chittorgarh	ANR	Bassi Mahadeo	1020	1020	0	660	660	0						
21.	Chittorgar	Kapasan	ANR	Modiya Magra	511	511	0	2484	2484	0						

Sl.no	Division	Range	Model	Site name	Loose stone wall			Ditch fencing			Barbed wire			Others		
					As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
	h															
22.	Chittorgarh	Vijaypur	ANR	Chainpuriya Mahadeo	3650	3650	0									
23.	Chittorgarh	Bengu	ANR	Samro Ka Lewa	3350	3350	0									
24.	Chittorgarh WL	Badisadri	ANR	Sangarikheda	1400	1400	0	1900	1900	0						
25.	Dausa	Lalsot	ANR	Ghata	1470	1470	0	2100	2100	0						
26.	Dausa	Bandikui	ANR	Encheri A	950	950	0	1300	1300	0				400 Hedge	400 Hedge	0
27.	Dholpur	Sarmathura	ANR	Ballapura II	1000	1000	0	2400	2400	0						
28.	Dholpur	Vanvihar	DFL	Raikho-Ghatiya										2500 Mud wall	2500 Mud wall	0
29.	Dungarpur	Aantri	ANR	Aadamal	3500	3500	0									
30.	Dungarpur	Dungarpur	NFL	Balwara	1844	1844	0									
31.	Dungarpur	Seemalwada	ANR	Dhechra Bhagat II	1510	1510	0	945	945	0						
32.	Hanumangarh	Rawatsar	Silvi Pestrol	4CLD				1350	1350	0				700 Hedge	700 Hedge	0
33.	Jaipur	Dudu	ANR	Bichoon Kairiya	920	920	0	2240	2240	0	30	30	0			
34.	Jaipur	Amer	ANR	Bharthari	2100	2100	0	1020	1020	0						
35.	Jaipur North	Pawta	ANR	Aatela Bawdi	656	656	0	2678	2678	0						
36.	Jaipur North	Kotputli	ANR	Panchpahadi (Hapuda)	1650	1650	0	1380	1380	0				100 Hed	100 Hed	0

Sl.no	Division	Range	Model	Site name	Loose stone wall			Ditch fencing			Barbed wire			Others		
					As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
														ge	ge	
37.	Jaipur WL	Jamvaramgarh	ANR	Nimbi-A				660	660	0	1155	1155	0			
38.	Jaipur WL	Jamvaramgarh	ANR	Bhomiya Dayoda Dungar	179	179	0	2963	2963	0						
39.	Jaisalmer	Jaisalmer	NFL	CA NFL Dabla III							3000	3000	0			
40.	Jaisalmer IGNP II	Third 1438 RD Sub-division Mohangarh	NFL	CA Planting KNM 0-3 RD-C							2019	2019	0			
41.	Jalore	Raniwara	ANR	Raniwara Khurd	790	790	0	2235	2235	0	832	832	0			
42.	Jalore	Jalore	Silvi Pestrol	Meda Jod				2950	2950	0						
43.	Jhalawar	Bakani	ANR	Guradkheda				3200	3200	0						
44.	Jhalawar	Khanpur	NFL	Chalet				3625	3625	0						
45.	Jhalawar	Khanpur	NFL	Garayata	50	50	0	3676	3676	0						
46.	Jhalawar	Manoharthana	DFL	Kotda I				3900	3900	0						
47.	Jhalawar	Khanpur	ANR	Baisar	3240	3240	0									
48.	Jhunjhunu	Khetdi	ANR	Makdo II	150	150	0	2115	2115	0						
49.	Jhunjhunu	Udaipur Vati	ANR	Girawadi	400	400	0	1200	1200	0						
50.	Jodhpur	Baap	ANR	Udat							2300	2300	0			
51.	Jodhpur	Ausiyan	ANR	Vankhetra Punasar							2330	2330	0			
52.	Karauli	Karauli	ANR	Ataiba	3160	3160	0									
53.	Karauli	Masalpura	ANR	Goder	200	200	0							2000 Mud wall	2001 Mud wall	0

Sl.no	Division	Range	Model	Site name	Loose stone wall			Ditch fencing			Barbed wire			Others		
					As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
54.	Karauli RTR	Nainiyaki	ANR	Chir Ki Narauli C	2280	2280	0									
55.	Kota	Mandana	ANR	Singhpura B	2530	2530	0									
56.	Kota	Mandana	ANR	Badodiya II	2820	2820	0									
57.	Nagaur	Kuchaman	ANR	ANR Chopra Ki Dhani	400	400	0	2070	2070	0	190	190	0			
58.	Nagaur	Kuchaman	DFL	DFL Chapri (First)				2700	2700	0	250	250	0			
59.	Nagaur	Parbatsar	ANR	Dhokliya	1645	1645	0	1660	1660	0						
60.	Pali	Sendara	ANR	Jhala Ki Chowki	1700	1700	0	120	120	0						
61.	Pali	Bali	ANR	Lundara A	750	750	0	2100	2100	0						
62.	Pali	Bali	Silvi Pastrol	Las Ka Gudha				3750	3750	0						
63.	Pratapgarh	Dhariyawad	ANR	Timruwala Bhatda	400	400	0	2600	2600	0						
64.	Pratapgarh	Bansi	ANR	Kabra Mangra	1953	1953	0	1491	1491	0						
65.	Pratapgarh	Dhariyawad	PEO (Bamboo)	Henabawdi	400	400	0	2000	2000	0						
66.	Rajsamand WL	Jojawar	ANR	Bandki magri	3136	3136	0									
67.	Rajsamand WL	Kumbhalgarh	ANR	Jaya	2400	2400	0									
68.	S.Madhopur	Sawai Madhopur	ANR	Jhopri- II				2264	2264	0	142	142	0			
69.	S.Madhopur	Gangapur City	ANR	Gurjar Koleta	425	425	0	1860	1860	0	1860	1860	0			
70.	S.Madhopur	S. Madhopur	DFL	Trilokpura				1860	1860	0						
71.	S.Madhopur	Itava	ANR	Aamlada				3121	3121	0						

Sl.no	Division	Range	Model	Site name	Loose stone wall			Ditch fencing			Barbed wire			Others		
					As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
	Chambal WL															
72.	S.Madhopur RTR	Baler	ANR	Rodawada				4117	4117	0						
73.	Sikar	Shrimadhopur	ANR	Paniharwas	465	465	0	4177	4177	0						
74.	Sikar	Shrimadhopur	ANR	Kotri	495	495	0	1980	1980	0						
75.	Sikar	Patan	ANR	Mothuka	3400	3400	0	1250	1250	0						
76.	Sirohi	Pindwara	ANR	Arnua Com. No. 7 Hura Magra 50 H	2443	2443	0									
77.	Sirohi	Sirohi	DFL	Matarmata Vankhand Vriksharopan	772	772	0	1557	1557	0	200	200	0			
78.	Tonk	Newai	ANR	Ganga Mataji				3850	3850	0						
79.	Tonk	Newai	NFL	Kasba Newai				3216	3216	0						
80.	Udaipur	Salumber	ANR	Tikhipahadi (Bara)	2480	2480	0									
81.	Udaipur	Udaipur	ANR	Undari Poplty	3503	3503	0									
82.	Udaipur	Jhadol	ANR	Saldari	3000	3000	0									
83.	Udaipur DOD	Dewla DOD	PEO (Bamboo)	Touran compartment No. 18	4970	4970	0									
84.	Udaipur North	Dewla	ANR	Kyari-1	3500	3500	0									
85.	Udaipur North	Gogunda	ANR	Nathiyathal A	2370	2370	0									
86.	Udaipur North	Udaipur	NFL	Karget B	2129	2129	0	618	618	0				532 Hedge	533 Hedge	0
87.	Udaipur	Udaipur	PEO	Lakhawali	3480	3480	0									

Sl.no	Division	Range	Model	Site name	Loose stone wall			Ditch fencing			Barbed wire			Others		
					As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
	North		(Bamboo)													
88.	Udaipur WL	Mamer	ANR	Ghoramari	2828	2828	0	430	430	0						

Table 4.17 (II): Status of Fencing at 10% plantation sites as per record & actual

Sl.no	Division	Model	Site name	Loose stone wall			Ditch fencing			Barbed			Others		
				As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit / Excess
1	Ajmer	DFL	Kanas Banseli							1300	1300	0			
2	Alwar	DFL	Kankan Ki Dhani	2190	2190	0	1000	1000	0						
3	Alwar	ANR	Nakhnol				3400	3400	0						
4	Banswara	DFL	Garjiya Magra (Kundali)	2200	2200	0	1100	1100	0						
5	Banswara	ANR	Khuta Kundiya (Bijori Choti)	650	650	0	3167	3170	+3						
6	Baran	NFL	Saikud	389	390	+1	4000	4000	0						
7	Baran	ANR	Saleri	3480	3480	0									
8	Baran	Road side	Kasbathana se MP Border							9440	9440	0			
9	Barmer	Silvi Pastrol	Kanasar							3100	3100	0			
10	Bharatpur	ANR	Jarkhor Gufa	1244	1244	0	1975	1975	0						
11	Bhilwara	ANR	Daulji Ka Kheda D	2911	2911	0									
12	Bhilwara	ANR	Dhandhola A	145	145	0	2350	2350	0						
13	Bundi	ANR	Fuleta C				3900	3904	+4						
14	Bundi	ANR	Dola Ka Khal				3720	3720	0						
15	Chatargarh IGNP I	DFL	DLF 21 KJD							14056	14056	0			
16	Chittorgarh	ANR	Dhangadmau khurd I	3500	3502	+2									
17	Chittorgarh	DFL	Nimoda	925	925	0	625	625	0						
18	Chittorgarh	ANR	Baldarkha	3275	3276	+1	300	300	0						
19	Chittorgarh	ANR	Rusi Rani Ka Mahal	1000	1000	0	2130	2130	0						
20	Chittorgarh WL	ANR	Kala Bhata B	1800	1800	0	1250	1250	0						
21	Dausa	ANR	Dhouli B				3429	3432	+3						
22	Dausa	ANR	Mirzapur				2570	2570	0						

Sl.no	Division	Model	Site name	Loose stone wall			Ditch fencing			Barbed			Others		
				As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit / Excess
23	Dholpur	ANR	Kans Ki Bawdi -C										Mud wall	Mud wall	0
24	Dholpur	DFL	Kile Ka Dada										3100 Mud wall	3100 Mud wall	0
25	Dungarpur	ANR	Bansiya	2220	2222	+2	2210	2210	0						
26	Dungarpur	ANR	Damaria Bodamagra	1800	1800	0	1500	1500	0						
27	Dungarpur	ANR	Kanpur C. No.3	2362	2362	0	1575	1575	0						
28	Hanumangarh	Silvi Pastrol	Tidiyasar				1500	1500	0	1500	1500	0			
29	Jaipur	NFL	Jairampura Ist year				936	936	0						
30	Jaipur	ANR	Bhairuji Bichoon Main	1980	1980	0	1092	1095	+3	620	620	0			
31	Jaipur North	ANR	Samred Khurd 'C'	1640	1642	+2	2115	2115	0	205	205	0	245 Hedge	245 Hedge	0
32	Jaipur North	ANR	Dhawali- A	800	800	0	2550	2550	0						
33	Jaipur WL	ANR	Kharad	550	550	0	3050	3050	0				225 Hedge	225 Hedge	0
34	Jaisalmer	Silvi Pastrol	Karahjor-C							Yes	Yes	0			
35	Jaisalmer IGNP II	NFL	CA 0-3 RD KNM E							3471	3471	0			
36	Jalore	ANR	Panseri B				3420	3420	0						
37	Jhalawar	NFL	Chamlasa	1620	1620	0	2100	2100	0						
38	Jhalawar	NFL	Khatakheri				5827	5827	0						
39	Jhalawar	NFL	Harnawada I				5130	5130	0						
40	Jhalawar	ANR	Bawarikheda				3200	3200	0						
41	Jhunjhunu	ANR	Guda Dhahar				2600	2602	+2						
42	Jhunjhunu	ANR	Beed Jhunjhunu							2100	2100	0			
43	Jodhpur	ANR	Vanbhoomi Agolai				14500	14505	+5	10500	10500	0			

Sl.no	Division	Model	Site name	Loose stone wall			Ditch fencing			Barbed			Others		
				As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit / Excess
44	Karauli	ANR	Todi				3500	3500	0						
45	Kota	ANR	Dhani Aamli	3400	3400	0									
46	Kota	ANR	Sankheda	2700	2700	0									
47	Nagaur	DFL	DFL Pilwa				2550	2550	0						
48	Nagaur	ANR	Sawaipura Paldi B Balaji	1575	1575	0	1850	1850	0	100	100	0			
49	Pali	ANR	Jadan Jod				2400	2400	0						
50	Pali	ANR	Lundara B	1341	1342	+1	1188	1188	0						
51	Pratapgarh	ANR	Ramdevji	3000	3000	0	1400	1400	0						
52	Pratapgarh	PEO (Bamboo)	Badliyanal	2450	2450	0	650	650	0						
53	Rajsamand WL	ANR	Dalakhet Dabkabada	2410	2410	0	1065	1065	0						
54	Rajsamand WL	ANR	Jwarka wala	2605	2607	+2									
55	S.Madhopur	ANR	Murada Chowki				3183	3183	0						
56	S.Madhopur	ANR	Bhairuji Maidar				2650	2650	0	35	35	0			
57	S.Madhopur RTR	ANR	Bai				3168	3168	0				1620 Mud wall	1621 Mud wall	0
58	Sikar	ANR	Ganoda	1700	1700	0	1317	1317	0						
59	Sikar	ANR	Aagri II	1740	1740	0	1815	1816	+1						
60	Sirohi	ANR	Las Jhadoli Comp. No.1 Van Vaidhyanath Mahadev	1000	1000	0	2450	2450	0						
61	Sirohi	ANR	Malpahadiya Comp. No.1,2	942	942	0	2404	2404	0						
62	Tonk	ANR	Kali Deori-IV				3050	3050	0						

Sl.no	Division	Model	Site name	Loose stone wall			Ditch fencing			Barbed			Others		
				As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit / Excess
63	Tonk	ANR	Kalabhata				3577	3577	0						
64	Udaipur	ANR	Kumtiya Kutapana	1340	1340	0	1150	1150	0						
65	Udaipur	ANR	Rajoi-II	3135	3137	+2									
66	Udaipur	NFL	Thandiberi	2230	2230	0									
67	Udaipur North	ANR	Lewon Ka Mathana C	1260	1260	0	1200	1200	0	300	300	0			
68	Udaipur North	ANR	Junapadar A	3530	3530	0									
69	Udaipur North	PEO (Bamboo)	Tourna-12	3100	3100	0									
70	Udaipur WL	ANR	Surawala Nala Jamuda	1500	1500	0									

4.1.5 Extent and composition of sowing

The table given below shows extent and composition of sowing at the sample sites. The seeds sowing was reported at 152 plantation sites. At 06 plantation sites sowing was not reported (04 PEO Bamboo sites, 01 NFL & 01 road side plantation site each). As per practice of department, seeds were sown along trenches/ earthen bunds &fencing on three rows. Seeds sown were Kumtha, Katkaranj, Ratanjot, Ronj, Chhela, Khair, Desi Babool & Ardu etc. Regarding status of sowing, the same was reported excellent at 07 plantation sites followed by very good at 03 plantation sites, good at 53 plantation sites, average at 78 plantation sites & poor at 11 plantation sites. Seed sowing should be promoted at the plantation sites. It should be sown properly may be on rows with norms and standard rather than shown haphazardly. Plants grown from seeds sown had more chance of survival than the planted seedlings.





Table 4.18: Extent and composition of sowing

Sl.no.	Division	Site name	Seed sown	Status
1	Ajmer	Hatundi Danta Rajausi	Kumtha, Ronj, Totlis	Average
2	Ajmer	Kanas Banseli	Kumtha	Good
3	Ajmer	Lamba	Ronj, Kumtha, Deshi Babool, Karanj	Good
4	Alwar	Jhiri A	Deshi Babool, Kumtha, Ronj	Average
5	Alwar	Kankan ki Dhani	Ronj, Kumtha, Deshi Babool, Neem	Good
6	Alwar	Pada	Ronj, Kumtha	Good
7	Alwar	Nakhnol	Kheri, Kumtha, Ronj	Good
8	Alwar	Lotawas	Deshi Babool, Kumtha, Ronj, Neem	Very good
9	Banswara	Ghatipada (Medumal Bhandar)	Kumtha, Karanj, Baheda, Khirani, Ronj, Bans, Amla, Khair, Ratanjot	Average
10	Banswara	Garjiya Magra (Kundali)	Khair, Ronj, Churail, Neem, Baheda, Bair	Good
11	Banswara	Umarjhala Pathara (Jagpura Tandafala)	Khair, Neem, Khakhra, Baheda, Mahua, Karanj	Average
12	Banswara	Khuta Kundiya (Bijori Choti)	Churail, Ratanjot, Khair, Ardu, Baheda, Amla, Ronj, Khakhra, Khirni, Kumtha, Ronj, Neem	Average
13	Banswara	Karmi (Borkhedi)	Ratanjot, Neem, Sevan, Khair	Average
14	Baran	Ranwasi	Khair, Ronj	Average
15	Baran	Saikud	Karanj, Khair, Ronj, Ber	Good

Sl.no.	Division	Site name	Seed sown	Status
16	Baran	Rajaghar	Karanj, Khair, Churail, Ronj, Ber	Average
17	Baran	Saleri	Khair, Deshi Babool, Ber, Neem	Average
18	Baran	Pisai Road	Deshi Babool, Khair	Average
19	Baran	Kasbathana Se MP Border	Seed sowing not reported	
20	Barmer	Abadi Manji-A	Kumtha	Good
21	Barmer	Kanasar	Kumtha	Average
22	Bharatpur	Jogipura	Deshi babool, Khair Aldoo, Totlis	Good
23	Bharatpur	Jarkhor Gufa	Totlis, Kumtha, Deshi Babool, Notches	Average
24	Bharatpur	Babu Baba -II	Deshi Babool, Churail, Neem, Totlis, Ronj	Good
25	Bhilwara	Thalkala Second Year	Deshi Babool , Ber, Ronj, Neem	Average
26	Bhilwara	Daulji Ka Kheda D	Babool, Khair, Kumtha	Good
27	Bhilwara	Tikhi Part A	Deshi Babool, Khair, Ronj, Kumtha, Ardu, Neem	Excellent
28	Bhilwara	Dhandhola Part A	Deshi Babool, Khair, Ronj, Kumtha, Neem	Average
29	Bundi	Dev Dungri B	Deshi Babool, Neem, Churail, Kumtha	Excellent
30	Bundi	Fuleta C	Deshi Babool, Kumtha, Karanj	Poor
31	Bundi	Depala Umarmata C	Deshi Babool, Curail, Ronj, ArduKat Karanj, Kumtha, Ardu	Poor
32	Bundi	Dola Ka Khal	Deshi Babool, Kumtha, Ardu	Excellent
33	Chatargarh IGNP I	ANR 5 MTM	Khejri	Average
34	Chatargarh IGNP I	DLF 21 KJD	Khejri	Average
35	Chittorgarh	Bassi Mahadev	Khair, Kumtha, Ratanjot	Good
36	Chittorgarh	Dhangdamkhurd I	Kat Karanj, Ratanjot, Aritha, Ardu, Neem, Khair, Kumtha	Good
37	Chittorgarh	Modiya Magra	Khair, Kumtha, Karanj, Neem, Ratanjot	Average
38	Chittorgarh	Nimoda	Ratanjot, Kumtha, Baheda, Neem, Amlatash, Churail, Aam, Khair, Ardu	Average
39	Chittorgarh	Chainpuriya Mahadev	Ardu, Ratanjot, Ronj, Karanj, Baheda, Churail, Neem, Khair, Kumtha	Good
40	Chittorgarh	Baldarkha	Khair, Bair, Ardu, Churail, Amla, Ratanjot	Average
41	Chittorgarh	Samron Ka Lewa	Baheda, Kumtha, Kat Karanj, Ratanjot, Ardu, Neem, Khair, Ronj	Average
42	Chittorgarh	Rusi Rani Ka Mahal	Khair, Ronj, Ardu, Ratanjot, Katkaranj, Churail	Average
43	Chittorgarh WL	Sangrikheda	Khair, Bair, Karanj	Average
44	Chittorgarh WL	Kalabhata B	Khair, Bair, Karanj	Poor
45	Dausa	Ghata	Ronj, Totlis, Deshi Babool	Average
46	Dausa	Dhouli B	Kumtha, Deshi Babool, Totlis, Churail	Poor
47	Dausa	Encheri A	Deshi Babool, Ronj, Kumtha, Neem, Churail	Average
48	Dausa	Mirzapur	Totlis, Karanj, Ratanjot, Churail, Kumtha, Ronj, Deshi Babool, Ardu	Good
49	Dholpur	Ballapura II	Deshi Babool, Kumtha, Ronj, Karanj, Jungle jalebi	Good

Sl.no.	Division	Site name	Seed sown	Status
50	Dholpur	Kans Ki Bawri -C	Deshi Babool, Kumtha, Ronj, Churail, Ber	Good
51	Dholpur	Raikho-Ghatiya	Deshi Babool, Ronj, Karanj, Jungle jalebi, Churail	Good
52	Dholpur	Kile Ka Dada	Deshi Babool, Ronj, Karanj, Ber, Jungle jalebi	Good
53	Dungarpur	Aadamal	Ratanjot, Baheda, Khair, Kumtha, Khakhra, Ronj, Bair	Good
54	Dungarpur	Bansiya	Kumtha, Khair	Average
55	Dungarpur	Balwara	Khair, Kumtha, Kat Karanj, Ronj	Poor
56	Dungarpur	Damaria Bodamagra	Katkaranj, Kumtha, Ronj, Khair	Average
57	Dungarpur	Dhechra Bhagat II	Khair, Bair, Churail, Baheda, Ratanjot, Ronj, Amla	Average
58	Dungarpur	Kanpur C. No.3	Ratanjot, Kat Karanj, Khakhra, Dhak, Kumtha, Khair	Average
59	Hanumangarh	4CLD	Khejri, Kumtha	Average
60	Hanumangarh	Tidiyasar	Khejri, Kumtha, Ber	Average
61	Jaipur	Bichoon Kairiya	Totlis, Deshi Babool, Ronj, Kumtha, Khair, Dhak	Average
62	Jaipur	Jairampura	Churail, Shisham, Deshi babool, Neem, Ber, Ardu	Average
63	Jaipur	Bharthari	Kumtha	Average
64	Jaipur	Bhairuji Bichoon Main	Khair, Dhok, Kumtha	Poor
65	Jaipur North	Aatela Bawri 50 H	Ronj, Deshi Babool, Cheela, Kumtha, Totlis, Papad	Good
66	Jaipur North	Samred Khurd 'C' 50 H	Kumtha, Deshi Babool, Khejri, Ber, Karanj, Chhila	Good
67	Jaipur North	Panchpahadi (Hapuda)	Kumtha, Dhok, Churail, Ronj	Good
68	Jaipur North	Dhawali- A 50 H	Deshi Babool, Kumtha, Ronj, Karanj	Average
69	Jaipur WL	Nimbi-A	Deshi Babool, Ronj, Kumtha, Totlis,Cheela	Good
70	Jaipur WL	Kharad	Deshi Babool, Ronj, Kumtha, Khejri, Cheela	Average
71	Jaipur WL	Bhomiya Dayoda Dungar	Deshi Babool, Totlis, Kumtha, Khair	Average
72	Jaisalmer	CA NFL Dabla III	Kumtha	Excellent
73	Jaisalmer	Karahjor-C	Kumtha, Khejri	Average
74	Jaisalmer IGNP II	CA Planting KNM 0-3 RD-C	Khejri, Kumtha	Average
75	Jaisalmer IGNP II	CA 0-3 RD KNM E	Kumtha, Khejri	Average
76	Jalore	Raniwara Khurd	Totlis, Kumtha	Excellent
77	Jalore	Panseri B	Kumtha, Totlis	Average
78	Jalore	Meda Jod	Totlis, Deshi Babool, Khejri, Bair, Kumtha	Average
79	Jhalawar	Guradkheda	Karanj, Khair, Ronj, Ber, Kumtha, Neem	Average
80	Jhalawar	Chamlasa	Seed sowing not reported	
81	Jhalawar	Chalet	Ronj, Khair, Kumtha	Average
82	Jhalawar	Khatakheri	Kat Karanj, Khair, Ronj, Ber, Kumtha, Neem	Average
83	Jhalawar	Garayata	Kat Karanj, Khair, Ronj, Ber, Kumtha	Average
84	Jhalawar	Harnawada I	Karanj, Khair, Ronj, Ber, Kumtha, Neem	Average

Sl.no.	Division	Site name	Seed sown	Status
85	Jhalawar	Kotda I	Khejri, Ronj, Karanj, Mahua, Ber, Ardu, Ratan jot	Average
86	Jhalawar	Bawarikheda	Ronj, Bair, Khair, Kat Karanj, Kumtha, Babool, Karad, Dhaman Ghas	Average
87	Jhalawar	Baisar	Khair, Kumtha, Ronj, Bair, Churail	Average
88	Jhunjhunu	Makdo II	Kumtha, Deshi Babool, Ber	Average
89	Jhunjhunu	Guda Dhahar	Bair, Kumtha, Ronj, Khejri, Deshi Babool	Good
90	Jhunjhunu	Girawadi	Deshi babool, Kumtha, Ronj	Average
91	Jhunjhunu	Beed Jhunjhunu	Kumtha, Ber, Dhaman	Good
92	Jodhpur	Udat	Khekri, Kumtha	Poor
93	Jodhpur	Vanbhoomi Agolai	Kumtha, Khejri	Good
94	Jodhpur	Vankhetra Punasar	Kumtha, Neem, Ronj	Average
95	Karauli	Ataiba	Khair, Kumtha, Ronj, Deshi Babool	Average
96	Karauli	Todi	Khair, Kumtha, Ronj, Deshi Babool	Good
97	Karauli	Goder	Deshi Babool, Ronj	Good
98	Karauli RTR	Chir Ki Narauli C	Ronj, Kumtha, Deshi Babool, Kat Karanj	Good
99	Kota	Singhpura B	Khair, Kumtha, Chhila, Deshi Babool	Average
100	Kota	Dhani Aamli	Kumtha, Deshi Babool, khair	Average
101	Kota	Badodiya II	Deshi Babool, Kumtha, Khair, Ronj	Good
102	Kota	Sankheda	Deshi Babool, Khair, Kumtha	Poor
103	Nagaur	Chopra Ki Dhani	Deshi Babool, Khejri, Neem, Totlis, Kumtha, Ber, Ronj	Average
104	Nagaur	Pilwa	Deshi Babool, Ronj, Kumtha, Totlis	Good
105	Nagaur	Chapri (First)	Kumtha, Totlis	Poor
106	Nagaur	Sawaipura Paldi B Balaji	Kumtha, Totlis, Deshi Babool	Average
107	Nagaur	Dhokliya	Totis, Kumtha, Khejri, Ardu, Neem	Average
108	Pali	Jhala Ki Chowki	Deshi Babool Kumtha, Ronj, Karanj	Good
109	Pali	Jadan Jod	Kumtha, Deshi Babool, Jhar, Bair, Totlis	Good
110	Pali	Lundara A	Kumtha, Sheesham, Bair, Deshi babool, Churail, Ronj	Good
111	Pali	Lundara B	Bair, Deshi Babool, Khejri, Ronj, Churail, Siras, Shisham, Kumtha	Good
112	Pali	Las Ka Gudha	Neem, Kumtha	Average
113	Pratapgarh	Timruwala Bhatda	Kat Karanj, Ratanjot, Kumtha	Good
114	Pratapgarh	Ramdevji	Kat Karanj, Ratanjot, Bair	Good
115	Pratapgarh	Kabra Mangra	Kat Karanj, Ronj, Ardu, Mahua, Nimboli, Baheda, Khair, Kumtha, Ratanjot	Average
116	Pratapgarh	Badliyanal	Seed sowing not reported	
117	Pratapgarh	Henabawdi	Seed sowing not reported	
118	Rajsamand WL	Bandki magri	Khair, Kumtha, Ronj, Deshi Babool	Average
119	Rajsamand WL	Dalakhet Dabkabada	Khakhra, Dhak, Khair, Kumtha, Kat Karanj, Neem, Ber, Ratanjot, Karanj	Average
120	Rajsamand WL	Jaya	Khejri, Khair, Neem, Aam, Mahua, Amaltash, Arjun, Karanj, Khakhra, Jamun, Baheda	Good
121	Rajsamand WL	Jwarka wala	Khair, Jungle Jalebi, Kumtha, Ronj, Sitafal	Average
122	S.Madhopur	Jhopri- II	Totlis, Khair, Deshi Babool, Ronj, Karanj, Ardu	Good
123	S.Madhopur	Murada Chowki	Kumtha, Deshi Babool, Karanj, Totlis, Ardu, Khair	Very good

Sl.no.	Division	Site name	Seed sown	Status
124	S.Madhopur	Gurjar Koleta	Deshi Babool, Totlis, Ardu, Churail, Kumtha, Khair, Karanj	Good
125	S.Madhopur	Bhairuji Maidar	Totlis, Deshi Babool, Kumtha, Khair, Ardu	Very good
126	S.Madhopur	Trilokpura	Totlis, Deshi Babool, Ronj, Kumtha, Khair	Poor
127	S.Madhopur Chambal WL	Aamlada	Deshi Babool, Khair, Kumtha	Average
128	S.Madhopur RTR	Rodawada	Deshi Babool, Ronj, Khair, Kumtha, Totlis, Neem, Churail	Excellent
129	S.Madhopur RTR	Bai	Deshi Babool, Ronj, Khair, Ber, Churail	Good
130	Sikar	Paniharwas	Kumtha, Deshi Babool, Ronj, Neem	Excellent
131	Sikar	Ganoda	Ronj, Kumtha	Good
132	Sikar	Kotdi	Kumtha, Deshi Babool, Ronj	Average
133	Sikar	Aagri II	Kumtha, Ronj, Deshi Babool	Average
134	Sikar	Mothuka	Kumtha, Khejri, Deshi Babool	Average
135	Sirohi	Arnua Sr. No. 7 Hura Magra 50 H	Ber, Kumtha, Ronj	Average
136	Sirohi	Las Jhadoli Sr. No.1 Van Vaidhyanath Mahadev	Ronj, Kumtha	Average
137	Sirohi	Matarmata Vankhand Vriksharopan	Ronj, Kumtha, Ber	Poor
138	Sirohi	Malpahadiya Sr No.1,2	Khejri, Kumtha, Ronj	Average
139	Tonk	Ganga Mataji	Deshi Babool, Totlis, Kumtha, Khair, Ronj, Ardu, Churail, Dhak, Khejri, Shisham, Bair, Karanj	Average
140	Tonk	Kali Deori-IV	Ronj, Tendu, Baheda, Sitafal, Khair, Karanj, Jamun, Churail, Khejri, Neem, Deshi Babool, Bair, Kumtha, Shisham, Ardu	Good
141	Tonk	Kasba Newai	Kumtha, Khair, Churail, Ardu, Ronj	Good
142	Tonk	Kalabhata	Deshi Babool, Ronj, Kumtha, Ardu, Churail, Shisham, Khejri	Good
143	Udaipur	Tikhipahadi (Bara)	Khair, Kumtha, Karanj, Ratanjot	Good
144	Udaipur	Kumtiya Kutapana	Kat Karanj, Ratanjot, Kumtha, Khair, Ber	Good
145	Udaipur	Undari Poplty	Khair, Havan, Khirani, Karanj, Ratanjot	Average
146	Udaipur	Rajoi-II	Kumtha, Neem, Ronj, Khair, Khirani	Good
147	Udaipur	Saldari	Mahua, Baheda, Havan, Kumtha, Karanj, Ratanjot	Average
148	Udaipur	Thandiberi	Khair, Kumtha, Havan, Neem, Ratanjot	Good
149	Udaipur DOD	Tourna Sr. No. 18	Seed sowing not reported	
150	Udaipur North	Kyari-1	Khair, Bair, Ratanjot, Karanj	Average
151	Udaipur North	Lewon Ka Mathana C	Khair, Ratanjot, Havan, Baheda, Aam, Karanj, Sitafal	Average
152	Udaipur North	Nathiyathal A	Alovera, Aam, Mahua, Ratamjot, Khair, Karanj	Average
153	Udaipur North	Junapadar A	Khirani, Mahua, Ratanjot, Mango, Arjun, Jamun, Sitafal	Good
154	Udaipur North	Karget B	Khair, Babool, Mahua, Ratanjot	Good

Sl.no.	Division	Site name	Seed sown	Status
155	Udaipur North	Tourna-12	Karanj, Ratanjot, Tendu, Khair, Bair, Naheda	Good
156	Udaipur North	Lakhawali	Seed sowing not reported	
157	Udaipur WL	Ghoramari	Havan, Mahua, Baheda, Sejna, Khair, Neem, Amaltash, Imli, Sitafal	Average
158	Udaipur WL	Surawala Nala Jamuda	Khair, Bair, Lasoda, Mahua, Neem	Average

4.1.6 Silvi-cultural operations

As a part of maintenance, the site used to be visited on regular basis to keep watching regarding protection aspects. Also, loose stone fencing, ditch fencing & barbed wire fencing being fully effective in controlling the biotic pressure was reported at 21 plantation sites followed by partially effective at 136 plantation sites & at 01 plantation site the fencing was not at all effective in controlling the biotic pressure.



However, hoeing and weeding was reported at 34 plantation sites. Removal of Bair & Juliflora was reported at 71 plantation sites. Removal of weeds & removal of dead, dying diseased and decaying trees was reported at 60 plantation sites, whereas post plantation operation such as pruning & thinning was reported at 59 plantation site. As a part of maintenance, casualty replacement of plants was also done for the second and third year at the rate of 10% of total plantation in this site. Mortality in the plantation is replaced in the second and third year by miscellaneous species.



Table 4.19: Maintenance & Other Silvi-cultural operations carried out as per record

Sl.no	Division	Range	Site name	Effectiveness of fencing	Hoeing and weeding	Cut back	Removal of weeds	Post plantation operations	Casualty replacement
1.	Ajmer	Nasirabad	Hatundi Danta Rajausi	Partially effective	Yes	No	No	No	Totlis, Deshi Babool, Ronj, Bair
2.	Ajmer	Pushkar	Kanas Banseli	Partially effective	Yes	No	Yes	Yes	Totlis, Ronj, Churail, Bair
3.	Ajmer	Sarwad	Lamba	Partially effective	Yes	No	No	No	Deshi Babool, Ronj, Bair
4.	Alwar	Thanagaji	Jhiri A	Partially effective	Yes	No	No	Yes	Ronj, Neem, Deshi Babool, Churail
5.	Alwar	Thanagaji	Kankan ki Dhani	Partially effective	Yes	Yes	Yes	Yes	Deshi Babool, Ronj, Churail, Bair
6.	Alwar	Rajgarh	Pada	Partially effective	No	Yes	Yes	Yes	Deshi Babool, Ronj, Churail
7.	Alwar	Tijara	Nakhnol	Partially effective	Yes	No	Yes	No	Totlis. Deshi Babool
8.	Alwar	Thanagaji	Lotawas	Partially effective	Yes	Yes	No	Yes	Neem, Deshi Babool, Bair
9.	Banswara	Banswara	Ghatipada (Medimal Bhandar)	Partially effective	No	Yes	Yes	Yes	Sagwan, Churail, Khair, Amla
10.	Banswara	Ghatol	Garjiya Magra (Kundali)	Partially effective	No	No	No	No	Khair, Ronj, Sagwan, Bair
11.	Banswara	Ghatol	Umarjhala Pathara (Jagpura Tandafala)	Partially effective	No	Yes	Yes	Yes	Sagwan, Churail, Khair, Amla, Jamun
12.	Banswara	Kushalgarh	Khuta Kundiya (Bijori Choti)	Partially effective	No	No	No	No	Sagwan, Ronj, Khair, Churail, Bamboo
13.	Banswara	Dungra	Karmi (Borkhedi)	Partially effective	No	No	No	No	Sagwan, Khair, Amla
14.	Baran	Kishanganj	Ranwasi	Partially effective	No	No	No	No	Churail, Shisham, Jungle Jalebi
15.	Baran	Chhipabarod	Saikud	Fully effective	No	No	No	No	Jungle Jalebi, Khair, Ronj, Churail
16.	Baran	Shahabad	Rajaghar	Fully effective	No	Yes	Yes	Yes	Churail, Jungle Jalebi, Karanj
17.	Baran	Kailwara	Saleri	Partially effective	No	No	No	No	Churail, Jungle Jalebi, Amla
18.	Baran	Kishanganj	Pisai Road	Partially effective	No	Yes	Yes	No	Churail, Jungle Jalebi, Karanj
19.	Baran	Shahabad	Kasbathana Se MP Border	Fully effective	No	No	No	No	Churail, Jungle Jalebi, Karanj
20.	Barmer	Sindhari	Abadi Manji-A	Fully effective	No	No	No	No	Totlis, Kumtha, Rohida,

Sl.no	Division	Range	Site name	Effectiveness of fencing	Hoeing and weeding	Cut back	Removal of weeds	Post plantation operations	Casualty replacement
									Bair
21.	Barmer	Shiv	Kanasar	Partially effective	Yes	No	No	No	Totlis, Rohida, Jaal, Bair
22.	Bharatpur	Bayana	Jogipura	Fully effective	No	Yes	Yes	Yes	Totlis, Deshi Babool, Churail, Ronj
23.	Bharatpur	Deeg	Jarkhor Gufa	Fully effective	No	No	Yes	Yes	Totlis, Deshi Babool, Churail, Ronj
24.	Bharatpur	Bayana	Babu Baba -II	Partially effective	No	No	No	No	Bair, Churail, Ronj, Deshi Babool
25.	Bhilwara	Jahajpur	Thalkala	Partially effective	No	No	No	No	Deshi Babool, Ronj, Bair
26.	Bhilwara	Mandalgarh	Daulji Ka Kheda D	Partially effective	No	No	No	No	Deshi Babool, Ronj, Khair
27.	Bhilwara	Mandalgarh	Tikhi Part A	Partially effective	No	Yes	Yes	No	Deshi Babool, Ronj, Bair, Churail
28.	Bhilwara	Jahajpur	Dhandhola Part A	Partially effective	No	No	No	No	Deshi Babool, Ronj, Bair
29.	Bundi	Hindoli	Dev Dungri B	Partially effective	No	No	Yes	Yes	Deshi Babool, Neem, Jungle Jalebi, Churail
30.	Bundi	Nainwan	Fuleta C	Partially effective	No	No	No	No	Deshi Babool, Neem, Ronj, Churail
31.	Bundi	Hindoli	Depala Umarmata C	Partially effective	No	No	Yes	No	Deshi Babool, Bair, Ronj, Churail
32.	Bundi	Hindoli	Dola Ka Khal	Partially effective	No	No	No	No	Deshi Babool, Neem, Jungle Jalebi, Churail, Ronj
33.	Chatargarh IGNP I	Dantour	ANR 5 MTM	Partially effective	No	Yes	Yes	No	Khejri, Bair, Totlis
34.	Chatargarh IGNP I	Beriyawali	DLF 21 KJD	Partially effective	No	No	No	No	Khejri, Bair, Totlis
35.	Chittorgarh	Chittorgarh	Bassi Mahadev	Fully effective	No	Yes	Yes	No	Deshi Babool, Amla, Churail, Ronj, Bair
36.	Chittorgarh	Borav	Dhangdamkhurd I	Partially effective	No	Yes	Yes	No	Khair, Amla, Churail, Bair
37.	Chittorgarh	Kapasan	Modiya Magra	Partially effective	No	No	No	No	Deshi Babool, Amla, Churail, Karanj, Sitafal, Khair, Bair
38.	Chittorgarh	Vijaypur	Nimoda	Partially effective	No	No	No	No	Amaltash, Sitafal, Churail, Bair
39.	Chittorgarh	Vijaypur	Chainpuriya Mahadev	Fully effective	No	No	No	No	Ronj, Khair, Churail, Bair
40.	Chittorgarh	Chittorgarh	Baldarkha	Fully effective	No	Yes	Yes	Yes	Sitafal, Khair, Amla,

Sl.no	Division	Range	Site name	Effectiveness of fencing	Hoeing and weeding	Cut back	Removal of weeds	Post plantation operations	Casualty replacement
									Churail, Bair
41.	Chittorgarh	Bengu	Samron Ka Lewa	Partially effective	No	No	No	Yes	Ronj, Khair, Baheda, Churail, Bair
42.	Chittorgarh	Nimbaheda	Rusi Rani Ka Mahal	Partially effective	No	No	No	No	Khair, Karanj, Churail, Bair
43.	Chittorgarh WL	Badisadri	Sangrikheda	Partially effective	No	Yes	Yes	Yes	Bamboo, Amla, Bair, Churail
44.	Chittorgarh WL	Badisadri	Kalabhata B	Partially effective	No	Yes	Yes	Yes	Bamboo, Amla, Bair, Khair
45.	Dausa	Lalsot	Ghata	Partially effective	Yes	Yes	No	No	Shisham, Churail. Deshi Babool
46.	Dausa	Lalsot	Dhouli B	Partially effective	Yes	No	No	No	Churail, Totlis, Deshi Babool
47.	Dausa	Bandikui	Encheri A	Partially effective	Yes	Yes	No	No	Deshi Babool, Churail, Bair, Ronj
48.	Dausa	Mahwa	Mirzapur	Partially effective	No	Yes	Yes	Yes	Shisham, Churail. Deshi Babool, Totlis
49.	Dholpur	Sarmathura	Ballapura II	Partially effective	No	No	No	No	Bair, Khair, Dhok, Deshi Babool
50.	Dholpur	Bari	Kans Ki Bawri -C	Partially effective	No	No	No	No	Deshi Babool, Churail, Ronj, Bair, Neem
51.	Dholpur	Vanvihar	Raikho-Ghatiya	Partially effective	No	No	No	No	Deshi Babool, Churail, Ronj, Jungle Jalebi
52.	Dholpur	Vanvihar	Kile Ka Dada	Partially effective	No	No	No	No	Khair, Ronj, Deshi Babool, Bair
53.	Dungarpur	Aantri	Aadamal	Partially effective	No	Yes	No	Yes	Shisham, Sagwan, Semal, Churai, Siras
54.	Dungarpur	Seemalwada	Bansiya	Partially effective	No	Yes	No	Yes	Amla, Sagwan, Semal, Churail, Siras
55.	Dungarpur	Dungarpur	Balwara	Partially effective	No	No	No	Yes	Sagwan, Imli, Neem
56.	Dungarpur	Sagwada	Damaria Bodamagra	Partially effective	No	Yes	No	Yes	Amla, Sagwan, Churail, Amaltash
57.	Dungarpur	Seemalwada	Dhechra Bhagat II	Partially effective	No	No	No	No	Ronj, Karanj, sitafal, Sagwan, Khair
58.	Dungarpur	Dungarpur	Kanpur C. No.3	Partially effective	No	No	No	Yes	Amla, Sagwan, Churail, Khair
59.	Hanumangarh	Rawatsar	4CLD	Partially effective	No	No	No	No	Totlis, Khejri, Bair

Sl.no	Division	Range	Site name	Effectiveness of fencing	Hoeing and weeding	Cut back	Removal of weeds	Post plantation operations	Casualty replacement
60.	Hanumangarh	Nohar	Tidiyasar	Partially effective	No	Yes	Yes	No	Totlis, Dehi Babool, Bair
61.	Jaipur	Dudu	Bichoon Kairiya	Partially effective	Yes	Yes	Yes	Yes	Kumtha, Ronj, Totlis
62.	Jaipur	Amer	Jairampura	Partially effective	Yes	Yes	Yes	No	Deshi Babool, Churail, Karanj
63.	Jaipur	Amer	Bharthari	Partially effective	Yes	Yes	Yes	No	Deshi Babool, Churail, Totlis, Neem
64.	Jaipur	Dudu	Bhairuji Bichoon Main	Partially effective	Yes	Yes	Yes	Yes	Deshi Babool, Khejri, Ronj
65.	Jaipur North	Pawta	Aatela Bawri	Partially effective	Yes	Yes	Yes	Yes	Bair, Churail, Deshi Babool, Ronj, Totlis
66.	Jaipur North	Achrol	Samred Khurd 'C'	Partially effective	Yes	Yes	Yes	Yes	Churail, Deshi Babool, Ronj, Totlis
67.	Jaipur North	Kotputli	Panchpahadi (Hapuda)	Partially effective	Yes	No	Yes	Yes	Churail, Deshi Babool, Ronj, Dhok
68.	Jaipur North	Viratnagar	Dhawali- A	Partially effective	Yes	Yes	Yes	Yes	Churail, Deshi Babool, Ronj, Totlis, Bair
69.	Jaipur WL	Jamvaramgarh	Nimbi-A	Partially effective	Yes	Yes	Yes	Yes	Churail, Deshi Babool, Ronj, Bair
70.	Jaipur WL	Raisar	Kharad	Partially effective	Yes	Yes	Yes	Yes	Churail, Deshi Babool, Ronj
71.	Jaipur WL	Jamvaramgarh	Bhomiya Dayoda Dungar	Partially effective	Yes	Yes	No	Yes	Shisham, Churail, Totlis
72.	Jaisalmer	Jaisalmer	CA NFL Dabla III	Fully effective	No	No	No	No	Khejri, Bair, Totlis, Kumtha
73.	Jaisalmer	Jaisalmer	Karahjor-C	Partially effective	No	No	No	No	Totlis, Jaal, Kumtha, Bair
74.	Jaisalmer IGNP II	Third 1438 RD Sub-division Mohangarh	CA Planting KNM 0-3 RD-C	Fully effective	No	No	No	No	Rohida, Kumtha, Khejri, Totlis
75.	Jaisalmer IGNP II	Second	CA 0-3 RD KNM E	Fully effective	No	No	No	No	Rohida, Bair, Jaal, Totlis
76.	Jalore	Raniwara	Raniwara Khurd	Partially effective	No	Yes	No	No	Totlis, Kumtha
77.	Jalore	Jaswantpura	Panseri B	Partially effective	No	Yes	No	No	Totlis, Kumtha, Bair
78.	Jalore	Jalore	Meda Jod	Partially effective	No	Yes	No	No	Totlis, Kumtha, Bair, Rohida
79.	Jhalawar	Bakani	Guradkheda	Fully effective	No	No	No	No	Churail, Ronj, Jungle Jalebi, Karanj

Sl.no	Division	Range	Site name	Effectiveness of fencing	Hoeing and weeding	Cut back	Removal of weeds	Post plantation operations	Casualty replacement
80.	Jhalawar	Khanpur	Chamlasa	Partially effective	No	No	No	No	Bair, Khair, Ronj, Deshi Babool
81.	Jhalawar	Khanpur	Chalet	Partially effective	No	Yes	Yes	No	Bair, Khair, Ronj, Churail
82.	Jhalawar	Khanpur	Khatakheri	Partially effective	No	No	No	No	Khair, Ronj, Deshi Babool
83.	Jhalawar	Khanpur	Garayata	Partially effective	No	No	No	No	Khair, Ronj, Deshi Babool, Churail
84.	Jhalawar	Dag	Harnawada I	Partially effective	No	No	No	No	Khair, Ronj, Deshi Babool, Karanj, Bair
85.	Jhalawar	Manoharthana	Kotda I	Partially effective	No	Yes	No	No	Khair, Ronj, Deshi Babool, Bair, Neem
86.	Jhalawar	Jhalawar	Bawarikheda	Partially effective	No	No	No	No	Deshi Babool, Churail, Karanj
87.	Jhalawar	Khanpur	Baisar	Fully effective	No	No	No	No	Jungle Jalebi, Ronj, Churail, Karanj
88.	Jhunjhunu	Khetdi	Makdo II	Partially effective	No	Yes	No	No	Ronj, Churail, Bair
89.	Jhunjhunu	Udaipur Vati	Guda Dhahar	Partially effective	No	No	No	No	Ronj, Deshi Babool, Bair
90.	Jhunjhunu	Udaipur Vati	Girawadi	Partially effective	No	No	No	No	Ronj, Deshi Babool, Churail
91.	Jhunjhunu	Jhunjhunu	Beed Jhunjhunu	Fully effective	No	Yes	Yes	Yes	Khejri, Rohida, Bair
92.	Jodhpur	Baap	Udat	Partially effective	Yes	No	Yes	Yes	Totlis
93.	Jodhpur	Balesar	Vanbhoomi Agolai	Fully effective	Yes	Yes	Yes	Yes	Totlis
94.	Jodhpur	Ausiyan	Vankhetra Punasar	Fully effective	Yes	No	Yes	Yes	Totlis
95.	Karauli	Karauli	Ataiba	Partially effective	No	Yes	No	No	Ronj, Totlis, Kumtha, churail
96.	Karauli	Mandrayal	Todi	Partially effective	No	No	No	No	Totlis, Deshi Babool, Ronj
97.	Karauli	Masalpura	Goder	Partially effective	No	No	No	No	Deshi Babool, Bair, Ronj, Churail
98.	Karauli RTR	Nainiyaki	Chir Ki Narauli C	Partially effective	No	Yes	No	No	Deshi Babool, Bair, Ronj
99.	Kota	Mandana	Singhpura B	Partially effective	No	Yes	No	No	Bair, Churail, Ronj, Deshi Babool
100.	Kota	Kanwas	Dhani Aamli	Partially effective	No	No	No	No	Bair, Khair, Khejri, Churail
101.	Kota	Mandana	Badodiya II	Partially effective	No	Yes	No	Yes	Bair, Khair, Ronj, Deshi Babool
102.	Kota	Kanwas	Sankheda	Fully effective	No	No	No	No	Bair, Khair, Ronj, Deshi Babool, Churail
103.	Nagaur	Kuchaman	Chopra ki Dhani	Partially effective	No	Yes	Yes	Yes	Totlis, Deshi Babool

Sl.no	Division	Range	Site name	Effectiveness of fencing	Hoeing and weeding	Cut back	Removal of weeds	Post plantation operations	Casualty replacement
									Churail
104.	Nagaur	Parbatsar	Pilwa	Partially effective	Yes	Yes	No	No	Deshi Babool, Ronj, Churail, Bair
105.	Nagaur	Kuchaman	Chapri (First)	Not effective	No	No	No	No	Deshi Babool, Totlis, Ronj, Bair
106.	Nagaur	Kuchaman	Sawaipura Paldi B Balaji	Partially effective	Yes	No	No	No	Totlis, Deshi Babool Churail
107.	Nagaur	Parbatsar	Dhokliya	Partially effective	Yes	No	No	Yes	Totlis, Deshi Babool Churail
108.	Pali	Sendara	Jhala Ki Chowki	Partially effective	No	No	Yes	No	Bair, Deshi Babool, Churail, Khejri
109.	Pali	Marwar Jn.	Jadan Jod	Partially effective	No	Yes	Yes	Yes	Deshi Babool, Bair, Kumtha
110.	Pali	Bali	Lundara A	Partially effective	No	No	No	No	Deshi Babool, Bair, Ronj
111.	Pali	Bali	Lundara B	Partially effective	No	No	No	No	Deshi Babool, Bair, Ronj
112.	Pali	Bali	Las Ka Gudha	Partially effective	No	No	No	No	Deshi Babool, Bair, Totlis
113.	Pratapgarh	Dhariyawad	Timruwala Bhatda	Partially effective	Yes	Yes	No	Yes	Sagwan, Khair, Bamboo
114.	Pratapgarh	Devgarh	Ramdevji	Partially effective	Yes	No	No	No	Sagwan, Neem, Amla, Churail, Karanj, Bans
115.	Pratapgarh	Bansi	Kabra Mangra	Partially effective	No	Yes	No	No	Churail, Bamboo, Sagwan, Karanj
116.	Pratapgarh	Bansi	Badliyanal	Fully effective	No	Yes	Yes	Yes	Bamboo
117.	Pratapgarh	Dhariyawad	Henabawdi	Partially effective	No	Yes	No	No	Bamboo
118.	Rajsamand WL	Jojawar	Bandki magri	Partially effective	No	No	No	No	Deshi Babool, Khair, Bair, Neem
119.	Rajsamand WL	Ravali	Dalakhet Dabkabada	Partially effective	No	No	No	No	Deshi Babool, Khair, Bair, Churail
120.	Rajsamand WL	Kumbhalgarh	Jaya	Partially effective	No	No	No	No	Amla, Bair, Jamun
121.	Rajsamand WL	Bokhada	Jwarka wala	Partially effective	No	No	No	No	Khair, Bair, Karanj
122.	S.Madhopur	S.Madhopur	Jhopri- II	Partially effective	No	Yes	Yes	Yes	Bair, Churail, Deshi Babool, ronj
123.	S.Madhopur	Gangapura	Murada Chowki	Partially effective	No	Yes	Yes	Yes	Deshi Babool, Totlis, Churail
124.	S.Madhopur	Gangapur City	Gurjar Koleta	Partially effective	No	Yes	Yes	Yes	Deshi Babool, Totlis, Churail, Ronj, Bair
125.	S.Madhopur	Bonli	Bhairuji Maidar	Partially effective	No	Yes	Yes	Yes	Deshi Babool, Totlis,

Sl.no	Division	Range	Site name	Effectiveness of fencing	Hoeing and weeding	Cut back	Removal of weeds	Post plantation operations	Casualty replacement
									Churail
126.	S.Madhopur	S.Madhopur	Trilokpura	Partially effective	No	No	No	No	Totlis, Churail, Deshi Babool, Neem, Bair
127.	S.Madhopur Chambal WL	Itava	Aamlada	Partially effective	No	No	No	No	Churail, Deshi Babool, Bair
128.	S.Madhopur RTR	Baler	Rodawada	Partially effective	No	No	No	No	Churail, Deshi Babool, Ronj, Totlis
129.	S.Madhopur RTR	Talada	Bai	Partially effective	No	No	No	No	Churail, Deshi Babool, Ronj, Totlis
130.	Sikar	Shrimadhopur	Paniharwas	Partially effective	No	Yes	Yes	Yes	Churail, Deshi Babool, Ronj
131.	Sikar	Danta	Ganoda	Partially effective	Yes	No	Yes	Yes	Churail, Deshi Babool, Ronj, Bair
132.	Sikar	Shrimadhopur	Kotdi	Partially effective	No	Yes	Yes	Yes	Churail, Deshi Babool, Ronj
133.	Sikar	Neemkathana	Aagri II	Partially effective	No	No	No	No	Churail, Deshi Babool, Ronj, Kumtha
134.	Sikar	Patan	Mothuka	Partially effective	No	No	No	No	Churail, Deshi Babool, Dhok
135.	Sirohi	Pindwara	Arnua Sr. No. 7 Hura Magra	Partially effective	No	Yes	No	Yes	Bamboo, Amla, Bair, Karanj
136.	Sirohi	Sirohi	Las Jhadoli Sr. No.1 Van Vaidhyanath Mahadev	Partially effective	No	Yes	Yes	Yes	Khair, Kumtha, Bair, Karanj
137.	Sirohi	Sirohi	Matarmata Vankhand Vriksharopan	Partially effective	No	No	No	No	Bair, Deshi Babool, Khair, Karanj
138.	Sirohi	Sirohi	Malpahadiya Sr No.1,2	Partially effective	No	No	Yes	Yes	Kumtha, Rohida, Bair, Karanj
139.	Tonk	Newai	Ganga Mataji	Partially effective	No	No	Yes	No	Bair, Churail, Neem, Deshi Babool
140.	Tonk	Deoli	Kali Deori-IV	Partially effective	No	No	Yes	Yes	Deshi Babool, Ardu, Bair, Churail
141.	Tonk	Newai	Kasba Newai	Partially effective	No	No	No	No	Bair, Churail, Neem, Deshi Babool
142.	Tonk	Deoli	Kalabhata	Partially effective	No	No	No	Yes	Deshi Babool, Ardu, Bair,

Sl.no	Division	Range	Site name	Effectiveness of fencing	Hoeing and weeding	Cut back	Removal of weeds	Post plantation operations	Casualty replacement
									Churail
143.	Udaipur	Salumber	Tikhipahadi (Bara)	Partially effective	Yes	Yes	No	No	Amla, Churail, Neem, Khair
144.	Udaipur	Kurabad	Kumtiya Kutapana	Partially effective	No	No	No	No	Khair, Neem, Bamboo, Bair
145.	Udaipur	Udaipur	Undari Poplty	Partially effective	Yes	Yes	No	Yes	Amla, Churail, Neem, Karanj, Baheda, Khair
146.	Udaipur	Sarada	Rajoi-II	Fully effective	No	Yes	Yes	No	Khair, Amla, Sagwan
147.	Udaipur	Jhadol	Saldari	Partially effective	Yes	Yes	No	Yes	Amla, Churail, Khair
148.	Udaipur	Falasiya	Thandiberi	Fully effective	No	Yes	Yes	Yes	Sagwan, Khair, Baheda, Mahua
149.	Udaipur DOD	Dewla DOD	Tourna Sr. No. 18	Partially effective	No	Yes	Yes	No	Bamboo
150.	Udaipur North	Dewla	Kyari-1	Partially effective	No	Yes	Yes	No	Khair, Amla, Baheda
151.	Udaipur North	Saira	Lewon Ka Mathana C	Partially effective	No	Yes	No	No	Khair, Churail, Amla, Karanj, Baheda
152.	Udaipur North	Gogunda	Nathiyathal A	Partially effective	No	Yes	Yes	Yes	Khair, Amla, Baheda
153.	Udaipur North	Kotda	Junapadar A	Partially effective	No	Yes	No	No	Churail, Arjun, Semal, Sagwan
154.	Udaipur North	Udaipur	Karget B	Partially effective	No	Yes	Yes	Yes	Churail, Khair, Baheda
155.	Udaipur North	Dewla	Tourna-12	Partially effective	No	Yes	Yes	Yes	Bamboo
156.	Udaipur North	Udaipur	Lakhawali	Partially effective	No	No	Yes	No	Bamboo
157.	Udaipur WL	Mamer	Ghoramari	Partially effective	No	No	No	Yes	Churail, Neem, Karanj
158.	Udaipur WL	Jaisamand	Surawala Nala Jamuda	Partially effective	No	No	Yes	No	Churail, Neem, Khair

4.1.7 Irrigation/ watering of Plants

It has been reported that there was provision of irrigation/ watering of plants in the canal area in Jaisalmer district and Chattargarh IGNP divisions. However, hoeing and weeding was reported at all the 158 sample sites.

4.1.8 Soil & Moisture Conservation works (SMC Works)

Activities related to development of Soil & Moisture Conservation structures (SMC) is the key element of CAMPA Fund which is pre-requisite for the afforestation and plantation activities. Various SMC structures were constructed namely, SMC Structures - Anicut type - II & Anicut Type-III, Gabion, Earthen Check dam, PCT, V-ditch, CBD & WHS.



The table given below shows status of SMC structures at the plantation sites.

Various SMC works were reported at 153 sites, whereas at 05 plantation sites (03 NFL site at Jhalawar, 01 Tidiyasar site at Hanumangarh & 01 road side plantation at Jhalawar) SMC works were not reported.



Contour trenches (viz. CCT, SGT, V ditch, DCCT & Contour Dykes) were reported at 145 plantation sites, whereas at 13 plantation sites the same was not reported. The length of CCT varies from 1200 rmt (Bharthari) to 45000 rmt (Kanasar).



Mulching was reported at 03 plantation sites. The length of Mulching varies from 1000 rmt. (Vanshetra Punasar) to 15060 rmt. (Udat).Also, Gabion was reported at 04 sites

PCT/ Nadi was reported at 72 plantation sites. The area of PCT/ Nadi varies from 17.43 cum. (Kabra Mangra) to 5600 cum. (Bhairuji Bichoon Main).



LSCD was reported at 63 plantation sites. The area of LSCD varies from 19.53 cu.m. (Vanshetra Punasar)) to 1798 cum (Aenchedi).

Earthen Checkdam was reported at 46 plantation sites. The area of earthen check dam varies from 200 cum. (Bhairuji Bichoon Main) to 10349 cum (Chopra Ki Dhani).

Others SMC structures were reported at 10 plantation sites. It includes Anicut, Diggi, Tanka, Farm pond, WHS & etc.

The status of SMC structures at the plantation sites were detailed in the table hereunder.

Table 4.20 (I): Status of SMC Structures at 100% Plantation Sites as per record & actual

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
1	Ajmer	Hatundi Danta Rajausi	20000	20000	0	705	705	0									
2	Ajmer	Lamba	10000	10000	0												
3	Alwar	Jhiri A	4700	4700	0	600	600	0	565	565	0						
4	Alwar	Pada	3320	3320	0				820	820	0						
5	Alwar	Lotawas	3554	3554	0	1035	1035	0	625	625	0						
6	Banswara	Ghatipada (Medumal Bhandar)	10275	10275	0	115	115	0	162	162	0						
7	Banswara	Umarjhala Pathara (Jagpura Tandafala)	10000	10000	0	50	50	0									
8	Banswara	Karmi (Borkhedi)	10000	10000	0	2	2	0									
9	Baran	Ranwasi	10000	10000	0	MPT 1	MPT 1	0									
10	Baran	Rajaghar	13000	13000	0	2	2	0									
11	Baran	Pisai Road	13000	13000	0												
12	Barmer	Abadi Manji-A	13000	13000	0							300	300	0	Tanka 3	Tanka 3	0
13	Bharatpur	Jogipura	10000	10000	0				320	320	0						
14	Bharatpur	Babu Baba - II	10000	10000	0												
15	Bhilwara	Thalkala IInd Year	10000	10000	0	1	1	0									
16	Bhilwara	Tikhi Part A	10000	10000	0												
17	Bundi	Dev Dungri B	10000	10000	0	3000	3000	0									

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
18	Bundi	Depala Umarmata C	22554	22554	0	2190	2190	0							2 Gabion	2 Gabion	0
19	Chatargarh IGNP I	ANR 5 MTM	30000	30000	0												
20	Chittorgarh	Bassi Mahadeo	16579	16579	0				2	2	0				Anicut 1	Anicut 1	0
21	Chittorgarh	Modiya Magra	10000	10000	0												
22	Chittorgarh	Chainpuriya Mahadeo	8700	8700	0	1	1	0									
23	Chittorgarh	Samro Ka Lewa	8000	8000	0												
24	Chittorgarh WL	Sangarikheda	20000	20000	0				151	151	0						
25	Dausa	Ghata	10000	10000	0				384	384	0	988	988	0			
26	Dausa	Encheri A	4110	4110	0	1493	1493	0	1798	1798	0						
27	Dholpur	Ballapura II	10000	10000	0							1580	1580	0			
28	Dholpur	Raikho-Ghatiya	15000	15000	0							2	2	0			
29	Dungarpur	Aadamal	21500	21500	0	292	292	0									
30	Dungarpur	Balwada	2000	2000	0	30	30	0									
31	Dungarpur	Dhechra Bhagat II	10000	10000	0				443	443	0						
32	Hanumangarh	4CLD													Diggi 1	Diggi 1	0
33	Jaipur	Bichoon Kairiya	15370	15370	0				368	368	0	9106	9106	0	929 Cu.m WHS	929 Cu.m WHS	0
34	Jaipur	Bharthari	1200	1200	0							6200	6200	0			
35	Jaipur	Aatela	15220	15220	0				256	256	0	1173	1173	0			

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
	North	Bawdi															
36	Jaipur North	Panchpahadi (Hapuda)	10000	10000	0	702	702	0	743	743	0						
37	Jaipur WL	Nimbi-A	8000	8000	0	694	694	0				2753	2753	0			
38	Jaipur WL	Bhomiya Dayoda Dungar	16900	16900	0				31	31	0	3091	3091	0			
39	Jaisalmer	CA NFL Dabla III	10000	10000	0										Tanka1	Tanka1	0
40	Jaisalmer IGNP II	CA Planting KNM 0-3 RD-C	20000	20000	0												
41	Jalore	Raniwara Khurd	4000	4000	0				621	621	0	7581	7581	0			
42	Jalore	Meda Jod	30000	30000	0												
43	Jhalawar	Guradkheda	3500	3500	0	5 MPT	5 MPT	0									
44	Jhalawar	Chalet	SMC structure not reported														
45	Jhalawar	Garayata	SMC structure not reported														
46	Jhalawar	Kotda I	15000	15000	0	1 MPT	1 MPT	0	7	7	0						
47	Jhalawar	Baisar	10000	10000	0	3 MPT	3 MPT	0	150	150	0						
48	Jhunjhunu	Makdo II	10000	10000	0	1183	1183	0									
49	Jhunjhunu	Girawadi	10000	10000	0				1360	1360	0	1000	1000	0			
50	Jodhpur	Udat	5760	5760	0												0
51	Jodhpur	Vankhetra Punasar	6000	6000	0	780	780	0	20	20	0						0
52	Karauli	Ataiba	9500	9500	0				248	248	0						

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
53	Karauli	Goder	17200	17200	0							1	1	0			
54	Karauli RTR	Chir Ki Narauli C	14500	14500	0	1	1	0	1009	1009	0						
55	Kota	Singhpura B	10000	10000	0	600	600	0									
56	Kota	Badodiya II	11000	11000	0												
57	Nagaur	ANR Chopra Ki Dhani	10000	10000	0	1	1	0	349	349	0	10349	10349	0			
58	Nagaur	Chapri (First)	10285	10285	0	1371	1371	0				2390	2390	0			
59	Nagaur	Dhokliya	3800	3800	0	1192	1192	0	75	75	0	3130	3130	0			
60	Pali	Jhala Ki Chowki	19500	19500	0	1296	1296	0	1324	1324	0						
61	Pali	Lundara A	10000	10000	0	2012	2012	0									
62	Pali	Las Ka Gudha	10000	10000	0	2	2	0									
63	Pratapgarh	Timruwala Bhatda	10000	10000	0	1072	1072	0									
64	Pratapgarh	Kabra Mangra	10090	10090	0	17	17	0									
65	Pratapgarh	Henabawdi							489	489	0						
66	Rajsamand WL	Bandki magri	10000	10000	0				330	330	0						
67	Rajsamand WL	Jaya	10000	10000	0				837	837	0						
68	S.Madhopur	Jhopri- II	10000	10000	0							4674	4674	0			
69	S.Madhopur	Gurjar Koleta	10800	10800	0				50	50	0	5604	5604	0			
70	S.Madhopur	Trilokpura	3400	3400	0							600	600	0			
71	S.Madhop	Aamlada	10000	10000	0	1489	1489	0				1499	1499	0			

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
	ur Chambal WL																
72	S.Madhopur RTR	Rodawada	20000	20000	0							3033	3033	0			
73	Sikar	Paniharwas	10000	10000	0	2239	2239	0				2087	2087	0			
74	Sikar	Kotri	10000	10000	0	719	719	0	280	280	0	2650	2650	0			
75	Sikar	Mothuka	10000	10000	0	3543	3543	0	346	346	0	810	810	0			
76	Sirohi	Arnua Comp. No. 7 Hura Magra 50 H	4500	4500	0	2	2	0	1100	1100	0						
77	Sirohi	Matarmata Vankhand Vriksharopan	4600	4600	0	1	1	0	233	233	0						
78	Tonk	Ganga Mataji	10000	10000	0	7746	7746	0	1	1	0						
79	Tonk	Kasba Newai	14000	14000	0	3500	3500	0				1500	1500	0			
80	Udaipur	Tikhipahadi (Bara)	9930	9930	0	1	1	0	300	300	0				3 Gabion	3 Gabion	0
81	Udaipur	Undari Poplty	20000	20000	0				650	650	0						
82	Udaipur	Saldari	20000	20000	0				750	750	0						
83	Udaipur DOD	Touran compartment No. 18							1325	1325	0						
84	Udaipur North	Kyari-1	20000	20000	0				1627	1627	0						
85	Udaipur North	Nathiyathal A	20000	20000	0				808	808	0				116 Gabion	116 Gabion	0
86	Udaipur North	Karget B	24583	24583	0				485	485	0						
87	Udaipur	Lakhawali	1000	1000	0				571	571	0						

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess
	North		Cu.m	Cu.m													
88	Udaipur WL	Ghoramari	15000	15000	0				1060	1060	0						

Table 4.20 (II): Status of SMC Structures at 10% Plantation Sites as per record & actual (Approx.10% SMC structures evaluated as per TOR)

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit / Excess
1	Ajmer	Kanas Banseli				250	252	+2				800	800	0			
2	Alwar	Kankan Ki Dhani	1250	1250	0				90	90	0						
3	Alwar	Nakhnol	531	531	0							6466	6469	+3			
4	Banswara	Garjiya Magra (Kundali)	433	433	0	80	80	0	132	136	+4						
5	Banswara	Khuta Kundiya (Bijori Choti)	1012	1012	0	30	30	0									
6	Baran	Saikud	1168	1168	0	2	2	0									
7	Baran	Saleri	1023	1023	0	1	1	0									
8	Baran	Kasbathana Se MP Border	SMC structure not reported														
9	Barmer	Kanasar	4532	4532	0										01 Tanka	01 Tanka	0
10	Bharatpur	Jarkhor Gufa	1015	1015	0	6	6	0									
11	Bhilwara	Daulji Ka Kheda D	836	836	0												
12	Bhilwara	Dhandhola Part A	1042	1042	0				29	29	0						
13	Bundi	Fuleta C	1308	1308	0												
14	Bundi	Dola Ka Khal	1154	1154	0	2733	2735	+2									
15	Chatargarh IGNP I	DLF 21 KJD													Diggi 3	Diggi 3	0
16	Chittorgarh	Dhangadmau Khurd I	1104	1104	0	80	80	0									
17	Chittorgarh	Nimoda	216	216	0												
18	Chittorgarh	Baldarkha	895	895	0				10	10	0						
19	Chittorgarh	Rusi Rani Ka Mahal	163	1063	0				180	182	+2						
20	Chittorgarh WL	Kala bhata B	2054	2054	0												
21	Dausa	Dhouli B	1074	1074	0							8045	8049	+4			
22	Dausa	Mirzapur	1026	1026	0							5152	5154	+2			
23	Dholpur	Kans Ki Bawdi -C	1043	1043	0	1	1	0									
24	Dholpur	Kile Ka Dada	1511	1511	0							1525	1525	0			
25	Dungarpur	Bansiya	1232	1232	0	245	245	0	242	242	0						

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit / Excess
26	Dungarpur	Damaria Bodamagra	833	833	0	53	53	0									
27	Dungarpur	Kanpur C. No.3	1067	1067	0				250	250	0						
28	Hanumangarh	Tidiyasar	SMC structure not reported														
29	Jaipur	Jairampura Ist year	243	243	0												
30	Jaipur	Bhairuji Bichoon Main	446	446	0	5600	5600	0				200	200	0			
31	Jaipur North	Samred Khurd 'C'	1387	1387	0				822	822	0	1035	1035	0	456 Cu.m WHS	458 Cu.m WHS	+2
32	Jaipur North	Dhawali- A	789	789	0				205	205	0	2339	2339	0			
33	Jaipur WL	Kharad	1307	1307	0	981	981	0									
34	Jaisalmer	Karahjor-C	2496	2496	0												
35	Jaisalmer IGNP II	CA 0-3 RD KNM E	1711	1711	0												
36	Jalore	Panseri B	1644	1644	0							7780	7784	+4			
37	Jhalawar	Chamlasa	SMC structure not reported														
38	Jhalawar	Khatakheri	517	517	0												
39	Jhalawar	Harnawada I				3 MPT	3 MPT	0									
40	Jhalawar	Bawadikheda	556	556	0	3 MPT	3 MPT	0									
41	Jhunjhunu	Guda Dhahar	1043	1043	0							320	320	0			
42	Jhunjhunu	Beed Jhunjhunu	1018	1018	0							1489	1489	0	1454 Cu.m pond	1457 Cu.m pond	+3
43	Jodhpur	Vanbhoomi Agolai	1535	1535	0	1 MPT	1 MPT	0									
44	Karauli	Todi	1016	1016	0							2722	2724	+2			
45	Kota	Dhani Aamli	1223	1223	0												
46	Kota	Sankheda	1032	1032	0												

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit / Excess
47	Nagaur	Pilwa	672	672	0							300	300	0			
48	Nagaur	Sawaipura Paldi B Balaji	656	656	0	5092	5095	+3				1165	1165	0			
49	Pali	Jadan Jod	1127	1127	0	1748	1748	0									
50	Pali	Lundara B	1045	1045	0	1207	1207	0									
51	Pratapgarh	Ramdevji	1067	1067	0	6109	610	0									
52	Pratapgarh	Badliyanal				734	734	0	125	125	0						
53	Rajsamand WL	Dalakhet Dabkabada	1008	1008	0				700	700	0				1 Gabion	1 Gabion	0
54	Rajsamand WL	Jwarka wala	417	417	0				1242	1245	+3						
55	S.Madhopur	Murada Chowki	1076	1076	0							2642	2642	0			
56	S.Madhopur	Bhairuji Maidar	414	414	0							5100	5104	+4			
57	S.Madhopur RTR	Bai	2054	2054	0							4850	4850	0			
58	Sikar	Ganoda	643	543	0	2605	2605	0	184	185	+1	7945	7947	+2			
59	Sikar	Aagri II	1413	1413	0	4089	4090	+1	251	251	0						
60	Sirohi	Las Jhadoli Comp. No.1 Van Vaidhyanath Mahadev	642	642	0				400	400	0						
61	Sirohi	Malpahadiya Comp. No.1,2	914	914	0	2	2	0	205	205	0						
62	Tonk	Kali Deori-IV	1023	1023	0	2350	2350	0									
63	Tonk	Kalabhata	1026	1026	0			0						0			
64	Udaipur	Kumtiya Kutapana	1048	1048	0	1	1	0	764	767	+3						
65	Udaipur	Rajoi-II	2528	2528	0	1	1	0	1002	1002	0						
66	Udaipur	Thandiberi	623	623	0				160	160	0						
67	Udaipur North	Lewon Ka Mathana C	2073	2073	0				1404	1404	0						
68	Udaipur North	Junapadar A	2016	2016	0				1153	1155	+2						
69	Udaipur	Tourna-12							1	1	0						

Sl.no	Division	Site name	Contour trench (Rmt)			PCT/Nadi (Cu. M)			Loose stone checkdam (Cu.m.)			Earthen checkdam (Cu.m)			Others		
			As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit/ Excess	As per record	As per actual	Deficit / Excess
	North																
70	Udaipur WL	Surawala Nala Jamuda	1513	1513	0	2	2	0	150	150	0						

Chapter - 5

Evaluation of Assets – Range Office cum residence building, Boundary wall, Pillars & Nurseries

5.1 Report of Evaluation of asset created under CAMPA

One of the most important protective functions of forests is related to Soil and Water resources. Forests conserve water by increasing infiltration, reducing runoff velocity and surface erosion, and decreasing sedimentation (which is particularly relevant behind dams and in irrigation systems).

The activities under the CAMPA scheme, in addition to plantations various support activities have also been carried out for management of wildlife, betterment, protection and development of forests, enhancement of forest cover and infrastructure development were Checkdam, Anicut- type-II, Anicut- type-III, MPT, protection wall of 6 ft. height in wildlife forest areas, 4ft. in territorial forest areas, construction of forest chowkis, Range office cum residence and boundary pillars etc.

The sample sites of works and assets created under CAMPA were selected at APCCF (M&E), Office of PCCF (HoFF) level amongst the works/ assets created during the period 2020-21, and 2021-22. After reaching the sample sites selected work, photography along with the GPS coordinates have been carried out for 35 Pakki diwar 4 ft. of 23 forest divisions, 23 Pakki diwar 6 ft. of 13 forest divisions, 233 pillars of 37 forest divisions, 07 Forest Chowkis of 07 forest divisions, 32 Anicuts II of 21 forest divisions, 16 Anicuts III of 13 forest divisions, 02 range office cum residence of 02 forest divisions, 01 Rescue centre of 01 division & 16 MPT of 05 forest divisions. All sites have been visited and GPS enabled photos have been taken for all along with the condition of sites also. In total, 365 assets were evaluated by the third party team. Various aspects have been checked such as documents during development of asset, maintenance of records during evaluation. Present condition of assets and its uses were also recorded.

Findings of the Evaluation Team

The details of the report of evaluation of assets created under CAMPA of 51 Forest Divisions are given in table 5.1.

Table 5.1: Evaluation of Assets created under CAMPA

Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
1	**Name of Division : Ajmer**			
	Ajmer	4 ft. wall	Nausar (Ratdang Chaursiyawas)	2020-21
	Ajmer	4 ft. wall	Adarshnagar	2021-22
2	**Name of Division : Alwar**			
	Rajgarh	4 ft. wall	Kothi Narayanpur	2020-21
	Thanagazi	Anicut Type –II	Malutana-1	2020-21
	Rajgarh	Forest Chowki	Machadi	2021-22
	Rajgarh	4 ft. wall	Jamdoli-A	2021-22
	Rajgarh	Anicut Type –II	Machadi Chowki ke pass	2021-22

Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
	Kishangarhbas	Anicut Type -III	Khohra Pipli	2021-22
	Rajgarh	Boundary Pillar	Jhakda	2020-21
	Thanagazi	Boundary Pillar	Agar	2021-22
3	**Name of Division : Alwar STR Sariska**			
	Alwar Bafar	6 ft. wall	Midhiya Sarpanch Farm se Umren	2020-21
	Talvrax	6 ft. wall	Tolawas	2020-21
	Akbarpur	Boundary Pillar	Dharmpura Block	2021-22
	Talvrax	Boundary Pillar	Bairawas	2021-22
	Sariska	Boundary Pillar	Indok East	2021-22
	Alwar Bafar	Boundary Pillar	Nidani	2021-22
	Tahla	Boundary Pillar	Dabkan	2021-22
4	**Name of Division : Banswara**			
	Ghatol	4 ft. wall	Range Residence Ghatol	2020-21
	Ghatol	Boundary Pillar	Rohal Undvela(Miyasa)	2020-21
	Ghatol	Boundary Pillar	Vadita Hilage (Kamji Ka Kheda)	2020-21
	Banswara	Boundary Pillar	Medimal Bhandar	2020-21
	Gadhi	Boundary Pillar	Babaa Kua wala	2020-21
	Gadhi	Boundary Pillar	Rohal Panasi	2020-21
	Bagidora	Boundary Pillar	Kobadabri	2020-21
	Bagidora	Boundary Pillar	Devkotra	2020-21
	Doongra	Boundary Pillar	Karmi	2020-21
	Doongra	Boundary Pillar	Harendar	2020-21
	Doongra	Boundary Pillar	Timbamahudi	2020-21
	Kushalgarh	Boundary Pillar	Khunra Kundiya	2020-21
	Kushalgarh	Boundary Pillar	Gararkhora	2020-21
	Banswara	Boundary Pillar	Hindolamal	2021-22
	Banswara	Boundary Pillar	Sarwanderi	2021-22
	Banswara	Boundary Pillar	Bhojiya Samariya	2021-22
	Bagidora	Boundary Pillar	Kobadabri	2021-22
	Doongra	Boundary Pillar	Molanmacha	2021-22
	Gadhi	Boundary Pillar	Daulatgarh	2021-22
	Ghatol	Boundary Pillar	Satbidiya	2021-22
5	**Name of Division : Barmer**			
	Chohtan	Boundary Pillar	Chichrasar Vanshetra	2021-22
	Sindhari	Range Office	Sirdhari	2021-22
6	**Name of Division : Bharatpur**			
	Bayana	Anicut Type-II	Devghatiya Kair	2020-21
	Kaman	Boundary Pillar	Bolkheda(Kankachal)	2020-21
	Kaman	Boundary Pillar	Bolkheda(Kankachal) I	2020-21
	Kaman	Boundary Pillar	Klabta Dholgiri	2020-21
	Deeg	Boundary Pillar	Dhamari	2020-21
7	**Name of Division : Bharatpur WL**			
	Bandh Baretha	Boundary Pillar	Vankhand Sukhashila	2020-21
	Bandh Baretha	Boundary Pillar	Bajana & Sultanpur	2021-22
8	**Name of Division : Bhilwara**			
	Mandalgarh	4 ft. wall	Damjal	2020-21
	Shahpura	Anicut Type -II	Dhaneshwar	2020-21
	Mandalgarh	Anicut Type -III	Banka Beed	2020-21
	Mandalgarh	Anicut Type -II	Danpura	2021-22
	Bhilwara	Anicut Type -III	Bhoja ji Beed	2021-22
	Asind	Boundary Pillar	Kisanpura Badnaur	2020-21

Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
	Shahpura	Boundary Pillar	Taswariya Basa	2021-22
	Shahpura	Boundary Pillar	Karamdas	2021-22
	Shahpura	Boundary Pillar	Karamdas B	2021-22
	Shahpura	Boundary Pillar	Noon	2021-22
	Bhilwara	Boundary Pillar	Gajura Naya 109	2021-22
	Bhilwara	Boundary Pillar	Vankhand Bemali A 56	2021-22
	Bhilwara	Boundary Pillar	Vankhand Bemali B 49	2021-22
	Jahajpur	Boundary Pillar	Mohanpura	2021-22
	Jahajpur	Boundary Pillar	Rampura	2021-22
	Jahajpur	Boundary Pillar	Ratangarh	2021-22
9	**Name of Division : Bikaner**			
	Nokha	4 ft. wall	Bikasar	2021-22
10	**Name of Division : Bikaner WL**			
	Jodbid Gadhwala	Boundary Pillar	Jodbeed Gadwala Conservation Reserve Kotdi	2020-21
	Marudhara Biological	Boundary Pillar	Marudhra Biological Park Beechwal	2020-21
	Jodbid Gadhwala	Boundary Pillar	Jodbeed Gadwala Conservation Reserve Kotdi	2021-22
11	**Name of Division : Bundi**			
	Nainwa	4 ft. wall	Nainwa Se Dai road	2020-21
	Dabi	4 ft. wall	Talab Gaon Vankhand Borkhandi	2020-21
	Van surksha	Range Office	Bundi	2021-22
	Bundi	4 ft. wall	Vankhand Kanti Aastoli	2021-22
	Dabi	Boundary Pillar	Vankhand Dasaliya B range	2020-21
	Dabi	Boundary Pillar	Vankhand Maradi Naka Garada	2020-21
	Hindoli	Boundary Pillar	Vankhand Aklor Pani Dhal	2020-21
	Bundi	Boundary Pillar	Vankhand Ful Sagar Sathur range	2020-21
	Nainwa	Boundary Pillar	Vankhand Jajawar A Naka Jajawar	2020-21
	Hindoli	Boundary Pillar	Naka Khinya Vankhand Umarmata	2021-22
	Dabi	Boundary Pillar	Vankhand Maradi Naka Garada	2021-22
	Bundi	Boundary Pillar	Naka Gudhanathavtan Vankhand Gudha	2021-22
	Nainwa	Boundary Pillar	Vankhand Jajawar A Naka Jajawar	2021-22
12	**Name of Division : Chhattargarh**			
	Satasar	Boundary Pillar	13 DKD	2020-21
	61 RD	Boundary Pillar	1 PWM	2020-21
13	**Name of Division : Chittorgarh**			
	Chittorgarh	4 ft. wall	Hathniodi 2	2020-21
	Kapasan	Anicut Type-II	Anicut Type II	2020-21
	Bengu	Forest Chowki	Piplikheda	2021-22
	Nimbaheda	Anicut Type-II	Bhanda Magra	2021-22
	Kapasan	Boundary Pillar	Kapasan	2020-21
	Borav	Boundary Pillar	Borav	2020-21
	Nimbaheda	Boundary Pillar	Nimbaheda	2020-21
	Rawatbhata	Boundary Pillar	Rawatbhata	2020-21
	Javada	Boundary Pillar	Javda	2020-21
	Chittorgarh	Boundary Pillar	Chhittorgarh	2020-21
	Vijaipur	Boundary Pillar	Vijaypur	2020-21
	Kapasan	Boundary Pillar	Vankhand Aera	2021-22
	Kapasan	Boundary Pillar	Vankhand Sikargah Salera (Gangrar)	2021-22

Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
	Borav	Boundary Pillar	Kudalkheda	2021-22
	Javada	Boundary Pillar	Chordo Ki dhar	2021-22
14	**Name of Division : Chittorgarh WL**			
	Bassi	6 ft. wall	Javadiya Juna	2020-21
	Bassi	6 ft. wall	Amalda nadi se Ghatabao	2021-22
	Jakham	6 ft. wall	Chandana Phala se Nathu walia ke ghar tak	2021-22
	Dhariyawad	Anicut Type-II	Mataji wala nala 1	2021-22
	Bassi	Anicut Type-III	Badapani	2021-22
	Bassi	Boundary Pillar	Naka Parsoli	2021-22
	Jakham	Boundary Pillar	Naka Anoppura	2021-22
	Dhariyawad	Boundary Pillar	Naka Panchaguda	2021-22
15	**Name of Division : Churu**			
	Sujangarh	Boundary Pillar	Vankhand Kodasar Charla ki Seema par	2020-21
	Rajgarh	Boundary Pillar	Vanshetra Chandgothi	2021-22
	Rajgarh	Boundary Pillar	Vanshetra Sankhu	2021-22
16	**Name of Division : Dausa**			
	Dausa	Rescue Center	Khan Bhankri	2021-22
	Dausa	Boundary Pillar	Kalakho	2021-22
	Sikrai	Boundary Pillar	Kalakho	2021-22
	Sikrai	Boundary Pillar	Naharkhorra 11 A	2021-22
	Bandikui	Boundary Pillar	Dhapawan Urvadi Rehdiya	2021-22
	Bandikui	Boundary Pillar	Balaji ka Thobda	2021-22
	Mahwa	Boundary Pillar	Mandawar- Banawad	2021-22
	Mahwa	Boundary Pillar	Nandana Talhadi	2021-22
	Mahwa	Boundary Pillar	Nandana Talhadi A	2021-22
	Mahwa	Boundary Pillar	Khonchpuri	2021-22
17	**Name of Division : Dholpur**			
	Sarmathura	4 ft. wall	Sidhpura	2020-21
	Sarmathura	Anicut Type-III	Dhauradada	2020-21
	Sarmathura	Boundary Pillar	Madanpur block	2020-21
18	**Name of Division : Dungarpur**			
	Bichhiwara	4 ft. wall	Vankhand Kariya Mangra	2020-21
	Sagwara	Anicut Type-II	Pani wala Dara	2020-21
	Sagwara	4 ft. wall	Kanthal C	2021-22
	Sagwara	Anicut Type-II	Bhagapaliya	2021-22
	Dungarpur	Boundary Pillar	Vankhand Ranijhula	2020-21
	Antari	Boundary Pillar	Vankhand Pagara B	2020-21
	Antari	Boundary Pillar	Vankhand Pagara C	2020-21
	Antari	Boundary Pillar	Vankhand Pagara D	2020-21
	Aspur	Boundary Pillar	Vankhand Beedlalgirji	2020-21
	Aspur	Boundary Pillar	Vankhand Suliya Beraka	2020-21
	Aspur	Boundary Pillar	Vankhand Kyawadi	2020-21
	Aspur	Boundary Pillar	Vankhand Beda Bedi	2020-21
	Dungarpur	Boundary Pillar	Vankhand Ranijhula	2021-22
	Bichhiwara	Boundary Pillar	Vankhand Chulrawaiya	2021-22
	Bichhiwara	Boundary Pillar	Vankhand Palsisoda	2021-22
	Antari	Boundary Pillar	Vankhand Bhedmata	2021-22
	Antari	Boundary Pillar	Vankhand Aadamal	2021-22
	Aspur	Boundary Pillar	Vankhand Jaspur Khermal A	2021-22

Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
	Aspur	Boundary Pillar	Vankhad Falihor	2021-22
	Aspur	Boundary Pillar	Vankhand Songara Mugediya	2021-22
	Aspur	Boundary Pillar	Vankhand Kabja Katisaur	2021-22
	Sagwara	Boundary Pillar	Vankhand Ghatamawita	2021-22
19	**Name of Division : Ganganagar**			
	Birdhwal	Boundary Pillar	1 SMR	2021-22
	Birdhwal	Boundary Pillar	8 MC	2021-22
	Birdhwal	Boundary Pillar	1 LGM	2021-22
	Birdhwal	Boundary Pillar	2 LGM	2021-22
20	**Name of Division : Hanumangarh**			
	Rawatsar	4 ft. wall	29 DWD	2020-21
	Nohar	4 ft. wall	Range Office	2020-21
	Hanumangarh	Kucchi Diggi	15 KSP	2021-22
	Rawatsar	Boundary Pillar	5 JBD, 4 JBD, 6 KDD, 5 JBD ABC, Pohadka (5 PRKM), 4 CLD, 5CLD, 1 JBD, 3CLD	2020-21
	Rawatsar	Boundary Pillar	122.5 RD	2021-22
	Rawatsar	Boundary Pillar	Rajasthan main canal between 72-135 RD	2021-22
	Rawatsar	Boundary Pillar	2 KDM	2021-22
	Rawatsar	Boundary Pillar	3 SPD	2021-22
	Nohar	Boundary Pillar	14 Barani	2021-22
	Nohar	Boundary Pillar	1 RMS	2021-22
	Nohar	Boundary Pillar	15 JSN	2021-22
	Nohar	Boundary Pillar	Chak Sardarpura	2021-22
	Nohar	Boundary Pillar	BP 5 RMG	2021-22
	Nohar	Boundary Pillar	19 DPN	2021-22
	Nohar	Boundary Pillar	22 DPN	2021-22
	Nohar	Boundary Pillar	Sondi	2021-22
21	**Name of Division : Jaipur**			
	Bassi	4 ft. wall	Dhamsya	2020-21
	Phagi	4 ft. wall	Forest colony	2020-21
	Amer	Boundary Pillar	Nindar Bainad	2021-22
	Amer	Boundary Pillar	Amer	2021-22
22	**Name of Division : Jaipur North**			
	Kotputali	4 ft. wall	Band Buchara 100 RMT	2020-21
	Acharol	4 ft. wall	Rundal 250 RMT	2020-21
	Paota	Boundary Pillar	Vankhand Buchara A	2020-21
	Paota	Boundary Pillar	Vankhand Antela Bhabhru Block 51	2020-21
	Shahpura Jpr	Boundary Pillar	Kumbhawas Gadhi Badodiya-52	2020-21
	Viratnagar	Boundary Pillar	Badi line 43-C	2020-21
	Viratnagar	Boundary Pillar	Berki Makdeta ki Doongari 46-A	2020-21
23	**Name of Division : Jaipur WL**			
	Raisar	6 ft. wall	Kelanwas	2020-21
	Jamwaramgarh	6 ft. wall	Bavriyon ki Dhani Nimbi	2020-21
	Jamwaramgarh	6 ft. wall	Khatiyon ki Dhani Jarunda	2020-21
	Raisar	Forest Chowki	Raisar	2020-21
	Raisar	Anicut Type -II	Jamwa Ghat	2020-21
	Jamwaramgarh	6 ft. wall	Neelkhan Khavvaraniji	2021-22
	Ajabgarh	Anicut Type -II	Bhomiya Jungal	2021-22
	Raisar	Boundary Pillar	Vankhand Devitala 69	2021-22
24	**Name of Division : Jaipur WL Chidiyaghar**			

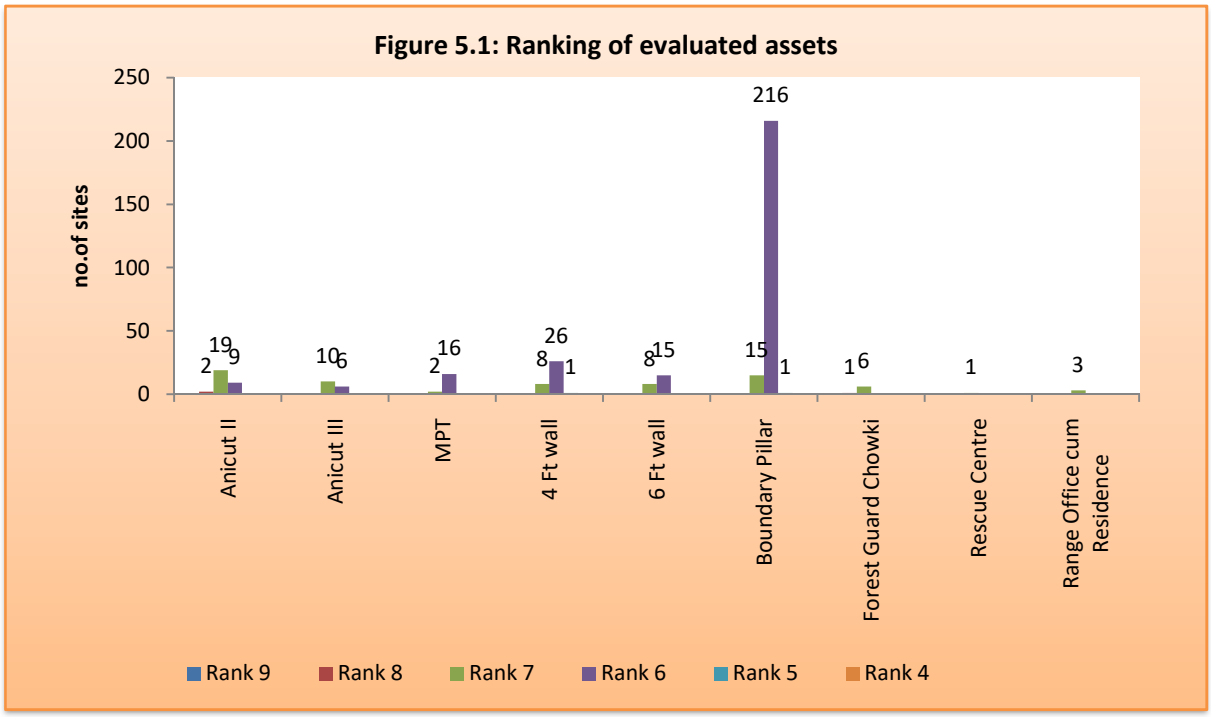
Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
	Jaipur Pradeshik	6 ft. wall	Ghat Ke Balaji, Naka Galta, Forest Block-Amagarh	2020-21
	Jaipur Pradeshik	Anicut Type-III	Lala Kund, Jhalana Leopard Reserve	2021-22
25	**Name of Division : Jaisalmer IGNP**			
	1251 RD	Forest Chowki	Range Office	2020-21
	Pratham O	Boundary Pillar	Naga Barani	2020-21
26	**Name of Division : Jaisalmer WL**			
	Barmer WL	6 ft. wall	Girab range Van Jeev Barmer	2021-22
	Jaisalmer WL	Forest Chowki	Sam Beriyar Chowki	2021-22
27	**Name of Division : Jalore**			
	Jalore	4 ft. wall	Paniya Nada Jalore	2020-21
	Jaswantpura	Range Office	Range Office	2020-21
	Jaswantpura	6 ft. wall	Jain Dharmshala Dantawas se up to NREGA diwar	2021-22
	Jalore	4 ft. wall	Meda Chhiparwada	2021-22
	Raniwara	MPT	Karwada	2021-22
	Raniwara	MPT	Raniwada	2021-22
	Raniwara	Boundary Pillar	Vankhand Dungari	2020-21
	Raniwara	Boundary Pillar	Dodwadiya (Vankhand Raniwada)	2020-21
	Raniwara	Boundary Pillar	Vankhand Pal Jod & Kudi Sariyana	2020-21
	Raniwara	Boundary Pillar	Vankhand Meda	2020-21
	Raniwara	Boundary Pillar	Vankhand Varetha	2020-21
	Raniwara	Boundary Pillar	Vankhand Badgaon	2021-22
	Raniwara	Boundary Pillar	Vankhand Kagmala A	2021-22
	Raniwara	Boundary Pillar	Vankhand Padawi	2021-22
	Raniwara	Boundary Pillar	Vanshetra Dantwada	2021-22
	Raniwara	Boundary Pillar	Vankhand Mandaradi	2021-22
	Raniwara	Boundary Pillar	Vankhand Jalera khurd	2021-22
	Raniwara	Boundary Pillar	Vankhand Sataru	2021-22
	Raniwara	Boundary Pillar	Vankhand Roda	2021-22
28	**Name of Division : Jhalawar**			
	Jhalawar	4 ft. wall	Field trial	2020-21
	Khanpur	Anicut Type-II	Bislai	2020-21
	Jhalawar	Anicut Type-III	Mandashyampura	2020-21
	Jhalawar	Boundary Pillar	Jhalawar	2020-21
	Dug	Boundary Pillar	Dug	2020-21
	Khanpur	Boundary Pillar	Haliheda	2021-22
29	**Name of Division : Jhunjhunu**			
	Khetri	4 ft. wall	Shyampura Bhitera	2020-21
	Udaipurwati	6 ft. wall	Napa Bhairu	2020-21
	Udaipurwati	6 ft. wall	Sahwali Van shetra Kot	2020-21
	Khetri	4 ft. wall	From Sati mata mandir to Shyampura Bhitera	2021-22
	Udaipurwati	Boundary Pillar	Kankariya 57 Main	2020-21
	Khetri	Boundary Pillar	Kankariya 57 Main	2020-21
	Udaipurwati	Boundary Pillar	Kankariya Main 57 Vankhand	2021-22
	Khetri	Boundary Pillar	Khetri-48, Madhogarh Vankhand	2021-22
30	**Name of Division : Jodhpur**			
	Osian	4 ft. wall	Vankhand Bhikamkaur	2020-21
	Baap	Boundary Pillar	Vankhand Bap	2020-21
	Mandor	Boundary Pillar	Vankhand Beriganga	2021-22

Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
	Shergarh	Boundary Pillar	Vankhand Dechu Fatehgarh	2021-22
31	**Name of Division : Karauli**			
	Gudhachandraji	4 ft. wall	Mehndipur ki Dungri evam Vankhand Nahar Kohra 11 A	2020-21
	Karauli	Boundary Pillar	Kota B	2020-21
	Masalpur	Boundary Pillar	Mardai Daudpur	2020-21
	Masalpur	Boundary Pillar	Mahuwa Kheda Main & B	2020-21
	Sapotra	Boundary Pillar	Naroli Dang/Dabra A	2020-21
	Gudhachandraji	Boundary Pillar	Naharkohra no. 11A	2020-21
	Mandrail	Boundary Pillar	Vankhand Gurdah	2021-22
	Masalpur	Boundary Pillar	Vankhand Banswadi	2021-22
	Karauli	Boundary Pillar	Vankhand Ratiyapur	2021-22
	Sapotra	Boundary Pillar	Vankhand Khirkhida Baloti	2021-22
	Sapotra	Boundary Pillar	Vankhand Dabra B	2021-22
32	**Name of Division : Karauli RTR**			
	Nainiyaki	Anicut Type -II	Lamba ka Jharna ghanteshwar type 2	2020-21
	Keladevi	Boundary Pillar	Vankhand Marmada	2020-21
33	**Name of Division : Kota**			
	Ladpura	4 ft. wall	Behind Hadoti Colony & Mukundra Vihar	2020-21
34	**Name of Division : Kota WL**			
	Jaitpur	Anicut Type -II	Papda Naka	2020-21
	Jaitpur	6 ft. wall	Moti Maharaj Ghatla to Nadi ki Jhopda	2021-22
	Jaitpur	Anicut Type -II	Falasthuni naka Guda Sdavartiya	2021-22
	Jaitpur	Anicut Type -III	Sendri Vankhand Peepalya Manakchowk	2021-22
35	**Name of Division : Mount Abu WL (Sirohi)**			
	Anadra	6 ft. wall	Buda Mamaji se up to Umwah nala(1km)	2020-21
	Anadra	Anicut Type -II	Nana ka Khada Anicut II	2020-21
	Anadra	Anicut Type -III	Kala Putra Shri Mansha Ke Ghar	2020-21
	Anadra	Anicut Type -II	Khapariya	2021-22
36	**Name of Division : Pali**			
	Marwar Jn	4 ft. wall	Kheda Kalyanpura	2020-21
	Sojat	Boundary Pillar	Rundiya Vankhand	2021-22
	Desuri	Boundary Pillar	Guda Umsingh	2021-22
	Bali	Boundary Pillar	Bali Jod	2021-22
	Bali	Boundary Pillar	Beda Block	2021-22
37	**Name of Division : Pratapgarh**			
	Pipalkhunt	4 ft. wall	CHC Peepalkhoont to Pratapgarh Ch. 115.900 to 115.150	2020-21
	Chhoti Sadari	Anicut Type-II	Chanda Kui	2020-21
	pratapgarh	Anicut Type-III	Ambapani	2020-21
	Pipalkhunt	4 ft. wall	Haldu to Pratapgarh Ch. 112.800 to 111.650	2021-22
	Pipalkhunt	Anicut Type-II	Hudabawji CN 20 Surajpura	2021-22
	Dhariyawad	Anicut Type-III	Anicut Bhamra wala Beda	2021-22
	pratapgarh	Boundary Pillar	Lalgarh, Badisakhthali	2020-21
	Devgarh	Boundary Pillar	Jhatla C	2021-22
38	**Name of Division : Rajsamand WL**			
	Sadari	6 ft. wall	Chandlai Gwar	2020-21
	Bokhada	Anicut Type-II	Visma	2020-21

Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
	Ravali	Anicut Type-III	Hinglaj Mata Baghmal	2020-21
	Sadari	6 ft. wall	Ranakpur Naka Sadari	2021-22
	Rajsamand	4 ft. wall	Peeparda	2021-22
	Kumbhalgarh	Boundary Pillar	Wali Ka Mathara C	2020-21
	Kumbhalgarh	Boundary Pillar	Bagor Part B	2020-21
	Kumbhalgarh	Boundary Pillar	Odar Ki Khadri	2020-21
	Kumbhalgarh	Boundary Pillar	Jaitaran Ka Bada Mathara	2020-21
	Jhilwara	Boundary Pillar	Thurawad Ka Mathara	2021-22
	Kumbhalgarh	Boundary Pillar	Bagor Se Barwara Ki Nedi	2021-22
	Nathdwara	Boundary Pillar	Kathar Ki Nedi	2021-22
39	**Name of Division : Sawai Madhopur**			
	Baunli	Anicut Type-II	Bans Torda	2020-21
	Baunli	Forest Chowki	Gupteshwar Mahadeo	2021-22
	S.Madhopur	MPT	Surang	2021-22
	Baunli	MPT	Kushalpura	2021-22
	Baunli	MPT	Kheda	2021-22
	S.Madhopur	Boundary Pillar	Bhagwatgarh 78 Main	2020-21
	Baunli	Boundary Pillar	Badgaon Jaitpura	2020-21
	S.Madhopur	Boundary Pillar	Lorwada	2021-22
40	**Name of Division : Sawai Madhopur Chambal WL**			
	K. Patan	Anicut Type -II	Takarwara	2020-21
	Mandrail	Anicut Type -III	Maharajpura evam Devgirsot	2020-21
	Itava	Anicut Type -II	Mandawara Jhotoli	2021-22
	Palighat	Anicut Type -III	Tapovan	2021-22
41	**Name of Division : Sawai Madhopur RTR**			
	Indragarh	6 ft. wall	Tol Ki Talai se Chiti wala Khal Tak	2020-21
	Falodi	6 ft. wall	Sitaram Gujar ke khet se Kalyan Gujar Ke Khet tak	2021-22
42	**Name of Division : Sikar**			
	Neemkathana	4 ft. wall	Bhudoli	2020-21
	Sikar	6 ft. wall	Shakambari Conservation Reservr, Sikar (Sakrai)	2020-21
	Srimadhopur	MPT	Balvad II	2021-22
	Sikar	Boundary Pillar	Malkeda	2020-21
	Sikar	Boundary Pillar	Khori	2020-21
	Neemkathana	Boundary Pillar	Baleswar	2020-21
	Neemkathana	Boundary Pillar	Toda	2020-21
	Danta	Boundary Pillar	Vankhand Dantla	2020-21
	Danta	Boundary Pillar	Ganoda	2020-21
	Srimadhopur	Boundary Pillar	Khandela	2020-21
	Srimadhopur	Boundary Pillar	Paniharwas	2020-21
	Srimadhopur	Boundary Pillar	Mahroli	2020-21
	Sikar	Boundary Pillar	Todi Madhopura	2021-22
	Neemkathana	Boundary Pillar	Van khand Govdi	2021-22
	Danta	Boundary Pillar	Van khand Govti Ladhana	2021-22
	Srimadhopur	Boundary Pillar	Bhuranpura	2021-22
	Srimadhopur	Boundary Pillar	Khiroti	2021-22
43	**Name of Division : Sirohi**			

Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
	Sirohi	Anicut Type -II	Vankhand Atalkheda(Ranela) Bhawani Mata Ka Mandir	2020-21
	Pindwara	Anicut Type -II	Putli Nala Anicut B	2021-22
	Sirohi	Anicut Type -III	Nimbaj Jeerawal Vankhand Near to Kesuwa Chowli	2021-22
44	**Name of Division : Tonk**			
	Niwai	4 ft. wall	Vankhand Nohata	2020-21
	Tonk	4 ft. wall	Kaccha Bandha	2021-22
	Tonk	MPT	Andheriya Bag MPT II	2021-22
	Uniyara	MPT	Bhojraj MPT II	2021-22
	deoli	MPT	Ganvadi MPT I	2021-22
	deoli	MPT	Ganvadi MPT V	2021-22
	Bisalpur	MPT	Surnada ke pas MPT V	2021-22
	Bisalpur	MPT	Karmala MPT-I	2021-22
	deoli	Boundary Pillar	Sanvatgarh Toda ka Gotada A.B.	2020-21
	Tonk	Boundary Pillar	Sohela	2020-21
	Tonk	Boundary Pillar	Todaraisingh	2020-21
	Uniyara	Boundary Pillar	Kakod Banetha	2020-21
	deoli	Boundary Pillar	Sitapura	2021-22
	deoli	Boundary Pillar	Sitapura No. 1	2021-22
	deoli	Boundary Pillar	Dhad	2021-22
	deoli	Boundary Pillar	Sitapura No. 2	2021-22
	deoli	Boundary Pillar	Devdawas	2021-22
	deoli	Boundary Pillar	Aava Dehdu	2021-22
	Tonk	Boundary Pillar	Kaccha Bandha	2021-22
	Tonk	Boundary Pillar	Todaraisingh	2021-22
	Niwai	Boundary Pillar	Siras 90	2021-22
45	**Name of Division : Udaipur**			
	Sarada	Anicut Type-II	Bandali Nal	2021-22
	Orana	Boundary Pillar	Aadiwas	2020-21
	Falasiya	Boundary Pillar	Som Part II	2020-21
	Jhadol	Boundary Pillar	Vankhand Nandwel	2020-21
	Udaipur west	Boundary Pillar	Undari Poplty	2020-21
	Kherwara	Boundary Pillar	Vankhand Bawlavada	2021-22
	Salumbar	Boundary Pillar	Bamaniya, Khorav	2021-22
	Jhadol	Boundary Pillar	Nalsandol & Chapra	2021-22
	Jhadol	Boundary Pillar	Sera	2021-22
	Sarada	Boundary Pillar	Plodara	2021-22
46	**Name of Division : Udaipur North**			
	Deola	Anicut Type-II	Mairpur-6	2021-22
	Kukawas	MPT	Rohini	2021-22
	Bhindar	MPT	Aakola	2021-22
	Gogunda	Boundary Pillar	Bhadwiguda	2020-21
	Gogunda	Boundary Pillar	Aaramangra	2020-21
	Gogunda	Boundary Pillar	Majam	2020-21
	Gogunda	Boundary Pillar	Khuman Mangra	2020-21
	Sayara	Boundary Pillar	Vankhand Bagar Ka Khula Jungle	2020-21
	Sayara	Boundary Pillar	Vankhand Ladiyo ki Ghati	2020-21
	Sayara	Boundary Pillar	Vankhand Thana wali nedi	2020-21

Sl.no	Name of Range	Name of Structure	Name of Site	Year of construction
	Sayara	Boundary Pillar	Vankhand Rupar ka Mathara	2020-21
	Sayara	Boundary Pillar	Rawach	2021-22
	Sayara	Boundary Pillar	Kamba Ka Khula Jungle	2021-22
	Sayara	Boundary Pillar	Baguni	2021-22
	Sayara	Boundary Pillar	Aadiwali Barwari A	2021-22
	Udaipur	Boundary Pillar	Gamdhar	2021-22
	Udaipur	Boundary Pillar	Kamlodiya	2021-22
	Udaipur	Boundary Pillar	Hinglasiya	2021-22
47	**Name of Division : Udaipur WL**			
	Jaisamand	6 ft. wall	Dheemra Phatak se Mahudi	2020-21
	Jaisamand	Anicut Type - II	Taka Ghati Nandvi	2020-21
	Panarwa	6 ft. wall	Bujha	2021-22
	Panarwa	Forest Chowki	Ambasa	2021-22
	Panarwa	Anicut Type - II	Ambasa II	2021-22
	Jaisamand	Anicut Type - III	Jamuda	2021-22
	Panarwa	MPT	Tindori	2021-22
	Kotra	MPT	Maldar	2021-22
	Jaisamand	MPT	Dhimrbag	2021-22
	Panarwa	Boundary Pillar	Dharavar	2021-22
	Mamer	Boundary Pillar	Ashawada/Aadahaldu	2021-22
	Kotra	Boundary Pillar	Vankhand Phulwari	2021-22



Ranking of Assets Evaluated

Table 5.2: Ranking of Evaluated Assets

Sl no	Assets	Asset-wise no. of site having ranking between 9 and 4						
		9	8	7	6	5	4	Total
1	Anicut II		2	19	9			30
2	Anicut III			10	6			16
3	MPT			2	16			18
4	4 Ft wall			8	26	1		35
5	6 Ft wall			8	15			23
6	Boundary Pillar			15	216	1		232
7	Forest Guard Chowki		1	6				7
8	Rescue Centre			1				1
9	Range Office cum Residence			3				3
Total		-	3	72	288	2	-	365

Out of total selected & evaluated 365 sites of assets of 153 ranges of 47 divisions, the ranking (table 5.2 & figure 5.1) was:

- Excellent (9) of 0 site
- Very good (8) of 03 sites
- Good (7) of 72 sites
- Average (6) of 288 sites
- Poor (5) of 02 sites
- Very poor (4) of 0 sites

5.2 Assessment of Boundary Wall (Pakki Diwar 4 ft.)

The details of the report of evaluation of Pakki diwar 4 ft. created under CAMPA of 23 Forest Divisions are given in table 5.3.

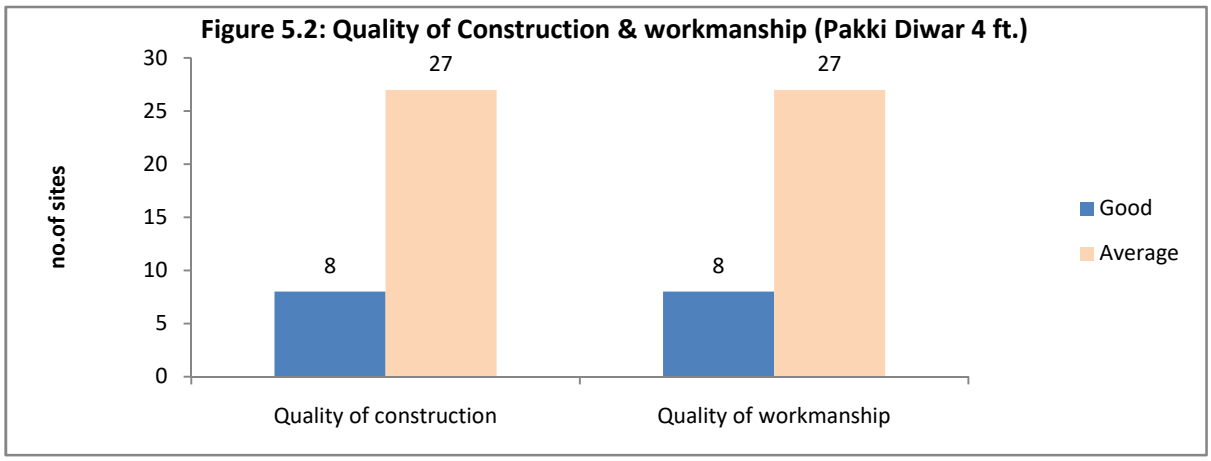
Table 5.3: Evaluation of Pakki Diwar 4 Ft.

Sl.no	Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
1	Ajmer	Nousar (Ratidang Choursiyawas)	Average	6	No	Average	6
2	Ajmer	Adarsh Nagar	Average	6	No	Average	6
3	Alwar	Kothi Narayanpur	Average	6	No	Average	6
4	Alwar	Jaamdoli A	Average	6	No	Average	6
5	Banswara	Regional Residence Ghatol	Good	7	No	Good	7
6	Bhilwara	Damjal 500 RMT	Good	7	No	Good	7
7	Bikaner	Bikasar	Average	6	No	Average	6
8	Bundi	Nainwan Se Dei Rd.	Average	6	No	Average	6

Sl.no	Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
		250 RMT					
9	Bundi	Badfu Vankhand Lambakhoh 200 RMT	Average	6	No	Average	6
10	Bundi	Ahead of Tunnel Vankhand Kanti Astoli 800 RMT	Average	6	No	Average	6
11	Chittorgarh	Hathniodi	Average	6	No	Average	6
12	Dholpur	Siddhapura A	Average	6	No	Average	6
13	Dungarpur	Vankhand Kariya mangra 500 RMT	Average	6	No	Average	6
14	Dungarpur	Kanthal C Pakki Deewar	Average	6	No	Average	6
15	Hanumangarh	29 DWD	Average	6	No	Average	6
16	Hanumangarh	Range Office	Average	6	No	Average	6
17	Jaipur	Dhamsya	Average	6	No	Average	6
18	Jaipur	Forest Colony	Average	6	No	Average	6
19	Jaipur North	Band Buchara 100 RMT	Average	6	No	Average	6
20	Jaipur North	Rundal 250 RMT	Average	6	No	Average	6
21	Jalore	Paniya Nada Jalore	Average	6	No	Average	6
22	Jalore	Meda Chiparwara	Average	6	No	Average	6
23	Jhalawar	Field Trial	Good	7	No	Good	7
24	Jhunjhunu	Shyampura Bhitera Range Khetdi (Illegal Mining Sensetive Area)	Good	7	No	Good	7
25	Jhunjhunu	Sati Mata Mandir Se Shyampura Bhitera Tak Range Khetdi (Illegal Mining Sensitive Area)	Good	7	No	Good	7
26	Jodhpur	Vankhand Bhikamkaur	Average	6	No	Average	6
27	Karauli	Mehandipur Ki Duungri, Vankhand Nahar Khohra 11A	Average	6	No	Average	6
28	Kota	Behind Hadouti Colony & Mukundara Vihar Encroachment Effective Area Aanwli Rojhdi	Average	5	No	Average	5
29	Pali	Kheda Kalyanpura	Average	6	No	Averave	6
30	Pratapgarh	CHC Peepalkhut Se Pratapgarh ki Taraf KM Chenej 115.9 Se 115.15 Right Side	Good	7	No	Good	7
31	Pratapgarh	Haldu Se Pratapgarh Ki Taraf KM Chenej 112.8 Se 111.650 Right Side	Average	6	No	Average	6
32	Rajsamand WL	Peeprada	Good	7	No	Good	7

Sl.no	Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
33	Sikar	Bhudoli	Good	7	No	Good	7
34	Tonk	Vankhand Nohta	Average	6	No	Average	6
35	Tonk	Kaccha Bandha	Average	6	No	Average	6

In total, 35 Pakki diwar 4ft. (18727 meters) had been evaluated, out of which 27 were average & 08 were good in quality of construction. Regarding rating of quality of construction 27 pakki diwar was rated 6 & 08 rated 7. Regarding rating of quality of workmanship, 27 were average & 08 were good (figure 5.2).







5.3 Assessment of Boundary Wall (Pakki Diwar 6 ft.)

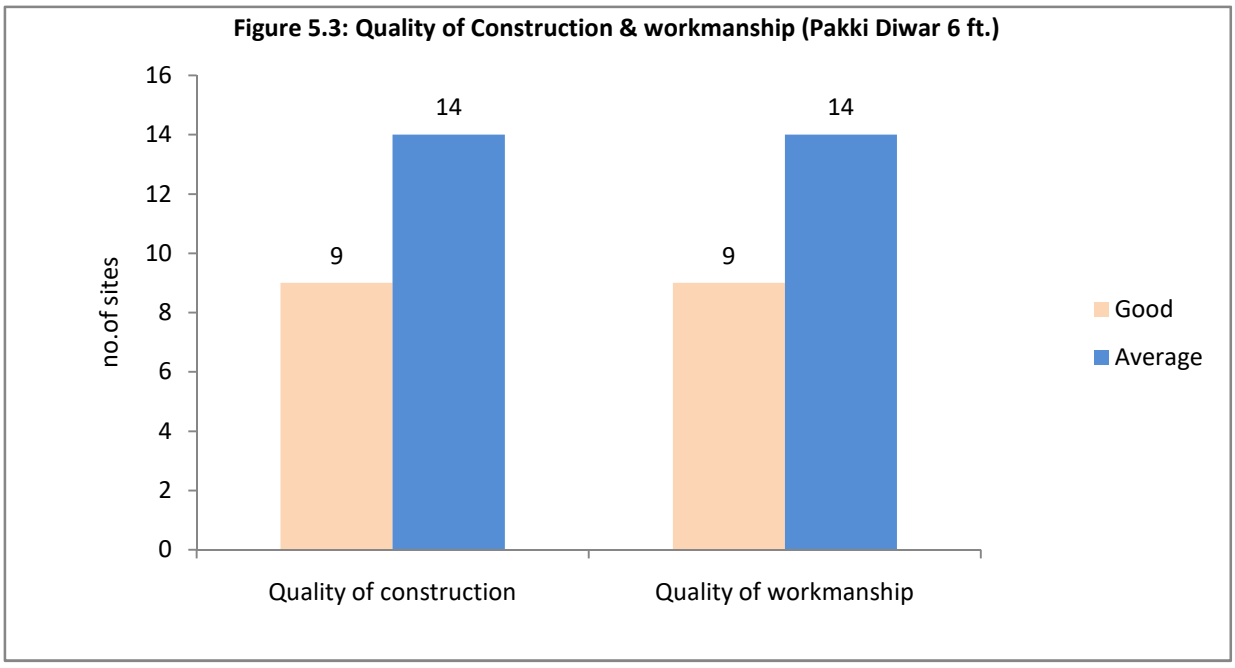
The details of report of evaluation of Pakki diwar 6 ft. created under CAMPA of 06 Forest Division are given in table 5.4.

Table 5.4: Evaluation of Pakki Diwar 6 Ft.

Sl.no	Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workman-ship	Rating of quality of workmanship
1	Alwar STR	Midhiya Sarpanch Farm Se Umrain	Average	6	No	Average	6
2	Alwar STR	Tolawas	Average	6	No	Average	6
3	Chittorgarh WL	Jawadiya Juna	Average	6	No	Average	6
4	Chittorgarh WL	Aamalda Nadi Se Ghatabav	Good	7	No	Good	7
5	Chittorgarh WL	Chandana Fala Se Nathu/ Waliya Ke Ghar Tak	Good	7	No	Good	7
6	Jaipur WL	Kelanwas	Good	7	No	Good	7
7	Jaipur WL	Bawriyon Ki Dhani Nimbi	Average	6	No	Average	6
8	Jaipur WL	Khatiyon Ki Dhani Jarunda	Average	6	No	Average	6
9	Jaipur WL	Neelkhan Khawwarani Ji	Good	7	No	Good	7
10	Jaipur WL Chidiyaghar	Ghat Ke Balaji, Naka Ghata, Forest Block-Amagarh	Average	6	No	Average	6
11	Jaisalmer WL	Girab Range Wildlife Barmer	Good	7	No	Good	7
12	Jalore	Jain Dharmshala Dantlawas Se Narega Deewar Tak	Average	6	No	Average	6
13	Jhunjhunu	Wall Construction Napa Bhairu	Good	7	No	Good	7
14	Jhunjhunu	Sahwali Vankhetra Kot	Good	7	No	Good	7
15	Kota WL	Moti Maharj Ghatla Se Nadi Ka jhopda Ki Aur	Good	7	No	Good	7
16	Mount Abu WL (Sirohi)	Budha Mamaji Se Umwah Nala Tak (1 KM)	Average	6	No	Average	6
17	Rajsamand	Chandlai Gwar	Average	6	No	Average	6

Sl.no	Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workman-ship	Rating of quality of workmanship
	WL						
18	Rajsamand WL	Ranakpur Naka Sadri	Average	6	No	Average	6
19	S.Madhopur RTR	Tol Ki Talai to Chinti Wala Khal	Average	6	No	Average	6
20	S.Madhopur RTR	Seetaram Gurjar Ke Khet to Kalyan Gurjar Ke Khet Tak	Good	7	No	Good	7
21	Sikar	Shakambari Conservation Reserve, Sikar (Sarkay)	Average	6	No	Average	6
22	Udaipur WL	Dhimda Fatak Se Mahudi	Average	6	No	Average	6
23	Udaipur WL	Bujha	Average	6	No	Average	6

In total, 23 Pakki diwar 6ft. (17742 meters) had been evaluated. Out of which 14 were average & 9 were good in quality of construction. Regarding rating of quality of construction 09 rated 7, & 14 rated 6. Regarding rating of quality of workmanship, 14 pakki diwar 6ft. rated average & 9 rated good (figure 5.3).



5.4 Assessment of Boundary Pillars

The details of the report of evaluation of Pillars created under CAMPA in 37 Forest Divisions are given in table 5.5.

Table 5.5: Evaluation of Pillars

Sl.no	Name of Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
1.	Alwar	Jhakda	Average	6	No	Average	6
2.	Alwar	Agar	Average	6	No	Average	6
3.	Alwar STR	Block Dharmpura	Average	6	No	Average	6
4.	Alwar STR	Bairawas	Average	6	No	Average	6
5.	Alwar STR	Indauk Purva	Average	6	No	Average	6
6.	Alwar STR	Nidani	Average	6	No	Average	6
7.	Alwar STR	Dabkan	Average	6	No	Average	6
8.	Banswara	Rohal Unvenla (Miyasa)	Average	6	No	Average	6
9.	Banswara	Vadita Hilej (Kamji Ka Kheda)	Average	6	No	Average	6
10.	Banswara	Medimal Bhandar	Average	6	No	Average	6
11.	Banswara	Babakua Wala	Average	6	No	Average	6
12.	Banswara	Rohal Panasi	Average	6	No	Average	6
13.	Banswara	Kobadabri	Average	6	No	Average	6
14.	Banswara	Devkotra	Average	6	No	Average	6
15.	Banswara	Karmi	Average	6	No	Average	6
16.	Banswara	Harendragarh	Average	6	No	Average	6
17.	Banswara	Timbamahudi	Average	6	No	Average	6
18.	Banswara	Khuta Kundiya	Average	6	No	Average	6
19.	Banswara	Garadkhora	Average	6	No	Average	6
20.	Banswara	Hindolamaal	Average	6	No	Average	6
21.	Banswara	Sarwanderi	Average	6	No	Average	6
22.	Banswara	Bhojiya Samariya	Average	6	No	Average	6
23.	Banswara	Kobadabri	Average	6	No	Average	6
24.	Banswara	Molanmacha	Average	6	No	Average	6
25.	Banswara	Doulatgarh	Average	6	No	Average	6
26.	Banswara	Satbidiya	Average	6	No	Average	6
27.	Barmer	Chichdasar Vankhetra	Average	6	No	Average	6
28.	Bharatpur	Bolkheda (Kankachal)	Average	6	No	Average	6
29.	Bharatpur	Bolkheda (Kankachal)-I	Average	6	No	Average	6
30.	Bharatpur	Kalabata Dhaulgiri	Average	6	No	Average	6
31.	Bharatpur	Dhamari	Average	6	No	Average	6
32.	Bharatpur WL	Vankhand Sukhashila	Average	6	No	Averave	6
33.	Bharatpur WL	Bajna & Sultanpur	Average	6	No	Averave	6
34.	Bhilwara	Kishanpura Bandour	Average	6	No	Average	6
35.	Bhilwara	Taswariya Basa	Average	6	No	Average	6
36.	Bhilwara	Karamdas	Average	6	No	Average	6
37.	Bhilwara	Karamdas B	Average	6	No	Average	6
38.	Bhilwara	Noon	Average	6	No	Average	6
39.	Bhilwara	Gajuna New 109	Average	6	No	Average	6
40.	Bhilwara	Vankhand Bemali A 56	Average	6	No	Average	6
41.	Bhilwara	Vankhand Bemali B49	Average	6	No	Average	6
42.	Bhilwara	Mohanpura	Average	6	No	Average	6
43.	Bhilwara	Rampura	Average	6	No	Average	6

Sl.no	Name of Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
44.	Bhilwara	Ratangarh	Average	6	No	Average	6
45.	Bikaner WL	Jodbeed Gadhwala Conservation Reserve, Kotdi	Average	6	No	Average	6
46.	Bikaner WL	Marudhara Biological Park, Bichwal	Average	6	No	Average	6
47.	Bikaner WL	Jodbeed Gadhwala Conservation Reserve, Kotdi	Average	6	No	Average	6
48.	Bundi	Vankhand Dasaliya B Range Dabi 50 Boundry Pillar	Average	6	No	Average	6
49.	Bundi	Vankhand Maradi Naka Gardada Range Dabi 50 Boundry Pillar	Average	6	No	Average	6
50.	Bundi	Vankhand Aklor Pani Dhal Range Hindoli 50 Boundry Pillar	Average	6	No	Average	6
51.	Bundi	Vankhand Fool Sagar Sathur Range Boondi 60 Boundry Pillar	Average	6	No	Average	6
52.	Bundi	Vankhand Jajawar A Naka Jajawar Range Nainwan 40 Boundry Pillar	Average	6	No	Average	6
53.	Bundi	Naka Kheenya Vankhand Umarmata Range Hindoli 50	Average	6	No	Average	6
54.	Bundi	Naka Gardada Vankhand Maradi Range Dabi 50	Average	6	No	Average	6
55.	Bundi	Naka Gudhanathawatan Vankhand Gudha Range Boondi 50	Average	6	No	Average	6
56.	Bundi	Naka Jajawar Vankhand Jajawar A Range Nainwan 50	Average	6	No	Average	6
57.	Chhattargarh	13 DKD	Average	6	No	Average	6
58.	Chhattargarh	1 PWM	Average	6	No	Average	6
59.	Chittorgarh	Pillars Construnction Work Kapasn	Average	6	No	Average	6
60.	Chittorgarh	Pillars Construnction Work Borav	Average	6	No	Average	6
61.	Chittorgarh	Pillars Construnction Work Nimbaheda	Average	6	No	Average	6
62.	Chittorgarh	Pillars Construnction Work Rawatbhata	Average	6	No	Average	6
63.	Chittorgarh	Pillars Construnction Work Jawada	Average	6	No	Average	6
64.	Chittorgarh	Pillars Construnction Work Chittorgarh	Average	6	No	Average	6
65.	Chittorgarh	Pillars Construnction Work Vijaypur	Average	6	No	Average	6
66.	Chittorgarh	Pillars Construnction Work Vankhand Aera	Average	6	No	Average	6
67.	Chittorgarh	Pillars Construnction Work Vankhand Shikargah Salera (Gangrar)	Average	6	No	Average	6

Sl.no	Name of Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
68.	Chittorgarh	Pillars Construnction Work Kudalkheda	Average	6	No	Average	6
69.	Chittorgarh	Pillars Construnction Work Chordo Ki Dhar	Average	6	No	Average	6
70.	Chittorgarh WL	Naka Parsoli	Average	6	No	Average	6
71.	Chittorgarh WL	Naka Anoppura	Average	6	No	Average	6
72.	Chittorgarh WL	Naka Panchaguda	Average	6	No	Average	6
73.	Churu	Vankhand Kodasar Charla Ki Seema Par	Average	6	No	Average	6
74.	Churu	Vankhetra Chandgothi	Average	6	No	Average	6
75.	Churu	Vankhetra Sankhu	Average	6	No	Average	6
76.	Dausa	Goulman	Average	6	No	Average	6
77.	Dausa	Kalakho Main	Average	6	No	Average	6
78.	Dausa	Naharkhohra No.11 A	Good	7	No	Good	7
79.	Dausa	Dhapavan- Urwari- Rehadiya	Good	7	No	Good	7
80.	Dausa	Balaji Ka Thobra	Average	6	No	Average	6
81.	Dausa	Mandawar- Banawad Main	Average	6	No	Average	6
82.	Dausa	Nandna Tahaladi Main	Average	6	No	Average	6
83.	Dausa	Nandna Tahaladi A	Average	6	No	Average	6
84.	Dausa	Khonchpuri	Average	6	No	Average	6
85.	Dholpur	Madanpur Block	Average	6	No	Average	6
86.	Dungarpur	Vankhand Ranijhula 17 Nag	Average	6	No	Average	6
87.	Dungarpur	Vankhand Pagara B 13 Nag	Average	6	No	Average	6
88.	Dungarpur	Vankhand Pagara C 4 Nag	Average	6	No	Average	6
89.	Dungarpur	Vankhand Pagara D 4 Nag	Average	6	No	Average	6
90.	Dungarpur	Vankhand Beedlalgirji 15 Nag	Average	6	No	Average	6
91.	Dungarpur	Vankhand Suliya Benka 252 Nag	Average	6	No	Average	6
92.	Dungarpur	Vankhand Kyavadi 14 Nag	Average	6	No	Average	6
93.	Dungarpur	Vankhand Beda-Bedi 11 Nag	Average	6	No	Average	6
94.	Dungarpur	Vankhand Ranijhula 50 Nag	Average	6	No	Average	6
95.	Dungarpur	Vankhand Makreda 40 Nag	Average	6	No	Average	6
96.	Dungarpur	Vankhand Palisoda 72 Nag	Average	6	No	Average	6
97.	Dungarpur	Vankhand Bhedmata 90 Nag	Average	6	No	Average	6
98.	Dungarpur	Vankhand Jaspur Khermal A 229 Nag	Average	6	No	Average	6
99.	Dungarpur	Vankhand Falihor 195 Nag	Average	6	No	Average	6
100.	Dungarpur	Vankhand Songara Mugediya 58 Nag	Average	6	No	Average	6
101.	Dungarpur	Vankhand Kaabza Katisour 29 Nag	Average	6	No	Average	6
102.	Dungarpur	Vankhand Ghatamaawita 93 Nag	Average	6	No	Average	6
103.	Ganganagar	1 SMR	Average	6	No	Average	6
104.	Ganganagar	8 MC	Average	6	No	Average	6
105.	Ganganagar	1 LGM	Average	6	No	Average	6
106.	Ganganagar	2 LGM	Average	6	No	Average	6
107.	Hanumangarh	5 JBD, 4JBD, 6 KDD, 5 JBD ABC, Pohdaka (4 PRKM), 4 CLD, 5 CLD, 1 JBD, 3 CLD	Average	6	No	Average	6

Sl.no	Name of Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
108.	Hanumangarh	122.5 RD	Average	6	No	Average	6
109.	Hanumangarh	Rajasthan Main Kainal 72-135 RD Ke Bich	Average	6	No	Average	6
110.	Hanumangarh	2 KDM	Average	6	No	Average	6
111.	Hanumangarh	3 SPD	Average	6	No	Average	6
112.	Hanumangarh	14 Barani	Good	7	No	Good	7
113.	Hanumangarh	1 RMS	Good	7	No	Good	7
114.	Hanumangarh	15 JSN	Good	7	No	Good	7
115.	Hanumangarh	Chak Sardarpura	Good	7	No	Good	7
116.	Hanumangarh	BP 5 AA MG	Good	7	No	Good	7
117.	Hanumangarh	19 DPN	Good	7	No	Good	7
118.	Hanumangarh	22 DPN	Good	7	No	Good	7
119.	Hanumangarh	Sondi	Good	7	No	Good	7
120.	Jaipur	Neendad Bainad	Average	6	No	Average	6
121.	Jaipur	Amer 54	Average	6	No	Average	6
122.	Jaipur North	Vankhand Buchara A	Average	6	No	Average	6
123.	Jaipur North	Vankhand Antela Bhabhru Block - 51	Average	6	No	Average	6
124.	Jaipur North	Kumbhawas Gedhi Badodiya -52	Average	6	No	Average	6
125.	Jaipur North	Badi Line 43-C	Average	6	No	Average	6
126.	Jaipur North	Berki Makdeta ki Dungri 46-A	Average	6	No	Average	6
127.	Jaipur WL	Vankhand Devitala 69	Good	7	No	Good	7
128.	Jaisalmer IGNP II	Naga Barani	Good	7	No	Good	7
129.	Jalore	Pillars Construction Work Dungri (Vankhand Dungri)	Average	6	No	Average	6
130.	Jalore	Pillars Construction Dodwadiya (Vankhand Raniwara)	Average	6	No	Average	6
131.	Jalore	Pillars Construction Paal (Vankhand Paal Jod , Kudi Sariyana)	Average	6	No	Average	6
132.	Jalore	Boundry Pillar Construction on Forest Border Meda (Vankhand Meda)	Average	6	No	Average	6
133.	Jalore	Boundry Pillar Construction on Forest Border Waretha (Vankhand Waretha)	Average	6	No	Average	6
134.	Jalore	Vankhetra Badgaon	Average	6	No	Average	6
135.	Jalore	Vankhand Kagmala A	Average	6	No	Average	6
136.	Jalore	Vankhand Padawi	Average	6	No	Average	6
137.	Jalore	Vankhetra Dantwara	Average	6	No	Average	6
138.	Jalore	Vankhand Mandardi	Average	6	No	Average	6
139.	Jalore	Vankhand Jalera Khurd	Average	6	No	Average	6
140.	Jalore	Vankhand Satru	Average	6	No	Average	6
141.	Jalore	Vankhetra Roda	Average	6	No	Average	6
142.	Jhalawar	Jhalawar	Average	6	No	Average	6
143.	Jhalawar	Dag	Average	6	No	Average	6
144.	Jhalawar	Haliheda	Average	6	No	Average	6

Sl.no	Name of Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
145.	Jhunjhunu	Kankariya 57 Main	Average	6	No	Average	6
146.	Jhunjhunu	Kankariya 57 Main	Average	6	No	Average	6
147.	Jhunjhunu	Kankariya 57 Main Vankhand	Average	6	No	Average	6
148.	Jhunjhunu	Khetdi 48, Madhogarh Vankhand	Average	6	No	Average	6
149.	Jodhpur	Vankhand Baap	Average	6	No	Average	6
150.	Jodhpur	Vankhand Beriganga	Average	6	No	Average	6
151.	Jodhpur	Vankhand Dechu Fatehgarh	Good	7	No	Good	7
152.	Karauli	Kota-B	Average	6	No	Average	6
153.	Karauli	Mardai Daudpur	Average	6	No	Average	6
154.	Karauli	Mahuakhera Main, B	Average	6	No	Average	6
155.	Karauli	Narauli Dang/ Dabra-A	Average	6	No	Average	6
156.	Karauli	Naharkhohra No.11 A	Average	6	No	Average	6
157.	Karauli	Vankhand Gurdah	Average	6	No	Average	6
158.	Karauli	Vankhand Banswari	Average	6	No	Average	6
159.	Karauli	Vankhand Ratiyapura	Average	6	No	Average	6
160.	Karauli	Vankhand Khirkhira Baloti	Average	6	No	Average	6
161.	Karauli	Vankhand Dabra B	Average	6	No	Average	6
162.	Karauli RTR	Vankhand Marmada	Average	6	No	Average	6
163.	Pali	Rundiya Vankhand	Average	6	No	Averave	6
164.	Pali	Guda Umsingh	Poor	5	No	Poor	5
165.	Pali	Bali Jor	Average	6	No	Averave	6
166.	Pali	Beda Block	Average	6	No	Averave	6
167.	Pratapgarh	Lalgarh, Badisakhthali	Average	6	No	Average	6
168.	Pratapgarh	Jhatla-C	Average	6	No	Average	6
169.	Rajsamand WL	Vali Ka Mathara C	Average	6	No	Average	6
170.	Rajsamand WL	Bagor Part B	Average	6	No	Average	6
171.	Rajsamand WL	Odar Ki Khadri	Average	6	No	Average	6
172.	Rajsamand WL	Jetaran Ka Bada Mathara	Average	6	No	Average	6
173.	Rajsamand WL	Thuravad Ka Mathara	Average	6	No	Average	6
174.	Rajsamand WL	Bagor Se Barwada Ki Nedi	Average	6	No	Average	6
175.	Rajsamand WL	Kathar Ki Nedi	Average	6	No	Average	6
176.	S.Madhopur	Bhagwatgarh 78 Men	Average	6	No	Average	6
177.	S.Madhopur	Badagaon Jaitpura	Average	6	No	Average	6
178.	S.Madhopur	Lorwara	Average	6	No	Average	6
179.	Sikar	Malkeda	Average	6	No	Average	6
180.	Sikar	Khori	Average	6	No	Average	6
181.	Sikar	Baleshwar	Average	6	No	Average	6
182.	Sikar	Toda	Average	6	No	Average	6
183.	Sikar	Vankhand Dantala	Average	6	No	Average	6
184.	Sikar	Ganoda	Average	6	No	Average	6
185.	Sikar	Khandela	Average	6	No	Average	6
186.	Sikar	Paniharwas	Average	6	No	Average	6
187.	Sikar	Mahroli	Average	6	No	Average	6
188.	Sikar	Todiu Madhopura	Average	6	No	Average	6
189.	Sikar	Vankhand Gowdi	Average	6	No	Average	6
190.	Sikar	Vankhand Gowati Ladhana	Average	6	No	Average	6
191.	Sikar	Bhuranpura	Average	6	No	Average	6
192.	Sikar	Khiroti	Average	6	No	Average	6

Sl.no	Name of Division	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
193.	Tonk	Sanwatgarh Toda Ka Gotda A.B.	Average	6	No	Average	6
194.	Tonk	Sohela	Average	6	No	Average	6
195.	Tonk	Toharaisingh	Average	6	No	Average	6
196.	Tonk	Kakod Banetha Main	Average	6	No	Average	6
197.	Tonk	Sitapura	Average	6	No	Average	6
198.	Tonk	Sitapura No.1	Average	6	No	Average	6
199.	Tonk	Ghad	Average	6	No	Average	6
200.	Tonk	Sitapura No.2	Average	6	No	Average	6
201.	Tonk	Devdawas	Average	6	No	Average	6
202.	Tonk	Aawan Dehroo	Average	6	No	Average	6
203.	Tonk	Kaccha Bandha	Average	6	No	Average	6
204.	Tonk	Todaraisingh	Average	6	No	Average	6
205.	Tonk	90 Siras	Average	6	No	Average	6
206.	Udaipur	Aadiwas	Average	6	No	Average	6
207.	Udaipur	Som Part II	Average	6	No	Average	6
208.	Udaipur	Vankhand Nandvel	Average	6	No	Average	6
209.	Udaipur	Undari Poplty	Average	6	No	Average	6
210.	Udaipur	Vankhand Bawlawada 50 Pillars	Average	6	No	Average	6
211.	Udaipur	Bamaniya, Khodav	Average	6	No	Average	6
212.	Udaipur	Nalsandol And Chapra	Average	6	No	Average	6
213.	Udaipur	Sera	Average	6	No	Average	6
214.	Udaipur	Palodara	Average	6	No	Average	6
215.	Udaipur North	Bhadwiguda	Average	6	No	Average	6
216.	Udaipur North	Adamangra	Average	6	No	Average	6
217.	Udaipur North	Majam	Average	6	No	Average	6
218.	Udaipur North	Khuman Mangra	Average	6	No	Average	6
219.	Udaipur North	Vankhand Bagad Ka Khula Jungle	Average	6	No	Average	6
220.	Udaipur North	Vankhand Ladiyon Ki Ghati	Average	6	No	Average	6
221.	Udaipur North	Vankhand Thana Wali Nedi	Average	6	No	Average	6
222.	Udaipur North	Vankhand Rupan Ka Mathara	Average	6	No	Average	6
223.	Udaipur North	Ravach	Average	6	No	Average	6
224.	Udaipur North	Kamba Ka Khula Jungle	Average	6	No	Average	6
225.	Udaipur North	Baguni	Average	6	No	Average	6
226.	Udaipur North	Aadiwali Barwadi-A	Average	6	No	Average	6
227.	Udaipur North	Gamdhar	Average	6	No	Average	6
228.	Udaipur North	Kamlodiya	Average	6	No	Average	6
229.	Udaipur North	Hinglasiya	Average	6	No	Average	6
230.	Udaipur WL	Vankhand Dharawan	Average	6	No	Average	6
231.	Udaipur WL	Vankhand Ashawara/ Aarahaldu	Average	6	No	Average	6
232.	Udaipur WL	Vankhand Fulwari	Average	6	No	Average	6

In total, Pillars were evaluated at 232 sites (Nos. 2842), out of which 218 was average, 13 were good & 01 was poor in quality of construction. Regarding rating of quality of construction, at 13 sites pillars were rated 7 followed by at 218 sites rated 6 & at 1 site rated rated 5. Regarding quality of workmanship, at 218 sites pillars were average followed by pillars were good at 13 sites & poor at 01 site. Further, at 13 sites pillars were rated 7 followed by at 218 sites pillars were rated 6 & at 1 site pillars rated poor (figure 5.4).



Figure 5.4: Quality of Construction & workmanship (Boundary Pillar)



5.5 Assessment of Anicut Type II & Type III

The details of the report of evaluation of Anicut II & III created under CAMPA of 21 Forest Divisions are given in table 5.6

Table 5.6: Evaluation of Anicut II & III

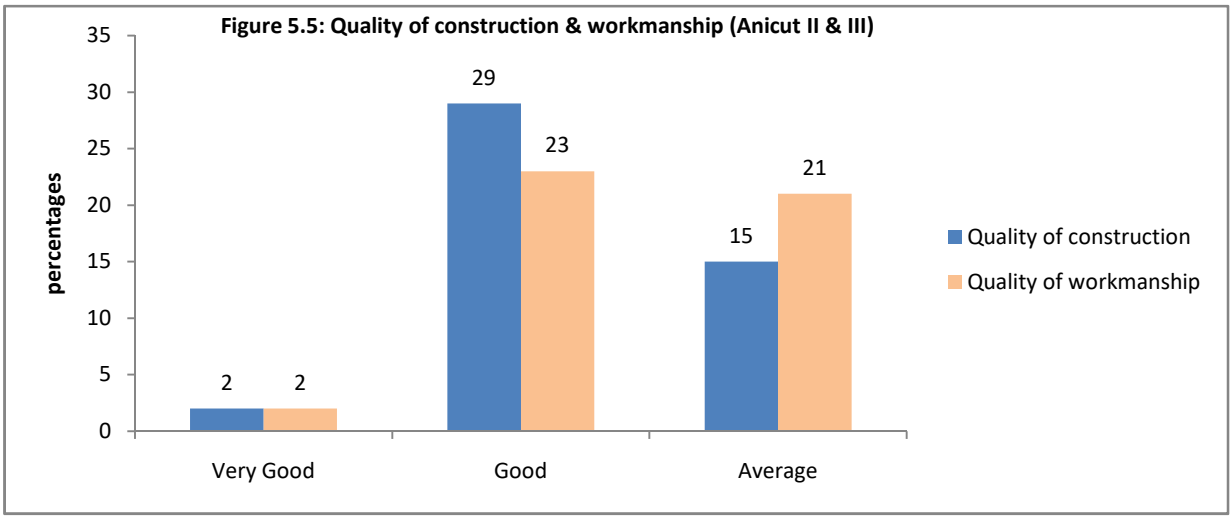
Sl.no	Name of Division	Item	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
1.	Alwar	Anicut II	Malutana-1	Good	7	No	Good	7
2.	Alwar	Anicut II	Machadi Chowki Ke Pass	Very Good	8	No	Very Good	8
3.	Alwar	Anicut III	Khohra Pipli	Average	6	Yes	Average	6
4.	Bharatpur	Anicut II	Devghatiya Kair Anicut Type II	Good	8	No	Average	6
5.	Bhilwara	Anicut II	Anicut Type II Dhaneshwar	Good	7	No	Good	7
6.	Bhilwara	Anicut II	Anicut Type II Danpura	Good	7	No	Good	7
7.	Bhilwara	Anicut III	Anicut Type III Banka Beed	Good	7	No	Good	7
8.	Bhilwara	Anicut III	Anicut Type III Bhoja Ji Beed	Good	7	No	Good	7
9.	Chittorgarh	Anicut II	Anicut Type II	Good	7	No	Good	7
10.	Chittorgarh	Anicut II	Anicut Type II Bhanda Magra	Good	7	No	Good	7
11.	Chittorgarh WL	Anicut II	Mataji Wala Nala-1	Good	7	No	Good	7
12.	Chittorgarh WL	Anicut III	Badapani	Good	7	No	Good	7
13.	Dholpur	Anicut III	Dhauradada	Average	6	No	Average	6
14.	Dungarpur	Anicut II	Paniwala Dara Anicut II Range Sagwada	Average	6	No	Average	6
15.	Dungarpur	Anicut II	Bhagapaliya Anicut	Average	6	No	Average	6
16.	Jaipur WL	Anicut II	Jamwa Ghat	Very Good	8	No	Very Good	8
17.	Jaipur WL	Anicut II	Bhomiya Jungle	Good	6	No	Average	6
18.	Jaipur WL Chidiyaghar	Anicut III	Construction of Anicut Type -III at Lala Kund, Jhalana Leopard Reserve	Average	6	No	Average	6
19.	Jhalawar	Anicut II	Bislai	Average	6	No	Average	6
20.	Jhalawar	Anicut III	Mandashyampura	Good	7	No	Average	6
21.	Karauli RTR	Anicut II	Lamba Ka Jharna Ghanteshwar Type 2	Average	6	No	Average	6
22.	Kota WL	Anicut II	Papda Naka	Good	7	No	Good	7
23.	Kota WL	Anicut II	Falasthuni Naka Gudasadavartiya	Average	6	No	Average	6
24.	Kota WL	Anicut III	Sendari Vankhand Pipalya Manak Chowk	Average	6	No	Average	6
25.	Mount Abu WL (Sirohi)	Anicut II	Nana Ka Khada Anicut-II	Good	7	No	Average	6
26.	Mount Abu WL	Anicut II	Khapariya Anicut II	Good	7	No	Average	6

Sl.no	Name of Division	Item	Name of Site	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
	(Sirohi)							
27.	Mount Abu WL (Sirohi)	Anicut III	Kala Putra Shri Mansha Ke Ghar Anicut Type III	Good	7	No	Average	6
28.	Pratapgarh	Anicut II	Anicut Chanda Kui Type II	Good	7	No	Good	7
29.	Pratapgarh	Anicut II	HudaBawji CN 20 Surajpura	Good	7	No	Good	7
30.	Pratapgarh	Anicut III	Aambapani Type III	Good	7	No	Good	7
31.	Pratapgarh	Anicut III	Anicut Bhamra Wala Beda	Good	7	No	Good	7
32.	Rajsamand WL	Anicut II	Visma	Good	7	No	Good	7
33.	Rajsamand WL	Anicut III	Hinglaj Mata Baghmal	Good	7	No	Good	7
34.	S.Madhopur	Anicut II	Bans Torda	Average	6	No	Average	6
35.	S.Madhopur Chambal WL	Anicut II	Takravara Anicut II	Average	6	No	Average	6
36.	S.Madhopur Chambal WL	Anicut II	Mandawara Anicut II Jhatoli Devnarayan	Average	6	No	Average	6
37.	S.Madhopur Chambal WL	Anicut III	Maharajpura, Devgir Soth III	Good	7	No	Good	7
38.	S.Madhopur Chambal WL	Anicut III	Anicut III Tapovan	Average	6	No	Average	6
39.	Sirohi	Anicut II	Vankhand Atalheda (Ranela) Bhawani Mata Ka Mandir	Average	6	No	Average	6
40.	Sirohi	Anicut II	Putli Nala Anicut B	Good	7	No	Good	7
41.	Sirohi	Anicut III	Nibaj Jirawal Vankhand Kesua Chowki Ke Pas	Average	6	No	Average	6
42.	Udaipur	Anicut II	Bandali Naal	Good	7	No	Good	7
43.	Udaipur North	Anicut II	Merpur-6	Good	7	No	Good	7
44.	Udaipur WL	Anicut II	Anicut Type II Taka Ghati Nandvi	Good	7	No	Good	7
45.	Udaipur WL	Anicut II	Anicut Type II Ambasa 2nd	Good	7	No	Good	7
46.	Udaipur WL	Anicut III	Anicut Type III Jamuda	Good	7	No	Good	7

In total 46 Anicuts II & III had been evaluated, out of which 15 were average, 29 were good & 02 were very good in quality of construction. Regarding rating of quality of construction 02 rated 8 followed by, 29 were rated 7& 15 rated 6. Regarding quality of workmanship, 21 were average, 23 were good & 02 were very good. Further, 02 rated 8 followed by 23 were rated 7 & 21 rated 6(figure 5.5).







5.6 Assessment of Van Rakshak Chowki

The details of the report of evaluation of Van Rakshak Chowki/ Forest Chowki of 07 Forest Divisions are given in table 5.7.

Table 5.7: Evaluation of Van Rakshak Chowki/ Forest Chowki

Sl.no	Name of Division	Name of Site	Rating of site selection	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
1	Alwar	Machadi	7	Very Good	8	No	Very Good	8
2	Chittorgarh	Piplikheda	7	Good	7	No	Good	7
3	Jaipur WL	Raisar	7	Very Good	8	No	Very Good	8
4	Jaisalmer IGNP II	Forest Chowkies	7	Good	7	No	Good	7
5	Jaisalmer WL	Sam Barier Chowki	7	Good	7	No	Good	7
6	S.Madhopur	Gupteshwar Mahadev	7	Good	7	No	Good	7
7	Udaipur WL	Forest Guard Chowki Ambasa	7	Average	6	No	Average	6

In total 07 Forest Chowkis/ Van Rakshak Chowkis had been evaluated. Out of which 02 forest chowkis were rated 8 followed by 04 forest chowkis were rated 7 & 01 forest chowki were rated 6 in quality of construction. Regarding quality of workmanship, 01 was average & 04 were good & 02 were very good. Further, 01 rated 6 followed by 04 rated 7 & 02 rated 8 in quality of workmanship (figure 5.6).



Figure 5.6: Quality of construction & workmanship (Forest Chowki)

5.7 Assessment of Rescue Centre

The detail of the report of Evaluation of Rescue Centre of 1 Forest Divisions is given in table 5.8.



Table 5.8: Evaluation of Rescue Centre

Sl.no	Name of Division	Name of Site	Rating of site selection	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
1	Dausa	Khan Bhankri	7	Good	7	No	Good	7

5.8 Assessment of Range Office cum Residence

The details of the report of evaluation of Range Office cum Residence of 03 Forest Divisions are as given in table 5.9.

Table 5.9: Evaluation of Range Office cum Residence

Sl. no	Name of Division	Name of Site	Rating of site selection	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
1	Bundi	Office cum Residence Van Suraksha	7	Good	7	No	Good	7
2	Jalore	Range Office Jaswantpura	7	Good	7	No	Good	7
3	Barmer	Sirdhari	7	Good	7	No	Good	7

5.9 Assessment of MPT

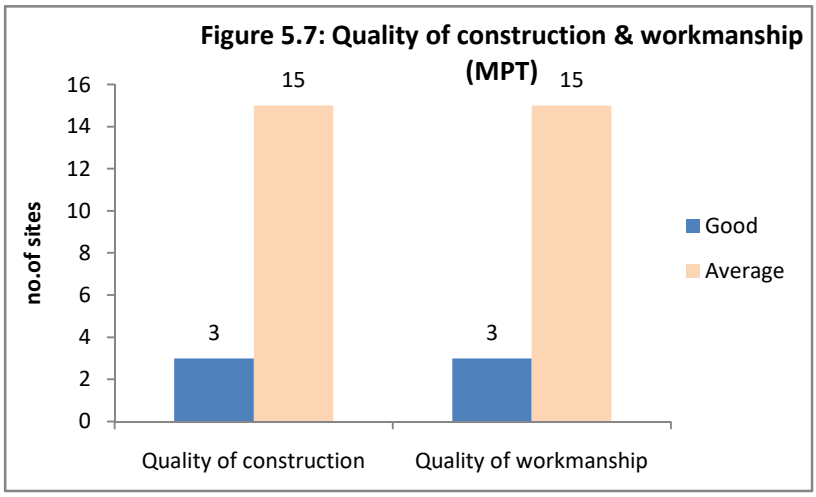
The details of the report of evaluation of MPT of 07 Forest Divisions are given in table 5.10.

Table 5.10: Evaluation of MPT

Sl.no	Division	Name of Site	Rating of site selection	Quality of construction	Rating of quality of construction	Crack in the structure	Quality of workmanship	Rating of quality of workmanship
1.	Hanumangarh	15 KSP (Kucchi Diggi)	7	Good	7	No	Good	7
2.	Jalore	Karwara	6	Average	6	No	Average	6
3.	Jalore	Raniwara	6	Average	6	No	Average	6
4.	S.Madhopur	Surang	6	Average	6	No	Average	6
5.	S.Madhopur	Kushalpura	6	Average	6	No	Average	6

6.	S.Madhopur	Khera	6	Average	6	No	Average	6
7.	Sikar	Balwar II	7	Good	7	No	Good	7
8.	Tonk	Andheriya Bagh-MPT-II	6	Average	6	No	Average	6
9.	Tonk	Bhojraj-MPT-II	6	Average	6	No	Average	6
10.	Tonk	Gaonri-MPT-I	6	Average	6	No	Average	6
11.	Tonk	Gaonri-MPT-V	6	Average	6	No	Average	6
12.	Tonk	Surnada Ke Pas-MPT-V	6	Average	6	No	Average	6
13.	Tonk	Karmala-MPT-I	6	Average	6	No	Average	6
14.	Udaipur North	Rohini	7	Good	7	No	Good	7
15.	Udaipur North	Aakola	6	Average	6	No	Average	6
16.	Udaipur WL	MPT Construction Tindori	6	Average	6	No	Average	6
17.	Udaipur WL	MPT Construction Maldar	6	Average	6	No	Average	6
18.	Udaipur WL	MPT Construction Deemadbagh	6	Average	6	No	Average	6

In total 18 MPT had been evaluated. Out of which 03 MPT was rated 7 & 15 MPT were rated 6 in quality of construction. Regarding quality of workmanship, 03 was good & 15 were average. Further, 03 rated 7 & 15 rated 6 in quality of workmanship (figure 5.7).





5.10 Structures as per record & actual

The details of the report of evaluation of Anicut Type II, III & MPT as per record & actual are given in table 5.11. Almost in all the 64 sites Anicut Type II, III & MPT (LXBXH) were reported same as per record & actual. It means it is not reported under dimensions. In few sites, there was variation in height/depth of anicut/MPT due to silting.

Table 5.11: Anicut Type II, III & MPT as per record & actual

Sl. No.	Name of Division	Items	Name of the site	As per record - (LXBXH) in meters	As per actual - (LXBXH) in meters	Variation
1.	Alwar	Anicut Type II	Malutana 1	6.80x0.80x1.5	6.80x0.80x1.5	0
2.	Alwar	Anicut Type II	Machadi Chowki ke Pass	6.80x0.80x1.5	6.80x0.80x1.5	0
3.	Alwar	Anicut Type III	Kohra Pipli	14x0.8x1.15	14x0.8x1.15	0
4.	Bharatpur	Anicut Type II	Devghatiya Kair	10x1x1.2	10x1x1.2	0
5.	Bhilwara	Anicut Type II	Dhaneshwar	9mX1mX1.4 m	9mX1mX1.4 m	0
6.	Bhilwara	Anicut Type III	Banka Beed	14mX1mX1.5 m	14mX1mX1.5 m	0
7.	Bhilwara	Anicut Type II	Danpura	10mX1mX1.4 m	10mX1mX1.4 m	0
8.	Bhilwara	Anicut Type III	Bhoja ji Beed	12.10mX1mX1.5 m	12.10mX1mX1.5 m	0
9.	Chittorgarh	Anicut Type II	Anicut Type II	13.4mX3.9mX1.35	13.4mX3.9mX1.35	0
10.	Chittorgarh	Anicut Type II	Bhanda Magra	15.2mX8.2mX1.5	15.2mX8.2mX1.5	0
11.	Chittorgarh WL	Anicut Type II	Mataji wala nala 1	8mX1mX1.40m	8mX1mX1.30 m	Due to silting
12.	Chittorgarh WL	Anicut Type III	Badapani	18.5mX1mX1.5m	18.5mX1mX1.5 m	0
13.	Dholpur	Anicut Type III	Dhauradada	12.50x1.33x1.4	12.50x1.33x1.4	0
14.	Dungarpur	Anicut Type II	Pani wala Dara	8.0mX5.0mX1.5 m	8.0mX5.0mX1.5m	0
15.	Dungarpur	Anicut Type II	Bhagapaliya	9.1mX6.45mX1.275m	9.1mX6.45mX1.275m	0
16.	Hanumangarh	Kucchi Diggi	15 KSP	49.80x31.80x3.80	49.80x31.80x3.80	0
17.	Jaipur Chidiyaghar	Anicut III	Lala Kund, Jhalana Leopard Reserve	15x1.2x 1.2	15x1.2x 1.2	0
18.	Jaipur WL	Anicut Type II	Jamwa Ghat	6x0.90x1.4	6x0.90x1.4	0
19.	Jaipur WL	Anicut Type II	Bhomiya Jangal	6x0.90x1.4	6x0.90x1.4	0
20.	Jalore	MPT	Karwada	30.2x2.6x3.1	30.2x2.6x3.1	0
21.	Jalore	MPT	Raniwada	30x2.5x2.8	30x2.5x2.8	0
22.	Jhalawar	Anicut Type II	Bislai	9mX1mX1.4	9mX1mX1.4	0

Sl. No.	Name of Division	Items	Name of the site	As per record - (LXBXH) in meters	As per actual - (LXBXH) in meters	Variation
23.	Jhalawar	Anicut Type III	Mandashyampura	18mX1mX1.5	18mX1mX1.5	0
24.	Kota WL	Anicut Type II	Papda Naka	3.8mX3.6mX1.2 m	3.8mX3.6mX1.2m	0
25.	Kota WL	Anicut Type II	Falasthuni naka Guda Sdavartiya	10.0mX0.9mX1.2 m	10.0mX0.9mX1.2m	0
26.	Kota WL	Anicut Type III	Sendri Vankhand Peepalya Manakchowk	15.0mX1.0mX1.2 m	15.0mX1.0mX1.2m	0
27.	Mount Abu	Anicut Type II	Nana ka Khada Anicut II	9X0.3X1.4	9X0.3X1.4	0
28.	Mount Abu	Anicut Type III	Kala Putra Shri Mansha Ke Ghar	15X3.60X1.5	15X3.60X1.2	Due to silting
29.	Mount Abu	Anicut Type II	Khapariya	8X0.7X1.5	8X0.7X1.5	0
30.	Pratapgarh	Anicut Type II	Chanda Kui	8mX2.20mX1.50	8mX2.20mX1.50	0
31.	Pratapgarh	Anicut Type III	Ambapani	14.80X2.70X1.40	14.80X2.70X1.40	0
32.	Pratapgarh	Anicut Type II	Hudabawji CN 20 Surajpura	9.90mX1.55mX1.90	9.90mX1.55mX1.90	0
33.	Pratapgarh	Anicut Type III	Anicut Bhamra wala Beda	12.50X2.70X1.50	12.50X2.70X1.50	0
34.	Rajsamand WL	Anicut II	Visma	10.0mX1.0mX1.2 m	10.0mX1.0mX1.2m	0
35.	Rajsamand WL	Anicut III	Hinglaj Mata Baghmal	15.0mX1.0mX1.7 m	15.0mX1.0mX1.7m	0
36.	RTR Karauli	Anicut Type II	Lamba ka Jharna Ghateshwar type 2	6x0.80x1.4	6x0.80x1.4	0
37.	S.Madhopur Chambal WL	Anicut Type II	Takarwara	10.0mX0.9mX1.5 m	10.0mX0.9mX1.5 m	0
38.	S.Madhopur Chambal WL	Anicut Type III	Maharajpura evam Devgirsot	18.0mX8.07mX1.08 m	18.0mX8.07mX1.08 m	0
39.	S.Madhopur Chambal WL	Anicut Type II	Mandawara Jhotoli	10.0mX0.9mX1.2 m	10.0mX0.9mX1.2m	0
40.	S.Madhopur Chambal WL	Anicut Type III	Tapovan	18.0mX1.0mX1.0 m	18.0mX1.0mX1.0m	0
41.	Sawai Madhopur	Anicut Type II	Bans Torda	6.5x0.80x1.2	6.5x0.80x1.2	0
42.	Sawai Madhopur	MPT	Surang	50x03x10	50x03x10	0
43.	Sawai Madhopur	MPT	Kushalpura	74x02x11	74x02x11	0
44.	Sawai Madhopur	MPT	Kheda	54x2.6x6.8	54x2.6x6.8	0
45.	Sikar	MPT	Balvad II	32 mx2.8 mx 3.0 m	32 mx2.8 mx 3.0 m	0
46.	Sirhoi	Anicut Type II	Vankhand Atalkheda (Ranela) Bhawani Mata Ka Mandir	9X0.8X1.2	9X0.8X1.2	0
47.	Sirhoi	Anicut	Putli Nala Anicut B	9X0.9X1.6	9X0.9X1.6	0

Sl. No.	Name of Division	Items	Name of the site	As per record - (LXBXH) in meters	As per actual - (LXBXH) in meters	Variation
		Type II				
48.	Sirhoi	Anicut Type III	Nimbaj Jeerawal Vankhand Near to Kesuwa Chowli	11.90X1.2X1.5	11.90X1.2	due to heavy silting depth cannot be measured
49.	Tonk	MPT	Andheriya Bag MPT II	88X2X6	88X2X6	0
50.	Tonk	MPT	Bhojraj MPT II	75x3.5X3.6	75x3.5X3.6	0
51.	Tonk	MPT	Gawdi MPT I	10x2.8x1.5	10x2.8x1.5	0
52.	Tonk	MPT	Gawdi MPT V	10x2.5x1.5	10x2.5x1.5	0
53.	Tonk	MPT	Near to Surnada MPT V	10x7.2x1.4	10x7.2x1.4	0
54.	Tonk	MPT	Karmala MPT I	10x7.2x1.4	10x7.2x1.4	0
55.	Udaipur	Anicut Type II	Bandali Nal	10.0mX1.0mX0.85m	10.0mX1.0mX0.85m	0
56.	Udaipur North	Anicut Type II	Mairpur-6	10.0mX1.0mX1.2m	10.0mX1.0mX1.2m	0
57.	Udaipur North	MPT	Rohini	25mX3.0mX1.3m	25mX3.0mX1.3m	0
58.	Udaipur North	MPT	Aakola	49.5mX3.0mX1.6m	49.5mX3.0mX1.6m	0
59.	Udaipur WL	Anicut Type II	Taka Ghati Nandvi	13.55mX1.55mX1.3m	13.55mX1.55mX1.3m	0
60.	Udaipur WL	Anicut Type II	Ambasa II	10.0mX1.0mX1.2m	10.0mX1.0mX1.2m	0
61.	Udaipur WL	Anicut Type III	Jamuda	5.0mX1.2mX1.2m	5.0mX1.2mX1.2m	0
62.	Udaipur WL	MPT	Tindori	35.0mX1.5mX1.8m	35.0mX1.5mX1.8m	0
63.	Udaipur WL	MPT	Maldar	30.0Mx3.0mX1.8m	30.0Mx3.0mX1.8m	0
64.	Udaipur WL	MPT	Dhimrbag	30.0Mx3.0mX1.8m	30.0Mx3.0mX1.8m	0

The details of the report of evaluation of Pakki Diwar 4ft & 6 ft as per record & actual are given in table 5.12. Almost in all the 58 sites Pakki Diwar 4ft &6 ft were reported same as per record & actual. In 12 sites, there was variation in length of Pakki Diwar 4ft & 6 ft. In 05 sites the length of pakki diwar was found less as compared to the record due to damage by local community, due to cyclone & heavy rain & etc. However, in 07 sites the length of pakki diwar was found more as compared to the record.

Table 5.12: Pakki Diwar 4ft &6 ft as per record & actual

Sl. No.	Name of Division	Items	Name of the site	As per record (meters)	As per actual	Variation
1.	Ajmer	Pakki Diwar 4 ft	Nausar (Ratidang Chaurasiyawas)	422	422	0
2.	Ajmer	Pakki Diwar 4 ft	Adarsh Nagar	500	500	0

Sl. No.	Name of Division	Items	Name of the site	As per record (meters)	As per actual	Variation
3.	Alwar	Pakki Diwar 4 ft	Kothi Narayanpur	500	500	0
4.	Alwar	Pakki Diwar 4 ft	Jamdoli A	600	600	0
5.	Alwar STR	Pakki Diwar 6 ft	Media Sarpanch farm to Umrain	500	500	0
6.	Alwar STR	Pakki Diwar 6 ft	Tolawas	500	500	0
7.	Banswara	Pakki Diwar 4 ft	Range Residence Ghatol	50	50	0
8.	Bhilwara	Pakki Diwar 4 ft	Damjal	519	519	0
9.	Bikaner	Pakki Diwar 4 ft.	Bikasar	500	500	0
10.	Bundi	Pakki Diwar 4 ft	Nainwa Se Dai road	250	250	0
11.	Bundi	Pakki Diwar 4 ft	Talab Gaon Vankhand Borkhandi	200	200	0
12.	Bundi	Pakki Diwar 4 ft	Vankhand Kanti Aastoli	800	800	0
13.	Chittorgarh	Pakki Diwar 4 ft	Hathniodi 2	500	500	0
14.	Chittorgarh WL	Pakki Diwar 6 ft	Javadiya Juna	900	900	0
15.	Chittorgarh WL	Pakki Diwar 6 ft	Amalda nadi se Ghatabao	500	500	0
16.	Chittorgarh WL	Pakki Diwar 6 ft	Chandana Phala se Nathu walia ke ghar tak	500	500	0
17.	Dholpur	Pakki Diwar 4 ft	Sidhpura	500	500	0
18.	DNP Jaisalmer WL	Pakki Diwar 6 ft	Girab range Van Jeev Barmer	700	700	0
19.	Dungarpur	Pakki Diwar 4 ft	Vankhand Kariya Mangra	500	500	0
20.	Dungarpur	Pakki Diwar 4 ft	Kanthal C	1000	1000	0
21.	Hanumangarh	Pakki Diwar 4 ft	29 DWD	500	500	0
22.	Hanumangarh	Pakki Diwar 4 ft	Range Office	250	250	0
23.	Jaipur	Pakki Diwar 4 ft	Dhamasya	328.34	330	1.66
24.	Jaipur	Pakki Diwar 4 ft	Forest Colony	30.41	31	0.59
25.	Jaipur Chidiyaghar	Pakki Diwar 6 ft	Ghat Ke Balaji, Naka Galta, Forest Block-Amagarh	730	730	0
26.	Jaipur North	Pakki Diwar 4 ft	Bandh Buchara	100	100	0
27.	Jaipur North	Pakki Diwar 4 ft	Rundal	250	250	0
28.	Jaipur WL	Pakki Diwar 6 ft	Kelanwas	250	250	0
29.	Jaipur WL	Pakki Diwar 6 ft	Bawariyo ki dhani Nimbi	300	306	6
30.	Jaipur WL	Pakki Diwar 6 ft	Khatiyo ki dhani	300	300	0
31.	Jaipur WL	Pakki Diwar 6 ft	Neelkhan Khawarani ji	300	300	0
32.	Jalore	Pakki Diwar 4 ft	Paniya Nada Jalore	500	500	0

Sl. No.	Name of Division	Items	Name of the site	As per record (meters)	As per actual	Variation
33.	Jalore	Pakki Diwar 6 ft	Jain Dharmshala Dantawas se up to NREGA diwar	1560	1548	12 Damaged by local community
34.	Jalore	Pakki Diwar 4 ft	Meda Chiparwada	1000	975	25 Damaged due to cyclone & heavy rain
35.	Jhalawar	Pakki Diwar 4 ft	Field trial	150	152	2
36.	Jhunjhunu	Pakki Diwar 4 ft	Khetri	1000	1000	0
37.	Jhunjhunu	Pakki Diwar 6 ft	Udaipurwati	200	200	0
38.	Jhunjhunu	Pakki Diwar 6 ft	Udaipurwati	370	370	0
39.	Jhunjhunu	Pakki Diwar 4 ft	Khetri	1000	1000	0
40.	Jodhpur	Pakki Diwar, 4ft.	Vankhand Bhikamkaur	500	500	0
41.	Karauli	Pakki Diwar 4 ft	Mehndipur ki Dungri evam Vankhand Nahar Kohra 11 A	500	483	-17
42.	Kota	Pakki Diwar 4 ft	Behind Hadoti Colony & Mukundra Vihar	279	279	0
43.	Kota WL	Pakki Diwar 6 ft	Moti Maharaj Ghatla to Nadi ki Jhopda	1500	1500	0
44.	Mount Abu	Pakki Diwar 6 ft	Buda Mamaji se up to Umwah nala(1km)	1000	1000	0
45.	Pali	Pakki Diwar 4 ft	Kheda Kalyanpura	500	485	15 meters wall damaged by local community
46.	Pratapgarh	Pakki Diwar 4 ft.	CHC Peepalkhoont to Pratapgarh Ch. 115.900 to 115.150	750	750	0
47.	Pratapgarh	Pakki Diwar 4 ft.	Haldu to Pratapgarh Ch. 112.800 to 111.650	1250	1150	-100 due to gap in cement cost & labour cost
48.	Rajsamand WL	Pakki Diwar 6 ft	Chandlai Gwar	500	500	0
49.	Rajsamand WL	Pakki Diwar 6 ft	Ranakpur Naka Sadari	900	900	0
50.	Rajsamand WL	Pakki Diwar 4 ft	Peeparda	1000	1074	74
51.	RTR Sawai Madhopur	Pakki Diwar 6 ft	Tol Ki Talai se Chiti wala Khal Tak	500	500	0

Sl. No.	Name of Division	Items	Name of the site	As per record (meters)	As per actual	Variation
52.	RTR Sawai Madhopur	Pakki Diwar 6 ft	Sitaram Gujar ke khet se Kalyan Gujar Ke Khet tak	450	450	0
53.	Sikar	Pakki Diwar 4 ft	Bhudoli	600	602	2
54.	Sikar	Pakki Diwar 6 ft	Shakambari Conservation Reservr, Sikar (Sakrai)	2882	2900	8
55.	Tonk	Pakki Diwar, 4ft.	Vankhand Nohta	400	400	0
56.	Tonk	Pakki Diwar, 4ft.	Kuccha Bandha	1000	1000	0
57.	Udaipur WL	Pakki Diwar 6 ft	Dheemra Phatak se Mahudi	1900	1900	0
58.	Udaipur WL	Pakki Diwar 6 ft	Bujha	500	500	0

The details of the report of evaluation of Boundary Pillars as per record & actual are given in table 5.13. Almost in all the 232 sites Boundary Pillars were reported same as per record & actual. In 08 sites there was some variation in number of pillars as per record & actual as pillars were either reported damaged by local community or found fallen on ground due to some reason.

Table 5.13: Boundary Pillars as per record & actual

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
1.	Alwar	Boundary Pillar	Jhakda	20	20	0
2.	Alwar	Boundary Pillar	Agar	12	12	0
3.	Alwar STR	Boundary Pillars (10 nos.)	Block Dharmpura	10	10	0
4.	Alwar STR	Boundary Pillars (10 nos.)	Bairawas	10	10	0
5.	Alwar STR	Boundary Pillars (04 nos.)	Indauk Purv	4	4	0
6.	Alwar STR	Boundary Pillars (09 nos.)	Nidani	9	9	0
7.	Alwar STR	Boundary Pillars (10 nos.)	Dabkan	10	10	0
8.	Banswara	Boundary pillars	Rohal Undela(Miyasa)	30	30	0
9.	Banswara	Boundary pillars	Vadita Hilage (Kamji Ka Kheda)	20	20	0

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
10.	Banswara	Boundary pillars	Medimal Bhandar	50	50	0
11.	Banswara	Boundary pillars	Baba Kua wala	20	20	0
12.	Banswara	Boundary pillars	Rohal Panasi	20	20	0
13.	Banswara	Boundary pillars	Kobadabri	20	20	0
14.	Banswara	Boundary pillars	Devkotra	20	20	0
15.	Banswara	Boundary pillars	Karmi	10	10	0
16.	Banswara	Boundary pillars	Harendar	20	20	0
17.	Banswara	Boundary pillars	Timbamahudi	10	10	0
18.	Banswara	Boundary pillars	Khunra Kundiya	20	20	0
19.	Banswara	Boundary pillars	Gararkhora	14	14	0
20.	Banswara	Boundary pillars	Hindolamal	20	20	0
21.	Banswara	Boundary pillars	Sarwanderi	10	10	0
22.	Banswara	Boundary pillars	Bhojiya Samariya	20	20	0
23.	Banswara	Boundary pillars	Kobadabri	10	10	0
24.	Banswara	Boundary pillars	Molanmacha	10	10	0
25.	Banswara	Boundary pillars	Daulatgarh	10	10	0
26.	Banswara	Boundary pillars	Satbidiya	10	10	0
27.	Barmer	Boundary pillars	Chichdasar Vanshetra	6	6	0
28.	Bharatpur	Boundary Pillars	Bolkheda(Kankachal)	10	10	0
29.	Bharatpur	Boundary Pillars	Bolkheda(Kankachal) I	10	10	0
30.	Bharatpur	Boundary Pillars	Klabta Dholgiri	10	10	0
31.	Bharatpur	Boundary Pillars	Dhamari	10	10	0
32.	Bharatpur WL	Boundary Pillars	Vankhand Sukhashila	20	20	0
33.	Bharatpur WL	Boundary Pillars	Vankhand Sultanpur	20	20	0

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
34.	Bhilwara	Boundary Pillar	Kisanpura Badnaur	100	100	0
35.	Bhilwara	Boundary Pillar	Taswariya Basa	7	7	0
36.	Bhilwara	Boundary Pillar	Karamdas	9	9	0
37.	Bhilwara	Boundary Pillar	Karamdas B	7	7	0
38.	Bhilwara	Boundary Pillar	Noon	13	13	0
39.	Bhilwara	Boundary Pillar	Gajura Naya 109	22	22	0
40.	Bhilwara	Boundary Pillar	Vankhand Bemali A 56	11	11	0
41.	Bhilwara	Boundary Pillar	Vankhand Bemali B 49	10	10	0
42.	Bhilwara	Boundary Pillar	Mohanpura	9	9	0
43.	Bhilwara	Boundary Pillar	Rampura	7	7	0
44.	Bhilwara	Boundary Pillar	Ratangarh	7	7	0
45.	Bikaner WL	Boundary Pillars	Jodbeed Gadwala Conservation Reserve Kotdi	8	8	0
46.	Bikaner WL	Boundary Pillars	Marudhra Biological Park, Beechwal	10	10	0
47.	Bikaner WL	Boundary Pillars	Jodbeed Gadwala Conservation Reserve Kotdi	8	8	0
48.	Bundi	Boundary Pillar	Vankhand Dasaliya B range	10	10	0
49.	Bundi	Boundary Pillar	Vankhand Maradi Naka Garada	10	10	0
50.	Bundi	Boundary Pillar	Vankhand Aklor Pani Dhal	10	10	0
51.	Bundi	Boundary Pillar	Vankhand Ful Sagar Sathur range	12	12	0
52.	Bundi	Boundary Pillar	Vankhand Jajawar A Naka Jajawar	8	8	0
53.	Bundi	Boundary Pillar	Naka Khinya Vankhand Umarmata	10	10	0
54.	Bundi	Boundary Pillar	Vankhand Maradi Naka Garada	10	10	0
55.	Bundi	Boundary Pillar	Naka Gudhanathavtan Vankhand Gudha	10	10	0
56.	Bundi	Boundary Pillar	Vankhand Jajawar A Naka Jajawar	10	10	0

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
57.	Chhatargarh	Boundary Pillar	13 DKD	10	10	0
58.	Chhatargarh	Boundary Pillar	1 PWM	10	10	0
59.	Chittorgarh	Boundary Pillars	Kapasan	20	20	0
60.	Chittorgarh	Boundary Pillars	Borav	20	20	0
61.	Chittorgarh	Boundary Pillars	Nimbaheda	20	20	0
62.	Chittorgarh	Boundary Pillars	Rawatbhata	20	20	0
63.	Chittorgarh	Boundary Pillars	Javda	60	60	0
64.	Chittorgarh	Boundary Pillars	Chhittorgarh	20	20	0
65.	Chittorgarh	Boundary Pillars	Vijaypur	40	40	0
66.	Chittorgarh	Boundary Pillars	Vankhand Aera	3	3	0
67.	Chittorgarh	Boundary Pillars	Vankhand Sikargah Salera (Gangrar)	7	7	0
68.	Chittorgarh	Boundary Pillars	Kudalkheda	5	5	0
69.	Chittorgarh	Boundary Pillars	Chordo Ki dhar	5	5	0
70.	Chittorgarh WL	Boundary Pillar	Naka Parsoli	5	5	0
71.	Chittorgarh WL	Boundary Pillar	Naka Anoppura	4	4	0
72.	Chittorgarh WL	Boundary Pillar	Naka Panchaguda	2	2	0
73.	Churu	Boundary Pillar	Vankhand Kodasar Charla Ki Seema par	10	10	0
74.	Churu	Boundary Pillar	Vanshetra Chandgothi	7	7	0
75.	Churu	Boundary Pillar	Vanshetra Sankhu	4	4	0
76.	Dausa	Boundary Pillar	Golmain	5	5	0
77.	Dausa	Boundary Pillar	Kalakho main	7	7	0
78.	Dausa	Boundary Pillar	Naharkhora no.11 A	7	7	0
79.	Dausa	Boundary Pillar	Dhpawan-Urwadi-Rehadia	4	4	0
80.	Dausa	Boundary Pillar	Balaji ka Thobra	5	5	0

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
81.	Dausa	Boundary Pillar	Mandawar-Banawad main	9	9	0
82.	Dausa	Boundary Pillar	Nandana Tahaldi Main	6	6	0
83.	Dausa	Boundary Pillar	Nandana Tahaldi A	1	1	0
84.	Dausa	Boundary Pillar	Khoncpuri	10	10	0
85.	Dholpur	Pillars	Madanpur Block	20	20	01-Damaged
86.	Dungarpur	Boundary Pillars	Vankhand Ranijhula	4	4	0
87.	Dungarpur	Boundary Pillars	Vankhand Pagara B	3	3	0
88.	Dungarpur	Boundary Pillars	Vankhand Pagara C	1	1	0
89.	Dungarpur	Boundary Pillars	Vankhand Pagara D	1	1	0
90.	Dungarpur	Boundary Pillars	Vankhand Beedlalgirji	3	3	0
91.	Dungarpur	Boundary Pillars	Vankhand Suliya Beraka	51	51	0
92.	Dungarpur	Boundary Pillars	Vankhand Kyawadi	3	3	0
93.	Dungarpur	Boundary Pillars	Vankhand Beda Bedi	3	3	0
94.	Dungarpur	Boundary Pillars	Vankhand Ranijhula	11	11	0
95.	Dungarpur	Boundary Pillars	Vankhand Chulrawaiya	10	10	0
96.	Dungarpur	Boundary Pillars	Vankhand Palsisoda	21	21	0
97.	Dungarpur	Boundary Pillars	Vankhand Bhedmata	23	23	0
98.	Dungarpur	Boundary Pillars	Vankhand Jaspur Khermal A	46	46	0
99.	Dungarpur	Boundary Pillars	Vankhad Falihor	39	39	0
100.	Dungarpur	Boundary Pillars	Vankhand Songara Mugediya	12	12	0
101.	Dungarpur	Boundary Pillars	Vankhand Kabja Katisaur	6	6	0
102.	Dungarpur	Boundary Pillars	Vankhand Ghatamawita	19	19	0
103.	Ganganagar	Boundary Pillars	1 SMR	14	14	0
104.	Ganganagar	Boundary Pillars	8 MC	17	17	0

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
105.	Ganganagar	Boundary Pillars	1 LGM	12	12	0
106.	Ganganagar	Boundary Pillars	2 LGM	17	17	0
107.	Hanumangarh	Boundary Pillars	5JBD, 4 JBD,6 KDD,5JBD ABC,Pohadka(5 PRKM),4 CLD, 5CLD, 1JBD,3 CLD	10	100	0
108.	Hanumangarh	Boundary Pillars	122.5 RD	4	4	0
109.	Hanumangarh	Boundary Pillars	Rajasthan main Canal Between 72-135 RD	42	42	0
110.	Hanumangarh	Boundary Pillars	2 KDM	2	2	0
111.	Hanumangarh	Boundary Pillars	3 SPD	3	3	0
112.	Hanumangarh	Boundary Pillars	14 Barani	13	13	0
113.	Hanumangarh	Boundary Pillars	1 RMS	2	2	0
114.	Hanumangarh	Boundary Pillars	15 JSN	2	2	0
115.	Hanumangarh	Boundary Pillars	Chak Sardarpura	9	9	0
116.	Hanumangarh	Boundary Pillars	BP 5RMG	2	2	0
117.	Hanumangarh	Boundary Pillars	19 DPN	3	3	0
118.	Hanumangarh	Boundary Pillars	22 DPN	2	2	0
119.	Hanumangarh	Boundary Pillars	Sondi	20	20	0
120.	IGNP Jaisalmer	Boundary Pillars	Nagga Barani	17	17	0
121.	Jaipur	Boundary Pillars	Neendar Bainar	5	5	0
122.	Jaipur	Boundary Pillars	Amer 54	5	5	0
123.	Jaipur North	Boundary Pillars	Vankhand Buchara A	4	4	0
124.	Jaipur North	Boundary Pillars	Vankhand Aantela Bhabhuru block 51	2	2	0
125.	Jaipur North	Boundary Pillars	Kumbhawas Garhi Barodia 52	6	6	0
126.	Jaipur North	Boundary Pillars	Badi line 43 C	6	6	0
127.	Jaipur North	Boundary	Berki Makreta ki	2	2	0

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
		Pillars	dungri 46 A			
128.	Jaipur WL	Boundary Pillars	Vankhand devitla	5	5	0
129.	Jalore	Boundary Pillar	Vankhand Dungri	4	4	0
130.	Jalore	Boundary Pillar	Dodwadiya (Vankhand Raniwara)	5	5	0
131.	Jalore	Boundary Pillar	Vankhand Pal Jod & Kudi Sariyana	10	10	0
132.	Jalore	Boundary Pillar	Vankhand Meda	10	10	0
133.	Jalore	Boundary Pillar	Vankhand Varetha	11	11	0
134.	Jalore	Boundary Pillar	Vanshetra Badgaon	24	24	0
135.	Jalore	Boundary Pillar	Vankhand Kagmala A	7	7	0
136.	Jalore	Boundary Pillar	Vankhand Padawi	11	11	0
137.	Jalore	Boundary Pillar	Vanshetra Dantwada	16	16	0
138.	Jalore	Boundary Pillar	Vankhand Mandaradi	6	6	0
139.	Jalore	Boundary Pillar	Vankhand Jalera Khurd	10	10	0
140.	Jalore	Boundary Pillar	Vankhand Sataru	12	12	0
141.	Jalore	Boundary Pillar	Vankhand Roda	24	24	0
142.	Jhalawar	Boundary Pillar	Jhalawar	15	15	01-Damaged
143.	Jhalawar	Boundary Pillar	Dag	20	20	02-Damaged
144.	Jhalawar	Boundary Pillar	Haliheda	20	20	02-Damaged
145.	Jhunjhunu	Boundary Pillar	Udaipurwati	10	10	0
146.	Jhunjhunu	Boundary Pillar	Khetri	30	30	0
147.	Jhunjhunu	Boundary Pillar	Udaipurwati	8	8	0
148.	Jhunjhunu	Boundary Pillar	Khetri	12	12	0
149.	Jodhpur	Boundary Pillar	Vankhand Bap	10	10	0
150.	Jodhpur	Boundary Pillar	Vankhand Beriganga	15	15	0
151.	Jodhpur	Boundary	Vankhand Dechu	5	5	0

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
		Pillar	Fatehgarh			
152.	Karauli	Boundary Pillars	Kota B	25	25	0
153.	Karauli	Boundary Pillars	Mardai Daudpur	19	19	05- Damaged 02- Fallen on ground
154.	Karauli	Boundary Pillars	Mahuwa Kheda Main & B	9	9	0
155.	Karauli	Boundary Pillars	Naroli Dang/Dabra A	7	7	0
156.	Karauli	Boundary Pillars	Naharkohra no. 11A	17	17	04- Damaged
157.	Karauli	Boundary Pillars	Vankhand Gurdah	20	20	0
158.	Karauli	Boundary Pillars	Vankhand Banswadi	20	20	01- Fallen on ground
159.	Karauli	Boundary Pillars	Vankhand Ratiyapur	41	41	0
160.	Karauli	Boundary Pillars	Vankhand Khirkhida Baloti	12	12	0
161.	Karauli	Boundary Pillars	Vankhand Dabra B	9	9	0
162.	Pali	Boundary Pillars	Rundiya Vankhand	5	5	0
163.	Pali	Boundary Pillars	Guda Umsingh	5	5	0
164.	Pali	Boundary Pillars	Bali Jod	16	16	0
165.	Pali	Boundary Pillars	Beda Block	14	14	0
166.	Pratapgarh	Boundary Pillar	Lalgarh, Badisakhthali	40	40	0
167.	Pratapgarh	Boundary Pillar	Jhatla C	40	40	0
168.	Rajsamand WL	Boundary pillars	Wali Ka Mathara C	5	5	0
169.	Rajsamand WL	Boundary pillars	Bagor Part B	9	9	0
170.	Rajsamand WL	Boundary pillars	Odar Ki Khadri	10	10	0
171.	Rajsamand WL	Boundary pillars	Jaitaran Ka Bada Mathara	16	16	0
172.	Rajsamand WL	Boundary pillars	Thurawad Ka Mathara	9	9	0
173.	Rajsamand WL	Boundary pillars	Bagor Se Barwara Ki Nedi	10	10	0
174.	Rajsamand	Boundary	Kathar Ki Nedi	23	23	0

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
	WL	pillars				
175.	RTR Karauli	Boundary Pillar	Vankhand Marmada	2	2	0
176.	Sawai Madhopur	Boundary Pillars	Bhagwatgarh 78 Main	13	13	0
177.	Sawai Madhopur	Boundary Pillars	Badgaon Jaitpura	8	8	0
178.	Sawai Madhopur	Boundary Pillars	Lorwada	20	20	0
179.	Sikar	Boundary pillars	Malkeda	7	7	0
180.	Sikar	Boundary pillars	Khori	4	4	0
181.	Sikar	Boundary pillars	Baleswar	6	6	0
182.	Sikar	Boundary pillars	Toda	5	5	0
183.	Sikar	Boundary pillars	Vankhand Dantla	9	9	0
184.	Sikar	Boundary pillars	Ganoda	2	2	0
185.	Sikar	Boundary pillars	Khandela	6	6	0
186.	Sikar	Boundary pillars	Paniharwas	3	3	0
187.	Sikar	Boundary pillars	Mahroli	2	2	0
188.	Sikar	Boundary pillars	Todi Madhopura	4	4	0
189.	Sikar	Boundary pillars	Van khand Govdi	7	7	0
190.	Sikar	Boundary pillars	Van khand Govti Ladhana	5	5	0
191.	Sikar	Boundary pillars	Bhuranpura	2	2	0
192.	Sikar	Boundary pillars	Khiroti	4	4	0
193.	Tonk	Boundary Pillar	Sawantgarh Toda ka Gotda A. B.	12	12	0
194.	Tonk	Boundary Pillar	Sohela	4	4	0
195.	Tonk	Boundary Pillar	Todaraisingh	3	3	0
196.	Tonk	Boundary Pillar	Kakod Banetha Main	8	8	0
197.	Tonk	Boundary Pillar	Sitapura	3	3	0
198.	Tonk	Boundary	Sitapura No.1	13	12	1 Removed

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
		Pillar				by the local community
199.	Tonk	Boundary Pillar	Ghad	2	2	0
200.	Tonk	Boundary Pillar	Sitapura No.2	2	2	0
201.	Tonk	Boundary Pillar	Devdawas	8	8	0
202.	Tonk	Boundary Pillar	Aawa Dehru	10	10	0
203.	Tonk	Boundary Pillar	Kuccha Bandha	4	4	0
204.	Tonk	Boundary Pillar	Todaraisingh	4	4	0
205.	Tonk	Boundary Pillar	90 Siras	6	6	0
206.	Udaipur	Boundary Pillar	Aadiwas	5	5	0
207.	Udaipur	Boundary Pillar	Som Part II	5	5	0
208.	Udaipur	Boundary Pillar	Vankhand Nandwel	5	5	0
209.	Udaipur	Boundary Pillar	Undari Poplty	6	6	0
210.	Udaipur	Boundary Pillar	Vankhand Bawlavada	10	10	0
211.	Udaipur	Boundary Pillar	Bamaniya, Khorav	10	10	0
212.	Udaipur	Boundary Pillar	Nalsandol & Chapra	6	6	0
213.	Udaipur	Boundary Pillar	Sera	14	14	0
214.	Udaipur	Boundary Pillar	Plodara	10	10	0
215.	Udaipur North	Boundary Pillar	Bhadwiguda	7	7	0
216.	Udaipur North	Boundary Pillar	Aaramangra	4	4	0
217.	Udaipur North	Boundary Pillar	Majam	2	2	0
218.	Udaipur North	Boundary Pillar	Khuman Mangra	8	8	0
219.	Udaipur North	Boundary Pillar	Vankhand Bagar Ka Khula Jungle	5	5	0
220.	Udaipur North	Boundary Pillar	Vankhand Ladiyo ki Ghati	14	14	0
221.	Udaipur North	Boundary Pillar	Vankhand Thana wali nedi	18	18	0

Sl. No.	Name of Division	Items	Name of the site	As per record (numbers)	As per actual	Variation
222.	Udaipur North	Boundary Pillar	Vankhand Rupar ka Mathara	5	5	0
223.	Udaipur North	Boundary Pillar	Rawach	8	8	0
224.	Udaipur North	Boundary Pillar	Kamba Ka Khula Jungle	8	8	0
225.	Udaipur North	Boundary Pillar	Baguni	4	4	0
226.	Udaipur North	Boundary Pillar	Aadiwali Barwari A	21	21	0
227.	Udaipur North	Boundary Pillar	Gamdhar	5	5	0
228.	Udaipur North	Boundary Pillar	Kamlodiya	8	8	0
229.	Udaipur North	Boundary Pillar	Hinglasiya	8	8	0
230.	Udaipur WL	Boundary Pillar	Dharavar	10	10	0
231.	Udaipur WL	Boundary Pillar	Ashawada/Aadahaldu	20	20	0
232.	Udaipur WL	Boundary Pillar	Vankhand Phulwari	10	10	0

The details of the report of evaluation of Forest Chowki/Range Office/ Rescue Centre as per record & actual are given in table 5.14. Almost in all the 11 sites Forest Chowki/Range Office/ Rescue Centre were reported same as per record & actual.

Table 5.14: Forest Chowki/Range Office/ Rescue Centre as per record & actual

Sl. No.	Name of Division	Items	Name of the site	As per record	As per actual	Variation
1.	Alwar	Forest Chowki	Machadi	1	1	0
2.	Barmer	Range Office	Sirdhari	1	1	0
3.	Bundi	Range Office	Bundi	1	1	0
4.	Chittorgarh	Forest Chowki	Piplikheda	1	1	0
5.	Dausa	Rescue Centre	Khan Bhankari	1	1	0
6.	DNP Jaisalmer WL	Forest Chowki	Sam Beriyar Chowki	1	1	0
7.	IGNP Jaisalmer	Forest Chowki	Range Office	1	1	0
8.	Jaipur WL	Forest Chowki	Raisar	1	1	0
9.	Jalore	Range Office	Jaswantpura	1	1	0
10.	Sawai Madhopur	Forest Chowki	Gupteshwar Mahadeo	1	1	0
11.	Udaipur WL	Forest Chowki	Ambasa	1	1	0

Chapter - 6

Key Findings, Conclusion, Suggestions & Recommendations

In more recent times, the state has a clear obligation that has also been felt to integrate the vision of sustainable forest management through elements of ecosystem conservation, ecological security, climate change mitigation, and adaptation, promotion of urban forestry, and robust convergence with Sustainable Development Goals (SDGs). The CAMPA fund made the best possible efforts to integrate the activities supporting the achievement of Sustainable Development Goals (SDGs) i.e. catering to SDG 13 – Climate Action. In a way, it is to support the state towards contributing towards SDG -13. The actions must go hand in hand with efforts to integrate disaster and climate change risks, sustainable natural resource management, and human security into state development strategies.

In the state, various activities namely, Afforestation & Plantation, Soil and Moisture Conservation works (SMC), construction of office buildings, boundary wall and boundary pillars are the key interventions under CAMPA Fund. The CAMPA Fund activities were undertaken in 51 Forest divisions covering 225 ranges across 33 districts of Rajasthan. As per list of ranges given in the TOR, 225 ranges have been mentioned. However, the samples forest divisions for the evaluation study during the Years 2020-21 & 2021-22 under the plantation / afforestation works were carried out in the 41 Forest divisions covering 113 Forest ranges and buildings, asset development and construction of boundary walls and boundary pillars undertaken in the 47 Forest divisions and 153 Forest ranges.

The CAMPA fund is mainly used for afforestation & plantation activities, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices, and allied activities.

During the process of evaluation, various aspects of the treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood-saving devices, and allied activities being implemented were assessed. In some respects encouraging trends of progress were reported and in some other aspects, programme was lagging. The findings of the assessment under Third third-party evaluation are presented below under the following heads (1) Survival rate of the plants (2) Soil & Moisture Conservation structures (SMC) (3) Forest Management (4) Capacity Building Training & Awareness (5) Wild Life management (6) Allied activities and (7) Policy issues, etc.

The outcome and the effectiveness of CAMPA fund project works and activities have been experienced by reviewing the survival and growth of plantations undertaken in the project, functioning of Forest Divisions and range offices, institution building, initiatives for Soil & Moisture conservations, construction of water harvesting structures, construction of protection

/boundary wall, construction of boundary pillars, development of nurseries, capacity building, and trainings etc. both in forest and wildlife areas.

The findings of the Third Party Evaluation study have been reviewed on the following performance indicators namely, Relevance, Efficiency, Effectiveness, Impact, Sustainability, Key innovative initiatives, and lessons learned are stated below on various parameters.

6.1 Strengths & Weaknesses

The key findings in terms of Strengths & Weaknesses are stated hereunder,

Strengths	Weaknesses
1. The CAMPA Fund project activities have supported to save forest at the plantation sites from further degradations and increase the forest cover on new diverted land by the administration in lieu of forest land used for development project purpose in the state. 2. Developed useful nurseries for the afforestation/ plantation in the forest ranges. Also expanded the volume and quality of infrastructures at nurseries. 3. Increased plantation of local species at the afforestation sites. 4. SMC activities were executed in proper manner including selection of right sites at majority of places. The quality of construction has been reported from satisfactory to good in most of the cases. 5. Increase in forest and vegetal cover added value to overall process	1. The forest areas were facing extreme climate conditions in the area. Also, the soil depth is very low and the state experienced variations in temperatures. The temperatures hike during summer up to 45^0C to 48^0C and in winter temperature fell to the minimum 6^0C to 0^0C. 2. The soil cover on rocky area of Alwar, Sirohi, Pratapgarh, Pali, Dungarpur, Bundi, Sikar, RTR, Sawai Madhopur, Jodhpur, Dholpur, STR, Kota, Baran & Jhalawar is low resulting into limited survival of planted plants. 3. The nursery development may take into consideration the long-term perspective and sustainability of requirement of nursery as catalytic role for Forestry development. 4. The planning for development of nursery was not done. It would be good if the project should meet the basic facilities of nurseries namely, water, fencing, development of pucca bed etc. 5. The plantation sites largely drive towards plantation only i.e. completing the activity. The element of 'People' was kept at lower level. People's participation was reported less at the plantation sites. 6. The VFPMCs were considered less important for better protection and management of initiatives under the project. 7. Monitoring and supervision by Forest Division and Range officials was reported limited and not regular for supporting the execution of works/ activities at sites specially and the plantation and construction activities (boundary wall, Forest Chowki & boundary pillars) and for the purpose of improving the better utilization of fund for quality execution of works/ activities. It was reported due to vacant position of field staffs and lack

and system of forestry development. 6. SMC related activities at the afforestation/ plantation sites impacted conservation of soil and water. 7. The impact of SMC works were visible in most of sites helping in increasing the vegetative cover of the sites. The natural vegetation was better reported than the planting saplings on thanwalas. 8. Contour bunding works were done largely in a proper way. 9. LB with gabion resulted into reduction of soil erosion and checked the water flow velocity. At most of plantation sites, it was reported constructed at proper site and with proper quality. 10. Construction of WHSs at the plantation sites/ near plantation sites helped in checking the soil erosion. 11. The quality of Anicut type II and III was reported proper and useful.	of availability of vehicle at range level. 8. At the most of the sample sites, micro-plan was not the base document for execution of works. 9. The capacity building, training, research, communication & extension activities were reported at lower scale, which should be at higher scale for executing the project in broader spectrum and with support from local people. 10. The documents namely, VFPMC records, Plantation journal, plantation cards were lacking required initiatives. Consequently, the results were discrete rather than consolidated. 11. The villagers at plantation sites reported of being affected with Neelgai (Roze) which destroy agriculture crops. 12. Protection & care of plantation/ activities sites being beyond project phase was reported limited or almost nil and it causes nullifying the investments due to heavy grazing by the cattle/local livestock. 13. No provisions of operation and maintenance of SMC work have been made. Also, in some cases the site selection for anicut was not very strong resulting in breakage of structure. 14. There were weak VFPMCs in the area and they were reported active only for execution of activities as the whole plan has been made for taking up forestry and plantation works and the expenditures were made by VFPMC. 15. Local people/ stakeholders were informed about the project may be with various methods i.e. meetings, trainings, orientations, exposure visit as per the project activity plan. However, their involvements were not much reflected in the outcome of the project activities. 16. Lack of required expertise amongst forest officials/ functionaries to undertake related activities. 17. Low level of proactive initiatives by the local stakeholders/ community people for better utilization and management of CAMPA fund related activities / work for better development of forest cover and improvement of forest related initiatives.

6.2 Key Findings & Conclusions

6.2.1 Overall Review of Physical progress on CAMPA Fund

- The physical target of 30421.36 Ha plantations was achieved against the allotted target of 30421.36 Ha resulting in 100% achievement of plantation targets during the CAMPA Fund project period of 02 years (2020-21 to 2021-22).
- There has been visible impact of the expenditures under CAMPA Fund in the forest sites in terms of Improving the quality of Degraded Forest Lands (DFL), improving and increasing the forest cover in the Non-Forest Lands (NFL), providing better facilities and improving the habitat of wildlife as a result the sighting of various animals were reported, and improving the health of the forest area where works and activities undertaken from CAMPA fund.
- The initiatives for sustainable forest management through elements of ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of forestry and robust convergence has been reflected which certainly add value for Climate change (Sustainable Development Goals-13 (SDGs-13). These all will help in better protection, restore and promote sustainable use of ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss with initiatives in the state under CAMPA.

6.2.2 Afforestation, Plantation, Growth & Survival

- During third party evaluation 158 sample sites were visited to assess the survival rates of the planted species. The survival rates of the planted species vary from 13.8% (Chhapari) to 83.3% (Henabavdi). At 87.3% sample plantation sites (138 sites out of 158), the survival rates of the planted species range from 41-60 % across the sample units.
- Regarding year-wise survival percentage of the plants, 2020-21, the survival percentage of the plants was in the range of 0-20%, & 21-40% at each of the 01 sample site, at 63 sample sites the survival percentage of the plants was in the range of 41-60% and at 06 sample sites the survival percentage of the plants was in the range of 61-80%. In the year 2021-22, at 01 sample site the survival percentage of the plants was in the range of 0-20%, survival percentage of the plants was in the range of 41-60% at 75 sample sites, at 08 sample sites the survival percentage of the plants was in the range of 61-80% and at 03 sites the survival percentage of the plants was in the range of 81-90%. In total, the survival percentage of the plants was in the range of 0-20 % at 02 sample sites, 21-40% at 01 sample site, 41-60% at 138 sample sites, 61-80% at 14 sample sites and 81-90% at 3 sample sites.
- The total area of all the selected and evaluated 158 sites of plantations of 113 Ranges of 41 Divisions was 7578.62 ha. The overall ranking of evaluated 7578.62 ha plantations was good (6) with average survival percentage of 50.7%.
- In terms of physical area, the ranking of plantations was Excellent (9) of 150 ha plantations having survival percent between 80 and 90, Very Good (8) in 242.06 ha plantation having survival percent between 70% and 80%, Good (7) in 588.114 ha plantation having survival percent between 60% and 70%, Average (6) in 2092.359 ha plantation having survival percent between 50% and 60%,Poor (5) of 4401.383 ha

plantation having survival percent between 40% and 50%, Very Poor (4) of 104.7 ha plantation having survival percent less than 40%.

- Regarding ranking of plantation sites, the survival percentage was Excellent (between 80% and 90%) with ranking of 150 ha plantation area of 3 sites, Very Good (Between 70% and 80%) with 8 ranking of 242.06 ha plantation areas of 3 sites, good (Between 60% and 70%) with 7 ranking of 588.11 ha plantation areas of 11 sites, average (Between 50% and 60%) with 6 ranking of 2092.4 ha plantation areas of 46 sites, poor (Between 40% and 50%) with 5 ranking of 4401.4 ha plantation areas of 92 sites and very poor (less than 40 %) with 4 & below ranking of 104.7 ha plantation areas of 3 sites.
- At Chappari site (I) (Kuchaman range- Nagaur Division), the survival & growth of planted seedling was poor. Also, result of seed sowing was poor. The protection & fencing at the site was poor. The ditch fencing & barbed wire fencing was badly damaged. Grazing by Cattles (Cow, Goat & Buffalo) was found by the team member during the visit. Also, human habitation area is very close to the plantation site. The Cattle & people frequently used to enter the site.
- At Dholi B site, the survival & growth of planted seedling was poor. The mortality of planted seedling was high. Also, result of seed sowing was poor. The protection & fencing at the site was poor. VFPMC President had made separate entrance for plantation site which resulted in increase public interference (viz. grazing & damage to planted seedling) at the plantation site.
- At Matarmata Vankhand site, the growth & survival of plant was poor. The ditch fencing was badly damaged due to heavy rain. The seedlings planted in thanwalas were rarely seen. However, natural vegetation at the site was good. Also, result of sowing was poor at the site.
- Under the Productivity Enhancement Operation (PEO-Bamboo) model, the growth of bamboo plant was good at all the five sites (viz. Toran I Compartment no.18-Udaipur DOD, Badliyanal, Henabawdi-Pratapgarh, Lakhavali & Taurana 12-Udaipur North). New roots of bamboo plant were also reported at the site. At Lakhavali site the growth of bamboo plant was excellent at the site. Bamboo plants on stone constructed thuras were seen all around in 50 Ha plantation site.

6.2.3 Factors affecting Growth & survival (Biotic and Abiotic)

- Ditch fencing was damaged at many places. At some places, the locals made route from ditch fencing to plantation site for cattle grazing. Village and wild animals grazed almost all planted species. Loose stone wall fencing was damaged at many places. The stones of loose stone fencing were removed from many places and route to plantation site was made by the locals.
- Grazing by stray animals, cattle & destruction by Neelgai, Chinkara, Wild boar, Rabbit & Rat were reported at the plantation site. Grazing by cattle & stray animals was reported in majority of the sample sites. Due to which the height of planted seedling was low.
- Widely growth of termite & attack by pest obstruct the growth of planted seedlings in almost all the plantation sites.

- Wild animals viz. Neelgai and village animals ate the branches and leaves of plants. The growth and survival of plants was affected due to grazing by Neelgai and village animals (Sheep, Goats, Cows, Bulls and Buffaloes etc.).
- Due to non provision of watering in the plantation models survival and growth of plants were affected and mortality was reported higher.
- Low rainfall was reported at the plantation site during last 2 to 3 years. This affects the survival & growth of planted species. Also, the survival was reported moderate to low.
- Also, the soil quality obstructs the growth of planted seedlings. The soil was rocky & sandy at many plantation sites. The chances of survival of seedlings in rocky is low.
- The destruction to planted seedlings by termite was observed during third party evaluation process. It needs proper treatment so that the huge investment on plantation can be meaningful in improving the forest cover.
- The prominent and heavy canopy of Juliflora reported certainly affecting the survival and growth of plantations in the area. Also, at the sample sites it has occurrence of Juliflora affecting the plantation sites due to fast recurrence and converge.

6.2.4 Impact on Vegetal Cover

- There has been reported increase and improvement in vegetal cover at the sample plantation sites viz. DFL, NFL & ANR. The vegetation abundance has been reported fairly higher in ANR model as compared to NFL & DFL models.
- The plantation and soil & moisture conservation activities at the plantation sites have certainly added value in terms of increase in the vegetal cover namely, trees (Palash, Neem, Mahuva, Tendu, Baheda, Sagwan, kher, Neem, Ronj, Shesham, Baans, Churel etc.) shrubs (Ber, Lentana, Ber, Juliflora, Hingot, Jaal, Bui & Kheep), herbs (Neem giloi, Satavari, Peelvan, Googal, Bazardanti) and natural grasses (Lapla, Bharut & Dhaman) etc.

6.2.5 Protection & Management

- The boundary pillars constructed under CAMPA fund helped in demarcating the forest land and boundaries and protecting from encroachment.
- The boundary wall supported under CAMPA fund was reported boon for the forest divisions as it helped in demarcating the forest land and boundaries and protecting from encroachment.
- With construction of boundary wall at the plantation sites, reserved forest areas, the result was reported positive in terms of protection of forest areas from grazing. Also, the evaluation team has witnessed the growth of various trees and shrubs as a result forest density has been reported improved.
- It has been reported that the plantation and afforestation sites require proper protection, watering and proper guarding in order to have better achievement.
- At Dabla III site, the growth & survival of planted seedling was very good. The barbed wire fencing with welded wire mesh was fully effective in controlling the biotic pressure.

The result of sowing was excellent. The plants grown out of seed sowing was widely seen on contour furrow at many patches.

- During visit to the project sites for third party evaluation it was reported that the plantation sites boundaries were constructed as per norms i.e. loose stone wall, Ditch fencing and barbed wire fencing etc. It was also observed at the sample sites that the fencing on the boundaries had been damaged. Also, the plantation sites have withdrawn the cattle guards who were placed during execution phase. The plantation sites were reported open and the village animals were reported entering into the plantation sites for grazing.
- Ditch fencing was reported at 107 sample sites. The length of ditch fencing varies from 120 rmt. (Jhala Ki Chowki-Sendara) to 5827 rmt. (Khatakheri-Khanpur). Like-wise, loose stone wall fencing was reported at 104 sample sites. The length of loose stone wall fencing varies from 50 rmt (Garayta-Khanpur) to 49700 rmt at 03 sites each. (Toran 12-Dewla), (Lakhawali-Udaipur) & (Toran I Compartment no.18- Dewla DOD). Also, other types of fencing were reported at 49 sample plantation sites. Other types of fencing at plantation sites include barbed wire, pucca wall, hedge fencing & dola fencing.
- The plantation sites after 5-6 years (ANR Plantation) were left totally on the mercy of cattle guards. It has been reported that the sites have full pressure of grazing by the local live stocks and cattle. The whole investments were nullified and the site conditions became alarming.

6.2.6 Extent and composition of sowing

- The sowing was reported at 152 plantation sites. At 06 plantation sites sowing was not reported (04 PEO Bamboo sites, 01 NFL & 01 road side plantation site each). As per practice of department, seeds were sown along trenches/ earthen bunds & fencing on three rows. Seeds sown were Kumtha, Katkaranj, Ratanjot, Ronj, Chhela, Khair, Desi Babool & Ardu etc.
- Regarding status of sowing, the same was reported excellent at 07 plantation sites followed by very good at 03 plantation sites, good at 53 plantation sites , average at 78 plantation sites & poor at 11 plantation sites.
- In Bundi Division, at Dev Dungri B & Dola Ka Khal plantation site result of seed sowing was excellent. Plants grown out of seed sowing was better than the planted seedling. Plants grown out of seed sowing were widely seen on trenches, MPT & ditch fencing

6.2.7 Maintenance & Other Silvi-cultural operations

- As a part of maintenance, the site used to be visited on regular basis to keep watching regarding protection aspects. Also, loose stone fencing, ditch fencing & barbed wire fencing being fully effective in controlling the biotic pressure was reported at 21 plantation sites followed by partially effective at 136 plantation sites & at 01 plantation site the fencing was not at all effective in controlling the biotic pressure..
- Hoeing and weeding was reported at 34 plantation sites. Cut back was reported at 71 plantation sites. Removal of weeds & removal of dead, dying diseased and decaying trees was reported at 60 plantation sites, whereas post plantation operation such as pruning &

thinning was reported at 59 plantation site. Mortality in the plantation is replaced in the second and third year by miscellaneous species.

- The pruning and hoeing should be actually done regularly at least in the first 3-4 years in order to have better growth and development of plants planted.
- The cut back operation and stocking of roots were done at the ANR sites but the result was not appealing. Also, it has been reported that the cut back operation and stocking of roots was not readily practiced at every ANR sites.

6.2.8 Soil & Moisture Conservation works (SMC Works)

- Activities related to development of Soil & Moisture Conservation structures (SMC) is the key element of CAMPA Fund which is pre-requisite for the afforestation and plantation activities. Various SMC structures were constructed namely, SMC Structures - Anicut type - II & Anicut Type-III, Gabion, Earthen Check dam, PCT, V-ditch, CBD & WHS.
- The works of SMC can be appreciated undertaken at the plantation sites which were largely found useful and relevant. Various SMC works were reported at 153 sites, whereas at 05 plantation sites (03 NFL site at Jhalawar, 01 Tidiyasar site at Hanumangarh & 01 road side plantation at Jhalawar) SMC works were not reported.
- Contour trenches (viz. CCT, SGT, V ditch, DCCT & Contour Dykes) were reported at 145 plantation sites, whereas at 13 plantation sites the same was not reported. The length of CCT varies from 1200 rmt (Bharthari) to 45000 rmt (Kanasar).
- Mulching was reported at 03 plantation sites. The length of Mulching varies from 1000 rmt. (Vanshetra Punasar) to 15060 rmt. (Udat).Also, Gabion was reported at 04 sites.PCT/ Nadi was reported at 72 plantation sites. The area of PCT/ Nadi varies from 17.43 cum. (Kabra Mangra) to 5600 cum. (Bhairuji Bichoon Main). LSCD was reported at 63 plantation sites. The area of LSCD varies from 19.53 cum. (Vanshetra Punasar) to 1798 cum (Aenchedi). Earthen Checkdam was reported at 46 plantation sites. The area of earthen checkdam varies from 200 cum. (Bhairuji Bichoon Main) to 10349 cum (Chopra Ki Dhani). Others SMC structures were reported at 10 plantation sites. It includes Anicut, Diggi, Tanka, Farm pond, WHS & etc.

6.2.9 Various assets created under the project in terms of Quantity & Quality

- Out of total selected & evaluated 365 sites of assets of 153 ranges of 47 divisions, the ranking was very good (8) of 03 sites followed by good (7) of 72 sites, average (6) of 288 sites & poor (5) of 02 sites.
- The construction of boundary wall was reported an instrumental initiative in protecting forest and forest land from encroachment. In total, 35 Pakki diwar 4ft. (18727 meters) had been evaluated, out of which 27 were average & 08 were good in quality of construction. Regarding rating of quality of construction 27 pakki diwar was rated 6 & 08 rated 7. Regarding rating of quality of workmanship, 27 were average & 08 were good.
- In wildlife forest area, 23 Pakki diwar 6ft. (17742 meters) had been evaluated. Out of which 14 were average & 9 were good in quality of construction. Regarding rating of

quality of construction 09 rated 7, & 14 rated 6. Regarding rating of quality of workmanship, 14 pakki diwar 6ft. rated average & 9 rated good.

- Pillars were evaluated at 232 sites (Nos. 2842), out of which 218 was average, 13 were good & 01 was poor in quality of construction. Regarding rating of quality of construction, at 13 sites pillars were rated 7 followed by at 218 sites rated 6 & at 1 site rated 5. Regarding quality of workmanship, at 218 sites pillars were average followed by pillars were good at 13 sites & poor at 01 site. Further, at 13 sites pillars were rated 7 followed by at 218 sites pillars & at 1 site pillars rated poor.
- In total 46 Anicuts II & III had been evaluated, out of which 15 were average, 29 were good & 02 were very good in quality of construction. Regarding rating of quality of construction 02 rated 8 followed by, 29 were rated 7& 15 rated 6. Regarding quality of workmanship, 21 were average, 23 were good & 02 were very good. Further, 02 rated 8 followed by 23 were rated 7 & 21 rated 6.
- In total 18 MPT had been evaluated, out of which 03 MPT was rated 7 & 15 MPT were rated 6 in quality of construction. Regarding quality of workmanship, 03 reported good & 15 were reported average. Further, 03 rated 7 & 15 rated 6 in quality of workmanship.
- 07 Forest Chowki/ Van Rakshak Chowki had been evaluated. Out of which 02 forest chowki were rated 8 followed by 04 forest chowki were rated 7 & 01 forest chowki were rated 6 in quality of construction. Regarding quality of workmanship, 01 was average & 04 were good & 02 were very good. Further, 01 rated 6 followed by 04 rated 7 & 02 rated 8 in quality of workmanship.
- The boundary wall, anicut and forest chowki at some places were found having minor settlement and cracks or need maintenance. It should be addressed as per the requirements. Otherwise, the whole investment will become unusable after some time. Therefore, it is recommended to have a provision of budget for operation and maintenance.
- Almost in all the 64 sites Anicut Type II, III & MPT (LXBXH) were reported same as per record & actual. In few sites, there was variation in height/depth of anicut/MPT due to silting.
- In all the 58 sites Pakki Diwar 4ft &6 ft were reported same as per record & actual. In 12 sites, there was variation in length of Pakki Diwar 4ft & 6 ft. In 05 sites the length of pakki diwar was found less as compared to the record due to damage by local community, due to cyclone & heavy rain & etc. However, in 07 sites the length of pakki diwar was found more as compared to the record.
- Almost at all the 232 sites, Boundary Pillars were reported same as per record & actual. In 08 sites there was some variation in number of pillars as per record & actual as pillars were either reported damaged by local community or found fallen on ground due to some reason.
- In all the 11 sites Forest Chowki/Range Office/ Rescue Centre were reported same as per record & actual evaluation of sites.

6.2.10 Assessment of documentation & record keeping

- As far as availability of records at the plantation sites during the third party evaluation is concerned, availability of measurement book was reported at all the 158 plantation sites followed by availability of plantation journal at 156 plantation sites, KML file of plantation at 158 plantation sites, plantation card at 62 plantation sites, micro-plan at 37 plantation sites & survey map at 156 plantation sites & treatment map at 150 plantation sites.

6.2.11 Logistics/ Monitoring & Supervision

- Certainly, due to lack of adequate staffs it was found difficult to ensure the commitment and properly completion of works. Also, the limited facility of mobility at range level affected the required supervision and monitoring of activities and works executed under CAMPA.
- It has been also reported that due to limited power of transfers at office of forest division, the functionaries do not follow the instruction/ directions in proper manner. This is again called non completion of work as per the required standards and norms.
- The beat and sub-beat level functionaries has limited orientation of ensuring the quality and standards which certainly are adhered with regularly monitoring and handholding support by Range officers at the time of construction and execution of activities at site level.

6.3 Recommendations & Suggestions

6.3.1 Afforestation, Growth & Survival

- The plantation sites require attention in order to combat the experience of extreme hot and cold during the year in different seasons. The watering of the plantations may be allowed for initial years in order to bear the extreme temperature crisis. In ANR, NFL and DFL plantation models, the provision of watering may be given at least 3-4 watering every year in the beginning at least for 3 years may be between November – June or as required as per site condition. Provisions for watering in ANR sites may be included for first 3 years. The ANR plantation model needs to be revised based on the real time and site specific requirements.
- The system of replacement of casualty may be ensured for years till the maintenance has been sanctioned may be for 5 years so that the casualty can be reduced and more care can be given. This additional input will help in improving the vegetal cover and further address the issue of promotion of forestry which certainly adds value for Climate change (Sustainable Development Goals- 13 (SDGs-13).
- The trees species under plantation may be taken up after complete assessment of the site – its topography, existing vegetation, species of trees etc. in order to have better productivity and survival.
- The initiatives of protection and guarding (*the protection from destruction by rats, porcupine (sevli), termite and Roze*) can be planned as per demand of the plantation site

in order to have proper growth and development of plantation sites plants may be planned.

- After visiting the various plantation sites in various forest divisions, it has been experienced there strong need to have round the clock guarding i.e. site guards may be placed for 24 hours on turn basis. This will help in reduction in destruction during night.
- The analysis of success and failures of plantation sites and having interaction with forest officials, PRIs, local functionaries and VFPMC members, they were of the opinion that Cattle watcher (Chowkidar) appointed at the plantation sites may be extended for 8-10 years in order to have better results and maximum results of the whole investment. This may hardly require 10-15% requirement of additional budget in the next 3-4 years.
- There is greater need to stop the grazing by creating proper fencing. The fencing wall should be of proper height looking to the site condition rather than the existing State norms of fencing. In some sites, stakeholders opined for raising the height of fencing wall from 1.2 meters to 1.6 meters. It will give better result and improve site conditions.
- There is need to revise the plantation models of ANR and DFL looking to the outcome/ result of afforestations and plantations. It has been reported that at some sites it becomes a problem to execute the model. Similarly, the case may be for other models, too.
- There is need to revise unit size of plantation for ANR and DFL models based on site conditions. It may be a unit of 5 to 20 hectares. This certainly will improve the coverage and success of the plantation work. In addition, the plantation sites should prefer the local species in order to have better response of the plantation activities. Site specific seedlings should be planted (as per topography & soil condition) at the plantation site.
- The plantation model needs to be revised now and it should be site specific rather than one model for the whole State. The component of plantation, protection and development of SMC structures need to be site specific. Also, the plantation activities should ensure that plants planted at site should be of more than one year and should pass through all the seasons namely, summer, winter and rainy seasons. In a span of one complete year time the plants at nursery will ensure hardening, adaptivity, resistance to larger extent.
- The model of NFL required to have site specific planning and may be the required budget. It needs to have customized budget based on its site and soil conditions. It has also reported the destruction by local population as the land in some cases in the use of local people. These issues need special attention and may be the budgetary provisions.

6.3.2 Strengthening formation & Functioning of Institution

- The sample project Forest Divisions did excellent job in fulfillment of their responsibility of undertaking plantation and construction activities with the help of VFPMC at the project sites. However, the real requirement is towards creating a system and institutions at village level, which should really undertake its responsibilities properly. In the whole CAMPA Fund supported project, the role of VFPMC is pivotal. Hence, there is stronger need to activate the VFPMC which should come forward to take active role in protection and management of forest related initiatives and plantations.
- At VFPMC level, the mechanism of operation and maintenance was not reported for assets created under CAMPA fund project at the SMC sites.

- There is need to review and support the various activities undertaken beyond the afforestation/ plantation & SMC works namely, Institution building i.e. VFPMC and capacity building by Forest division level. A regular review and facilitative support will be instrumental in understanding the local problems, and then it will be possible to provide required & timely support irrespective of financial releases.
- The Forest Division should perform its role as per the whole plan of action associated with CAMPA fund and achieving the SDGs - 13 related to climate changes namely, ecosystem conservation, ecological security, climate change mitigation and adaptation, promotion of forestry and wild conservations. It is also true that stakeholders at Forest Division/ Range should also understand their importance and develop better coordination with project team and should understand their role in the project rather than completing the project activities anyhow.
- There should be provision of movement of range officials/ beat level stakeholders may be in terms of providing vehicles, POL, automation of range offices with computers and filling up the vacant posts of guards and providing travel claims timely etc. The Guards posted need to be made regular at the sites. The incentives/ travelling allowances etc. should be given in time because the success of plan implementation is likely to depend on individual initiative, too.
- The records of works need to be maintained at the range level in addition to MB and total sanctions, expenditure should be reported along with completion date, and GPS location of the works sites (longitude and latitude).
- As per the Government norms and rules, the records and reports were maintained at Forest Divisions and Range offices level as a part of administrative formalities. However, a project report of CAMPA fund project works/ activities were not shared showing the year-wise or consolidated physical, financial, visible changes, what worked, what did not work, challenges, weaknesses of the project activities, strengths & results of whole investment etc. The report can be made at division/ range level, which certainly helps the State level stakeholders/ outsiders/ community to see the investments and outcomes of the project.
- The Quality of records needs to be improved specially meetings records of VFPMC. It was also observed that active participation of members in VFPMC meeting is the real need, which has to be thought-off urgently. Only Chairman & a few members of VFPMC were found active. There is strong need to work for institutional building and mobilizing local institutions.
- The VFPMC meetings need to be planned properly and should be treated as essence of the project. The fix date, adequate time suiting to the community/ EC members and deciding venue of meeting are some important elements. In addition, the meeting agenda need to be prepared for every meeting of VFPMC.

6.3.3 Records & Documentations of works

- Every Forest Division/ Range should have stock of the works with details such as physical and financial targets, completion date, GPS locations, Numbers etc. rather than locating everything with MB and financial reports.

- There should be proper system of record keeping so that the various works undertaken in the jurisdiction of range offices can be traced even after the transfer / retirement of officials/ functionaries.

6.3.4 Soil & Water Conservation and Improvement in Soil & Moisture Content

- The initial level planning for water conservation structures namely, Contour bunding (CBD), Check dam, trenches, Farm Pond, LB with Gabian, contour trenches, V-Ditch, PCT, MPT, and contour bunds etc. with required plan and estimate definitely would help in creating a quality and useful structures.
- The timely and proper maintenance of Soil and water conservation structures should be taken up under the project namely, Anicut, Gabian and PCT etc. in order to keep them functional for longer time period.
- The details of SMC works and other works details namely, name of work, year of construction, project fund, expenditures and sanctions etc. need to be taken up in order to locate the works at the site. Nevertheless, the importance site level display of information cannot be negated. Although, it will be helpful too.

6.3.5 Support in Development of Nursery

- The nursery development may take into consideration present as well as future requirements in terms of infrastructure, expertise & capacity in order to have better use of the investment in the nursery.
- The expenditures in the particular nursery should be based on the requirements rather than taking the activities as per the provisions in the budget. It will help in developing the nurseries as per the need. This will help in proper functioning of the nursery.
- The plants lying at nurseries-may be of 3-4 years can be taken to plantation sites rather than increasing the burden of replacement of poly bags every year and maintenance.

6.3.6 Community Mobilization – Awareness camps & Meetings

- VFPMC meetings should be organized regularly. This will ensure involvement/ participation of VFPMC members in various other activities. The role of VFPMC members should be recognized by the local forest functionaries, too.
- The visit to the sample plantation sites and project villages to assess various activities executed under the CAMPA fund reflects that the community mobilization might be better. Hence, it is recommended to plan the activities related to community mobilization and awareness proper planning in advance.
- The effective community mobilization capsule definitely has powerful influence on individual and VFPMC members. The necessity is to have effective planning and management of the intervention related to community mobilization.
- The intervention of forestry development work namely, plantation, construction of SMC works and forest & wild life protection measures etc. should be taken up in holistic way so that the forest development and development of people should also be ensured in terms of social and economic development. Then only the association of people and real

'People's Participation' can be ensured. It is an essence for future activities and initiatives, which will be supported by the local level stakeholders.

- The involvement of local people both men and women in the process of forest development should be made right from the stage of planning, designing, implementation and monitoring and evaluation of various activities and initiatives at VFPMC.

6.3.7 Capacity Building Training

- The importance of capacity building inputs is instrumental in shaping the right skill at right time. It has been reported that various capacity-building trainings were undertaken for Forest Division, Range and VFPMC officials under the project. The training was mainly on the project background, objectives and purposes. The activities under the project were discussed. The roles of various level institutions were discussed. It would be better if the capacity building training would be planned in terms of inputs, processes, outputs and outcomes expected under CAMPA. This would help in understanding the real purpose of each and every activity related to CAMPA Fund.
- The forest department functionaries/officials executing the activities related to plantations, SMC structures and assets creation should be oriented about the technicality of the various SMC structures and its importance. It has been experienced during evaluation of the sites that forest guard was not acquainted with the SMC structures and its technicality. The understanding and usefulness of each of the minor component is necessary.
- The functionaries namely, guard, cattle guard should be given training of various Water & Soil conservation structures, planning and preparedness in a systematic manner.

6.3.8 Ensuring Quality of works – Monitoring & Supervision

- Each of the Forest Division/ Range should play an important role in ensuring quality of works under the CAMPA fund activities. The role of Forest Division is required in ensuring quality works namely plantation and Afforestation, construction of boundary walls, boundary pillars, rescue wards and office buildings etc. The monthly review meeting at the Forest Division level may be organized with the whole team to discuss on the various inputs, processes and outputs as well as strengths and challenges.
- The project has a component of monitoring and supervision. However, it needs to be taken up properly and regularly at the division and range level in order to strengthen the project expenditures in terms of delivering quality works.
- It has been reported that the monitoring, supervision and guidance by DCFs/ACFs at field level was lagging periodically in order to ensure quality interventions. The plantation journal bearing the page for officials to note their observations in the column do not bear the note that to what extent the directions were followed at the site. The condition of the construction sites require regular supervision and monitoring in order to ensure the quality of construction.
- It has been observed at almost all the construction sites at the various sample ranges that, the works were carried out as per the estimates and drawings and budgetary provisions in the estimates. The real demands of the site were not assessed. Therefore, at some places it

does not look a very useful initiative. Hence, it is recommended to undertake the work at sites as per the existing conditions and requirements.

- The monitoring should be done on real time basis using advanced GIS applications and mobile Apps by the Department Monitoring Unit involving the VFPMCs.

6.3.9 Policy Issues

- Transparency board should be installed at the VFPMC village, which gives details of overall project of CAMPA fund project & members of VFPMC etc.
- The protection in terms of cattle guards may be extended to 3-5 more years in order to have better results. In other way, it can be said that the whole investment may be guarded/protected for 3-5 years more in order to have better results.
- There is need to have required information painted at the construction and plantation sites bearing ID numbers on the transparency board so that one can get information about the year of activity/construction and under which project/ programme it has been constructed/ made and should also bear estimated cost and expenditures and completion date.
- Seed sowing should be promoted at the plantation sites. It should be sown properly not haphazardly. Plant grown from seed sown had more chance of survival than the planted seedling. There should be provision of thinning of plants grown from seed sown.
- The interventions of ANR should also be extended up to 8-10 years like NFL and DFL sites in order to have better results.
- It has been reported that due inadequate provisions in the plantation budget, the functionaries at range level were less interested in undertaking plantation activities. Therefore, it is recommended that the plantation budget should be sanctioned as per the real requirement of the site rather than working on the model estimate.
- The beat and sub-beat level functionaries has limited orientation of ensuring the quality and standards which certainly are adhered with regularly monitoring and handholding support by Range officers at the time of construction and execution of activities at site level.

ANNEXURE

Forest Division-wise consolidated report

Sl.no	Name of Divisions	Page No.
1.	Ajmer	254-262
2.	Alwar	263-278
3.	Alwar STR	279-282
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5.	Baran	305-318
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8.	Bharatpur WL	337-338
9.	Bhilwara	339-355
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11.	Bikaner WL	358-360
12.	Bundi	361-376
13.	Chattargarh	377-383
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21.	Hanumangarh	476-486
22.	Jaipur Zoo	487-488
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24.	Jaipur WL	502-513
25.	Jaipur	514-524
26.	Jaisalmer DDP	525-530

Sl.no	Name of Divisions	Page No.
27	Jaisalmer WL	531-532
28	Jaisalmer IGNP II	533-539
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30	Jhalawar	556-579
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35	Kota	619-629
36	Kota WL	630-632
37	Nagaur	633-645
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39	Pratapgarh	660-675
40	Rajsamand WL	676-690
41	RTR S.Madhopur	691-697
42	S.Madhopur	698-713
43	S.Madhopur Chambal WL	714-719
44	Sikar	720-738
45	Mount Abu WL (Sirohi)	739-741
46	Sirohi	742-753
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48	Udaipur DOD	772-774
49	Udaipur North	775-798
50	Udaipur	799-818
51	Udaipur WL	819-830

Ajmer

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Ajmer Forest Division. This Forest Division with 6 Forest Ranges namely Ajmer, Pushkar, Kishangarh, Beawar, Sarwar & Nasirabad has territorial jurisdiction over the entire Ajmer District.

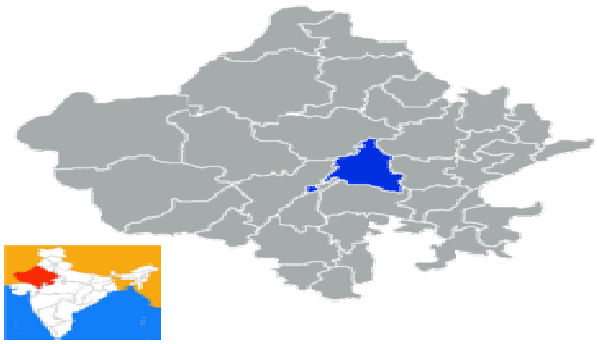


Figure : Location of Ajmer district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Ajmer Forest Division were as given per table for evaluation.

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Nasirabad	Hatundi Danta Rajosi	2020-21	50	ANR	100%
Pushkar	Kanas Banseli	2020-21	12.70	DFL	10%
Sarwad	Lamba	2021-22	50	ANR	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Ajmer Forest Division were as given in table 2.

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)	Remarks
Ajmer	Nausar (Ratidang Chaurasiyawas)	2020-21	Pakki Diwar 4 ft	Work completed
Ajmer	Adarsh Nagar	2021-22	Pakki Diwar 4 ft	Work completed

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1: Hatundi Danta Rajosi site in Nasirabad range -N 26.347384 and E 74.65649

The selected plantation was carried out on 50 hac. of land at Hatundi Danta Rajosi in Nasirabad range during the year 2020-21. The activities were done under the Assisted Natural

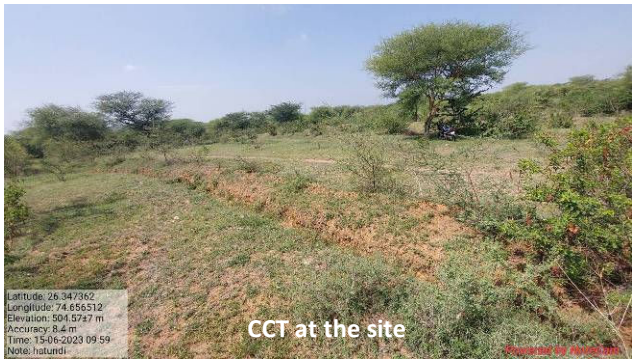
Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was rocky.

3.1.2. Treatment plan before sowing:



The topography of the area was hilly & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and rat was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory



3.1.4 Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), Acacia tortilis (Totalis), *Acacia leucophoelea (*ronj), Acacia senegal (Kumtha), *Azadirachta indica (Neem),* Ficus religiosa (Pipal) & Terminalia Zizyphus mauritiana (Ber) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation was Totalis, Ber, Ronj & Desi babool which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was good.

3.1.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6 Natural Vegetation and Regeneration: Desi Babool, Kumtha & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7 Regeneration through seeds sowing: Seeds of species *Kumatha, Ronj & Totalis* was sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was average.** The result of sowing seeds was seen on contour trenches, thanwalas & ditch fencing.

3.1.8 Protection Work: The selected ANR model plantation had ditch fencing of 3348 RMT having width at the top-1.50 meters, width at the bottom-0.9 meters & height 1.2 meters. Also, 72 RMT loose stone fencing was reported at the site.

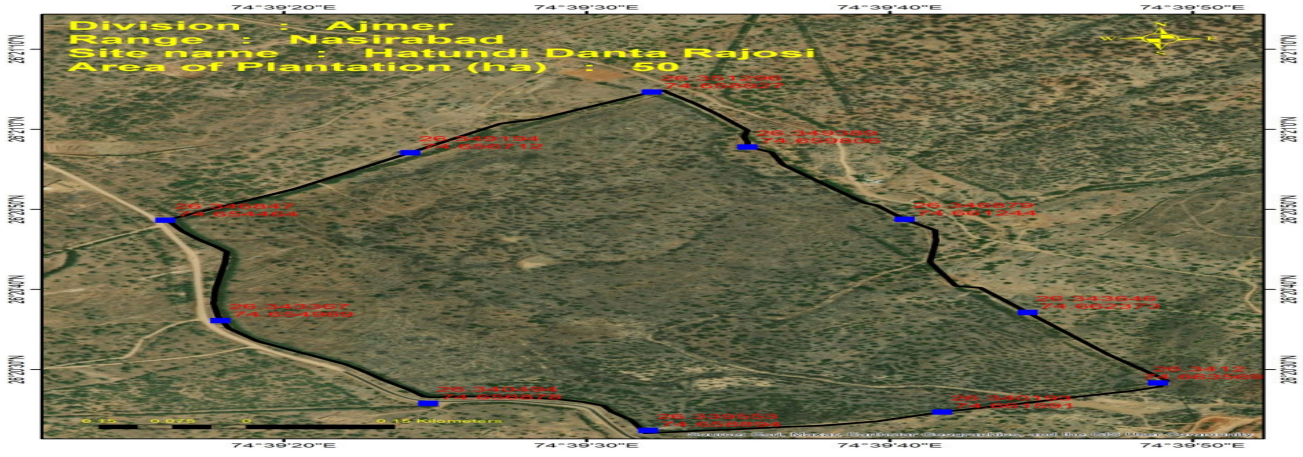
3.1.9 Soil and Water Conservation Measures: There are 20000 RMT Contour trenches (Width (T+B)-1.7+0.5 meters& depth-.60 meters) & 705 cu. meter PCT/ Nadi in the form of water harvesting structures present in the entire plantation area.

3.1.10 Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 51.3% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3: Status of Planted Seedlings at the site-Hatundi Danta Rajosi Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	1580	850	730	53.8	98	21
Acacia nilotica (Desi babool)	4000	2550	1450	56.9	122	21
Acacia leucopholea (Ronj)	1768	520	1248	29.4	100	24
Acacia senegal (Kumtha)	1500	1134	366	75.6	90	21
*Butea monosperma (*Palash)	100	0	100	0.0	0	0
Zizyphus mauritiana (Ber)	500	0	500	0.0	0	0
Azadirachta indica (Neem)	500	73	427	14.6	90	21
Ficus benghalensis (Bad)	25	0	25	0.0	0	0
Ficus religiosa (Pipal))	27	0	27	0.0	0	0
Total	10000	5127	4873	51.3	111	25

3.1.11 GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.1.12. Budget and expenditure

Table 3.1 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				486039
2021-22				182150				182150
2022-23				107950				103205
Total				776300				771394

3.2.1 Site 2- Kanas Banseli site in Pushkar range -N 26.502013 and E 76.566717

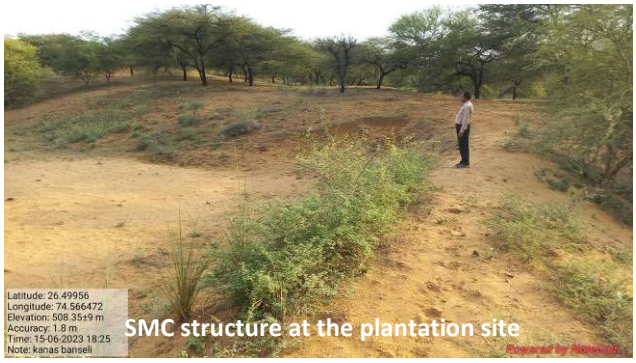
The selected plantation was carried out on 12.70 hac. of land at Kanas Banseli in Pushkar during the year 2020-21. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.

3.2.2 Treatment plan before sowing:

The topography of the area was plain & ravines. Hence, as per availability of soil digging of pit has been made for plantation. Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 8890 pits were dug for plantation in total 12.70 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3 Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.2.4 Species Planted: The selected seedlings of Acacia tortilis (Totalis), Acacia leucopholea (Ronj), Holoptelea integrifolia (Churel), Zizyphus mauritiana (Ber) and Dalbergia sissoo (Shisham) were planted.

In total 8890 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 8890 for 12.70 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Churail, Ronj & Totalis which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was good.**



Barbed wire fencing at the plantation site

3.2.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6 Natural Vegetation and Regeneration: Totalis were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species Kumatha were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good on trenches.**

3.2.8. Protection Work: The selected DFL model plantation had barbed wire fencing of 1300 RMT. Present condition of fencing was average.

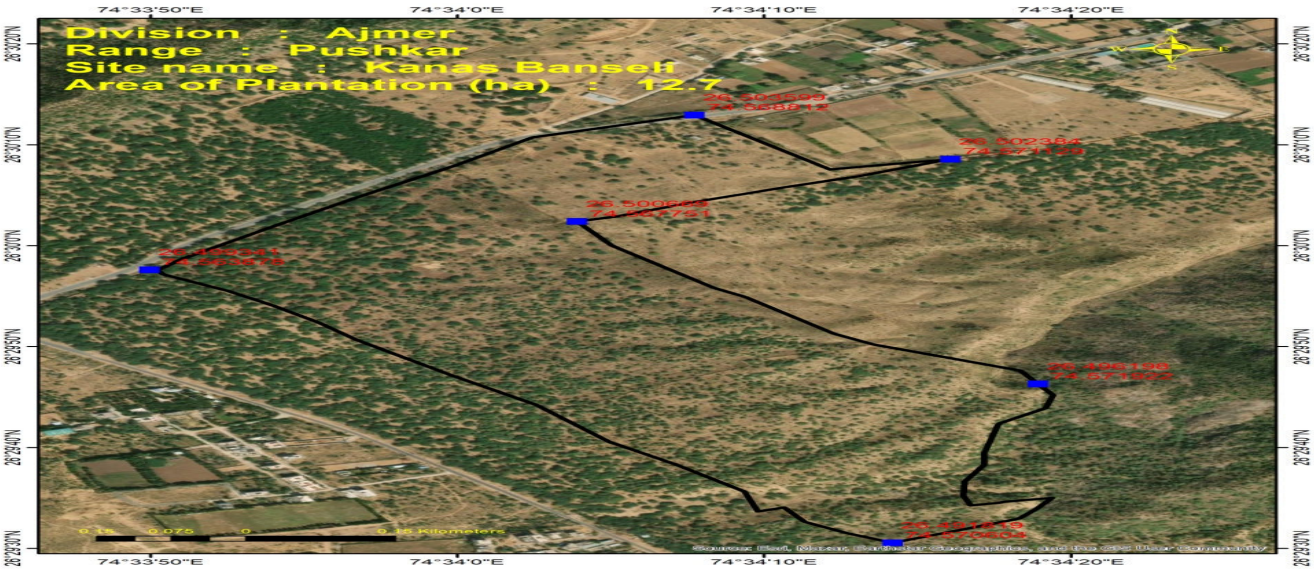
3.2.9. Soil and Water Conservation Measures: There are earthen Check dam (800 cu.m) & PCT/Nadi (250 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows +2 cu.m excess in PCT/Nadi & no variation in earthen check dam.

3.2.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 59.7% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was good.

Table 3.2: Status of Planted Seedlings at the site-Kanas Banseli Site

Species	Total Plants planted	Sample 10% area observed (2 ha)	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	7000	1102	677	61.4	139	38
Zizyphus mauritiana (Ber)	700	110	62	56.4	90	21
Holoptelea integrifolia (Churel)	700	110	46	41.8	90	21
Acacia leucopholea (Ronj)	400	63	42	66.7	90	21
Dalbergia sissoo (Shisham)	190	30	18	60.0	90	21
Total	8990	1415	845	59.7	129	35

3.2.11 GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 12.70 hec as per kml map.



3.2.12 Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				277077				277077
2021-22				450825				450825
Total				727902				727902

3.3.1 Site 3 Lamba site in Sarwad range -N 26.37346 and E 74.996184

The selected plantation was carried out on 50 hac. of land at Lamba in Sarwad range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was clayey domat.





3.3.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation. Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year

the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and rat was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.3.4. Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), *Acacia leucophoelea (*ronj), *Azadirachta indica (Neem),* Holoptelea integrifolia (Churel), Pongamia pinnata (Karanj), Dalbergia sissoo (Shisham) and Terminalia Zizyphus mauritiana (Ber) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation was Ber, Ronj & Desi babool which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was satisfactory.

3.3.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Desi Babool, Hingot & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Ronj & Desi Babool* was sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was good.**

3.3.8 Protection Work: The selected ANR model plantation had ditch fencing of 3465 RMT having width at the top-1.50 meters, width at the bottom-0.9 meters & height 1.2 meters. Also, 72 RMT loose stone fencing was reported at the site.

3.3.9 Soil and Water Conservation Measures: There are 5500 RMT Contour trenches (Width (T+B)-1.7+0.5 meters& depth-.60 meters), 3500 Deep CCT & 1000 rmt SGT in the form of water harvesting structures present in the entire plantation area.

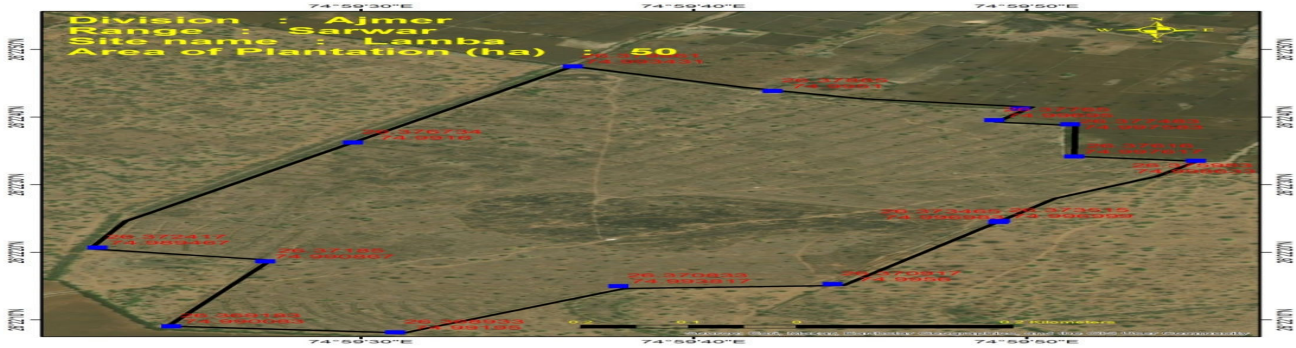
3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 40.7% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was

satisfactory. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3.4: Status of Planted Seedlings at the site-Lamba Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	8000	4000	4000	50.0	97	22
Acacia leucopholea (Ronj)	1000	37	963	3.7	90	21
Zizyphus mauritiana (Ber)	500	0	500	0.0	0	0
Other	500	33	467	6.6	90	21
Total	10000	4070	5930	40.7	96	22

3.3.11 GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.3.12. Budget and expenditure

Table 3.7 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				
2021-22				511650				
2022-23				203250				
Total				2796100				

4. Results for asset sites

4.1 Site 1 -Pakki Diwar 4 Ft at Nausar(Ratidang Chaurasiyawas), Ajmer Range

At Nausar (Ratidang Chaurasiyawas)in Ajmer range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 422 m length as per MB. Also, in actual 422 m pakki diwar was constructed at the site. The width of the diwar was 0.38 meters & height was 1.20 meter. Construction work appeared to be average and useful. The construction of



Pakki Diwar 4 ft helped in preventing encroachment. Inspite of construction of pakki diwar, the forest area still remains open due to 3km length of area had been left open.GPS location of this area was 26°30'55" N and 74°37'14" E. The expenditure incurred for constructing this wall was Rs. 1200000 (as per MB) against the estimated cost of Rs. 1200000.

Site 2- Pakki Diwar 4 Ft at Adarsh Nagar, Ajmer Range

At Adarsh Nagar in Ajmer range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. Construction wo rk appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment. The boundary wall is a protection of forest land where biological park is in process of construction.GPS location of this area was 26°27'6" N and 74°41'55" E. The expenditure incurred for constructing this wall was Rs. 1309696 (as per MB) against the estimated cost of 13.10 lac



5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Ajmer division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Hatundi Danta Rajosi	ANR	50	51.3	6
2	Kanas Banseli	DFL	12.70	59.7	6
3	Lamba	ANR	50	40.7	5

* <4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Nausar (Ratidang Chaurasiyawas)	422	422	0
2.	Pakki Diwar 4 ft	Adarsh Nagar	500	500	0

Table 5.2: Quantitative assessment of assets created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 4 ft	Nausar (Ratidang Chaurasiyawas)	Average	6
2	Pakki Diwar 4 ft	Adarsh Nagar	Average	6

Alwar

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Alwar Forest Division. This Forest Division with 6 Forest Ranges namely Behror, Alwar Kishangarhbas, Thanagazi, Laxmangarh & Rajgarh has territorial jurisdiction over the entire Alwar District.



Figure : Location of Alwar district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Alwar Forest Division were given as per table for evaluation.

Table 1: Plantation sites for evaluation

Sl.no	Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
1.	Thanagazi	Jhiri A	2020-21	50	ANR	100%
2.	Thanagazi	Kankad ki dhani	2020-21	50	DFL	10%
3.	Rajgarh	Pada	2021-22	50	ANR	100%
4.	Tijara	Nakhnol	2021-22	50	ANR	10%
5.	Thanagazi	Lotawas	2021-22	64.6	DFL	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Alwar Forest Division were as given in table 2.

Sl.no.	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Rajgarh	Kothi Narayanpur	2020-21	Pakki Diwar 4 ft
2.	Thanagazi	Malutana 1	2020-21	Anicut Type II
3.	Rajgarh	Machadi	2021-22	Forest Chowki
4.	Rajgarh	Jamdoli A	2021-22	Pakki Diwar 4 ft
5.	Rajgarh	Machadi Chowki ke Pass	2021-22	Anicut Type II
6.	Kishangarhbas	Kohra Pipli	2021-22	Anicut Type III
7.	Rajgarh	Jhakda	2021-22	Boundary Pillar
8.	Thanagazi	Agar	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1 Site 1 Jhiri A site in Thanagazi range -N 27.243938 and E 76.227422

The selected plantation was carried out on 50 hac. of land at Jhiri A site in Thanagazi range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was domat with bolders.



3.1.2. Treatment plan before sowing: The topography of the area was plain & hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle's and destruction by Neel gai, rats and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.1.4 Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Holoptelea integrifolia (Churel), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj) & Azadirachta indica (Neem) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ber, Ronj, Desi babool, Chudail & Neem which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was good.**



3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works

carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Dhonk, Salar & Palash were the plants found grown naturally in this area. The growth of the plant was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Desi babool & Ronj,* were sown in as well as along the trenches and on the thanwlas. The result of sowing seeds was average. Plants from seeds sowing were seen somewhere on trenches & thanwalas.

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1465 RMT & ditch fencing of 990 RMT. Present condition of loose stone fencing & ditch fencing was good.

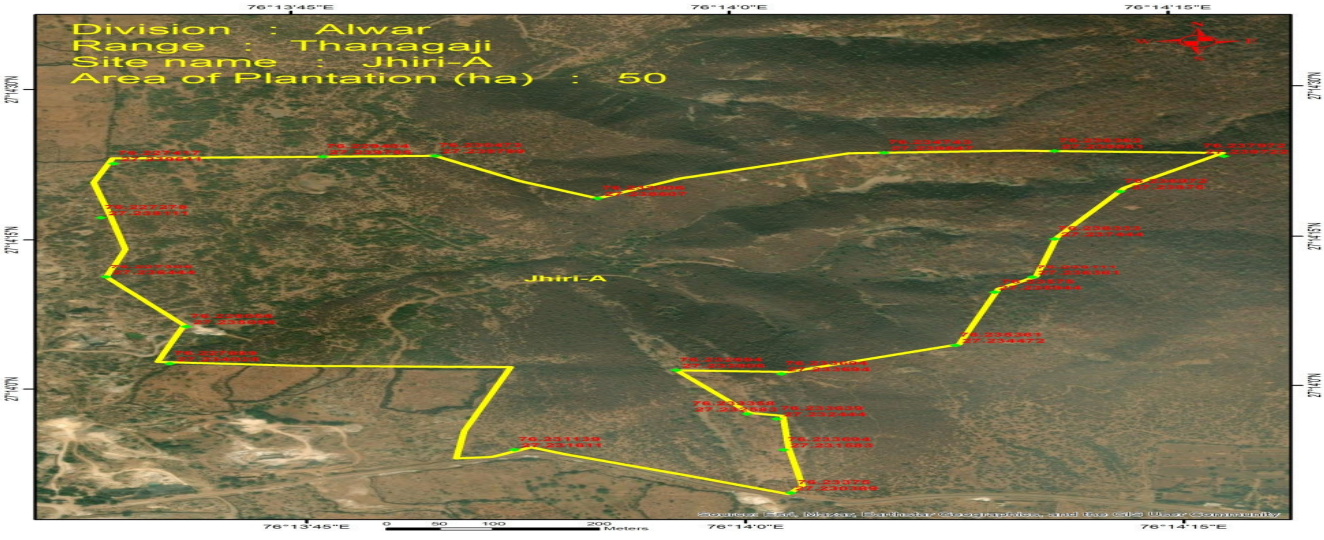
3.1.9. Soil and Water Conservation Measures: There are 4700 RMT (Width & depth -0.45 meters) Contour trenches & loose stone checkdam (565 cu.m) & PCT/ Nadi (600 cu.m)in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 51.22% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was good. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3: Status of Planted Seedlings at the site- Jhiri A Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	4360	2400	1960	55.0	98	30
Acacia nilotica (Desi babool)	3440	2300	1140	66.9	143	29
Acacia leucopholea (Ronj)	1250	300	950	24.0	90	21
Zizyphus mauritiana (Ber)	550	52	498	9.5	90	21
Azadirachta indica (Neem)	400	70	330	17.5	90	21
Total	10000	5122	4878	51.2	118	29

3.1.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 50 hec as per kml map.



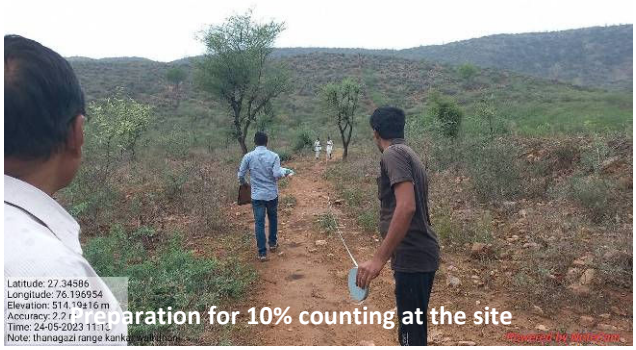
3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				486160
2021-22				182150				171800
2022-23				107950				107782
Total				776300				765742

3.2.1 Site 2 Kankar ki dhani site in Thanagazi range -N 27.346181 and E

The selected plantation was carried out on 50 hac. of land at Kankar ki dhani in Thanagazi during the year 2020-21. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 10% evaluation. The soil was with bolders & rocky area.



3.2.2. Treatment plan before sowing: The topography of the area was hilly/plain & ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 35000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.2.4. Species Planted: The selected seedlings of Acacia leucopholea (Ronj), Holoptelea integrifolia (Churel), Azadirachta indica (Neem), Pongamia pinnata (Karanj), Acacia nilotica (Desi babool), Ficus religiosa (Pipal), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj) and Dalbergia sissoo (Shisham) were planted.



In total 35000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 35000 for 50 hectare of land.
Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Churail, Ronj & Desi babool which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was satisfactory.**



3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Papad, Ronj & Desi babool were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species Ronj, *Kumatha, Desi babool & Ratanjot* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good on trenches.**

3.2.8. Protection Work: The selected DFL model plantation had loose stone fencing of 2190 RMT & ditch fencing of 1000 RMT. Present condition of fencing was average.

3.2.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trenches, & loose stone Checkdam (90 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation.

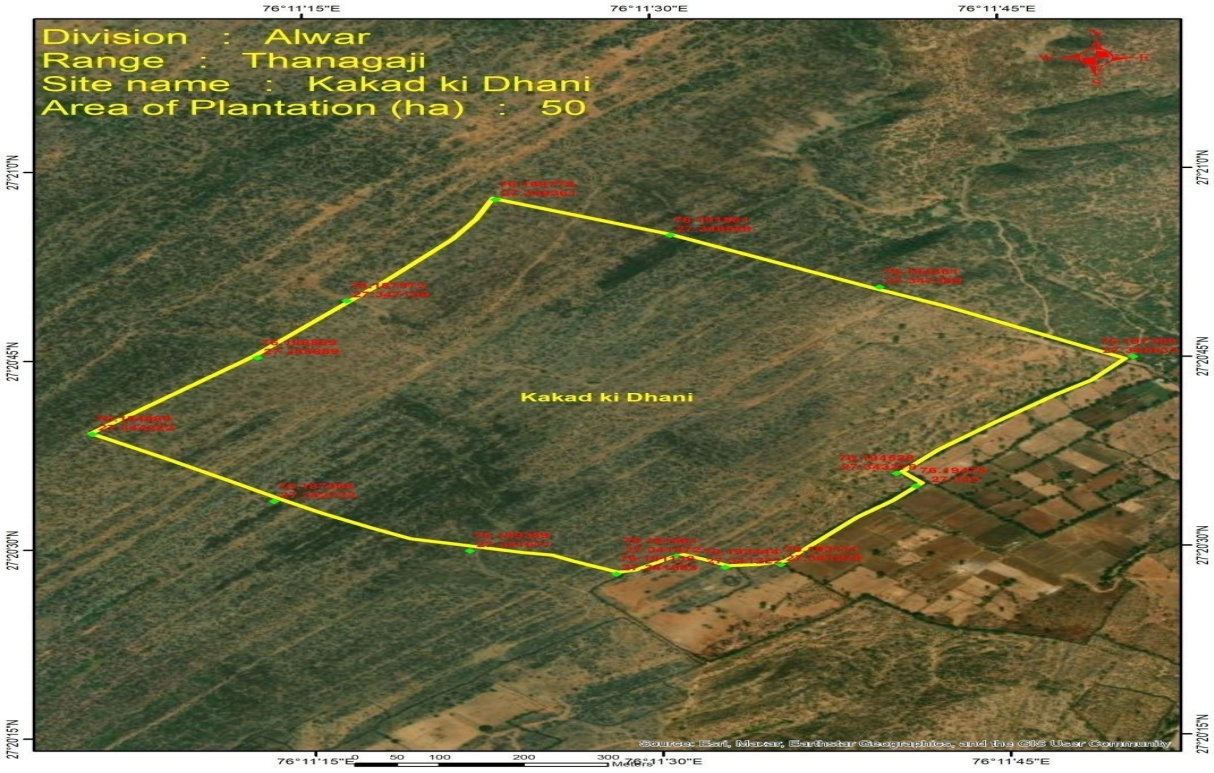
3.2.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 50.6% at the site.**

Table 3.2: Status of Planted Seedlings at the site-Kankar ki dhanii Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	10280	1028	396	38.5	90	32
Acacia nilotica (Desi babool)	8000	800	594	74.3	120	35
Azadirachta indica (Neem)	2500	250	67	26.8	70	25
Acacia leucopholea (Ronj)	6000	600	228	38.0	70	19
Zizyphus mauritiana (Ber)	2000	200	160	80.0	90	25
Pongamia pinnata (Karanj)	2200	220	134	60.9	70	19

Bauhinia sp. (Kachnar)	2000	200	88	44.0	60	19
Dalbergia sissoo (Shisham)	2000	200	104	52.0	120	36
Ficus religiosa (Pipal))	20	2	0	0.0		0
Total	35000	3500	1771	50.6	86	26

O. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 50 hec as per kml map.



3.3.1 Site 3 - Pada site in Rajgarh range -N 27.237672 and E 76.702577

The selected plantation was carried out on 50 hac. of land at Pada in Rajgarh range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was clayey & rocky.


Marking of planted seedling for counting

3.3.2 Treatment plan before sowing: The topography of the area was hilly & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals, cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack

by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.


Growth of planted seedling

3.3.4. Species Planted: The selected seedlings of Acacia leucopholea (Ronj), Holoptelea integrifolia (Churel), Azadirachta indica (Neem), Dalbergia sissoo (Shisham), Zizyphus mauritiana (Ber), Prosopis juliflora (Khejri), Pithecellobium dulce (Jangal Jalebi)and Acacia nilotica (Desi babool) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.


Ditch fencing at the site

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ronj, Churail, Khejri & Desi babool which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was satisfactory.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Ronj, Desi Babool, Papad & Neem were the plants found grown naturally in this area. The growth of the plant was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Kumatha and Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was good on trenches.**

3.3.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1800 RMT & ditch fencing of 1600 RMT. Present condition of loose stone fencing & ditch fencing was average. Silting was reported in many parts of ditch fencing.

3.3.9. Soil and Water Conservation Measures: There are 3320 RMT Contour trenches & loose stone check dam (820 cu.m) in the form of water harvesting structures present in the entire plantation area.

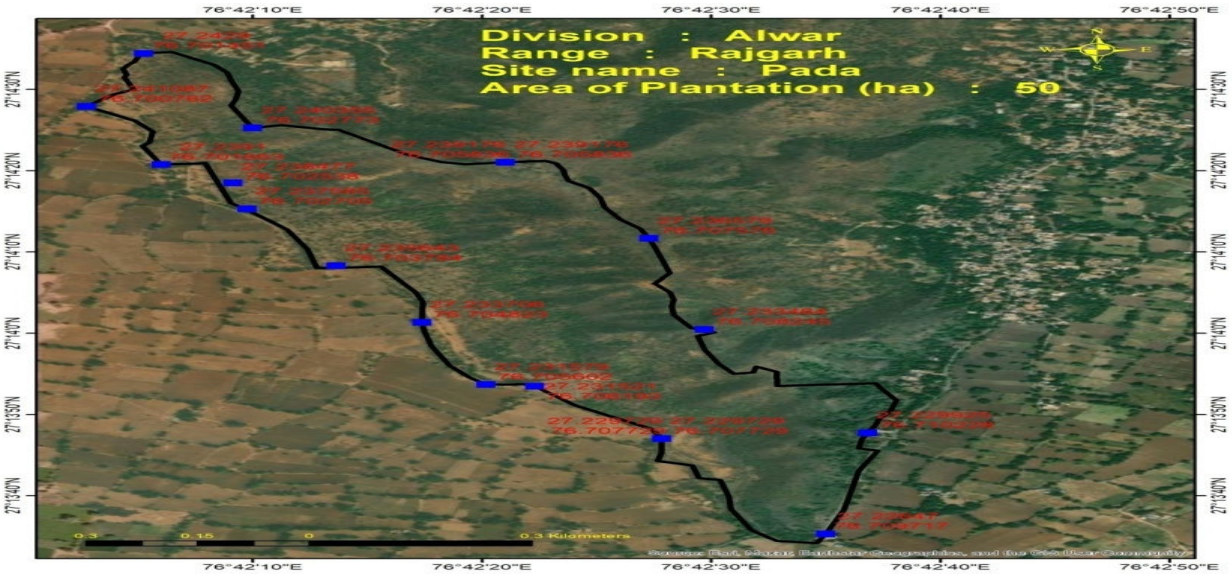
3.3.10 Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 47.02% at the**

site. Plant species collar girth & height was also measured. The growth of planted plants was satisfactory. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3.3: Status of Planted Seedlings at the site- Pada Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	3250	1165	2085	35.8	104	22
Acacia leucopholea (Ronj)	2500	1436	1064	57.4	94	21
Acacia nilotica (Desi babool)	1000	766	234	76.6	111	25
Dalbergia sissoo (Shisham)	1500	302	1198	20.1	105	24
Pithecellobium dulce (Jangal Jalebi)	400	190	210	47.5	108	26
Prosopis juliflora (Khejri)	150	97	53	64.7	90	21
Wrightia tinctoria (Khirani)	500	348	152	69.6	98	21
Zizyphus mauritiana (Ber)	100	74	26	74.0	103	23
Azadirachta indica (Neem)	500	312	188	62.4	100	23
Others	100	12	88	12.0	90	21
Total	10000	4702	5298	47.0	99	22

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.4.1 Site 4- Nakhnol site in Tijara range -N 28.115475and E 76.861257

The selected plantation was carried out on 50 hac. of land at Gwalda in Tijara range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.


Preparation for counting

3.4.2. Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been

made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.


Measuring ditch fencing

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.

3.4.4. Species Planted: The selected seedlings of Acacia tortilis (Totalis), Dalbergia sissoo (Shisham), Azadirachta indica (Neem), Moringa olifera Lam.(Sahjan) Acacia leucopholea (Ronj), Ficus religiosa (Pipal), Tecomella undulata (Rohida), Zizyphus mauritiana (Ber), Prosopis juliflora (Khejri), and Acacia nilotica (Desi babool) were planted.
In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared. As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Khejri, Ronj, Desi babool & Totalis which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was good.**

3.4.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6 Natural Vegetation and Regeneration: Desi babool, Kumtha, Neem & Bair were the plants found grown naturally in this area. The growth of the plants was good.

3.4.7. Regeneration through seeds sowing: Seeds of species Totalis, Ronj, *Kumtha & Desi babool* were sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was good.**

3.4.8. Protection Work: The selected ANR model plantation had ditch fencing of 3400 RMT. Present condition of fencing was average. The area of plantation site is sandy. Hence, ditch fencing at the plantation site is not very much useful. Ditch fencing is filled with soil at many places.

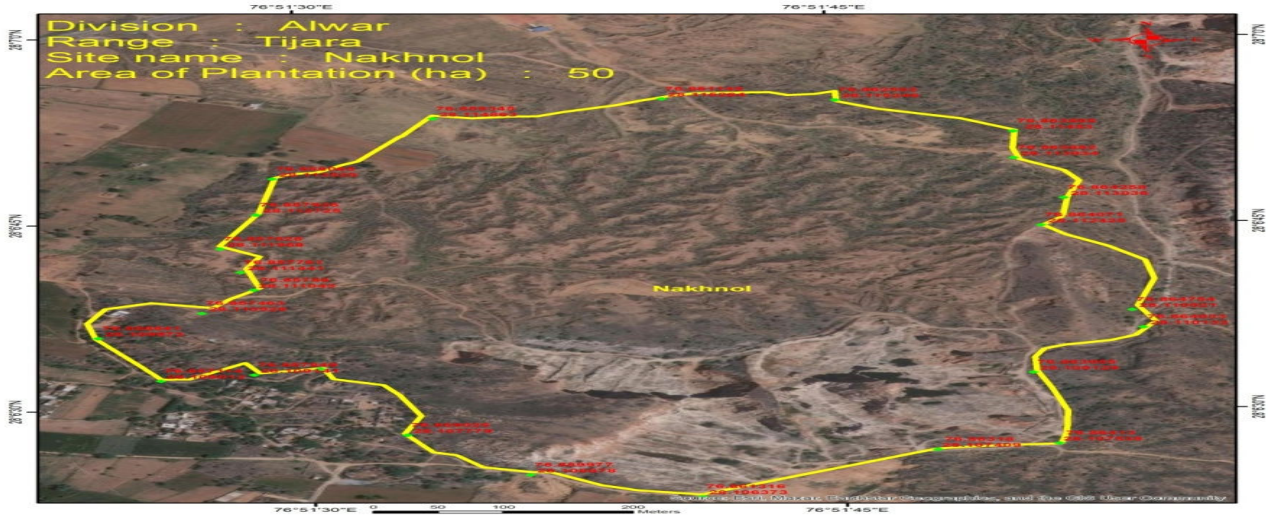
3.4.9. Soil and Water Conservation Measures: There are 5000 RMT (Width & depth -0.45 meter) Contour trenches & earthen check dam (6466 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows +3 cu.m excess in earthen check dam & no variation in CCT.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 53.2% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was good. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3.4: Status of Planted Seedlings at the site-Nakhnol Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dalbergia sissoo (Shisham)	1700	170			112	21
Acacia tortilis (Totalis)	3800	380			107	22
Prosopis juliflora (Khejri)	450	45				0
Tecomella undulata (Rohida)	650	65				0
Acacia leucopholea (Ronj)	2000	200			90	21
Acacia nilotica (Desi babool)	700	70				0
Zizyphus mauritiana (Ber)	200	20			90	21
Sahjana	300	30				0
Azadirachta indica (Neem)	200	20			93	21
Ficus religiosa (Pipal))	3	0.3				0
Total	10003	1000	532	53.2	102	21

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.4.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2003546
2021-22				511650				476233
2022-23				203250				198065
Total				2796100				2677844

3.5.1 Site 5 Lotawas site in Thanagazi range -N 27.203798 and E 76.159649

The selected plantation was carried out on 64.6 hac. of land at Lotawas in Thanagazi range during the year 2021-22. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 100% evaluation. The soil is clayey domat with boulders.



3.5.2 Treatment plan before sowing: The topography of the area was hilly & plain. Total 45220 pits were dug for plantation in total 64.6 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.5.3 Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.

3.5.4 Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Holoptelea integrifolia (Churel), Dalbergia sissoo (Shisham) and Azadirachta indica (Neem) were planted.

In total 45220 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 45220 for 64.6 hectare of land. Map of planting site was prepared.



As far as choice of seedlings for plantation is concerned it was proper. The seedlings selected for plantation were Neem, Desi babool & Churel which can survive in the climate. However, species selection can be improved as per site condition. **The growth of survived plants was good.**

3.5.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6 Natural Vegetation and Regeneration: Salar, Palash, Dhonk & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.5.7 Regeneration through seeds sowing: Seeds of species *Kumtha, Desi babool, Neem & Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was very good.**

3.5.8 Protection Work: The selected DFL model plantation had loose stone fencing of 1600 RMT & ditch fencing of 1370 RMT. Present condition of loose stone fencing & ditch fencing was good.

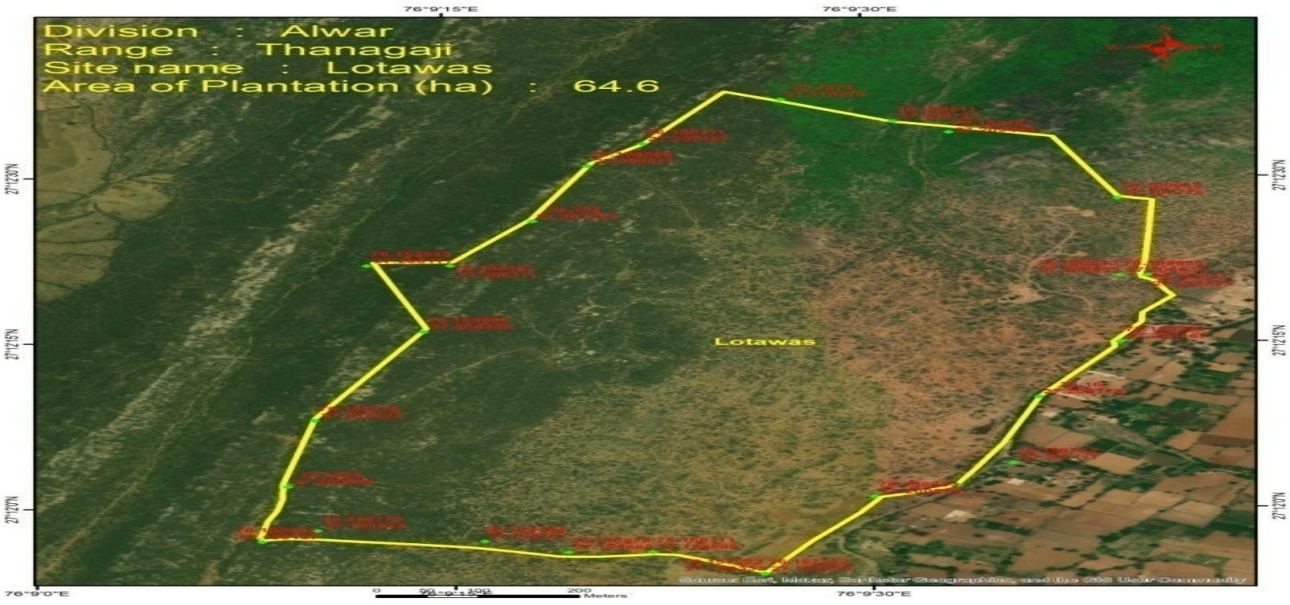
3.5.9 Soil and Water Conservation Measures: There are 2269 RMT Contour trenches, 1285 rmt.SGT, 1035 cu.m PCT/Nadi & 625 cu.m loose stone checkdams in the form of water harvesting structures present in the entire plantation area.

3.5.10 Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 56.8% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was good. A total of 45220 plants comprising of various species were planted in the 64.6 hectare plantation area.

Table 3.6: Status of Planted Seedlings at the site-Lotawas

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	15000	9200	5800	61.3	129	33
Holoptelea integrifolia (Churel)	6000	3800	2200	63.3	111	27
Azadirachta indica (Neem)	10000	3400	6600	34.0	125	26
Dalbergia sissoo (Shisham)	10000	7500	2500	75.0	169	27
Zizyphus mauritiana (Ber)	4220	1800	2420	42.7	90	21
Total	45220	25700	19520	56.8	135	29

3.5.11 GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 64.6 hec as per kml map.



P. Budget and expenditure

Table 3.11: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)	Expenditure (Rs.)

	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2486881				2435119
2021-22				2416730				2416726
2021-22				849567				849567
Total				5753178				5701412

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft at Kothi Narayanpur, Rajgarh Range

At Kothi Narayanpur in Rajgarh, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meters & height was 1.20 meter. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site. However, pakki diwar was damaged at two- three places by local residents. GPS location of this area was 27.265155 N and 76.624985 E. The expenditure incurred for constructing this wall was Rs. 1200000 (as per MB) against the estimated cost of 1195596 lacs.



Site 2- Anicut II at Malutana 1, Thanagazi Range

At Malutana 1 in Thanagazi range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure are as per MB. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. The GPS location of this area was 27.468886 N and 76.25383 E. There is route to left side wall of anicut. The rain water damage the left side wall. This route should be closed & linked to the catchment area so that left side wall of anicut is protected. The expenditure incurred for constructing the anicut wall was Rs.367469 (as per MB) against the estimated budget of 3.75 lac.



Site 3- Forest Chowki at Machadi, Rajgarh range



Forest Chowki at Machadi site in Rajgarh range has been evaluated. The Forest Chowki was constructed in the year 2021-22. Site selection for construction of Forest Chowki was adequate. Construction work appeared to be good and useful. The Forest Chowki created under CAMPA was in use and also properly maintained. The Forest Chowki is in good working condition. Plaster, flooring & other repair work is properly done. The building is in use as a guest house. GPS location of this area was 27.249177 N and 76.637505 E. The expenditure incurred for constructing the Forest Chowki was Rs. 539643 (as per MB) against the estimated budget of Rs. 550000.

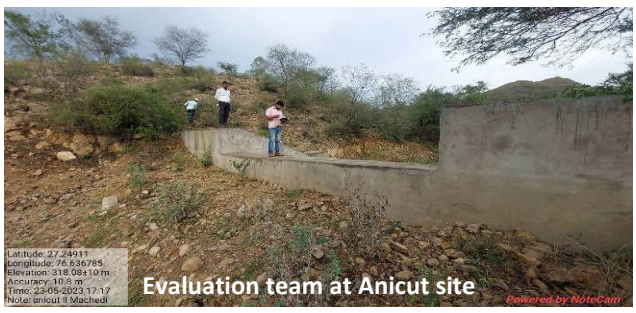
Site 4- Pakki Diwar 4 Ft at Jamdoli A, Rajgarh Range



At Jamdoli A in Rajgarh, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 600 m length as per MB. Also, in actual 600 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meters & height was 1.20 meter. Construction work appeared to be average and useful. Minor crack was reported at some place of Pakki Diwar which should be repaired. 10 ft. area of pakki diwar is left open which should be closed for better protection of plantation site. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site. GPS location of this area was 27.151327 N and 76.649772 E. The expenditure incurred for constructing this wall was Rs. 1572000 (as per MB) against the estimated cost of 1540202 lacs.

Site 5- Anicut II at Machadi Chowki ke Pass, Rajgarh Range

At Machadi Chowki ke pass at Rajgarh range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure is as per MB. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. The GPS location of this area was 27.249098 N and 76.636859 E. The construction of anicut at the site helped in reduction of soil erosion. The collected water in the anicut is used by wild animal for drinking purpose. The expenditure incurred for constructing the anicut wall was Rs.367085 (as per MB) against the estimated budget of 3.75 lac.



Site 6- Anicut III at Khohra Pipli, Kishangarhbas Range



At Khohra Pipli in Kishangarh bas range, Anicut III has been evaluated. The Anicut III was constructed in the year 2021-22. The length (14m), breadth (0.8m) & height (1.15) of the structure is as per MB. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. The GPS location of this area was 27.726275 N and 76.793815 E. The construction of anicut at the site helped in reduction of soil erosion & soil moisture retention. The greenery, growth & survival at the nearby plantation site had improved. The collected water in the anicut is used by wild animal for drinking purpose. The expenditure incurred for constructing the anicut wall was Rs.511116 (as per MB) against the estimated budget of 6.5 lac.

Site 7- Pillars at Jhakda, Rajgarh range



At Jhakda site in Rajgarh Pillar (20 No.) has been evaluated. The pillar was constructed in the year 2021-22. The pillar constructed was reported average and useful. The construction of pillar helped in marking forest boundary.The expenditure incurred for constructing the Pillars (50 nos.) was Rs.100000 (as per MB) against the estimated cost of Rs 97272. Out of 20 pillars evaluated by the Third Party, 01 was badly damaged & plaster work of some pillars were removed.

Site 8- Pillars at Agar, Thanagazi range



At Agar site in Thanagazi Pillar (12 No.) has been evaluated. The pillar was constructed in the year 2021-22. The pillar constructed was reported average and useful. The construction of pillar helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs.2317 (as per MB) against the estimated cost of Rs 2350.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Alwar division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Jhiri A	ANR	50	51.2	6
2	Kankad ki dhani	DFL	50	50.6	6
3	Pada	ANR	50	47.0	5
4	Nakhnol	ANR	50	53.2	6
5	Lotawas	DFL	64.6	56.8	6

* 4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Kothi Narayanpur	500	500	0
2.	Anicut Type II	Malutana 1	6.80x0.80x1.5	6.80x0.80x1.5	0
3.	Forest Chowki	Machadi	01	01	0
4.	Pakki Diwar 4 ft	Jamdoli A	600	600	0
5.	Anicut Type II	Machadi Chowki ke Pass	6.80x0.80x1.5	6.80x0.80x1.5	0
6.	Anicut Type III	Kohra Pipli	14x0.8x1.15	14x0.8x1.15	0
7.	Boundary Pillar	Jhakda	20	20	0
8.	Boundary Pillar	Agar	12	12	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Kothi Narayanpur	Average	6
2.	Anicut Type II	Malutana 1	Good	7
3.	Forest Chowki	Machadi	Very Good	8
4.	Pakki Diwar 4 ft	Jamdoli A	Average	6
5.	Anicut Type II	Machadi Chowki ke Pass	Very Good	8
6.	Anicut Type III	Kohra Pipli	Average	6
7.	Boundary Pillar	Jhakda	Average	6
8.	Boundary Pillar	Agar	Average	6

Alwar STR

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Sariska Tiger Project Forest Division. This Forest Division with 6 Forest Ranges namely Akbarpur, Alwar Buffer, Talvriksh, Tehla, Ajabgarh and Sariska has territorial jurisdiction over the entire Alwar District.



Figure : Location of Alwar district, Rajasthan

2.1. Selected Asset Sites for Evaluation

The selected asset site of Sariska Tiger Project Forest Division were as given in table 2

Table 1: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Alwar Buffer	Media Sarpanch farm to Umrain	2020-21	Pakki Diwar 6 ft
2.	Talvriksh	Tolawas	2020-21	Pakki Diwar 6 ft
3.	Akbarpur	Block Dharmpura	2021-22	Boundary Pillars (10 nos.)
4.	Talvriksh	Bairawas	2021-22	Boundary Pillars (10 nos.)
5.	Sariska	Indauk Purv	2021-22	Boundary Pillars (04 nos.)
6.	Alwar Buffer	Nidani	2021-22	Boundary Pillars (09 nos.)
7.	Tahla	Dabkan	2021-22	Boundary Pillars (10 nos.)

3. Results for asset sites

3.1 Site 1- Pakki Diwar 6 Ft at Media Sarpanch to Umrain, Alwar Buffer Range

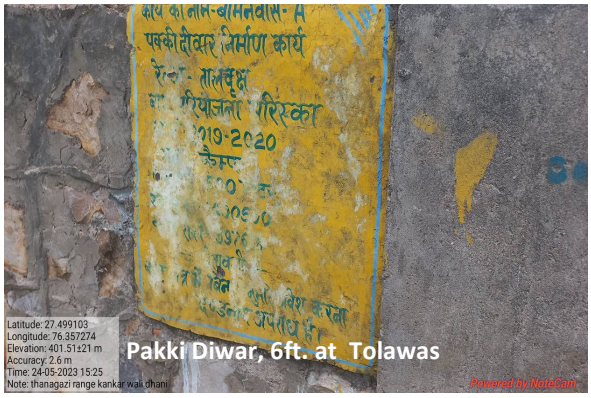
At Media Sarpanch to Umrain in Alwar Buffer range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 500 rmt length as per MB. Also, in actual 500 rmt pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.8 meters. Construction work appeared to be average and the infrastructure was in



use. Coping & plaster work had been done. The construction of pakki diwar prevents encroachment by local residents. GPS location of this area was 27.512539 N and 76.572814 E. The expenditure incurred for constructing this wall was Rs. 1122125 (as per MB) against the estimated budget of Rs.14.50 lac.

Site 2- Pakki Diwar 6 Ft at Tolawas, Talvriksh Range

At Tolawas in Talvriksh range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.8 meters. The wall is constructed in two parts 260 meter at Tolawas & 240 meter at Manas. Due to heavy flow of rain water, 5 meter wall is broken in rainy season at Manas. Hence, wall should be repaired in order to protect forest area. The Construction work appeared to be average and the infrastructure was in use. Pitching & Coping work of wall is done The construction of pakki diwar prevents encroachment by local residents. GPS location of this area was 27.510251 N and 76.411332E.



Site 3- Pillars at Block Dharampura, Akbarpur range



At Block Dharampura site in Akbarpur Pillars (10Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. GPS & pillar The expenditure incurred for constructing the Pillars (10 Nos.) was Rs. 20140 (as per MB) against the estimated cost of Rs 20310.

Site 4- Pillars at Berawas, Talvriksh range



At Berawas site in Talvriksh Pillars (10Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. GPS & pillar number should be written on the pillar.

Site-5- Pillars at Indok Purv, Sariska range



At Indok Purv site in Sariska Pillars (04Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. GPS & pillar number should be written on the pillar.

Site 6- Pillars at Nidani, Alwar Buffer range

At Nidani site in Alwar Buffer Pillars (09Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs. 88610 (as per MB) against the estimated cost of Rs 94000.



Site 7 -Pillars at Dabkan, Tahla range

At Dabkan site in Tahla Pillars (10Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars were 10 in numbers. Also, in actual 10 pillars were evaluated by the third party. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars (46 Nos.) was Rs. 92598 (as per MB) against the estimated cost of Rs 94000.



4. Overall assessment

Table 4: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 6 ft	Media Sarpanch farm to Umrain	500	500	0
2.	Pakki Diwar 6 ft	Tolawas	500	500	0
3.	Boundary Pillars (10 nos.)	Block Dharmpura	10	10	0

4.	Boundary Pillars (10 nos.)	Bairawas	10	10	0
5.	Boundary Pillars (04 nos.)	Indauk Purv	4	4	0
6.	Boundary Pillars (09 nos.)	Nidani	9	9	0
7.	Boundary Pillars (10 nos.)	Dabkan	10	10	0

Table 4.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 6 ft	Media Sarpanch farm to Umrain	Average	6
2	Pakki Diwar 6 ft	Tolawas	Average	6
3	Boundary Pillars	Block Dharmpura	Average	6
4	Boundary Pillars	Bairawas	Average	6
5	Boundary Pillars	Indauk Purv	Average	6
6	Boundary Pillars	Nidani	Average	6
7	Boundary Pillars	Dabkan	Average	6

Banswara

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Banswara Forest Division. This Forest Division with 6 Forest Ranges namely Banswara, Kushalgarh, Dungra, Ghatol, Gadhi & Bagidogra has territorial jurisdiction over the entire Banswara District.



Figure: Location of Banswara district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Banswara Forest Division for evaluation were as given in table 1.

Table 1: Plantation sites for evaluation

Sl.no	Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
1.	Banswara	Ghatipada(Medimal Bhandar)	2020-21	50	ANR	100%
2.	Ghatol	Garajiya Magra(Kundali)	2021-22	42.09	DFL	10%
3.	Ghatol	Umarjhala Pathara(Jagpura Tandafala)	2021-22	50	ANR	100%
4.	Kusalgarh	Khuta Kundiya(Bijori Choti)	2021-22	50	ANR	10%
5.	Dungra	Karmi (Borkhedi)	2021-22	50	ANR	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Banswara Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Ghatol	Range Residence Ghatol	2020-21	Pakki Diwar 4 ft
2.	Ghatol	Rohal Undvela(Miyasa)	2020-21	Boundary pillars
3.	Ghatol	Vadita Hilage (Kamji Ka Kheda)	2020-21	Boundary pillars
4.	Banswara	Medimal Bhandar	2020-21	Boundary pillars
5.	Garhi	Babaa Kua wala	2020-21	Boundary pillars
6.	Garhi	Rohal Panasi	2020-21	Boundary pillars
7.	Bagidogra	Kobadabri	2020-21	Boundary pillars
8.	Bagidogra	Devkotra	2020-21	Boundary pillars

9.	Dungra	Karmi	2020-21	Boundary pillars
10.	Dungra	Harendar	2020-21	Boundary pillars
11.	Dungra	Timbamahudi	2020-21	Boundary pillars
12.	Kusalgarh	Khunra Kundiya	2020-21	Boundary pillars
13.	Kusalgarh	Gararkhora	2020-21	Boundary pillars
14.	Banswara	Hindolamal	2021-22	Boundary pillars
15.	Banswara	Sarwanderi	2021-22	Boundary pillars
16.	Banswara	Bhojiya Samariya	2021-22	Boundary pillars
17.	Bagidogra	Kobadabri	2021-22	Boundary pillars
18.	Dungra	Molanmacha	2021-22	Boundary pillars
19.	Garhi	Daulatgarh	2021-22	Boundary pillars
20.	Ghatol	Satbidiya	2021-22	Boundary pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Ghatipada(Medimal Bhandar) in Banswara range -N 23.626046 and E 74.47732

The selected plantation was carried out on 50 hac of land at Ghatipada(Medimal Bhandar) site in Banswara range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was hard black clayey.



3.1.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and wild boars was reported at the site. Also, widely growth of termite and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.1.4. Species Planted: The selected tree species under plantation were of Tectona grandis (Sagwan), Dendrocalamus strictus (Baans), Holoptelea integrifolia (Churel), Terminalia Arjuna (Arjun), Emblica officinalis (Anwla), Madhuka latifolia (Mahua), Syzygium cumini (Jamun), Pithecellobium dulce (Jangal Jalebi) and Acacia catechu (Khair).

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



Topography & natural vegetation at the site

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. **The growth of survived plants was average.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Sagwan, Churail, Baheda, Khirni and Mahuwa were the plants found grown naturally in this area. The growth of the plant was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *kumatha, Khair, Baheda, Ratanjot, Katkaranj, Ronj and Mahuwa* were sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was average.**

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 300 RMT, ditch fencing of 1670 RMT & Barbed wire fencing of 100 RMT. Present condition of fencing was satisfactory.

3.1.9. Soil and Water Conservation Measures: There are 10275 RMT (Width & depth -0.45 meter) trenches comprising of 4275 RMT Contour trenches, 5000 RMT SGT & 1000 RMT Deep CCT, loose stone check dam(162.02 cu.m), PCT Nadi (115cu.m)in the form of water harvesting structures present in the entire plantation area. Also, other SMC structures viz. PCT & loose stone checkdams were reported at the site

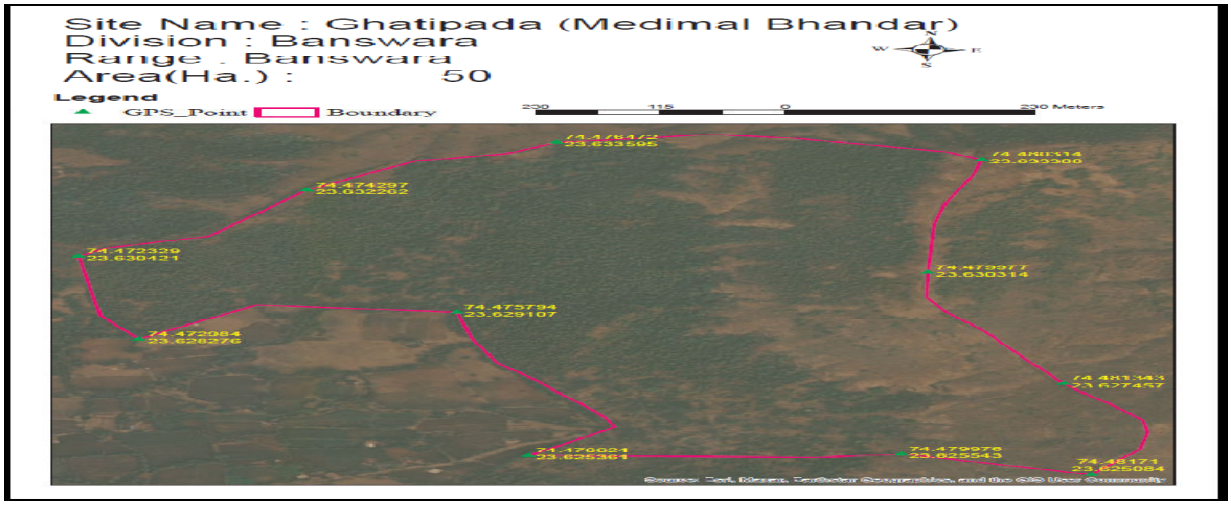
3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 49.8% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was good. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3: Status of Planted Seedlings at the site- Ghatipada (Medimal Bhandar) Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	5000	2151	2849	43.0	143	27
Acacia catechu (Khair)	3000	1654	1346	55.1	90	21
Holoptelea integrifolia (Churel)	1000	772	228	77.2	90	21
Dendrocalamus strictus (Baans)	500	322	178	64.4	93	24
Emblica officinalis (Amla)	50	11	39	22.0	90	21
Madhuka latifolia (Mahua)	50	16	34	32.0	90	21
Syzygium cumini (Jamun)	150	9	141	6.0	88	20

*Bauhinia sp. (*Kachnar*)*	50	14	36	28.0	90	21
Terminalia arjuna (Arjun)	100	7	93	7.0	87	19
Pithecellobium dulce (Jangal Jalebi)	100	27	73	27.0	90	21
Total	10000	4983	5017	49.8	112	24

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1. 12 Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (lacs)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				4.862				4.854
2021-22				1.821				1.814
2022-23				1.079				1.073
Total				7.762				7.741

3.2.1 Site 2- Garajiya Magra (Kundali) site in Ghatol range -N 23.807587 and E 74.370616

The selected plantation was carried out on 42.09 hac. of land at Kotra I in Manoharthana range during the year 2021-22. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 10% evaluation. The soil is stony with boulders.



3.2.2. Treatment plan before sowing: The topography of the area was hilly & ravine. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 29462 pits were dug for plantation in total 42.09 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai, wild boar, rat and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.2.4. Species Planted: The selected seedlings of Tectona grandis (Sagwan), Dendrocalamus strictus (Baans), Acacia leucopholea (Ronj), Zizyphus mauritiana (Ber), Holoptelea integrifolia (Churel), Emblica officinalis (Anwla), Madhuka latifolia (Mahua), Terminalia bellirica (Baheda) and Acacia catechu (Khair).

In total 29462 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 29462 for 42.09 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned it was proper. The seedlings selected for plantation were Sagwan, Khair, Bamboo, Ronj & Churel which can survive in the climate. The choice of plants was made as per climatic conditions so that the plants can grow well and survive for longer period. However, species selection can be improved as per site condition. **The growth of survived plants was satisfactory.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Khair, Sagwan, Baheda, Neem & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species Khair, Bair, Baheda, Churail, Neem *& Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.2.8. Protection Work: The selected DFL model plantation had ditch fencing of 1100 RMT & loose stone wall fencing of 2200 RMT. Present condition of ditch fencing was average.

3.3.9. Soil and Water Conservation Measures: There are trenches comprising of 2725 RMT Contour trenches, 800 RMT SGT & Deep CCT each, loose stone checkdams (132 cu.m) & PCT/Nadi(80 cu.m) in the form of water harvesting structures present in the entire

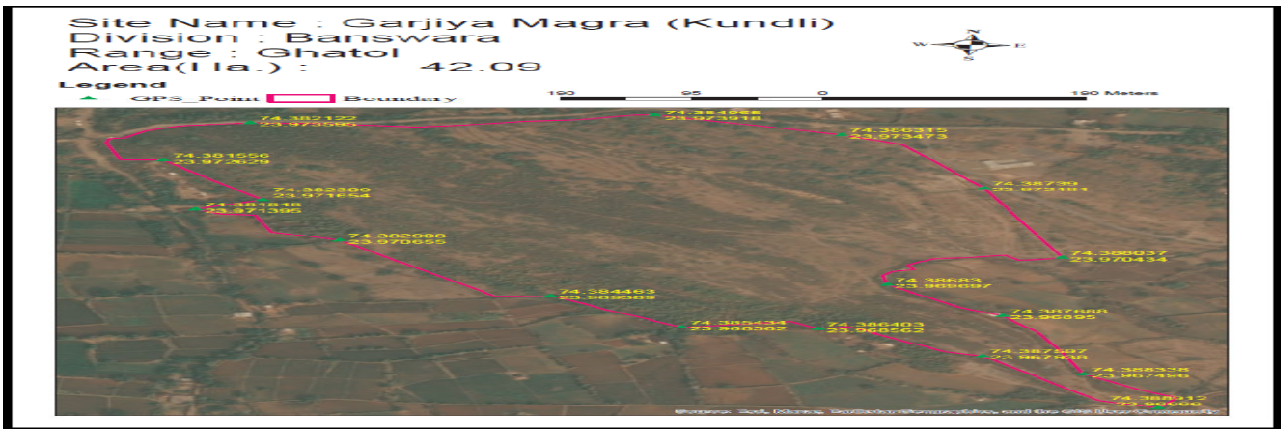
plantation area. The sample checking of about 10% SMC structures is done. The result shows +4 cu.m excess in loose stone check dam & no variation in CCT & PCT/Nadi.

J. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 50.4% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 29462 plants comprising of various species were planted in the 42.09 hectare plantation area.

Table 3.2: Status of Planted Seedlings at the site-Garajiya Magra

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gab (mm)
Tectona grandis (Sagwan)	5000	500	250	50.0	113	31
Acacia catechu (Khair)	20000	2000	1010	50.5	90	22
Acacia leucopholea (Ronj)	1000	100	50	50.0	90	21
Emblica officinalis (Amla)	400	40	21	52.5	90	27
Dendrocalamus strictus (Baans)	2000	200	100	50.0	126	26
Azadirachta indica (Neem)	500	50	26	52.0	90	21
Terminalia bellirica (Baheda)	200	20	10	50.0	90	21
Madhuka latifolia (Mahua)	100	10	5	50.0	90	21
Zizyphus mauritiana (Ber)	200	20	10	50.0	90	21
Holoptelea integrifolia (Churel)	62	6	4	64.5	90	21
Total	29462	2946	1486	50.4	97	24

3.2.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 42.09 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (lacs)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				16.204				16.167
2021-22				15.746				15.746
2022-23				5.535				5.373
Total				37.485				37.286

3.3.1 Site 3- Umarjhala Pathara (Jagpura Tandafala) in Ghatol range -N 23.5319 and E 74.2142

The selected plantation was carried out on 50 hac of land at Umarjhala Pathara (Jagpura Tandafala) site in Ghatol range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was black & red stony with morar.

3.3.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and wild boars was reported at the site. Also, widely growth of termite, and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.4. Species Planted: The selected tree species under plantation were of Tectona grandis (Sagwan), Dendrocalamus strictus (Baans), Holoptelea integrifolia (Churel), Terminalia arjuna (Arjun), Emblica officinalis(Anwla), Azadirachta indica (Neem), Madhuka latifolia (Mahua), Syzygium cumini (Jamun), Azadirachta indica (Neem) and Acacia catechu (Khair).



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.**The growth of survived**

plants was average.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Sagwan, Salar, Neem, Sadar and Teemru the plants found grown naturally in this area. The growth of the plant was good.

3.3.7. Regeneration through seeds sowing: Seeds of specie *Khair, Neem, Ratanjot, and Bair* were sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was average.**

3.3.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1100 RMT, ditch fencing of 2400 RMT & pucca wall of 400 RMT. Present condition of fencing was satisfactory.

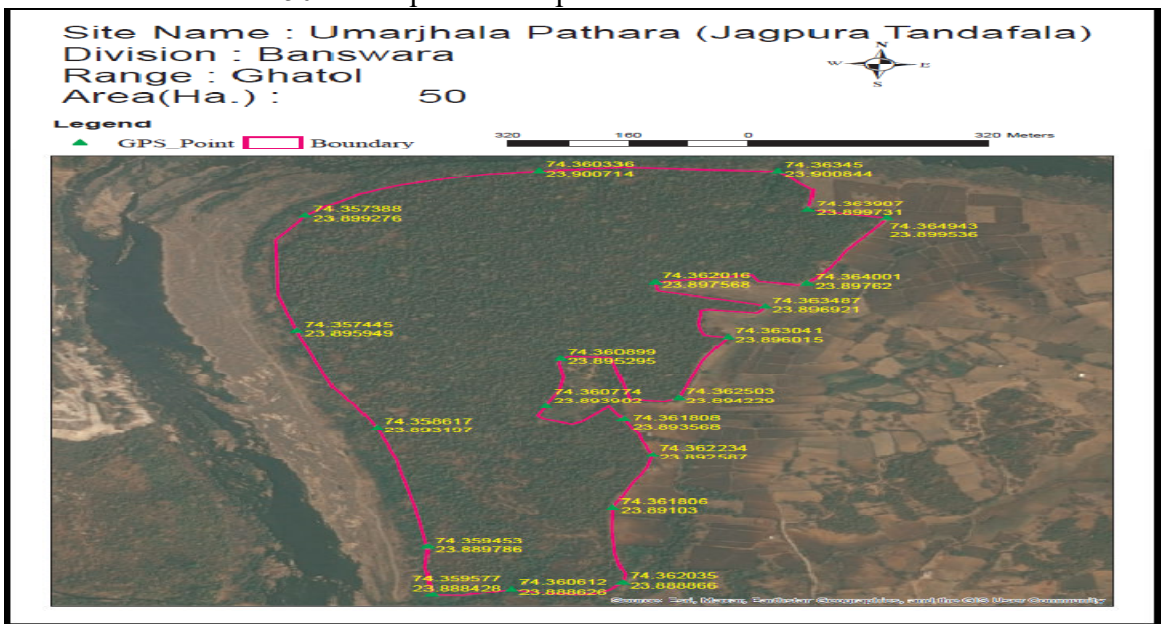
3.3.9. Soil and Water Conservation Measures: There are 10000 RMT (Width & depth -0.45 meter) trenches comprising of 7000 RMT Contour trenches, 2000 RMT SGT & 1000 RMT Deep CCT, & PCT Nadi (50 cu.m)in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 53.2% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was good. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3.4: Status of Planted Seedlings at the site- Umarjhala Pathara(Jagpura Tandafala) Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	2000	1156	844	57.8	114	34
Acacia catechu (Khair)	1400	706	694	50.4	91	27
Emblica officinalis (Amla)	500	276	224	55.2	90	21
Dendrocalamus strictus (Baans)	2000	1060	940	53.0	143	27
Holoptelea integrifolia (Churel)	1000	508	492	50.8	90	23
Azadirachta indica (Neem)	500	254	246	50.8	90	21
Terminalia bellirica (Baheda)	1000	506	494	50.6	91	21
Madhuka latifolia (Mahua)	100	56	44	56.0	90	21
Syzygium cumini (Jamun)	1000	545	455	54.5	95	22
Zizyphus mauritiana (Ber)	500	256	244	51.2	90	21
Total	10000	5323	4677	53.2	99	26

3.3.10 GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.3.11. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				208.12				208.096
2021-22				5.116				5.114
2022-23				2.032				2.032
Total				215.268				215.242

3.4.1 Site 4 Khunta Kundiya (Bijori Choti) in Dungra range - N 23.253195 and E 74.512132

The selected plantation was carried out on 50 ha of land at Khunta Kundiya(Bijori Choti) Kushalgarh range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was black brown clayey.



3.4.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of

land. The seedlings were planted after applying of pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3 Health & Damages of Plantation: The growth of planted seedling at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and rat was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedling. The status of guarding/ fencing at the site was poor.



3.4.4. Species Planted: The selected tree species under plantation were of Acacia catechu (Khair), Acacia nilotica (Desi babool) , *Zizyphus mauritiana (*Ber), Acacia leucopholea (Ronj), Holoptelea integrifolia (Churel), Dendrocalamus strictus (Baans), Cassia fistula (Amaltas) Tectona grandis (Sagwan), Dalbergia sissoo (Shisham) and Terminalia bellirica (Baheda).

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.



3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Sagwan, Khakhra and Salar were the plants found grown naturally in this area. The growth of the plants was good.

3.4.7. Regeneration through seeds sowing: Seeds of species Ratanjot, kumtha, Khair, Katkaranj & neem were sown in as well as along the trenches and on the thanwlas. The result of seeds sowing was not good. Plants from the seed sown were rarely seen in contour trenches.

3.4.8. Protection Work: The selected ANR model plantation had loose stone fencing of 650 RMT having width at the top-0.6 meters, width at the bottom-0.8 meters & height 1.2 meters. Also, 3167 RMT ditch fencing was reported at the site.

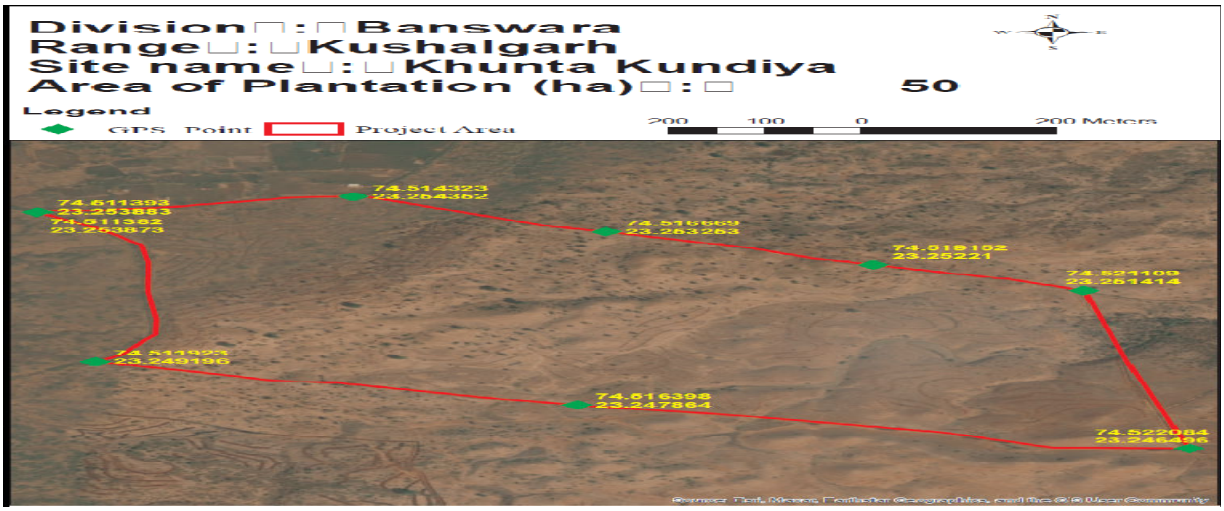
3.4.9. Soil and Water Conservation Measures: There is 10000 RMT (Width & depth - 0.45 meter) Contour trenches & PCT/Nadi (30 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & PCT/Nadi.

3.4.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 49.6% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10000 plants comprising of various species were planted in the 50 ha plantation area.

Table 3.6: Status of Planted Seedlings at the site- Khunta Kundiya(Bijori Choti) Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	4600	460	96		108	23
Acacia leucopholea (Ronj)	800	80	0		0	0
Acacia catechu (Khair)	500	50	0		0	0
Acacia nilotica (Desi babool)	300	30	121		105	22
Holoptelea integrifolia (Churel)	1500	150	102		106	23
Galesiliya	150	15	0		0	0
Dendrocalamus strictus (Baans)	500	50	76		116	24
Terminalia bellirica (Baheda)	300	30	0		0	0
Dalbergia sissoo (Shisham)	350	35	0		0	0
Zizyphus mauritiana (Ber)	320	32	0		0	0
Cassia fistula (Amaltas)	400	40	101		119	23
Ganiyara	280	28	0		0	0
Total	10000	1000	496	49.6	110	23

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.4.12. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	**Plantation**	**SMC works**	**Boundary wall/ Fencing**	**Total**	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**
2020-21				2081200				2079020
2021-22				511650				510900
2022-23				200320				200320
Total				2793170				2790240

3.5.1 Site 1- Karmi (Borkhedi) in Dungra range - N 23.134353 and E 74.376098

The selected plantation was carried out on 50 ha of land at Karmi (Borkhedi)in Dungra range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was black stony with muram.



3.5.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 1000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying of pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.5.3. Health & Damages of Plantation: The growth of planted seedling at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and rat was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedling. The status of guarding/ fencing at the site was poor.



3.5.4. Species Planted: The selected tree species under plantation were Acacia catechu (Khair), Pithecellobium dulce (Jangal Jalebi), Emblica officinalis (Alma), *Zizyphus mauritiana (*Ber), Holoptelea integrifolia (Churel), Dendrocalamus strictus (Baans), Azadirachta indica (Neem), Tectona grandis (Sagwan), Dalbergia sissoo (Shisham), Tamarindus indica (Imli) and Terminalia bellirica (Baheda).

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of

seedlings for plantation is concerned, it was proper. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was average.

3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6. Natural Vegetation and Regeneration: Sagwan, Dhonk,Khair& Ronj were the plants found grown naturally in this area. The growth of the plants was average.

3.5.7. Regeneration through seeds sowing: Seeds of species Ratanjot, Katkaranj, Kumtha, Khair & Bair were sown in as well as along the trenches and on the thanwlas. The result of seeds sowing was not good. Plants from the seed sown were rarely seen in contour trenches.

3.5.8. Protection Work: The selected ANR model plantation had loose stone fencing of 90 RMT having width at the top-0.6 meters, width at the bottom-0.8 meters & height 1.2 meters. Also, 3735 RMT ditch fencing was reported at the site.

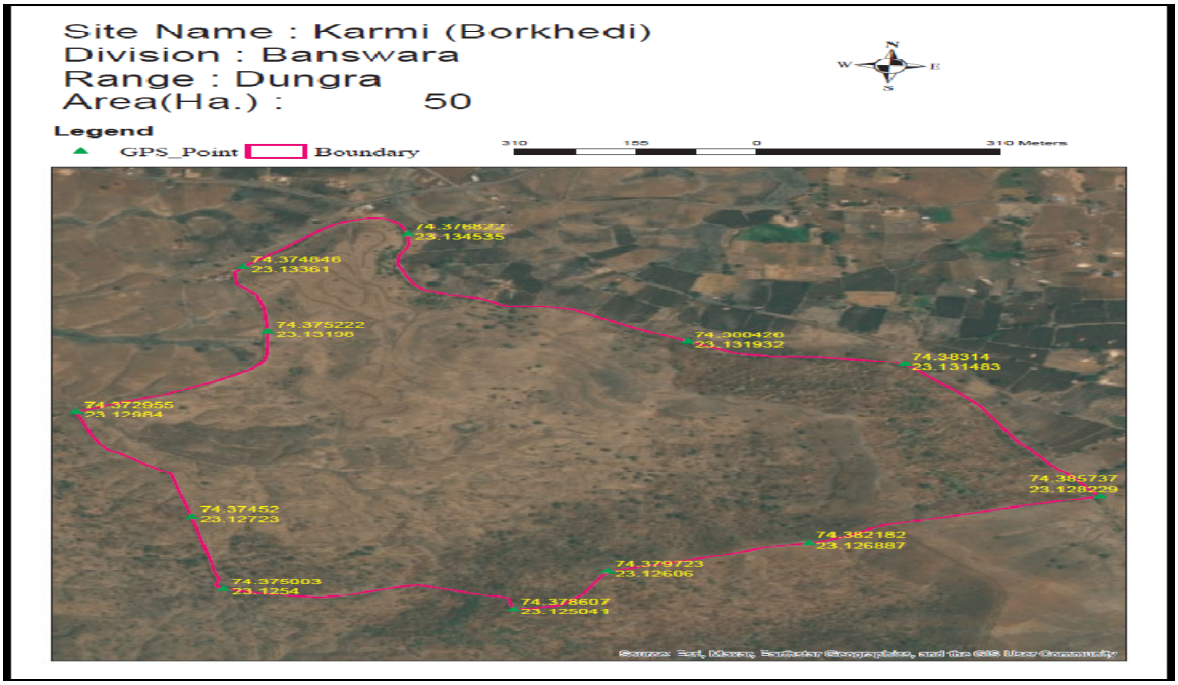
3.5.9. Soil and Water Conservation Measures: There is 10000 RMT (Width & depth - 0.45 meter) trenches comprising of 8500 RMT Contour trenches,1000RMT SGT & 500 RMT Deep CCT & 02 PCT/Nadi in the form of water harvesting structures present in the entire plantation area.

3.5.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 43.6% at the site.**.

Table 3.8: Status of Planted Seedlings at the site- Karmi (Borkhedi) Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	1600	635	965	39.7	98	18
Emblica officinalis (Amla)	650	291	359	44.8	92	21
Tectona grandis (Sagwan)	2450	1175	1275	48.0	100	24
Azadirachta indica (Neem)	700	291	409	41.6	90	21
Holoptelea integrifolia (Churel)	282	92	190	32.6	92	22
Acacia catechu (Khair)	1620	772	848	47.7	91	21
Zizyphus mauritiana (Ber)	200	70	130	35.0	90	21
Dalbergia sissoo (Shisham)	1208	494	714	40.9	91	20
Pithecellobium dulce (Jangal Jalebi)	500	210	290	42.0	90	20
Aegle marmelos (Bilpatra)	30	5	25	16.7	91	21
Tamarindus indica (Imli)	160	62	98	38.8	88	18
Syzygium cumini (Jamun)	100	42	58	42.0	86	18
Terminalia bellirica (Baheda)	500	223	277	44.6	89	19
Total	10000	4362	5638	43.6	91	20

3.5.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.5.12. Budget and expenditure

Table 3.11: Cost-estimate & expenditure (Year-wise)

	Cost estimate (lacs)				Expenditure (lacs)			
Year	**Plantation**	**SMC works**	**Boundary wall/ Fencing**	**Total**	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**
2020-21				208.12				208.103
2021-22				5.116				5.099
2022-23				2.032				2.032
Total				215.268				215.234

4. Results for asset sites

4.1. Site 1- Pakki Diwar 4 Ft. at Range residence, Ghatol range



At range residence Ghatol site in Ghatol range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 Ft and 50 m length as per MB. Also in actual 50 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meters & height was 1.20 meter. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in protecting range campus. GPS location of this area was 23.4528 N and 74.2453 E. The expenditure incurred for constructing this wall was Rs. 119993 (as per MB) against the estimated budget of Rs.120000.

Site 2- Pillars at Rohal Undela (Miyasa), Ghatol range

At Rohal Undela (Miyasa) site in Ghatol range, the Pillars (30 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 230000 (as per MB) against the estimated budget of Rs. 270000.



Site 3- Pillars at Vadita Hilage (Kamji Ka Kheda), Ghatol range

At Vadita Hilage (Kamji Ka Kheda) site in Ghatol range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 180000 (as per MB) against the estimated budget of Rs. 180000.



Site 4- Pillars at Medimal Bhandar, Banswara range

At Medimal Bhandar site in Banswara range, the Pillars (50 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 450000 (as per MB) against the estimated budget of Rs. 450000.



Site 5- Pillars at Babakua Wala, Garhi range



At Babakua Wala site in Garhi range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 179816 (as per MB) against the estimated budget of Rs. 180000.

Site 6- Pillars at Rohal Panasi, Garhi range



At Rohal Panasi site in Garhi range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 179814 (as per MB) against the estimated budget of Rs. 180000.

Site 7- Pillars at Koba Dabari, Bagidogra range



At Koba Dabari site in Bagidogra range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 179894 (as per MB) against the estimated budget of Rs. 180000.

Site 8- Pillars at Devkotra, Bagidogra range



At Devkotra site in Bagidogra range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 179894 (as per MB) against the estimated budget of Rs. 180000.

Site 9- Pillars at Karmi, Dungra range



At Karmi site in Dungra range, the Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 89516 (as per MB) against the estimated budget of Rs. 90000.

Site 10- Pillars at Harendragarh, Dungra range



At Harendragarh site in Dungra range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 129932 (as per MB) against the estimated budget of Rs. 180000.

Site 11- Pillars at Timba Mahudi, Dungra range



At Timba Mahudi site in Dungra range, the Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 89916 (as per MB) against the estimated budget of Rs. 90000.

Site 12 -Pillars at Khuta Kundiya, Kusalgarh range



At Khuta Kundiya site in Kusalgarh. range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 180000 (as per MB) against the estimated budget of Rs. 180000.

Site 13- Pillars at Garar Khora, Kusalgarh range



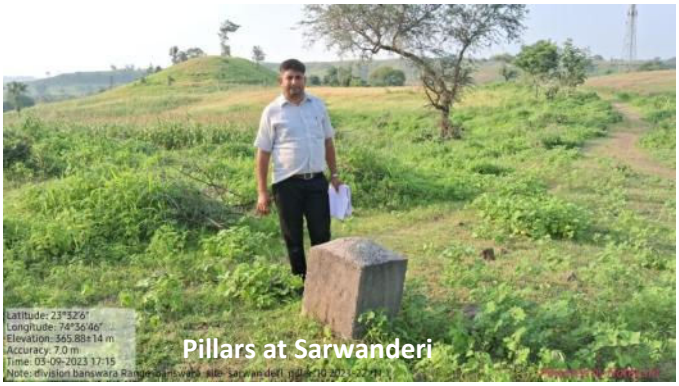
At Gararkhora site in Kusalgarh. range, the Pillars (14 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 126000 (as per MB) against the estimated budget of Rs. 126000.

Site 14- Pillars at Hindolamal, Banswara range



At Hindolamal site in Banswara range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 235000 (as per MB) against the estimated budget of Rs. 235000.

Site 15- Pillars at Sarwan Deri, Banswara range



At Hindolamal site in Banswara range, the Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 117258 (as per MB) against the estimated budget of Rs. 118000.

Site 16- Pillars at Bhojiya Samariya, Banswara range



At Bhojiya Samariya site in Banswara range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 237853 (as per MB) against the estimated budget of Rs. 250000.

Site 17 -Pillars at Koba Dabari, Bagidogra range



At Koba Dabari site in Bagidogra range, the Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 115681 (as per MB) against the estimated budget of Rs. 180000.

Site 18- Pillars at Molanmacha, Dungra range



At Molanmacha site in Dungra range, the Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 101998 (as per MB) against the estimated budget of Rs. 180000.

Site 19- Pillars at Daulatgarh, Garhi range



At Daulatgarh site in Garhi range, the Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 114211 (as per MB) against the estimated budget of Rs. 180000.

Site 20- Pillars at Satbidiya, Ghatol range



At Satbidiya site in Ghatol range, the Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 117344 (as per MB) against the estimated budget of Rs. 180000.

5. Overall assessment

Table 5.1: Quantitative assessment of plantation work created under CAMPA in Banswara division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Ghatipada(Medimal Bhandar)	ANR	50	49.8	5
2	Garajiya Magra(Kundali)	DFL	42.09	50.4	5
3	Umarjhala Pathara(Jagpura Tandafala)	ANR	50	53.2	6
4	Khunta Kundiya(Bijori Choti)	ANR	50	49.6	5
5	Karmi (Borkhedi)	ANR	50	43.6	5

* <4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.2: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Range Residence Ghatol	50	50	0
2.	Boundary pillars	Rohal Undela(Miyasa)	30	30	0
3.	Boundary pillars	Vadita Hilage (Kamji Ka Kheda)	20	20	0
4.	Boundary pillars	Medimal Bhandar	50	50	0
5.	Boundary pillars	Baba Kua wala	20	20	0
6.	Boundary pillars	Rohal Panasi	20	20	0
7.	Boundary pillars	Kobadabri	20	20	0

8.	Boundary pillars	Devkotra	20	20	0
9.	Boundary pillars	Karmi	10	10	0
10.	Boundary pillars	Harendar	20	20	0
11.	Boundary pillars	Timbamahudi	10	10	0
12.	Boundary pillars	Khunra Kundiya	20	20	0
13.	Boundary pillars	Gararkhora	14	14	0
14.	Boundary pillars	Hindolamal	20	20	0
15.	Boundary pillars	Sarwanderi	10	10	0
16.	Boundary pillars	Bhojiya Samariya	20	20	0
17.	Boundary pillars	Kobadabri	10	10	0
18.	Boundary pillars	Molanmacha	10	10	0
19.	Boundary pillars	Daulatgarh	10	10	0
20.	Boundary pillars	Satbidiya	10	10	0+

Table 5.3: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Range Residence Ghatol	Average	6
2.	Boundary pillars	Rohal Undvela(Miyasa)	Average	6
3.	Boundary pillars	Vadita Hilage (Kamji Ka Kheda)	Average	6
4.	Boundary pillars	Medimal Bhandar	Average	6
5.	Boundary pillars	Babaa Kua wala	Average	6
6.	Boundary pillars	Rohal Panasi	Average	6
7.	Boundary pillars	Kobadabri	Average	6
8.	Boundary pillars	Devkotra	Average	6
9.	Boundary pillars	Karmi	Average	6
10.	Boundary pillars	Harendar	Average	6
11.	Boundary pillars	Timbamahudi	Average	6
12.	Boundary pillars	Khunra Kundiya	Average	6
13.	Boundary pillars	Gararkhora	Average	6
14.	Boundary pillars	Hindolamal	Average	6
15.	Boundary pillars	Sarwanderi	Average	6
16.	Boundary pillars	Bhojiya Samariya	Average	6
17.	Boundary pillars	Kobadabri	Average	6
18.	Boundary pillars	Molanmacha	Average	6
19.	Boundary pillars	Daulatgarh	Average	6
20.	Boundary pillars	Satbidiya	Average	6

Baran

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Baran Forest Division. This Forest Division with 9 Forest Ranges namely Anta, Chabara, Chipabarod, Kelwara, Kishanganj, Nahargarh, Shahbad, Atru & Shergarh has territorial jurisdiction over the entire Baran District.



Figure : Location of Baran district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Baran Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Sl.no	Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
1.	Kisanganj	Ranwasi	2020-21	50	ANR	100%
2.	Cheepabarod	Saikud	2020-21	129	NFL	10%
3.	Shahbad	Rajaghar	2020-21	50	ANR	100%
4.	Kailwara	Saleri	2021-22	50	ANR	10%
5.	Kisanganj	Pisai road	2021-22	50	ANR	100%
6.	Shahbad	Kasbathana to MP border	2021-22	4 km	Road side plantation	10%

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Ranwasi site in Kisanganj range -N $25^0$7'10" and E $76^0$51'3"

The selected plantation was carried out on 50 hac. of land at Ranwasi in Kisanganj range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was black, brown morar & stony.



Marking & counting at the site

3.1.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.1.4 Species Planted: The selected tree species under plantation were Holoptelea integrifolia (Churel), Terminalia arjuna (Arjun), Pithecellobium dulce (Jangal Jalebi), Emblica officinalis (Amla), Dalbergia sissoo (Shisham) & Pongamia pinnata (Karanj) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Aawla, Churel & Karanj which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was satisfactory.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Palash, Sagwan, Mahuwa, Baheda, Tendu, & Gurjan were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Khair, Desi babool & Bair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3400 RMT (0.8+.60/2 X 1.2). Present condition of loose stone fencing was average.

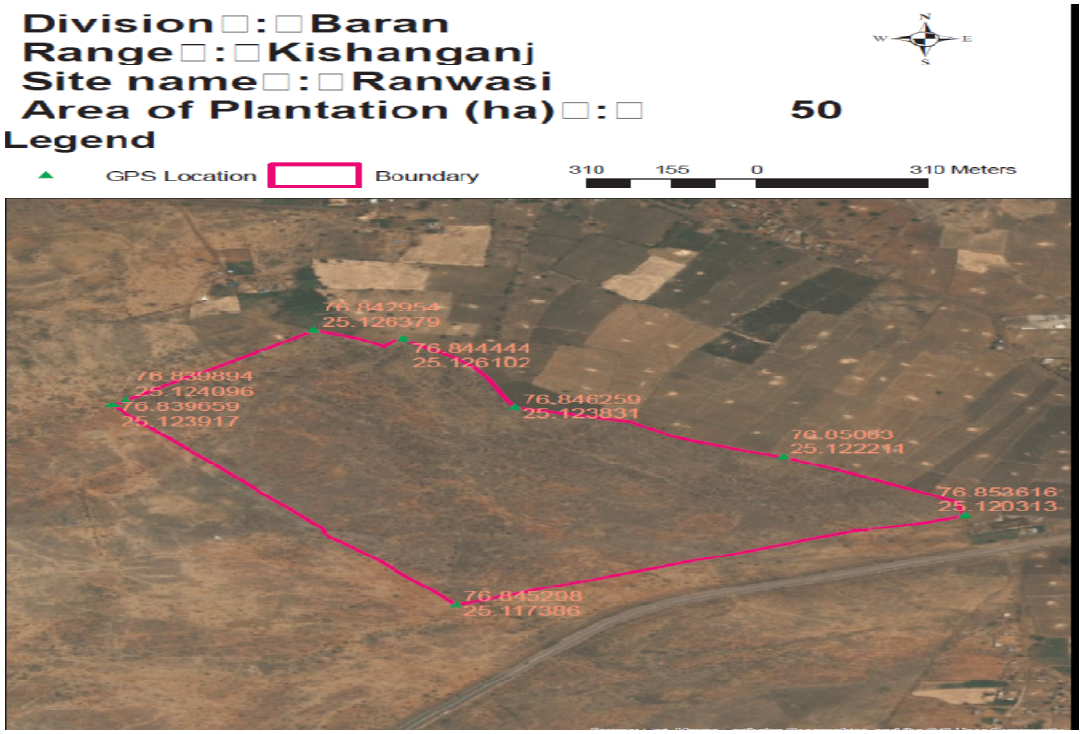
3.1.9. Soil and Water Conservation Measures: There are 10000 RMT (Width & depth -0.45 meters) Contour trenches & 01 MPT in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 42.7% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3: Status of Planted Seedlings at the site-Ranwasi Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Terminalia arjuna (Arjun)	900	358	542	39.8	98	21
Emblica officinalis (Amla)	1300	820	480	63.1	96	21
Dalbergia sissoo (Shisham)	1500	630	870	42.0	101	21
Pongamia pinnata (Karanj)	2500	741	1759	29.64	108	24
Pithecellobium dulce (Jangal Jalebi)	800	336	464	42.00	105	22
Dendrocalamus strictus (Baans)	700	240	460	34.3	116	24
Holoptelea integrifolia (Churel)	2300	1140	1160	49.6	102	21
Total	10000	4265	5735	42.7	102	22

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.1 Site 2- Saikud in Cheepabarod range - N 24^{0}26'19"and E 76^{0}37'33"

The selected plantation was carried out on 129 ha of land at Saikud in Cheepabarod range during the year 2020-21. The activities were done under the Non Forest Land (NFL) model. The site was a forest land and selected for 10% evaluation. The soil was stony & boulder.



3.2.2 Treatment plan before sowing: The topography of the area was hilly & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 141900 pits were dug for plantation in total 129 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai was reported at the site. Also, widely growth of termite and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.

3.2.4. Species Planted: The selected tree species under plantation were Holoptelea integrifolia (Churel), Pithecellobium dulce (Jangal Jalebi), Acacia leucopholea (Ronj), Acacia catechu (Khair), Acacia nilotica (Desi babool) & Azadirachta indica (Neem)



A total of 141900 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 900 plants per hectare have been planted. Thus, total number of plants planted was 141900 for 129 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned it was proper. The seedlings selected for plantation were Khair, Ronj, Churel & Desi babool which can survive in the climate.

3.2.5. Watering of plants: Two times watering to plant as per rainfall condition was reported at the site. However, the plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Neem, Dhonk, Ber & Mahuwa were the plants found grown naturally in this area. The growth of the plant was good.

3.2.7. Regeneration through seeds sowing: Seeds of species *Katkaranj & Khair* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.2.8. Protection Work: The selected NFL model plantation had ditch fencing of 4000 RMT having width at the top-2 meters, width at the bottom-0.8 meters & height 1.2 meters, pucca masonry wall of 1000 rmt & loose stone wall fencing of 389 rmt. Present condition of fencing is good.

3.2.9. Soil and Water Conservation Measures: There are 5600 RMT (Width & depth -0.45 meters) Contour trenches & 6000 RMT furrow & 2 PCT/Nadi in the form of water harvesting structures present in the entire plantation area. These trenches & ditches are prepared for rainwater harvesting and soil conservation. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under NFL model at the site, 1100 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 66.5% at the site.** Plant species girth breast height was also measured. A total of 141900 plants comprising of various species were planted in the 129 ha plantation area.

Table 3.1: Status of planted Seedling at the site-Saikud Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	17550	1755	968		109	22
Holoptelea integrifolia (Churel)	34740	3474	2380		100	22
Acacia leucopholea (Ronj)	15930	1593	1273		102	21
Acacia nilotica (Desi babool)	19890	1989	1960		102	23
Azadirachta indica (Neem)	16011	1601	1045		102	21
Pithecellobium dulce (Jangal Jalebi)	17010	1701	1110		110	22
Others	20769	2077	702		99	22
Total	141900	14190	9438	66.5	103	22

3.2.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 129 hac as per kml map.



3.3.1 Site 3- Rajaghar site in Sahabad range -N 25^{0}14'41" and E 77^{0}17'43"

The selected plantation was carried out on 50 hac. of land at Rajaghar in Sahabad range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was black, brown & moram.

3.3.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10100 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.3.4. Species Planted: The selected tree species under plantation were Holoptelea integrifolia (Churel), Pithecellobium dulce (Jangal Jalebi), Zizyphus mauritiana (Ber), Tectona grandis (Sagwan) & Pongamia pinnata (Karanj) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10100 for 50 hectare of land. Map of planting site was prepared. As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Jungle Jalebi, Bair, Churel & Karanj which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was satisfactory.**



3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Palash, Khair, Ronj, Salar, & Gurjan were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Khair, Desi babool & Bair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

3.3.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3518 RMT (0.8+.60/2 X 1.2). Present condition of loose stone fencing was average.

3.3.9. Soil and Water Conservation Measures: There are 13000 RMT (Width & depth -0.45 meters) Contour trenches, & 02 PCT/Nadi in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 48.1% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10100 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3.2: Status of Planted Seedlings at the site-Rajaghar Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Pithecellobium dulce (Jangal Jalebi)	2500	1458	1042	58.3	99	21
Holoptelea integrifolia (Churel)	2000	1130	870	56.5	100	21
Pongamia pinnata (Karanj)	2000	1020	980	51.0	105	21
Zizyphus mauritiana (Ber)	2500	1190	1310	47.60	95	21
Tectona grandis (Sagwan)	1000	62	938	6.2	110	23
Others	100	0	100	0.0	0	0
Total	10100	4860	5240	48.1	100	21

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.3.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2070333
2021-22				511650				507265
2022-23				203250				196977
Total				2796100				2774575

3.4.1. Site 4- Saleri site in Kailwada range -N $25^0$12'9" and E $76^0$54'33"

The selected plantation was carried out on 50 hac. of land at Saleri in Kailwada range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was black & stony.

3.4.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.4.4. Species Planted: The selected tree species under plantation were Holoptelea integrifolia (Churel), Pithecellobium dulce (Jangal Jalebi), Emblica officinalis (Amla), Terminalia arjuna (Arjun) & Terminalia bellirica (Baheda).

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.



As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Jungle Jalebi, Churel & Aawla which can survive in the climate.. **The growth of survived plants was satisfactory.**

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Palash, Khair, Arjun, Tendu & Sagwan were the plants found grown naturally in this area. The growth of the plants was good.

3.4.7. Regeneration through seeds sowing: Seeds of species *Khair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

3.4.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3480 RMT (0.8+.60/2 X 1.2). Present condition of loose stone fencing was average.

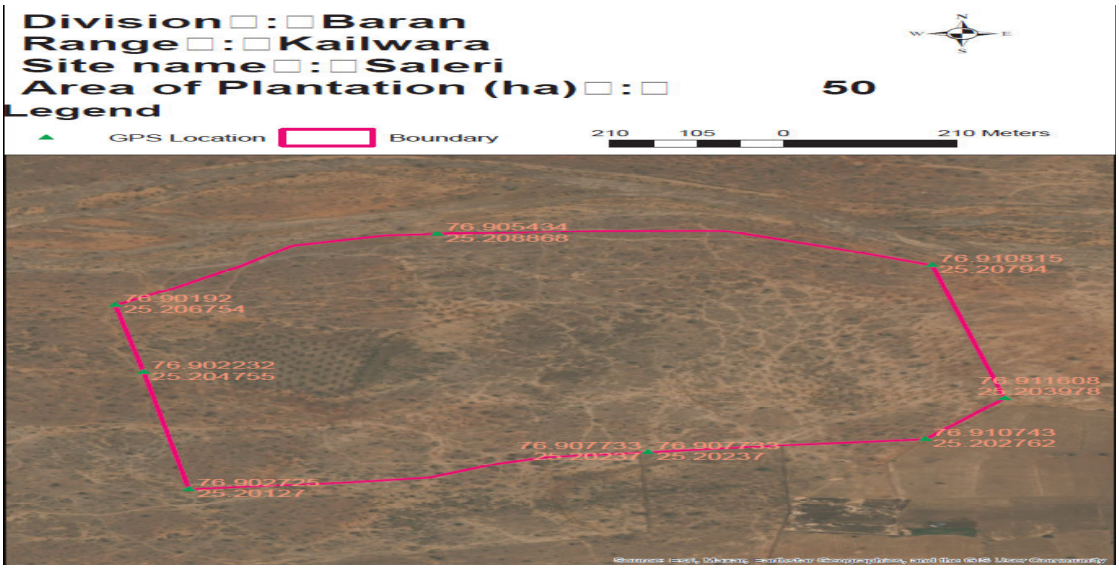
3.4.9. Soil and Water Conservation Measures: There are 10000 RMT (Width & depth -0.45 meters) Contour trenches, & 01 PCT/Nadi in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 41.8% at the site.**. The growth of planted plants was average.

Table 3.4: Status of Planted Seedlings at the site-Saleri Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Pithecellobium dulce (Jangal Jalebi)	2000	200	82		110	22
Madhuka latifolia (Mahua)	1000	100	39		101	21
Holoptelea integrifolia (Churel)	2000	200	51		105	23
Terminalia arjuna (Arjun)	500	50	36		101	21
Terminalia bellirica (Baheda)	500	50	28		101	21
Emblica officinalis (Amla)	4000	400	182		111	23
Total	10000	1000	418	41.8	108	22

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.4.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22				511650				466574
2022-23				203250				196416
Total				714900				662990

3.5.1. Site 1- Peesai road site in Kisanganj range -N 25^{0}7'25" and E 76^{0}38'48"

The selected plantation was carried out on 50 hac. of land at Peesai road in Kisanganj range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was black, & stony.



3.5.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.5.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.5.4. Species Planted: The selected tree species under plantation were Holoptelea integrifolia (Churel), Pithecellobium dulce (Jangal Jalebi), Dalbergia sissoo (Shisham), Emblica officinalis (Amla), Terminalia bellirica (Baheda) & Pongamia pinnata (Karanj) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Jungle Jalebi, Churel & Karanj which can survive in the climate. **The growth of survived plants was satisfactory.**



3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6. Natural Vegetation and Regeneration: Palash & Sagwan were the plants found grown naturally in this area. The growth of the plants was good.

3.5.7. Regeneration through seeds sowing: Seeds of species *Desi babool & Khair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

3.5.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3400 RMT (0.8+.60/2 X 1.2). Present condition of loose stone fencing was average.

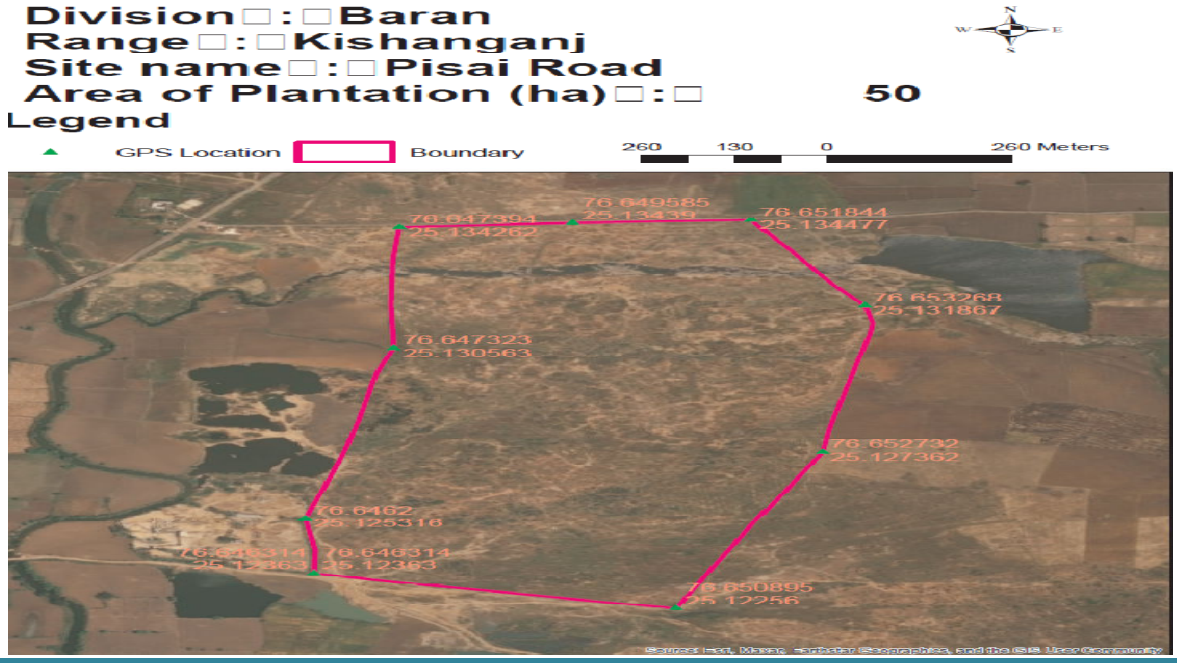
3.5.10. Soil and Water Conservation Measures: There are 13000 RMT (Width & depth -0.45 meters) Contour trenches in the form of water harvesting structures present in the entire plantation area.

3.5.11 Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.2% at the site.**

Table 3.6: Status of Planted Seedlings at the site-Pisai road Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Pithecellobium dulce (Jangal Jalebi)	4500	2150	2350	47.78	100	22
Holoptelea integrifolia (Churel)	4500	2167	2333	48.16	106	22
Dalbergia sissoo (Shisham)	100	21	79	21.00	105	21
Emblica officinalis (Amla)	400	87	313	21.75	110	24
Pongamia pinnata (Karanj)	250	41	209	16.40	108	23
Terminalia bellirica (Baheda)	250	54	196	21.60	90	21
Total	10000	4520	5480	45.2	103	22

3.5.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.6.1 Site 6- Roadside plantation Kasbathana to MP Border, Sahabad range

The site visited under Roadside Plantation was Kasbathana to MP Border at Sahabad range. The site was visited, surveyed, GPS co-ordinates recorded and photographs taken along with the information was filled up in tool 1.



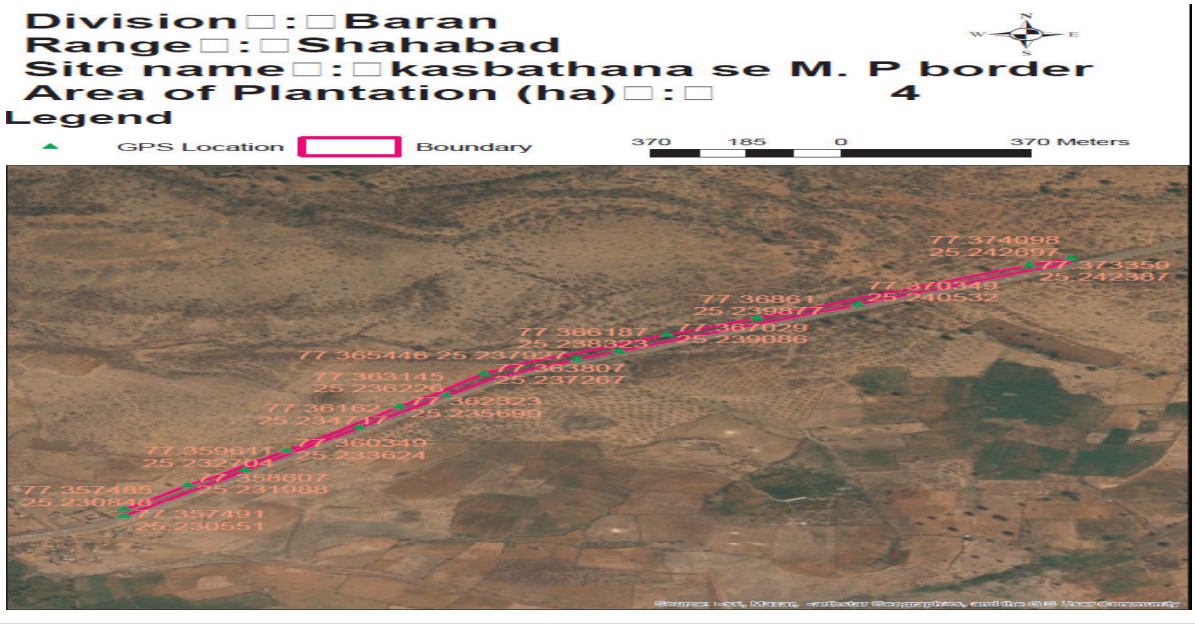
Roadside Plantation Kasbathana to MP Border in Sahabad range has been evaluated. The total area of roadside plantation was 4 km. and had been carried out in the year 2021-22. The soil of the area is bolders & mixed gravel and topography is plain. Seedlings planted were Mahuwa, Karanj, Bair, Sheesham, Arjun, Peepal, Gular, Semal, Kachnar, Gulmohar, Mango, Baheda, Neem & Jamun. The total seedlings planted were 3784. **Hence, the total survival rate was 62.2%.** Barbed wire fencing of 9440 RMT was reported at the site. The present status of barbed wire fencing is good. GPS location of this area was 25°14'18" N and 77°22'04" E. The survival & growth of planted seedlings was good.



Table 3.7: Status of Planted Seedlings at the site-Kasbathana to MP border Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Pongamia pinnata (Karanj)	500	50	0		0	0
Azadirachta indica (Neem)	600	60	86		106	22
Ficus bengalensis (Bargad)	134	13	10		105	23
Dalbergia sissoo (Shisham)	800	80	51		90	21
*Bauhinia sp. (*Kachnar*)*	100	10	12		90	21
Ficus religiosa (Pipal))	250	25	24		90	21
Terminalia arjuna (Arjun)	300	30	25		90	21
Gular	100	10	0		0	0
*Syzygium cumini (*Jamun)	200	20	17		90	21
Madhuka latifolia (Mahua)	400	40	0		0	0
*Mangifera indica (*Mango*)*	100	10	10		90	21
Terminalia bellirica (Baheda)	300	30	0		0	0
Total	3784	378	235	62.2	105	22

3.6.2.GPS Location and KML file: The selected roadside plantation model under CAMPA plantation site measured 4 km as per kml map.



3.6.3. Budget and expenditure

Table 3.13: Cost-estimate & expenditure (Year-wise)

Year	Cost-estimate	expenditure
2021-22	4600000	3410393
2022-23	944273	895745
Total	5544273	4306138

5. Overall assessment

Table 5: Quantitative assessment of plantation works created under CAMPA in Baran division

Sl. No.	**Site**	**Model**	**Area in Ha**	**Survival percentage**	**Rank of Site (Between 0 to 10)***
1	Ranwasi	ANR	50	42.7	6
2	Saikud	NFL	129	66.5	7
3	Rajaghar	ANR	50	48.1	6
4	Saleri	ANR	50	41.8	6
5	Pisai road	ANR	50	45.2	6
6	Kasbathana to MP border	Roadside plantation	4 km	62.2	7

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Barmer

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Barmer Forest Division. This Forest Division with 8 Forest Ranges Siwana, Balotra, Dhorimanna, Chohtan, Sindhari, Baytu, Shiv & Barmer has territorial jurisdiction over the entire Barmer District.



Figure 1 Location of Barmer district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Barmer Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Sirdhari	Abadi Manji A	2020-21	41.274	DFL	100%
Shiv	Kanasar	2021-22	50	Silvi Pastoral	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Barmer Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year -	Physical Target Achieved (100%)
Chouhatan	Chichrasar Vanshetra	2021-22	Boundary Pillars
Sirdhari	Range Office	2021-22	Range Office

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Abadi Manji A in Sirdhari range - N 25.660602 and E 71.974283

The selected plantation was carried out on 41.274 ha of land at Abadi Manji A in Sirdhari range during the year 2020-21. The activities were done under the DFL (Degraded Forest Land) model. The site was a forest land and selected for 100% evaluation. The soil was domat & clayey.



3.1.2. Treatment plan before sowing: The topography of the area was undulating & sandy. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 20637 pits were dug for plantation in total 41.274 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, rats and porcupine was reported at the site. Also, widely growth of termite, soil quality and water quantity obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.

3.1.4. Species Planted: The selected tree species under plantation were 8. Seedlings of Acacia tortilis (Totalis), Cordia sinensis (Gundi), Tecomella undulata (Rohida), Acacia senegal (Kumtha), Zizyphus mauritiana (Ber) *and* Prosopis juliflora (Khejri) were planted.



A total of 20637 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 500 plants per hectare have been planted. Thus, total number of plants planted was 20637 for 41.274 hectare of land. Map of planting site was prepared. As far as choice of seedlings for plantation is concerned it was proper. The seedlings selected for

plantation were Totalis & Khejri, Ber & Kumtha which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was good.

3.1.5. Watering of plants: One time watering to plant was reported at the site. However, the plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Kumtha, Jaal, Bed, Kakeda & Khejri were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *kumtha & Sevan grass* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.1.8. Protection Work: The selected DFL model plantation had Barbed wire fencing with welded wire mesh of 2681 RMT. Present condition of fencing was good. Barbed wire fencing was fully effective in controlling the biotic pressure.

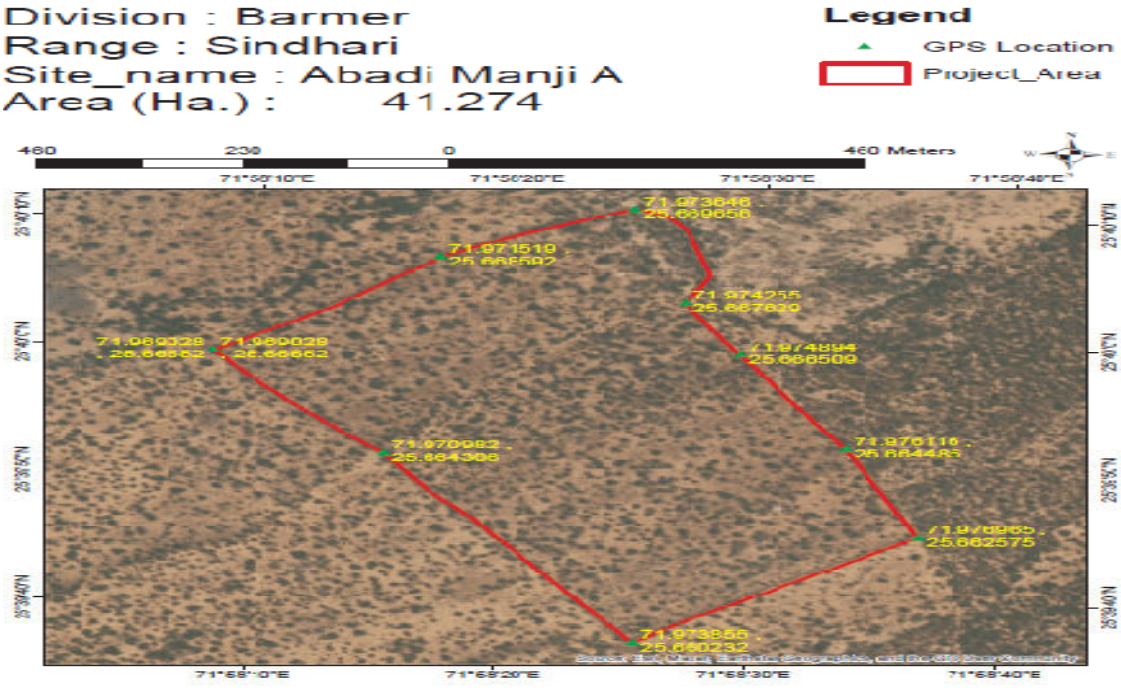
3.1.9. Soil and Water Conservation Measures: There are 8000 RMT Contour trenches, 5000 RMT V ditch, 03 tanka & earthen checkdam (300 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 500 plants per ha were planted during plantation. **Based on for as 100 percent counting, plants survival was 50.3% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was good. A total of 20637 plants comprising of various species were planted in the 41.274 ha plantation area.

Table 3: Status of Planted Seedlings at the site-Abadi Manaji A Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	17997	8999	8998	50.0	108	21
Acacia senegal (Kumtha)	2090	1179	911	56.4	90	23
Zizyphus mauritiana (Ber)	300	147	153	49.0	90	21
Prosopis juliflora (Khejri)	50	13	37	26.0	90	21
Kakeda	100	21	79	21.0	90	21
Tecomella undulata (Rohida)	50	16	34	32.0	90	21
Cordia sinensis (Gundi)	50	9	41	18.0	90	21
Total	20637	10384	10253	50.3	105	21

3.1.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 41.274 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	Plantation	SMC works	Boundary wall/Fencing	Total	Plantation	SMC works	Fencing	Total
2020-21				1485200				1463662
2021-22				486497				485787
Total				1971697				1949449

3.2.1. Site 2- Kanasar site in Shiv range -N 26.328402 and E 71.592363

The selected plantation was carried out on 50 hac. of land at Kanasar site in Shiv range during the year 2021-22. The activities were done under the Silvi Pastoral (SPP) model. The site was a forest land and selected for 10% evaluation. The soil was clayey & hard.



3.2.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 5000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, Chinkara, rabbit, wild boar, and rat was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected seedlings of Acacia tortilis (Totalis), Salvadora persica (Jaal), Tecomella undulata (Rohida) & Terminalia Zizyphus mauritiana (Ber) were planted.



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation was Totalis, Ber, Jal & Rohida which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was satisfactory.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Rohida, Totalis, Ber & Khejri were the plants found grown naturally in this area. The growth of the plants was good.



3.2.7. Regeneration through seeds sowing: Seeds of species Kumtha, *Dhaman & Sewan grass* was sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was average.**

3.2.8. Protection Work: The selected Silvi Pastoral model plantation had barbed wire fencing with welded wire mesh of 3100 RMT. The status of fencing is satisfactory.

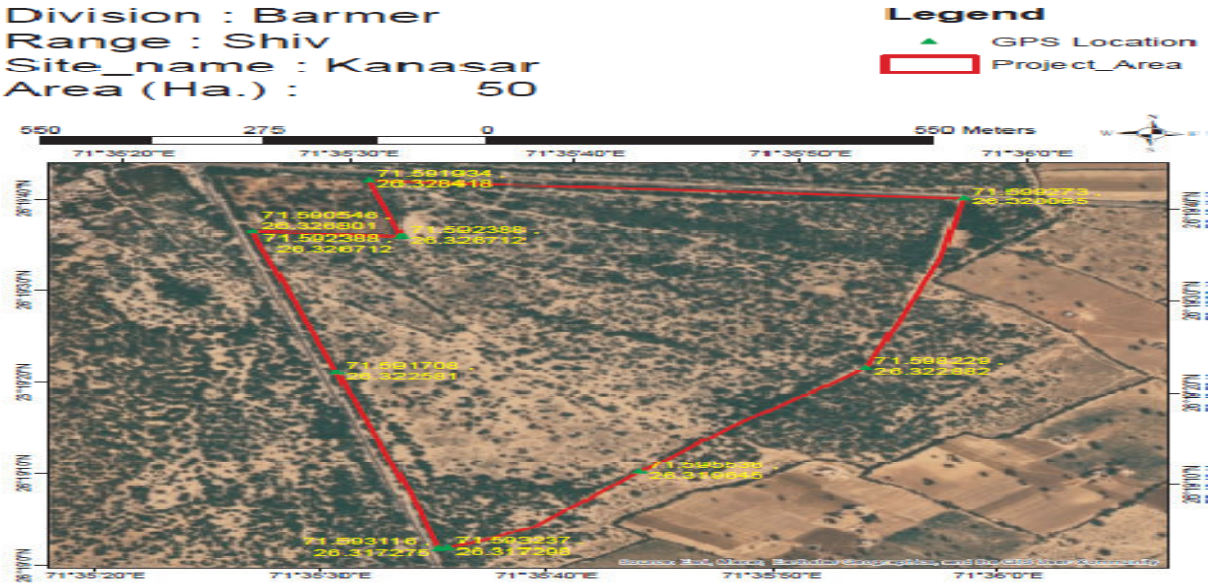
3.2.9. Soil and Water Conservation Measures: There are 45000 RMT Contour furrows & 01 tanka in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 47.8% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3.2: Status of Planted Seedlings at the site-Kanasar Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	8500	850	399		99	21
Zizyphus mauritiana (Ber)	300	30	21		90	21
Tecomella undulata (Rohida)	700	70	31		90	21
Salvadora persica (Jaal)	500	50	27		90	21
Total	10000	1000	478	47.8	98	21

3.2.11. GPS Location and KML file: The selected SPP model under CAMPA plantation site measured 50 Hac as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				870000				870000
2021-22				1529550				1529550
2022-23				427300				425853
Total				2826850				2825403

4. Results for asset sites

4.1 Site 1- Pillars at Chichrasar Vanshetra , Chouhatan range



At Chichrasar Vanshetra site in Chohouhatan range Pillars (06 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars (30 Nos.) was Rs. 55757 (as per MB) against the estimated cost of Rs. 70500.

Site 2- Range Office at Sirdhari range



Range Office at Sirdhari range has been evaluated. The Range Office was constructed in the year 2021-22. Site selection for construction of Range Office was adequate. Construction work appeared to be good and useful. The Range Office created under CAMPA was used by department staff (Ranger) for residential purpose. The Range Office constructed under CAMPA was properly maintained. Electricity fitting & sanitary connection of Range Office was completed. Quality of construction & present condition of the Range Office was good. GPS location of this area was 25.563724 N and 71.92135 E. The expenditure incurred for constructing the Range Office was Rs. 881622 (as per MB) against the estimated budget of 10.50 lac.

5. Overall assessment

Table 5: Quantitative assessment of plantation work under CAMPA in Barmer division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Abadi Manji A	DFL	41.274	50.3	6
2	Kanasar	Silvi Pastoral	50	47.8	5

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Boundary pillars	Chichdasar Vanshetra	6	6	0
2.	Range Office	Sirdhari	1	1	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Boundary Pillars	Chichdasar Vanshetra	Average	6
2	Range Office	Sirdhari	Good	7

Bharartpur

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2017-18 to 2019-20 in Bharatpur Forest Division. This Forest Division with 5 Forest Ranges namely Bayana, Kaman, Deeg, Bharatpur & Nadbai has territorial jurisdiction over the entire Bharatpur District.

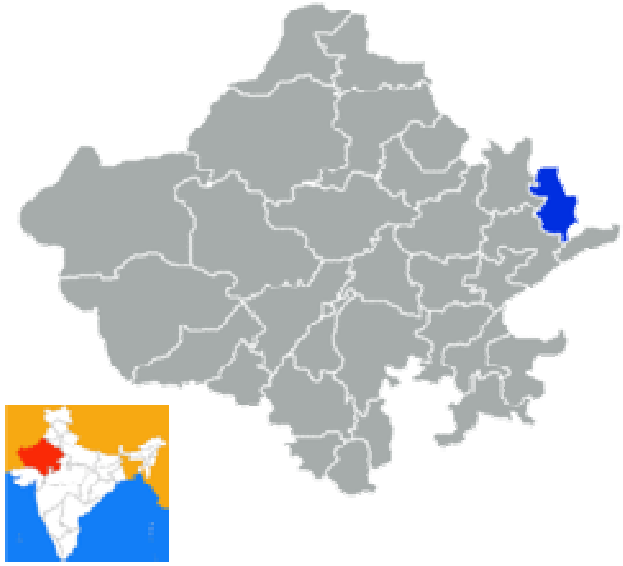


Figure : Location of Bharatpur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Bharatpur Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Bayana	Jogipura	2020-21	50	ANR	100%
Deeg	Jarkhor Gufa	2020-21	50	ANR	10%
Bayana	Babu Baba II	2020-21	50	ANR	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Bharatpur Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Bayana	Devghatiya Kair	2020-21	Anicut Type II
Kaman	Bolkheda(Kankachal)	2020-21	Boundary Pillars
Kaman	Bolkheda(Kankachal) I	2020-21	Boundary Pillars
Kaman	Klabta Dholgiri	2020-21	Boundary Pillars
Deeg	Dhamari	2020-21	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1 .1. Site 1-Jogipura site in Bayana range -N 26^{0}56'30" and E 77^{0}6'55"

The selected plantation was carried out on 50 hac. of land at Jogipura in Bayana range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was moram with rocks.



3.1.2. Treatment plan before sowing:

The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation.Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai, wild boars & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.1.4. Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), *Acacia leucophoelea (*ronj), *Holoptelea integrifolia* (Churel), Butea monosperma (Chila) and Acacia tortilis (Totalis) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned it was proper, fair & suitable. The seedlings selected for plantation were Ronj, Totalis & Desi babool which can survive in harsh & dry climate. **The growth of survived plants was good.**

3.1.5. Watering of plants: The provision of watering to plant was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Desi babool, Totalis Ronj & Dhonk were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Totalis, Desi babool, Ronj and Palas* were sown in as well as along the trenches and on the thanwlas. The result of sowing was good.

3.1.8. Protection Work: The selected ANR model plantation had loose stone wall fencing of 3821 RMT. Present condition of fencing was good.

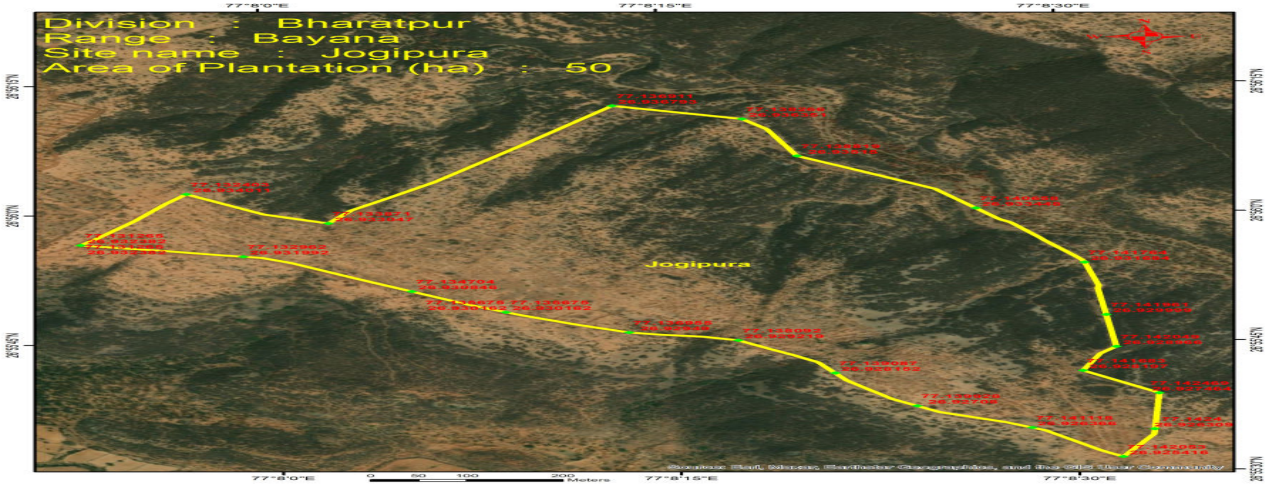
3.1.9. Soil and Water Conservation Measures: There are 2000 RMT Contour trenches, 8000 RMT SGT & loose stone check dam (320 cu.cm) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 57.10% at the site.**

Table 3: Status of Planted Seedlings at the site-Jogipura Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	4250	2900	1350	68.2	123	31
Acacia nilotica (Desi babool)	486	230	256	47.3	135	27
Acacia leucopholea (Ronj)	2824	1500	1324	53.1	117	24
Holoptelea integrifolia (Churel)	1684	800	884	47.5	135	31
*Butea monosperma (*Palash)	756	280	476	37.0	117	28
Total	10000	5710	4290	57.1	123	28

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21	396456			396456	363302			363302
2021-22	159900		16989	176889	159895		16989	176884
2022-23	80808		26589	107397	77154		26508	103662
Total				680742				643848

3.2.1 Site 2- Jarkhor Gufa site in Deeg range -N $27^0$34'45" and E $77^0$17'1"

The selected plantation was carried out on 50 hac. of land at Jarkhor Gufa in Deeg range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy & domat.



3.2.2. Treatment plan before sowing: The topography of the area was hilly & sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai, wild boars & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), *Acacia leucophoelea (*ronj), *Holoptelea integrifolia* (Churel), Zizyphus mauritiana (Ber) and Acacia tortilis (Totalis) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.



As far as choice of seedlings for plantation is concerned it was proper, fair & suitable. The seedlings selected for plantation were Ronj, Ber Totalis & Desi babool which can survive in harsh & dry climate. **The growth of survived plants was satisfactory.**

3.2.5. Watering of plants: The provision of watering to plant was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Desi babool, Totalis Ronj & Dhonk were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species *Desi babool, kumtha, khair and ronj* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

3.2.8. Protection Work: The selected ANR model plantation had loose stone wall fencing of 1244 RMT & ditch fencing of 1975 rmt. Present condition of loose stone fencing was good. However, ditch fencing was filled with soil.

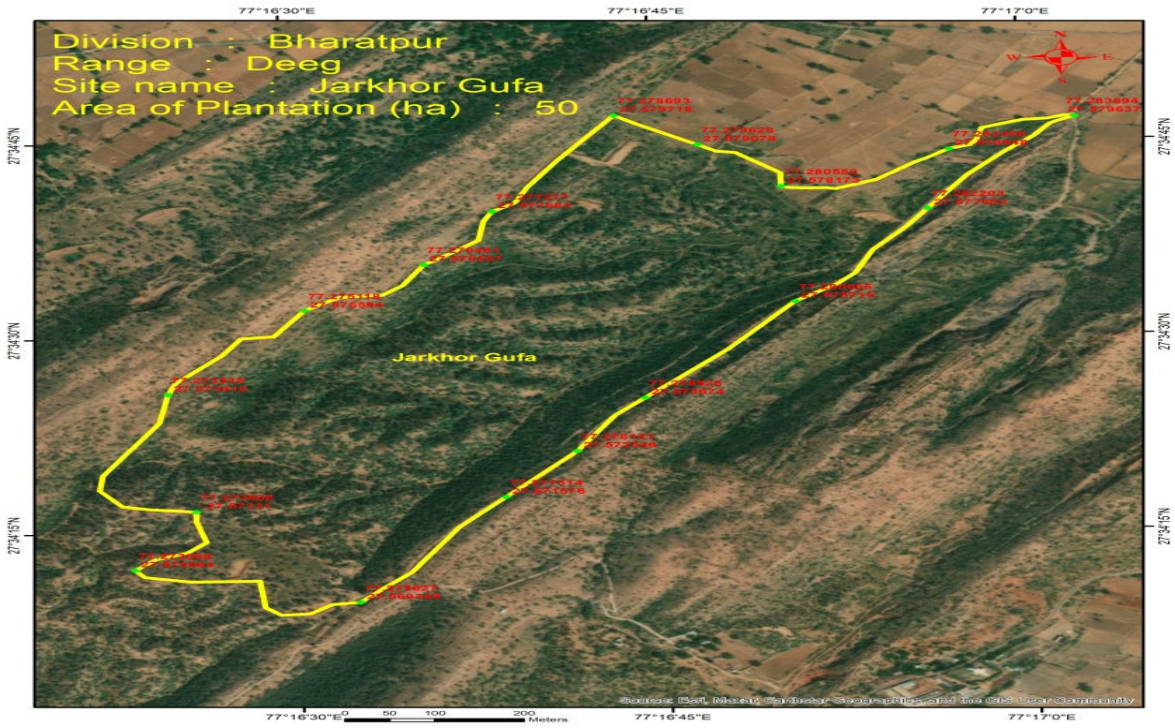
3.2.9. Soil and Water Conservation Measures: There are 1760 RMT Contour trenches, 3920 rmt. Deep CCT, 4320 RMT SGT & PCT/Nadi (06 nos.) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 45.5% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was good. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3.2: Status of Planted Seedlings at the site-Jarkhor Gufa Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia leucopholea (Ronj)	1500	150	25	16.7	130	25
Acacia nilotica (Desi babool)	4000	400	80	20.0	163	33
Holoptelea integrifolia (Churel)	1000	100	100	100.0	147	28
Acacia tortilis (Totalis)	2500	250	195	78.0	156	33
Zizyphus mauritiana (Ber)	1000	100	55	55.0	118	23
Total	10000	1000	455	45.5	144	30

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.3.1 Site 3- Babu Baba II site in Bayana range -N 26^{0}56'25" and E 77^{0}7'21"

The selected plantation was carried out on 50 hac. of land at Baba Baba II in Bayana range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was moram with rocks.



3.3.2. Treatment plan before sowing:

The topography of the area was hilly & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land.



3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai, wild boars & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.3.4. Species Planted: The selected seedlings of Acacia nilotica (desi babool), Zizyphus mauritiana (Ber), Acacia leucophoelea (ronj), Holoptelea integrifolia (Churel), Dalbergia sissoo (Shisham)& Syzygium cumini (Jamun)were planted.


Loose stone wall fencing at the plantation site

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned it was proper, fair & suitable. The seedlings selected for plantation were Ronj, Churel, Bair & Desi babool which can survive in harsh & dry climate. **The growth of survived plants was satisfactory.**

3.3.5. Watering of plants: The provision of watering to plant was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Desi babool, Totalis Ronj & Palas were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Katkaranj, Ronj, Bair, Kumtha, Desi babool and Totalis* were sown in as well as along the trenches and on the thanwlas. The result of sowing was good.

3.3.8. Protection Work: The selected ANR model plantation had loose stone wall fencing of 950 RMT & ditch fencing of 2900 rmt. Present condition of fencing was average.

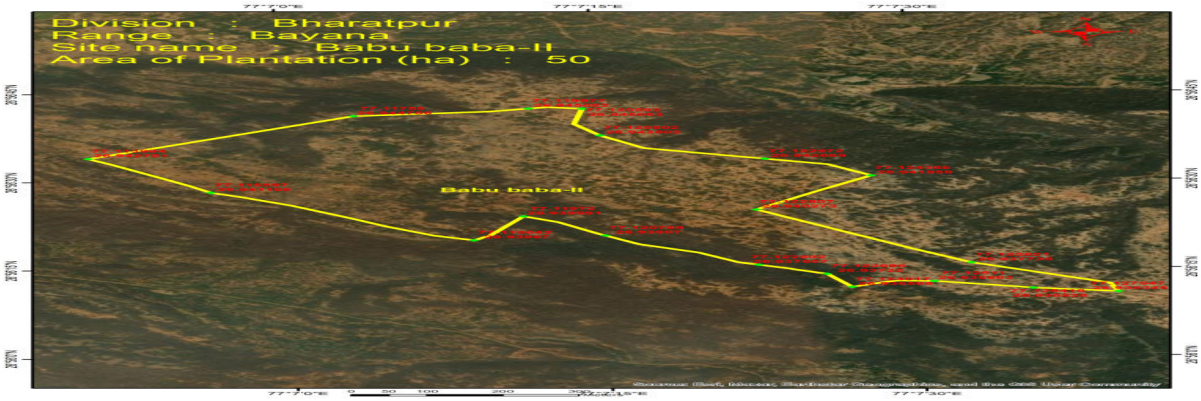
3.3.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches, 5500 RMT SGT & 500 rmt. Deep CCT in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 47.15% at the site.**

Table 3.6: Status of Planted Seedlings at the site- Babu Baba II Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	600	250	350	41.7	104	22
Acacia leucopholea (Ronj)	6000	2705	3295	45.1	129	26
Acacia nilotica (Desi babool)	3000	1615	1385	53.8	133	28
Holoptelea integrifolia (Churel)	250	105	145	42.0	113	25
*Syzygium cumini (*Jamun)	25	5	20	20.0	90	21
Dalbergia sissoo (Shisham)	100	25	75	25.0	105	25
Tamarindus indica (Imli)	25	10	15	40.0	90	21
Total	10000	4715	5285	47.2	128	26

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.3.12. Budget and expenditure

Table 3.7 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1817761				1746369
2021-22				472100				442696
2022-23				199633				168272
Total				2489494				2357337

4. Results for asset sites

4.1 Site 1- Anicut II at Devghatiya, Bayana Range



At Devghatia Kair in Bayana range , Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure is as per MB. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. The GPS location of this area was $26^0$55'54" N and $77^0$7'37"E. The expenditure incurred for constructing the anicut was Rs. (as per MB) against the estimated budget of 3.75 lac.

Site 2- Pillars at Bolkhera, Kaman range



At Borkhera site in Kaman Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. Plastering of pillar is not done. Number,

year & GPS can be mentioned on the pillar.

Site 3- Pillars at Bolkhera I, Kaman range



At Borkhera site in Kaman Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. Plastering of pillar is not done. Number, year & GPS can be mentioned on the pillar. The expenditure incurred for constructing the Pillars (50 Nos.) was Rs.89196 (as per MB) against the estimated cost of Rs 90000.

Site 4- Pillars at Kalabata Dhaulgiri, Kaman range



At Kalabata Dhaulgiri site in Kaman Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.

Site 5- Pillars at Dhamari, Deeg range



At Dhamari site in Deeg Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported good and useful. The construction of pillars helped in marking forest boundary.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Bharatpur division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Jogipura	ANR	50	57.1	6
2	Jarkhor Gufa	ANR	50	45.5	5
3	Babu Baba II	ANR	50	47.2	5

* <4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Anicut Type II	Devghatiya Kair	10x1x1.2	10x1x1.2	0
2.	Boundary Pillars	Bolkheda(Kankachal)	10	10	0
3.	Boundary Pillars	Bolkheda(Kankachal) I	10	10	0
4.	Boundary Pillars	Klabta Dholgiri	10	10	0
5.	Boundary Pillars	Dhamari	10	10	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Aniut Type II	Devghatiya Kair	Good	8
2	Boundary Pillars	Bolkheda(Kankachal)	Average	6
3	Boundary Pillars	Bolkheda(Kankachal) I	Average	6
4	Boundary Pillars	Klabta Dholgiri	Average	6
5	Boundary Pillars	Dhamari	Average	6

Bharartpur WL

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2017-18 to 2019-20 in Bharatpur WL Forest Division. This Forest Division with 2 Forest Ranges namely WL Bandh Baretha & WL KNP Bharatpur has territorial jurisdiction over the entire Bharatpur District.



Figure : Location of Bharatpur district, Rajasthan

2.1. Selected Asset Sites for Evaluation

The selected asset sites of Bharatpur WL Forest Division were as given in table 1

Table 1: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)	Nos.
Bandh Baretha	Vankhand Sukhashila	2020-21	Boundary Pillars	20
Bandh Baretha	Vankhand Sultanpur	2021-22	Boundary Pillars	20

3. Results for asset sites

3.1 Site 1- Pillars at Vankhand Sukhashila, Bandh Baretha WL range

At Sukhashila site in Bandh Baretha Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. In actual, 100 pillars were constructed at the site. However, 20 pillars were found & evaluated by the third party. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The pillar is



useful in locating the boundary of forest. The constructions of pillars create awareness amongst villagers of demarcation of forest boundary. It prevents mining & minimizes the chance of encroachment.

Site 2- Pillars at Sultanpur Vankhand, Bandh Baretha WL range

At Sultanpur Vankhand site in Bandh Baretha Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. In actual, 100 pillars were constructed at the site. However, 20 pillars were evaluated by the third party. The pillars were of size 0.45mx 0.45 mx 0.6 m. The underground depth of pillars was 0.3 m. The pillars were made of RCC. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.



4. Overall assessment

Table 4: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Boundary Pillars	Vankhand Sukhashila	20	20	0
2.	Boundary Pillars	Vankhand Sultanpur	20	20	0

Table 4.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of Site (Between 0 to 10)*
1	Boundary Pillars	Vankhand Sukhashila	Average	6
2	Boundary Pillars	Vankhand Sultanpur	Average	6

Bhilwara

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Bhilwara Forest Division. This Forest Division with 5 Forest Ranges namely Mandalgarh, Jahajpur, Bhilwara, Shahpura & Asind has territorial jurisdiction over the entire Bhilwara District.

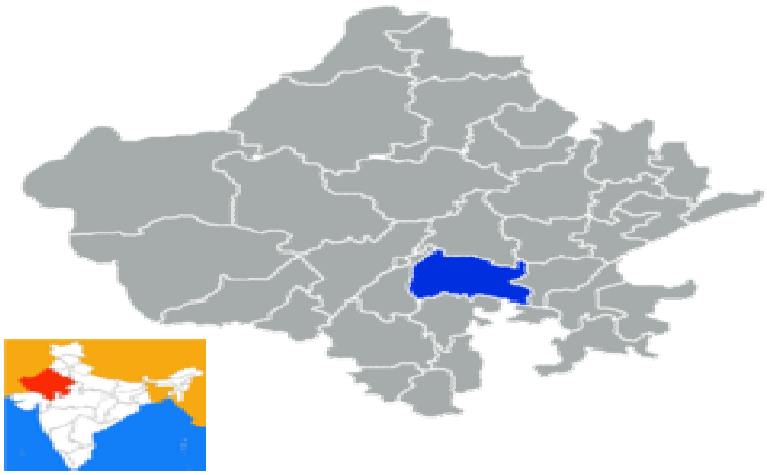


Figure: Location of Bhilwara district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Bhilwara Forest Division for evaluation were as given in table 1.

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Jahajpur	Thalkala IInd year	2020-21	50	ANR	100%
Mandalgarh	Daulji ka Kheda D	2020-21	50	ANR	10%
Mandalgarh	Tikhi Part A	2021-22	50	ANR	100%
Jahajpur	Dhandhola Part A	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Bhilwara Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Mandalgarh	Damjal	2020-21	Pakki Diwar 4 ft
2.	Shahpura	Dhaneshwar	2020-21	Anicut Type II
3.	Mandalgarh	Banka Beed	2020-21	Anicut Type III
4.	Mandalgarh	Danpura	2021-22	Anicut Type II
5.	Bhilwara	Bhoja ji Beed	2021-22	Anicut Type III
6.	Asind	Kisanpura Badnaur	2020-21	Boundary Pillar
7.	Shahpura	Taswariya Basa	2021-22	Boundary Pillar

8.	Shahpura	Karamdas	2021-22	Boundary Pillar
9.	Shahpura	Karamdas B	2021-22	Boundary Pillar
10.	Shahpura	Noon	2021-22	Boundary Pillar
11.	Bhilwara	Gajura Naya 109	2021-22	Boundary Pillar
12.	Bhilwara	Vankhand Bemali A 56	2021-22	Boundary Pillar
13.	Bhilwara	Vankhand Bemali B 49	2021-22	Boundary Pillar
14.	Jahazpur	Mohanpura	2021-22	Boundary Pillar
15.	Jahazpur	Rampura	2021-22	Boundary Pillar
16.	Jahazpur	Ratangarh	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1 Site 1- Thalkala IInd Year in Jahajpur range - N $25^0$20'14" and E $75^0$5'44"

The selected plantation has been carried out on 50 hac of land at Thalkala IInd Year of Jahajpur range during the year 2020-21. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was black in colour.

3.1.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.1.4. Species Planted: The selected tree species under plantation were of *Acacia nilotica* (desi babool), *Acacia leucophoelea (*ronj), *Zizyphus mauritiana* (ber), *Azadirachta indica (Neem) &* Terminalia arjuna (Arjun).

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation



area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ber, Ronj & Desi babool which can survive in harsh & dry climate.

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. Largely the plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration*:* The area has been covered fully with vegetation due to this plantation. Plants like Dhok, Ronj, Chudel and Desi babool have been found grown naturally. .

3.1.7. Regeneration through seeds sowing: The growth of seeds sowing plants was average . The result of seeds sowing (viz. Kumtha, Khair, Desi babool & Ronj) was average.

3.1.8. Protection Work: The selected ANR model plantation was protected by ditch fencing of 2940 RMT having width at the top-1.05 meters, width at the bottom-0.9 meters & depth 1.02 meters. Present condition of ditch fencing was satisfactory.

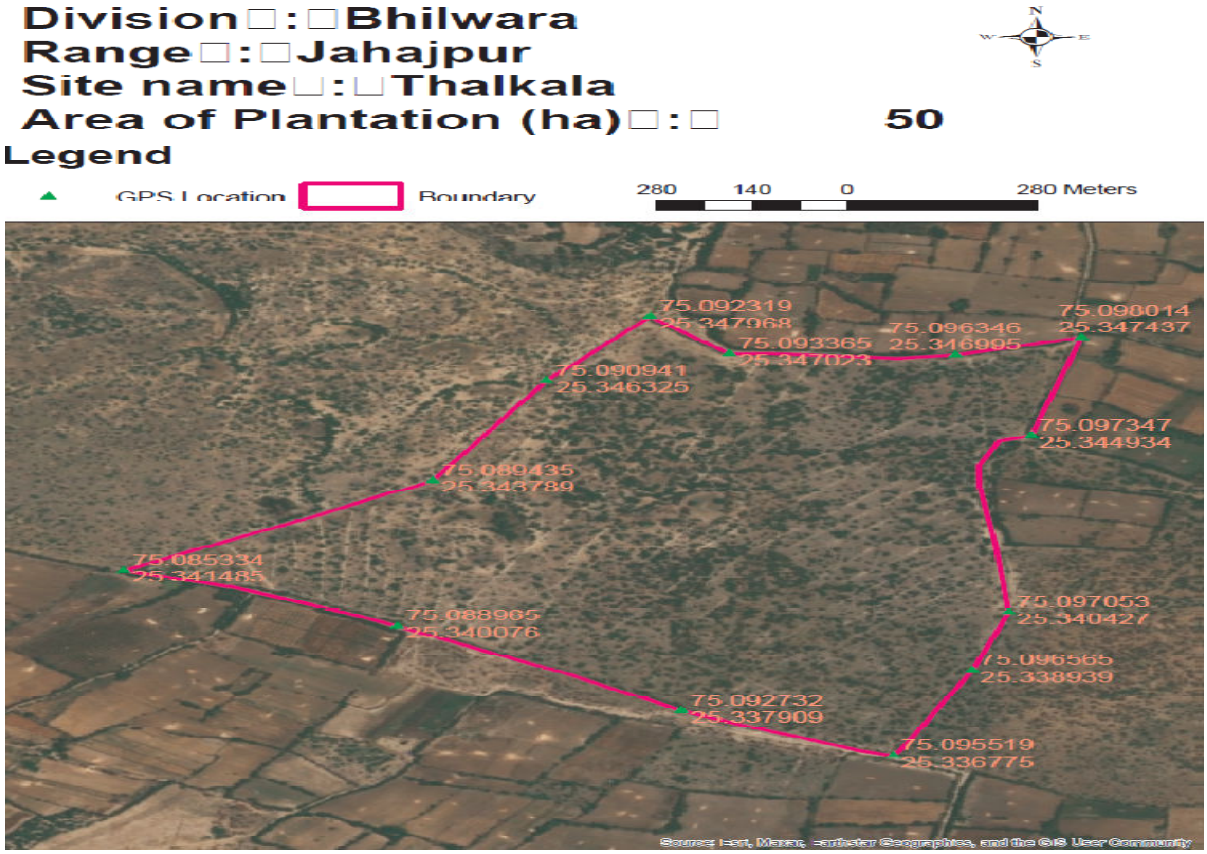
3.1.9. Soil and Water Conservation Measures: There is 10000 RMT (Width & depth - 0.45 meters) Contour trenches & 01 PCT/Nadi in the form of water harvesting structures present in the entire plantation area

3.1.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 100 percent counting, plants survival was 41.4% at the site. Plant species girth breast height was also measured. The growth of planted seedling was satisfactory. A total of 10000 plants comprising of various species were planted in the 50 ha plantation area.

Table 3: Status of Planted Seedling at the site-Thalkala IInd Year Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia leucopholea (Ronj)	2000	635	1365	31.8	92	21
Acacia nilotica (Desi babool)	5000	2960	2040	59.2	93	23
Zizyphus mauritiana (Ber)	1000	320	680	32.00	92	22
Butea monosperma (Palash)	1000	95	905	9.5	93	22
Azadirachta indica (Neem)	300	40	260	13.3	90	20
Dalbergia sissoo (Shisham)	600	85	515	14.2	90	21
Terminalia arjuna (Arjun)	100	0	100	0.0	0	0
Total	10000	4135	5865	41.4	92	22

3.1.11.GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Lacs)				Expenditure (Lacs)			
Year	Plantation	SMC works	Boundary wall/Fencing	Total	Plantation	SMC works	Boundary wall/Fencing	Total
2020-21				4.862				4.862
2021-22				1.8215				1.0795
2022-23				1.0795				1.0794
Total				7.763				7.0209

3.2.1 Site 2-Daulji Ka Kheda D in Mandalgarh range - N $25^0$10'8" and E 75^0 11'15"

The selected plantation has been carried out on 50 hac of land at Daulji Ka Kheda of Mandalgarh range during the year 2020-21. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was red in colour and.



3.2.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land**.**

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.





3.2.4. Species Planted: The selected tree species under plantation of *Acacia nilotica* (desi babool), *Acacia leucophoelea (*ronj), *Zizyphus mauritiana* (ber), Pongamia pinnata (Karanj), Acacia catechu (Khair), Emblica officinalis (Amla), *Cassia fistula (*Amaltas), Tamarindus indica (Imli) and *Holoptelea integrifolia* (churail) were planted.

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ronj, Bair, Khair & Desi babool which can survive in harsh & dry climate. The growth of survived plants was average.

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. Largely the plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration*:* The area has been covered fully with vegetation due to this plantation. Plants like Salar, Khair, Dhonk, Ronj and Desi Babool have been found grown naturally. .

3.2.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Desi babool & Khair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was good on trenches.

3.2.8. Protection Work: The selected ANR model plantation was protected by loose stone fencing of 2911 RMT having width at the top-0.6 meters, width at the bottom-0.8 meters & height 1.2 meters. Present condition of loose stone fencing was average. Fencing has been partially effective in controlling the biotic pressures.

3.2.9. Soil and Water Conservation Measures: There is 8000 RMT (Width & depth - 0.45 meters) Contour trenches in the form of water harvesting structures present in the entire

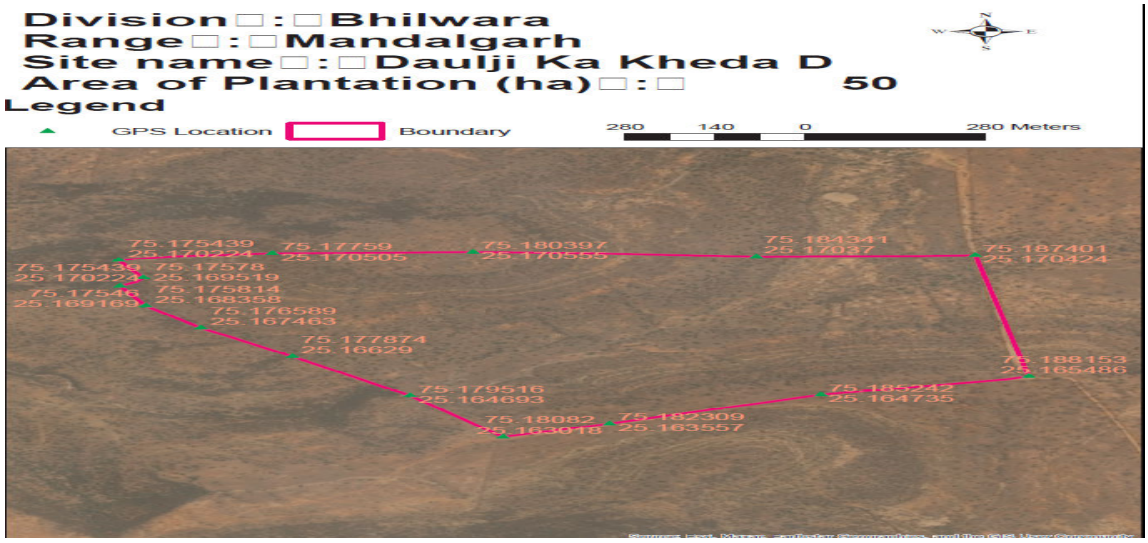
plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 10 percent counting, plants survival was 46.1% at the site. Plant species girth breast height was also measured.

Table 3.2: Status of Planted Seedling at the site-Dolji Ka Kheda D Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia leucopholea (Ronj)	5392	539	210		94	24
Acacia catechu (Khair)	644	64	41		92	22
Acacia nilotica (Desi babool)	1566	157	110		95	23
Zizyphus mauritiana (Ber)	776	78	0		0	0
Pongamia pinnata (Karanj)	500	50	40		93	23
Emblica officinalis (Amla)	460	46	25		92	21
Holoptelea integrifolia (Churel)	275	28	35		95	23
Cassia fistula (Amaltas)	75	8	0		0	0
Tamarindus indica (Imli)	104	10	0		0	0
Terminalia bellirica (Baheda)	208	21	0		0	0
Total	10000	1000	461	46.1	94	23

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.2.12. Budget and expenditure:

Table 3.3: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Lacs)				Expenditure (Lacs)			
Year	Plantation	SMC works	Boundary wall/Fencing	Total	Plantation	SMC works	Boundary wall/Fencing	Total
2020-21				4.862				4.862
2021-22				1.8215				1.8215
2022-23				1.0795				1.0795
Total				7.763				7.763

3.3.1 Site 1- Tikhi Part A in Mandalgarh range - N 25^{0}10'31" and E 75^{0}14'27"

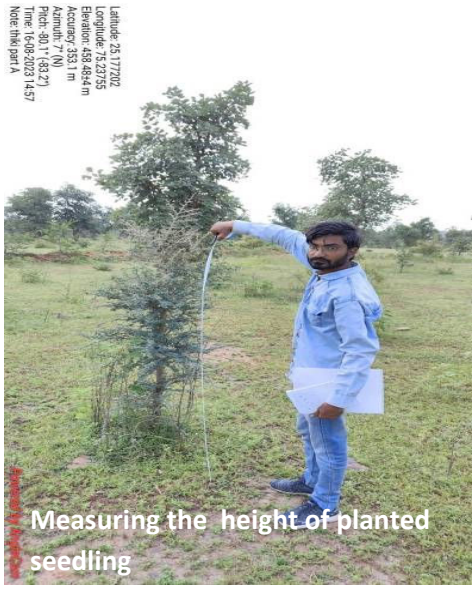
The selected plantation has been carried out on 50 hec of land at Tikhi Part A of Mandalgarh range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was stony hard & morar.

3.3.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10150 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.4. Species Planted: The selected tree species under plantation were 6. Seedlings of *Acacia nilotica* (desi babool), Acacia catechu (Khair), *Acacia leucophoelea (*ronj), *Zizyphus mauritiana* (ber), and *Holoptelea integrifolia* (churail) were planted.



A total of 10150 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10150 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Bair, Ronj & Desi babool which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was satisfactory.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. Largely the plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration*:* The area has been covered fully with vegetation due to this plantation. Plants like Dhok, Tendu, Ronj, Palash and Churel have been found grown naturally. .

3.3.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Desi babool & Khair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was excellent. Plants from the seed sown were widely seen in lines on contour trenches & ditch fencing



3.3.8. Protection Work: The selected ANR model plantation was protected by ditch fencing of 980 RMT having width at the top-1.05 meters, width at the bottom-0.9 meters & depth 1.02 meters, loose stone fencing of 2430 RMT having width at the top-0.6 meters, width at the bottom-0.8 meters & height 1.2 meters. Present condition of both the fencing was satisfactory. Fencing has been partially effective in controlling the biotic pressures.

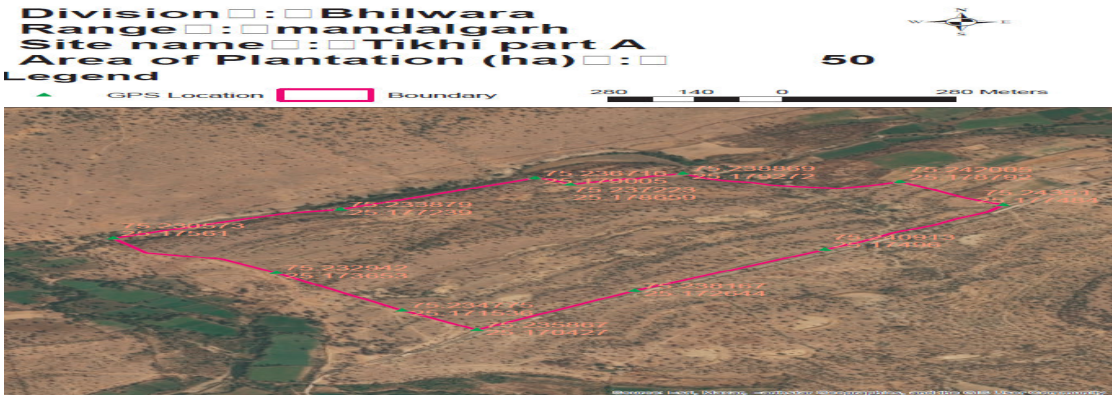
3.3.9. Soil and Water Conservation Measures: There is 10000 RMT (Width & depth - 0.45 meters) Contour trenches in the form of water harvesting structures present in the entire plantation area

3.3.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 100 percent counting, plants survival was 41.7% at the site. Plant species girth breast height was also measured.

Table 3.4: Status of Planted Seedling at the site-Tikhi Part A Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	2000	700	1300	35.00	90	21
Acacia leucopholea (Ronj)	3000	1050	1950	35.0	91	21
Holoptelea integrifolia (Churel)	1000	480	520	48.0	92	22
Acacia nilotica (Desi babool)	3000	1893	1107	63.1	92	21
Acacia catechu (Khair)	500	110	390	22.0	90	21
Others	650	0	650	0.00	90	21
Total	10150	4233	5917	41.7	91	21

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.3.12. Budget and expenditure:

Table 3.5: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Lacs)				Expenditure (Lacs)			
Year	Plantation	SMC works	Boundary wall/Fencing	Total	Plantation	SMC works	Boundary wall/Fencing	Total
2020-21				20.812				20.812
2021-22				5.1165				5.1165
2022-23				2.03250				2.03250
Total				27.961				27.961

3.4.1. Site 4-Dhandhola Part A in Jahajpur range - N $25^0$37'52" and E 75^0 20'9"

The selected plantation has been carried out on 50 hec of land at Dhandola Part A of Jahajpur range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was laterite & stony.

3.4.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.4.4. Species Planted: The selected tree species under plantation of *Acacia leucophoelea (*ronj), *Zizyphus mauritiana* (ber) and Acacia nilotica (Desi babool) were planted.

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ronj, Bair & Desi babool which can survive in harsh & dry climate.



3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. Largely the plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration*:* The area has been covered fully with vegetation due to this plantation. Plants like Neem, Churail, Dhonk, Ronj and Bair have been found grown naturally.

3.4.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Desi babool, Ardu & Khair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

3.4.8. Protection Work: The selected ANR model plantation was protected by loose stone fencing of 145 RMT having width at the top-0.6 meters, width at the bottom-0.8 meters & height 1.2 meters & ditch fencing of 2350 rmt having width at the top-1.05 meters, width at the bottom-0.9 meters & depth 1.02 meters Present condition of both the fencing was average. Fencing has been partially effective in controlling the biotic pressures.

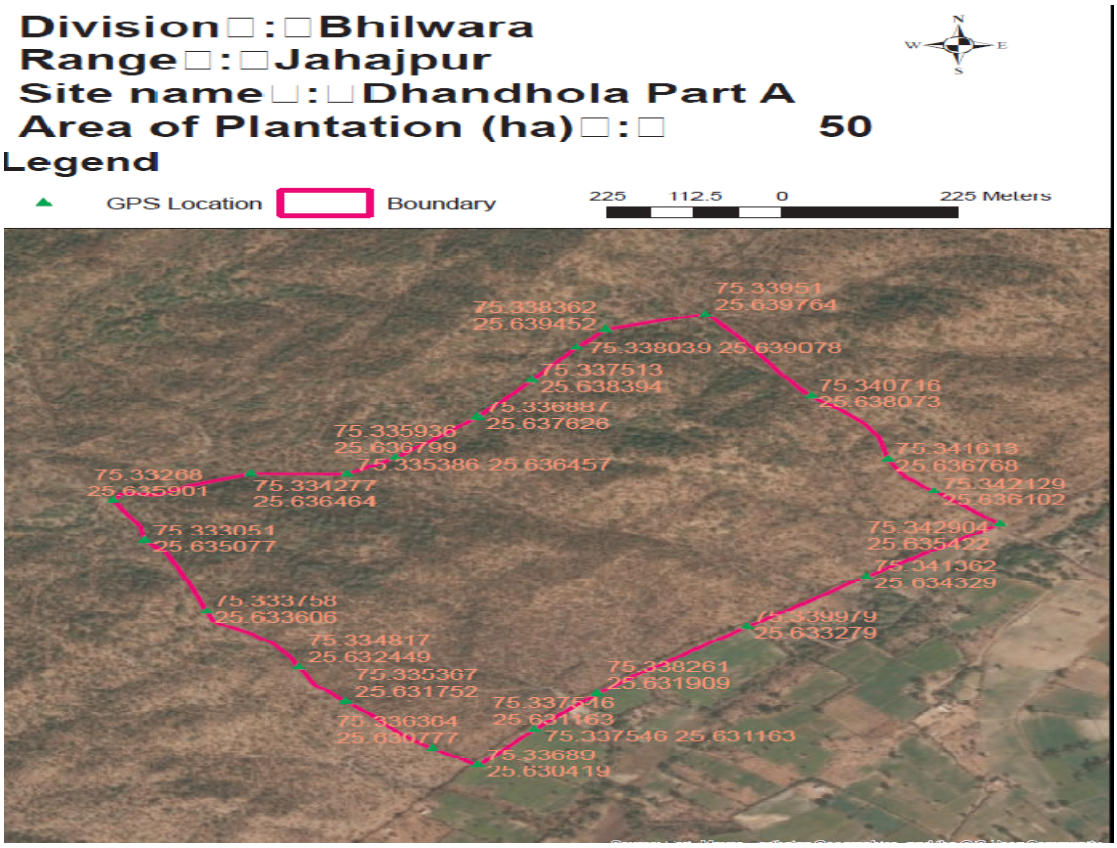
3.4.9. Soil and Water Conservation Measures: There is 10000 RMT (Width & depth - 0.45 meters) Contour trenches & 03 loose stone check dam (29 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 10 percent counting, plants survival was 46.4% at the site.

Table 3.6: Status of Planted Seedling at the site-Dhandhola Part A Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	2000	200	47		90	22
Acacia leucopholea (Ronj)	3300	330	125		86	20
Acacia nilotica (Desi babool)	4200	420	275		92	21
Azadirachta indica (Neem)	100	10	0		0	0
Dalbergia sissoo (Shisham)	200	20	17		91	21
Holoptelea integrifolia (Churel)	200	20	0		0	0
Total	10000	1000	464	46.4	90	21

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.4.11. Budget and expenditure:

Table 3.7: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	Plantation	SMC works	Boundary wall/Fencing	Total	Plantation	SMC works	Boundary wall/Fencing	Total
2020-21				20.812				20.812
2021-22				5.1165				5.1165
2022-23				2.03250				2.03250
Total				27.961				27.961

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft. at Damjal 519rmt, Mandalgarh range

At Damjal 500 rmt in Mandalgarh range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 519 m length as per MB. Also in actual 519 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meter. Construction work appeared to be good and useful. The construction of Pakki Diwar 4 ft helped



in preventing encroachment & illegal mining which is prevalent in the area. GPS location of this area was $25^0$7'37" N and $75^0$23'48" E. The expenditure incurred for constructing this wall was Rs. 1199999 (as per MB) against the estimated budget of Rs. 12 lacs.

Site 2- Anicut II at Dhaneshwar, Shahpura Range

At Dhaneshwar in Shahpura range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure was 9 meter, 1.0 meter & 1.4 meter respectively. Construction work appeared to be average and useful. Water was available (1.45 meter) in the anicut at the time of visit. The anicut is useful for wild animals & human habitation residing in the near by area. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was $25^0$49'3" N and $74^0$59'8"E. The expenditure incurred for constructing the anicut wall was Rs. (as per MB) against the estimated budget of Rs 375000 lac.



Site 3- Anicut III at Banka Beed, Mandalgarh Range

At Banka Beed, Mandalgarh range, Anicut III has been evaluated. The Anicut III was constructed in the year 2020-21. The length, breadth & height of the structure was 14.10 meterX1.0 meterX1.50 as per MB. Construction work appeared to be good and useful. Water was available (5-6 feet) in the anicut at the time of visit. The anicut is useful for wild animals viz. Neel gai & wild boar) & human habitation residing in the near by area. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was $25^0$15'54" N and $75^0$24'22"E. The expenditure incurred for constructing the anicut was 6.00 lac (as per MB) against the estimated budget of 6.00 lac .



Site 4- Anicut II at Danpura, Mandalgarh Range

At Danpura in Mandalgarh range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure was 10 meter, 1.0 meter & 1.4 meter respectively. Construction work appeared to be good and useful. Water was available (5 feet) in the anicut at the time of visit. The anicut is useful for wild animals &



human habitation residing in the nearby area. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was $25^0$3'33" N and $75^0$59'8"E. The expenditure incurred for constructing the anicut was Rs 375000 (as per MB) against the estimated budget of Rs 375000 lac.

Site 5- Anicut III at Bhojaji Beed, Bhilwara Range

At Bhoja ji Beed, Bhilwara range, Anicut III has been evaluated. The Anicut III was constructed in the year 2021-22. The length, breadth & height of the structure was 12.10 meterX1.0 meterX1.50 as per MB. Construction work appeared to be good and useful. Water was available (0.2meter) in the anicut at the time of visit. The anicut is useful for wild animals viz. Neel gai & wild boar) & human habitation residing in the near by area. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was $25^0$34'9" N and $74^0$14'4"E. The expenditure incurred for constructing the anicut was 6.50 lac (as per MB) against the estimated budget of 6.50 lac.



Site 6- Pillars at Kisanpura Badnaur, Asind range

At Kisanpura Badnaur in Asind range pillars (100 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted with number written on the pillar.



Site 7- Pillars at Taswariya Basa, Shahpura range

At Taswariya Basa in Shahpura range pillars (07 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted. However, number should be written on the pillar.



Site 8- Pillars at Karamdas, Shahpura range

At Karamdas in Shahpura range pillars (09 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted with number written on the pillar.



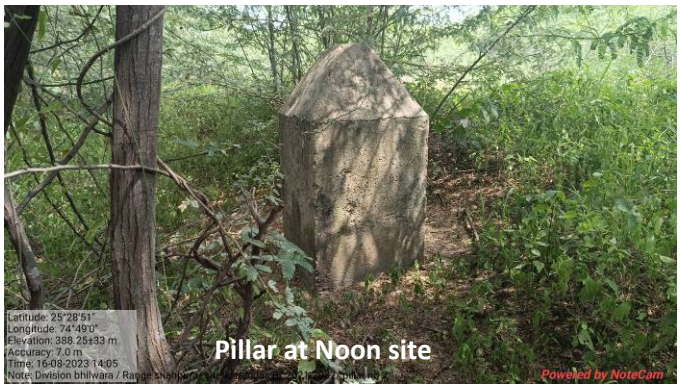
Site 9 - Pillars at Karamdas B, Shahpura range

At Karamdas B in Shahpura range pillars (07 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted with number written on the pillar.



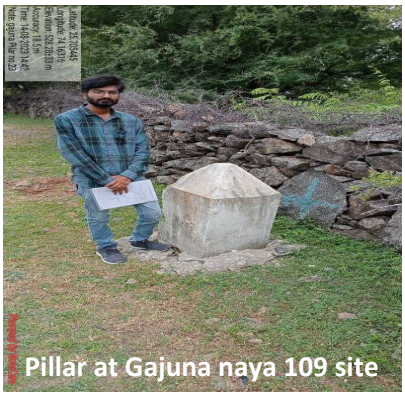
Site 10- Pillars at Noon, Shahpura range

At Noon in Shahpura range pillars (13 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted with number written on the pillar.



Site 11 - Pillars at Gajuna Naya 109, Bhilwara range

At Gajuna Naya 109 in Bhilwara range pillars (22 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted but number should be written on the pillar.



4.1.12 Pillars at Van Khand Bemali A 56, Bhilwara range

At Vankhand Bemali A 56 in Bhilwara range pillars (11 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted but number should be written on the pillar.



Site 13- Pillars at Van Khand Bemali B 49, Bhilwara range

At Vankhand Bemali B 49 in Bhilwara range pillars (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted but number should be written on the pillar.



Site 14- Pillars at Mohanpura, Jahazpur range

At Mohanpura in Jahajpur range pillars (09 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted but number should be written on the pillar.



Site 15- Pillars at Rampura, Jahazpur range

At Rampura in Jahajpur range pillars (07 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The finishing of the pillar was proper. The pillar was painted but number should be written on the pillar.The expenditure incurred for



constructing the Pillars was Rs. (as per MB) against the estimated cost of Rs 27000

Site 16- Pillars at Ratangarh, Jahazpur range

At Ratangarh in Jahajpur range pillars (07 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted with number written on the pillar.



5. Overall assessment

Table 5: Quantitative assessment of plantation work under CAMPA in Bhilwara division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Thalkala IInd year	ANR	50	41.4	5
2	Daulji ka Kheda D	ANR	50	46.1	5
3	Tikhi Part A	ANR	50	41.7	5
4	Dhandhola Part A	ANR	50	46.4	5

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Damjal	519	519	0
2.	Anicut Type II	Dhaneshwar	9mX1mX1.4 m	9mX1mX1.4 m	0
3.	Anicut Type III	Banka Beed	14mX1mX1.5 m	14mX1mX1.5 m	0
4.	Anicut Type II	Danpura	10mX1mX1.4 m	10mX1mX1.4 m	0
5.	Anicut Type III	Bhoja ji Beed	12.10mX1mX1.5 m	12.10mX1mX1.5 m	0
6.	Boundary Pillar	Kisanpura Badnaur	100	100	0
7.	Boundary Pillar	Taswariya Basa	7	7	0
8.	Boundary Pillar	Karamdas	9	9	0
9.	Boundary Pillar	Karamdas B	7	7	0
10.	Boundary Pillar	Noon	13	13	0
11.	Boundary Pillar	Gajura Naya 109	22	22	0
12.	Boundary Pillar	Vankhand Bemali A 56	11	11	0
13.	Boundary Pillar	Vankhand Bemali B 49	10	10	0
14.	Boundary Pillar	Mohanpura	9	9	0
15.	Boundary Pillar	Rampura	7	7	0
16.	Boundary Pillar	Ratangarh	7	7	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Damjal	Good	7
2.	Anicut Type II	Dhaneshwar	Good	7
3.	Anicut Type III	Banka Beed	Good	7
4.	Anicut Type II	Danpura	Good	7
5.	Anicut Type III	Bhoja ji Beed	Good	7
6.	Boundary Pillar	Kisanpura Badnaur	Average	6
7.	Boundary Pillar	Taswariya Basa	Average	6
8.	Boundary Pillar	Karamdas	Average	6
9.	Boundary Pillar	Karamdas B	Average	6
10.	Boundary Pillar	Noon	Average	6
11.	Boundary Pillar	Gajura Naya 109	Average	6
12.	Boundary Pillar	Vankhand Bemali A 56	Average	6
13.	Boundary Pillar	Vankhand Bemali B 49	Average	6
14.	Boundary Pillar	Mohanpura	Average	6
15.	Boundary Pillar	Rampura	Average	6
16.	Boundary Pillar	Ratangarh	Average	6

Bikaner

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Bikaner Forest Division. This Forest Division with 4 Forest Ranges namely Lunkaransar, Kolayat, Nokha & Bikaner North has territorial jurisdiction over the entire Bikaner District.



Figure 2 Location of Bikaner district, Rajasthan

2.1. Selected Asset Sites for Evaluation

The selected asset sites of Bikaner Forest Division were as given in table 1

Table-1: Selected asset created under CAMPA for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Nokha	Bikasar	2021-22	Pakki Diwar 4 ft.

3. Results for asset sites

3.1 Site1 Pakki Diwar 4 Ft. at Bikasar, Nokha range



At Bikasar in Nokha range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 500 m length as per MB. In actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.40 meter & height was 1.20 meter. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting forest area.The agriculture land is situated close to the pakki diwar. GPS location of this area

was 27.593295 N and 73.45298 E. The expenditure incurred for constructing this wall was Rs. 1120155 (as per MB) against the estimated budget of Rs. 2109000.

4. Overall assessment

Table 4: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft.	Bikasar	500	500	0

Table 4.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of Site (Between 0 to 10)*
1	Pakki Diwar 4 ft.	Bikasar	Average	6

Bikaner WL

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Bikaner WL Forest Division. This Forest Division with 1 Forest Range namely Johbid Gadhvala Conservation Reserve Kotri has territorial jurisdiction over the entire Bikaner District.



Figure 3 Location of Bikaner district,

2.1. Selected Asset Sites for Evaluation

The selected asset sites of Bikaner WL Forest Division were as given in table 1

Table 1: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Jodbeed Gadwala Conservation Reserve Kotdi	Jodbeed Gadwala Conservation Reserve Kotdi	2020-21	Boundary Pillars
Marudhra Biological Park, Beechwal	Marudhra Biological Park, Beechwal	2020-21	Boundary Pillars
Jodbeed Gadwala Conservation Reserve Kotdi	Jodbeed Gadwala Conservation Reserve Kotdi	2021-22	Boundary Pillars

3. Results for asset sites

3.1 Site 1- Pillars at Jodbeed Gadwala Conservation Reserve Kotdi, Jodbeed Gadwala Kotdi range



At Jodbeed Gadwala Conservation Reserve Kotdi in Jodbeed Gadwala Kotdi range pillars (08 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. However, the GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs.88353 (as per MB) against the estimated cost of Rs 90000.

Site 2- Pillars at Marudhara Biological Park Beechwal , Marudhara Biological Park Beechwal range



At Marudhra Biological Park, Beechwal in Marudhra Biological Park, Beechwal range pillars (10 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. Also, the number was written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 88891 (as per MB) against the estimated cost of Rs. 90000.

Record keeping: The documents such as plan and MB were shown to the study team.

3.1.3 Pillars at Jodbeed Gadwala Conservation Reserve Kotdi, Jodbeed Gadwala Kotdi range



At Jodbeed Gadwala Conservation Reserve Kotdi in Jodbeed Gadwala Kotdi range pillars (08 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. (as per MB) against the estimated cost of Rs 90000.

Record keeping: The documents such as plan and MB were shown to the study team.

4. Overall assessment

Table 4: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Boundary Pillars	Jodbeed Gadwala Conservation Reserve Kotdi	8	8	0
2.	Boundary Pillars	Marudhra Biological Park, Beechwal	10	10	0
3.	Boundary Pillars	Jodbeed Gadwala Conservation Reserve Kotdi	8	8	0

Table 4.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Boundary Pillars	Jodbeed Gadwala Conservation Reserve Kotdi	Average	6
2	Boundary Pillars	Marudhra Biological Park, Beechwal	Average	6
3	Boundary Pillars	Jodbeed Gadwala Conservation Reserve Kotdi	Average	6

Bundi

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Bundi Forest Division. This Forest Division with 5 Forest Ranges namely K.Patan, Hindoli, Daabi, Nainwa & Bundi has territorial jurisdiction over the entire Bundi District.

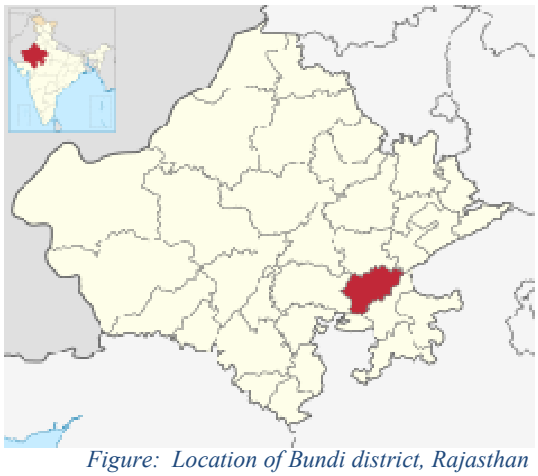


Figure: Location of Bundi district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Bundi Forest Division were as given in table 1 for evaluation

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Hindoli	Dev Dungari B	2020-21	50	ANR	100%
Nainwa	Fuleta C	2020-21	65	ANR	10%
Hindoli	Depala Umarmata C	2020-21	64.440	ANR	100%
Hindoli	Dola Ka Khal	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Bundi Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Nainwa	Nainwa Se Dai road	2020-21	Pakki Diwar 4 ft
2.	Dabi	Talab Gaon Vankhand Borkhandi	2020-21	Pakki Diwar 4 ft
3.	Bundi	Office cum Residence Van Suraksha	2021-22	Range Office
4.	Bundi	Vankhand Kanti Aastoli	2021-22	Pakki Diwar 4 ft
5.	Dabi	Vankhand Dasaliya B range	2020-21	Boundary Pillar
6.	Dabi	Vankhand Maradi Naka Garada	2020-21	Boundary Pillar

7.	Hindoli	Vankhand Aklor Pani Dhal	2020-21	Boundary Pillar
8.	Bundi	Vankhand Ful Sagar Sathur range	2020-21	Boundary Pillar
9.	Nainwa	Vankhand Jajawar A Naka Jajawar	2020-21	Boundary Pillar
10.	Hindoli	Naka Khinya Vankhand Umarmata	2021-22	Boundary Pillar
11.	Dabi	Vankhand Maradi Naka Garada	2021-22	Boundary Pillar
12.	Bundi	Naka Gudhanathavtan Vankhand Gudha	2021-22	Boundary Pillar
13.	Nainwa	Vankhand Jajawar A Naka Jajawar	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1 Site 1- Dev Dungari B site in Hindoli range -N $25^0$38’22” and E $75^0$31’51”

The selected plantation was carried out on 50 hac. of land at Dev Dungari B in Hindoli range during the year 2020-21. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was domat & boulders.



3.1.2 Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. **31.3. Health & Damages of Plantation:** The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.1.4. Species Planted: The selected tree species under plantation were of Acacia leucopholea (Ronj), Holoptelea integrifolia (Churel), Zizyphus mauritiana (Ber), *Azadirachta*

indica (Neem), Pithecellobium dulce (Jangal Jalebi), Azadirachta indica (Neem), and Acacia nilotica (Desi babool) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Jangal Jalebi, Ronj, Churail & Desi babool which can survive in the climate. **The growth of survived plants was average.**



Growth of planted seedling at the site

3.1.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Churail, Ronj, Kumtha & Hingot were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Ardu, Katkaranj and Neem* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was excellent. Plants out of seed sowing were better than the planted seedling.**

3.1.8. Protection Work: The selected ANR model plantation had ditch fencing of 4150 RMT. Present condition of ditch fencing is average.

3.1.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trench & 03 PCT/Nadi (3000 cu.m) in the form of water harvesting structures present in the entire plantation area.

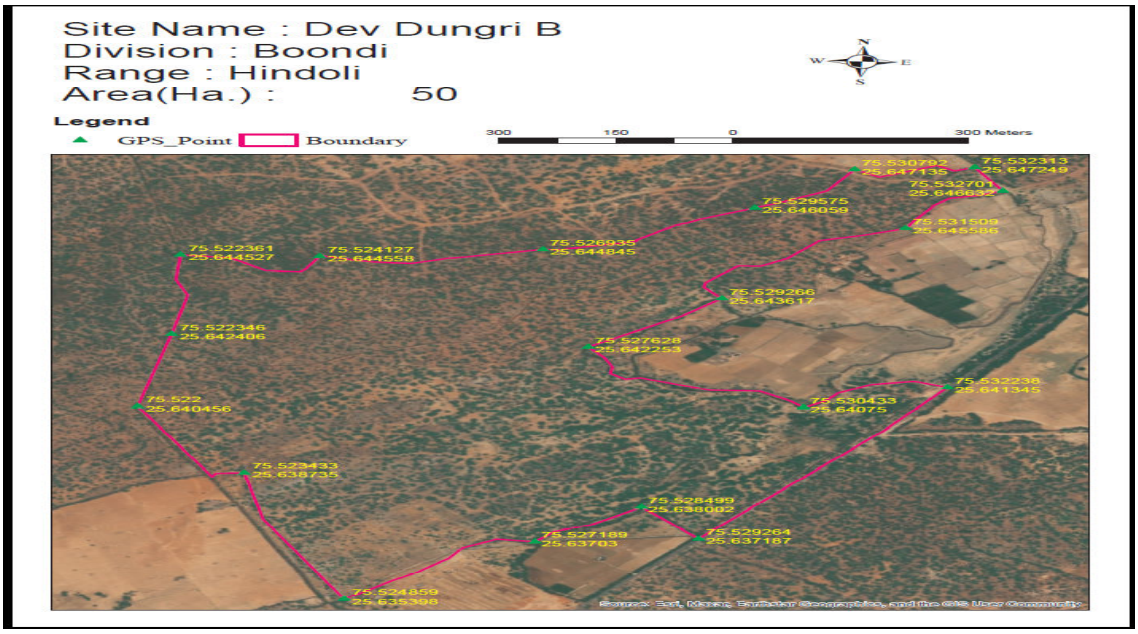
3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 41.6% at the site.**

Table 3: Status of Planted Seedlings at the site- Dev Dungari B Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	5000	2574	2426	51.5	180	26
Holoptelea integrifolia (Churel)	2000	995	1005	49.8	28	16
Pithecellobium dulce (Jangal Jalebi)	1500	326	1174	21.7	72	18
Azadirachta indica (Neem)	500	116	384	23.2	34	14
Ailanthus excelsa (Ardu)	300	0	300	0.0	0	0
Dalbergia sissoo (Shisham)	200	17	183	8.5	32	14

Zizyphus mauritiana (Ber)	200	59	141	29.5	28	10
Acacia leucopholea (Ronj)	300	69	231	23.0	42	17
Total	10000	4156	5844	41.6	59	16

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				4.862				4.534
2021-22				1.82				1.79
2022-23				1.08				1.00
Total				7.762				7.324

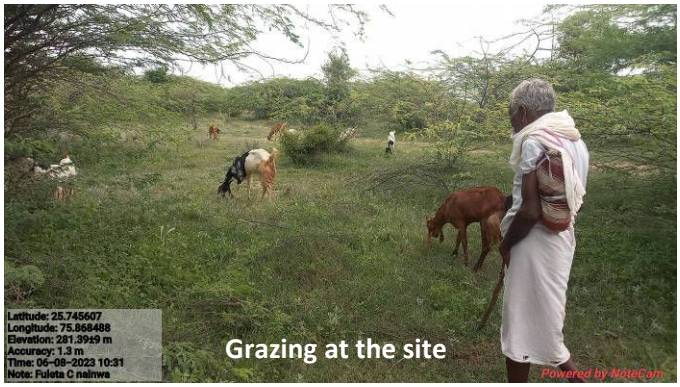
3.2.1 Site 2- Fuleta C site in Nainwa range -N 25.744673 and E 75.870227

The selected plantation was carried out on 65 hac. of land at Fuleta C in Nainwa range during the year 2020-21. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was clayey & stony.



3.2.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 13000 pits were dug for plantation in total 65 hac of land. The

seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedling. The status of guarding/ fencing at the site was average.

3.2.4. Species Planted: The selected tree species under plantation were of Acacia Holoptelea integrifolia (Churel), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj), Acacia catechu (Khair) Azadirachta indica (Neem), and Acacia nilotica (Desi babool) were planted.



In total 13000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 13000 for 65 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation was Ronj, Churail, Bair & Desi babool which can survive in the climate. **The growth of survived plants was average.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Juliflora, Jaal & Ronj, were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Desi babool, and Katkaranj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was poor.**

3.2.8. Protection Work: The selected ANR model plantation had ditch fencing of 3900 RMT. Present condition of ditch fencing is poor. The ditch fencing was broken at many places & route for cattle etc.

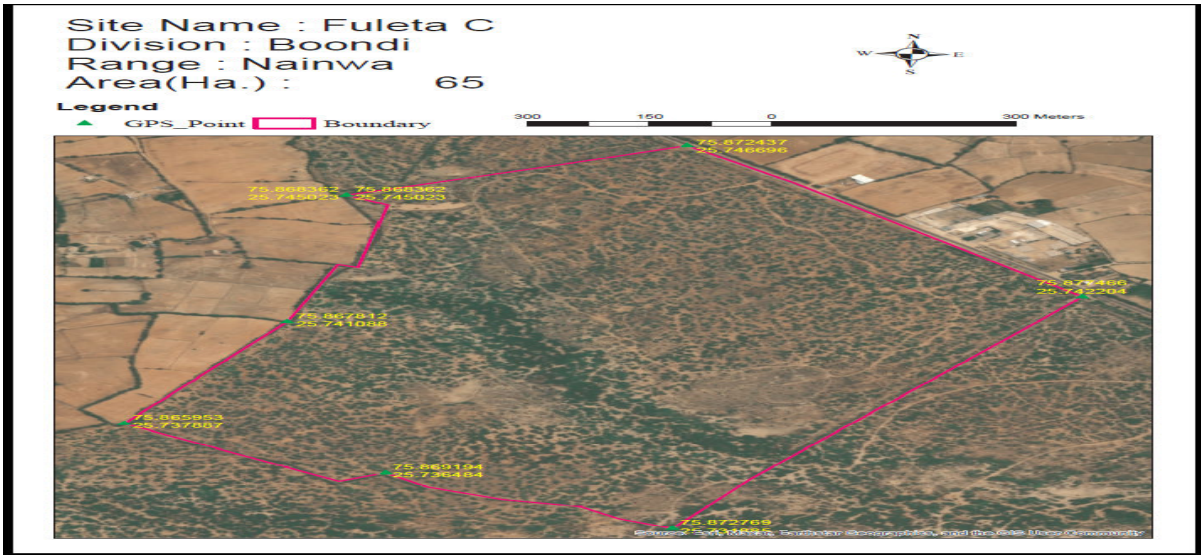
3.2.9. Soil and Water Conservation Measures: There are 7200 RMT Contour trenches, 4000 RMT SGT& 1300 RMT in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 49.7% at the site.**

Table 3.2: Status of Planted Seedlings at the site- Fuleta C Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	10300	1030	404		82	18
Zizyphus mauritiana (Ber)	450	45	106		50	8
Acacia leucopholea (Ronj)	1000	100	90		45	10
Azadirachta indica (Neem)	100	10	22		35	9
Acacia catechu (Khair)	150	15	9		32	8
Holoptelea integrifolia (Churel)	1000	100	15		42	14
Total	13000	1300	646	49.7	48	11

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 65 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				6.321				5.273
2021-22				2.37				2.03
2022-23				1.40				1.40
Total				10.091				8.703

3.3.1. Site 3-Depala Umarmata C site in Hindoli range -N 25^{0}22'41" and E 75^{0}21'16"

The selected plantation was carried out on 64.440 hac. of land at Depala Umarmata C site in Hindoli range during the year 2020-21. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 100% evaluation. The soil was hard & clayey.



3.3.2. Treatment plan before sowing:

The topography of the area was plain & hilly. Hence, as per availability of soil digging of pits has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 30000 pits were dug for plantation in total 100 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.3.3. Health & Damages of Plantation:

The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.3.4. Species Planted:

The selected tree species under plantation were of Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj), Pithecellobium dulce (Jangal Jalebi) & Holoptelea integrifolia (Churel).

In total 30000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 30000 for 64.440 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for

plantation were Ber, Ronj, Churail, Desi babool & Jangal Jalebi which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was satisfactory.**

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Ronj, Dhokra, Bair & Juliflora were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species Kumtha*, Ronj, Katkaranj &Ardu* were sown in as well as along the trenches and on the thanwlas. The result of sowing was poor. Plants from seed sowing were rarely seen on trenches & thanwalas.

3.3.8. Protection Work: The selected DFL model plantation had ditch fencing of 2572 RMT. Present condition of ditch fencing is satisfactory. Silting was reported in some parts of ditch fencing.

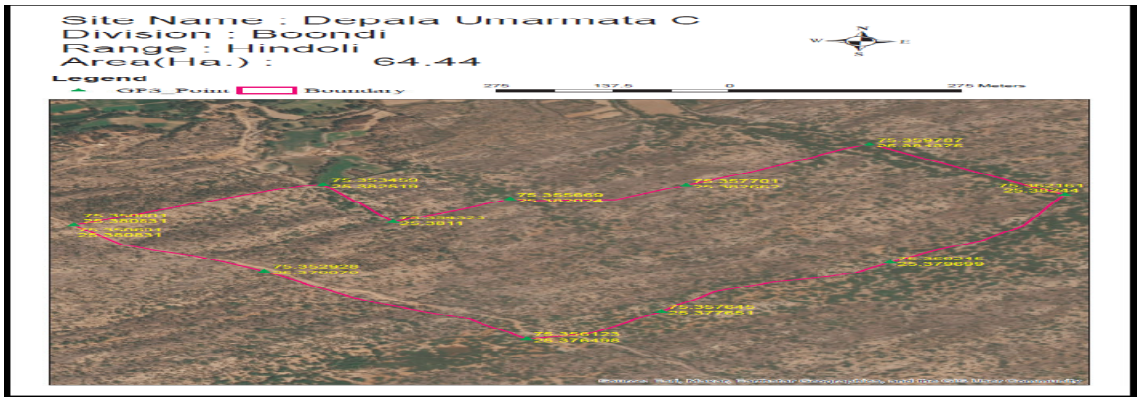
3.3.9. Soil and Water Conservation Measures: There are 22554 RMT (Width & depth -0.45 meters) Contour trenches, 06 MPT (2190.14 cu.m) & 02 Gabion in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.5% at the site.**

Table 3.4: Status of Planted Seedlings at the site- Depala Umarmata Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia leucopholea (Ronj)	16000	6313	9687	39.5	35	13
Acacia nilotica (Desi babool)	6000	2886	3114	48.1	82	17
Holoptelea integrifolia (Churel)	4000	1996	2004	49.9	30	8
Zizyphus mauritiana (Ber)	2000	746	1254	37.3	34	12
Pithecellobium dulce (Jangal Jalebi)	2000	1395	605	69.8	75	20
Total	30000	13336	16664	44.5	51	14

3.3.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 64.440 hec as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				17.23				16.56
2021-22				7.60				5.93
2022-23				3.89				3.36
Total				28.72				25.85

3.4.1. Site 4- Dola Ka Khal site in Hindoli range -N 25.456555 and E 75.42974

The selected plantation was carried out on 50 hac. of land at Dola Ka Khal site in Hindoli range during the year 2021-22. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was clayey & stony.

3.4.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land.



3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedling. The status of guarding/ fencing at the site was average.



3.4.4. Species Planted: The selected tree species under plantation were of Acacia Holoptelea integrifolia (Churel), Zizyphus mauritiana (Ber), Pithecellobium dulce (Jangal Jalebi), Acacia leucopholea (Ronj), Acacia catechu (Khair) Azadirachta indica (Neem), Dalbergia sissoo (Shisham) and Acacia nilotica (Desi babool) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared. **The growth of survived plants was average.**



3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Juliflora, Dhonk & Khejri were the plants found grown naturally in this area. The growth of the plants was good.

3.4.7. Regeneration through seeds sowing: Seeds of species *Ardu,Desi babool, and Kumtha* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was excellent on trenches & ditch fencing.**

3.4.8 Protection Work: The selected ANR model plantation had ditch fencing of 3720 RMT. Present condition of ditch fencing is average. The ditch fencing was broken at many places & requires repairing.

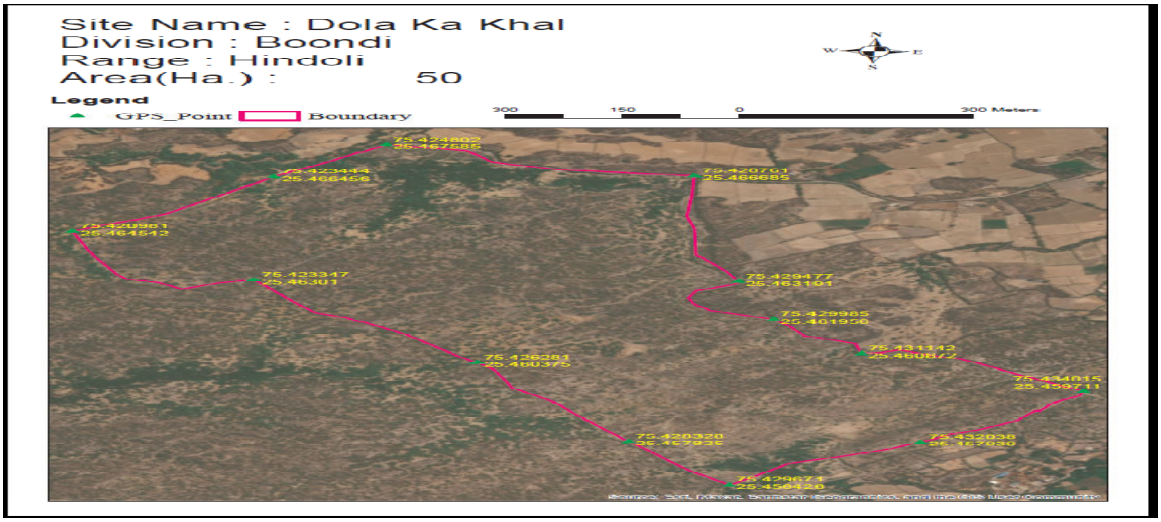
3.4.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches, 6000 RMT SGT, 1000 RMT & 06 Nadi (2733 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & +2 cu.m excess in PCT/Nadi.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 48.6% at the site.**

Table 3.6: Status of Planted Seedlings at the site- Dola Ka Khal Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	5600	560	342		185	38
Pithecellobium dulce (Jangal Jalebi)	800	80	26		70	21
Holoptelea integrifolia (Churel)	800	80	21		78	22
Azadirachta indica (Neem)	300	30	16		83	20
Acacia leucopholea (Ronj)	800	80	55		72	20
Acacia catechu (Khair)	400	40	0		0	0
Dalbergia sissoo (Shisham)	600	60	26		68	18
Syzygium cumini (Jamun)	100	10	0		0	0
Cassia fistula (Amaltas)	100	10	0		0	0
Zizyphus mauritiana (Ber)	500	50	0		0	0
Total	10000	1000	486	48.6	93	23

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.4.7. Budget and expenditure

Table 3.9: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (lacs)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				20.81				20.01
2021-22				5.12				4.12
2022-23				2.03				1.64
Total				27.96				25.77

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft Nainwa Se Dai road, Nainwa Range



been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 250 m length as per MB. Also, in actual 250 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meter. Construction work appeared to be average and useful. The finishing of pakki diwar was not proper. Coping work of pakki diwar has not been done. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protect plantation site. The 250 m pakki diwar was constructed at two places, 205 m at one place & 45m at another place. GPS location of this area was 25.681143 N and 75.939503 E. The expenditure incurred for constructing this wall was 5.79 lace (as per MB) against the estimated cost of 6.00 lac.

Site 2- Pakki Diwar 4 Ft at Vankhand Lamba Khoh, Dabi Range



At Vankhand Lamba Khoh in Dabi range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 200 m length as per MB. Also, in actual 200 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meter. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protect plantation site. GPS location of this area was 25.06674 N and 75.466742 E. The expenditure incurred for constructing this wall was 4.79 lac (as per MB) against the estimated cost of Rs.4.80 lac.

Site 3- Range Office at Bundi Van Suraksha range



Range Office at Bundi in Van Suraksha range has been evaluated. The Range Office was constructed in the year 2020-21. Site selection for construction of Range Office was adequate. Construction work appeared to be good and useful. The Range Office created under CAMPA was used by department staff (Ranger) for residential & official purpose. The Range Office constructed under CAMPA was properly maintained. Electricity fitting & sanitary connection of Range Office was completed. Quality of construction & present condition of the Range Office was good. GPS location of this area was $25^0$26'19" N and $75^0$38'50" E. The expenditure incurred for constructing the Range Office was 10.43 lac (as per MB) against the estimated budget of 10.50 lac.

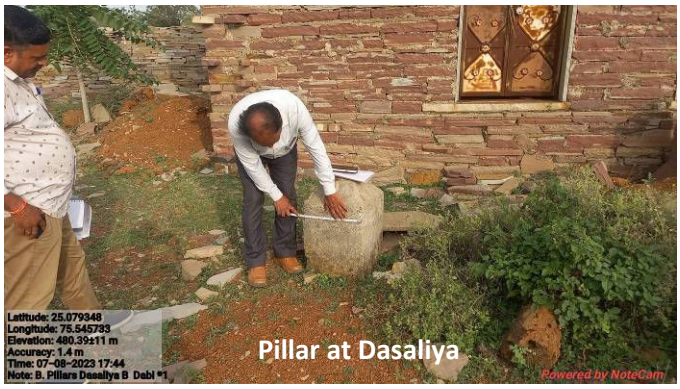
Site 4- Pakki Diwar 4 Ft at Tunnel Ke Aage Vankhand Kaanti Aastoli, Bundi Range



At Tunnel Ke Aage Vankhand Kanti Aastoli in Bundi range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 800 m length as per MB. Also, in actual 800 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meter. Construction work appeared to be average and useful.

The construction of Pakki Diwar 4 ft helped in preventing encroachment & protect plantation site. GPS location of this area was $25^0$26'54" N and $75^0$36'21" E. The expenditure incurred for constructing this wall was 18.81 lac (as per MB) against the estimated cost of Rs.20.96 lac.

Site 5- Pillars at Vankhand Dasaliya, Dabi range



At Vankhand Dasaliya in Dabi range (10 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 80100 (as per MB) against the estimated cost of Rs 90000.

Site 6 - Pillars at Vankhand Maradi Naka Gararda, Dabii range



At Vankhand Maradi Naka Gararada in Dabi range (10 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. Rs. 84100 (as per MB) against the estimated cost of Rs 90000.

Site 7- Pillars at Vankhand Aklor Pani Dhal, Hindoli range



At Vankhand Aklor Pani Dhal in Hindoli. range (10 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 84100 (as per MB) against the estimated cost of Rs 90000.

Site 8- Pillars at Vankhand Ful Sagar Sathur range, Bundi range



At Vankhand Ful Sagar Sathur range in Bundi range (12 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 1.002 lac (as per MB) against the estimated cost of Rs 1.08 lac.

Site 9- Pillars at Vankhand Jajawar A, Nainwa range

At Vankhand Jajawar A at Nainwa range (08 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 73200 (as per MB) against the estimated cost of Rs 90000.



Site 10- Pillars at Naka Khinya Vankhand Umarmata, Hindoli range



At Naka Khinya Vankhand Umarmata in Hindoli range (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar. The expenditure incurred for constructing the Pillars was 1.04 lac (as per MB) against the estimated cost of 1.18 lac.

Site 11- Pillars at Vankhand Maradi Naka Gararda, Dabii range

At Vankhand Maradi Naka Gararada in Dabi range (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The



finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was 1.00 lac (as per MB) against the estimated cost of 1.18 lac.

Site 12- Pillars at Gudha Nathavtan Vankhand Gudha, Bundi range



At Gudha Nathavtan Vankhand Gudha in Bundi range (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 74000 (as per MB) against the estimated cost of 1.18 lac.

Site 13- Pillars at Vankhand Jajawar A, Nainwa range



At Vankhand Jajawar A at Nainwa range (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 1.04 lac (as per MB) against the estimated cost of 1.18 lac.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Bundi division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Dev Dungari B	ANR	50	41.6	5
2	Fuleta C	ANR	65	49.7	5
3	Depala Umarmata C	DFL	64.440	44.5	5
4	Dola Ka Khal	ANR	50	48.6	5

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Nainwa Se Dai road	250	250	0
2.	Pakki Diwar 4 ft	Talab Gaon Vankhand Borkhandi	200	200	0
3.	Range Office	Bundi	01	01	0
4.	Pakki Diwar 4 ft	Vankhand Kanti Aastoli	800	800	0
5.	Boundary Pillar	Vankhand Dasaliya B range	10	10	0
6.	Boundary Pillar	Vankhand Maradi Naka Garada	10	10	0
7.	Boundary Pillar	Vankhand Aklor Pani Dhal	10	10	0
8.	Boundary Pillar	Vankhand Ful Sagar Sathur range	12	12	0
9.	Boundary Pillar	Vankhand Jajawar A Naka Jajawar	8	8	0
10.	Boundary Pillar	Naka Khinya Vankhand Umarmata	10	10	0
11.	Boundary Pillar	Vankhand Maradi Naka Garada	10	10	0
12.	Boundary Pillar	Naka Gudhanathavtan Vankhand Gudha	10	10	0
13.	Boundary Pillar	Vankhand Jajawar A Naka Jajawar	10	10	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Nainwa Se Dai road	Average	6
2.	Pakki Diwar 4 ft	Talab Gaon Vankhand Borkhandi	Average	6
3.	Range Office	Bundi	Good	7
4.	Pakki Diwar 4 ft	Vankhand Kanti Aastoli	Average	6
5.	Boundary Pillar	Vankhand Dasaliya B range	Average	6
6.	Boundary Pillar	Vankhand Maradi Naka Garada	Average	6
7.	Boundary Pillar	Vankhand Aklor Pani Dhal	Average	6
8.	Boundary Pillar	Vankhand Ful Sagar Sathur range	Average	6
9.	Boundary Pillar	Vankhand Jajawar A Naka Jajawar	Average	6
10.	Boundary Pillar	Naka Khinya Vankhand Umarmata	Average	6
11.	Boundary Pillar	Vankhand Maradi Naka Garada	Average	6
12.	Boundary Pillar	Naka Gudhanathavtan Vankhand Gudha	Average	6
13.	Boundary Pillar	Vankhand Jajawar A Naka Jajawar	Average	6

Chhattargarh

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Chhattargarh Forest Division. This Forest Division with 4 Forest Ranges namely Beriyawali, Dantor, Sattasar & 61 RD KYD has territorial jurisdiction over the entire Bikaner District.

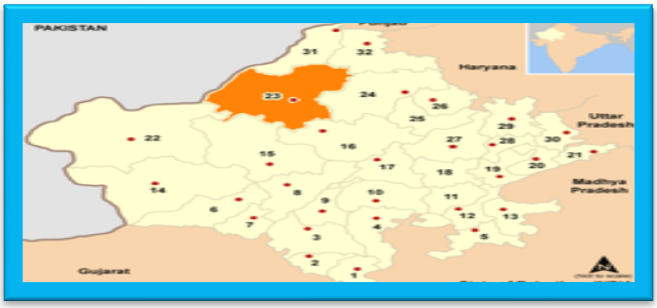


Figure 4 Location of Bikaner district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of IGNP I Chhattargarh Forest Division were as given in table-3.1.

Table-1: Selected plantation site for evaluation

Sl.no	Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
1.	Dantor	ANR 5 ATM	2020-21	50	ANR	100%
2.	Beriyawali	DLF 21 KJD	2020-21	58.7	DFL	10%

2.1. Selected Asset Sites for Evaluation

The selected asset sites of Chhattargarh I Forest Division were as given in table 1

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Sattasar	13 DKD	2020-21	Boundary Pillars
61 RDKYD	1 PWM	2020-21	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site1- ANR 5 MTM in Dantor range -N 28.507598 and E 72.483192

The selected plantation was carried out on 50 hac. of land at ANR 5 MTM site in Dantor range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy.



3.1.2. Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle's and destruction by Neel gai, rats and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.1.4. Species Planted: The selected seedlings of Prosopis juliflora (Khejri) Albizzia lebbeck (Siras), Acacia tortilis (Totalis), *Azadirachta indica (Neem)* & Zizyphus mauritiana (Ber), were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ber, Totalis, Khejri & Neem which can survive in the climate. **The growth of survived plants was satisfactory.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Kheep, Bui & Karad were the plants found grown naturally in this area. The growth of the plant was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Sewan, Dhama & Khejri* were sown in as well as along the trenches and on the thanwlas. The result of sowing seeds was average. Plants from seeds sowing were seen somewhere on trenches & thanwalas.

3.1.8. Protection Work: The selected ANR model plantation had barbed wire fencing of 8250 RMT with welded wire mwsh jali. Present condition of loose stone fencing & ditch fencing was good.

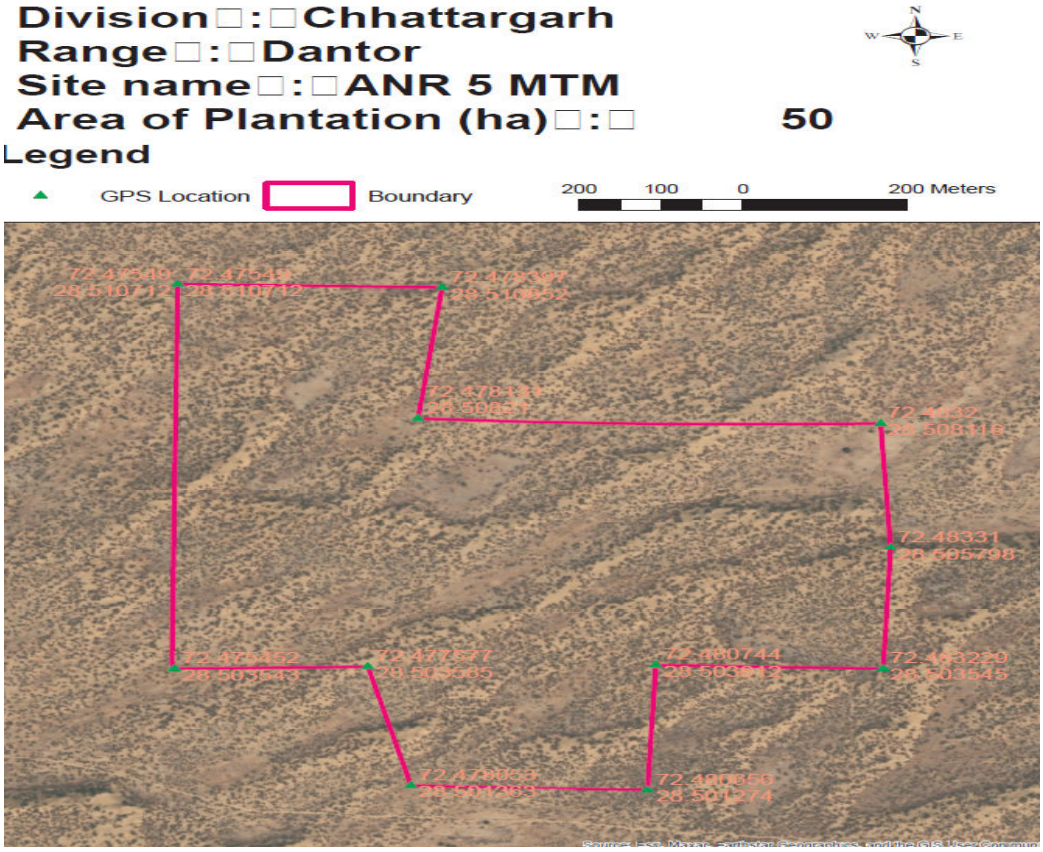
3.1.9. Soil and Water Conservation Measures: There are 30000 RMT furrow &10000 RMT Mulching in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 42.3% at the site.**

Table 3: Status of Planted Seedlings at the site- 5 MTM Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Prosopis juliflora (Khejri)	2000	432	1568	21.6	55	14
Zizyphus mauritiana (Ber)	850	196	654	23.06	70	15
Acacia tortilis (Totalis)	7000	3585	3415	51.2	96	21
Azadirachta indica (Neem)	100	17	83	17.0	60	15
Albizzia lebbeck (Siras)	50	2	48	4.0	65	16
Total	10000	4232	5768	42.3	69	16

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				451711
2021-22				182150				170950
2022-23				107950				107777
Total				776300				730438

3.2.1 Site 2- DLF 21 KJD site in Beriyawalli range -N $28^0$39'54" and E $72^0$31'20"

The selected plantation was carried out on 58.7 hac. of land at DLF 2 KJD in Beriyawalli range during the year 2020-21. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.



3.2.2 Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 41090 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3 Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.2.4. Species Planted: The selected seedlings of Prosopis juliflora (Khejri), Tecomella undulata (Rohida), Acacia tortilis (Totalis), Zizyphus mauritiana (Ber) and Acacia leucopholea (Ronj) were planted.

In total 41090 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 41090 for 58.7 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Khejdi, Rohida, Ber, Ronj & Totalis which can survive in the climate. **The growth of survived plants was satisfactory.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.



3.2.6. Natural Vegetation and Regeneration: Kheep, Bui & Desi babool were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species Khejri & Sewan grass *were* sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.2.8. Protection Work: The selected DFL model plantation had barbed wire fencing with welded wire mesh jali of 14056 RMT. Present condition of fencing was satisfactory.

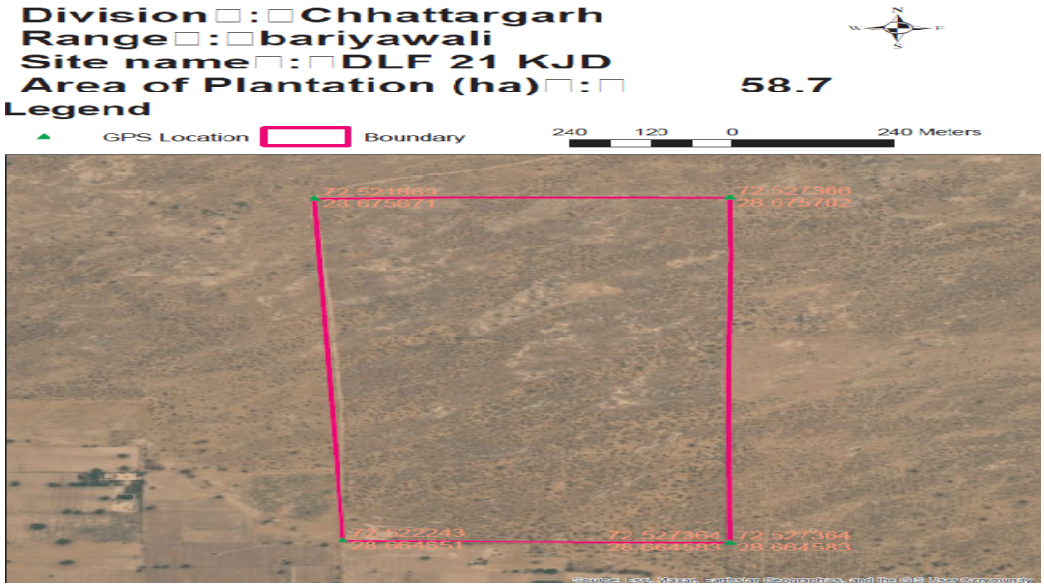
3.2.9. Soil and Water Conservation Measures: There are 03 Diggi in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 42.2% at the site.**

Table 3.2: Status of Planted Seedlings at the site-DLF 21 KJD Site

Species	Total Plants planted 58-7 ha	Sample 10% area observed (6 ha)	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	32049	3276	1132		115	25
Prosopis juliflora (Khejri)	1411	144	87		80	19
Zizyphus mauritiana (Ber)	2723	278	172		90	20
Acacia leucopholea (Ronj)	1700	174	381		85	21
Tecomella undulata (Rohida)	3207	328	0		0	0
Total	41090	4200	1772	42.2	93	21

3. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 58.7 hec as per kml map.



4. Results for asset sites

4.1 Site 1- Pillars at 13 DKD, Sattasar range



At 13 DKD site in Sattasar range, the Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted & number was written on the pillar. The present condition of pillar is average. The expenditure incurred for constructing the Pillars (50 Nos.) was Rs. 90000 (as per MB) against the estimated budget of Rs90000.

Site 2 -Pillars at 1 PWM, 61 RD KYD range



At 1 PWM site in 61 RD KYD range, the Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted with number written on the pillar. The present condition of pillar is average. The expenditure incurred for constructing the Pillars (50 Nos.) was Rs. 89984 (as per MB) against the estimated budget of Rs90000.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in IGNP I Chhattargarh division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	ANR 5 ATM	ANR	50	42.3	5
2	DLF 21 KJD	DLF	58.7	42.2	5

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Boundary Pillar	13 DKD	10	10	0
2.	Boundary Pillar	1 PWM	10	10	0

5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of Site (Between 0 to 10)*
1	Pillar	13 DKD	Average	6
2.	Pillar	1 PWM	Average	6

Chittorgarh

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Chittorgarh Forest Division. This Forest Division with 8 Forest Ranges namely Javda, Chittorgarh, Borav, Rawatbhata, Vijaypur, Begun, Nimbaheda & Kapasan has territorial jurisdiction over the entire Chittorgarh District.



Figure: Location of Chittorgarh district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Chittorgarh Forest Division were as given in table 1 for evaluation

Table 1: Plantation sites for evaluation

Sl.no	Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
1.	Chittorgarh	Bassi Mahadev	2020-21	50	ANR	100%
2.	Borav	Dhangadmau Khurd I	2020-21	50	ANR	10%
3.	Kapasan	Modia Magra	2020-21	50	ANR	100%
4.	Vijaypur	Nimoda	2020-21	19.53	DFL	10%
5.	Vijaypur	Chainpuriya Mahadeo	2021-22	50	ANR	100%
6.	Chittorgarh	Baldrakha	2021-22	50	ANR	10%
7.	Bengu	Samro Ka Leva	2021-22	50	ANR	100%
8.	Nimbaheda	Russi Rani Ka Mahal	2021-22	50	ANR	10%

2. Selected Asset Sites for Evaluation

The selected asset sites of Chittorgarh Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Chhittorgarh	Hathniodi 2	2020-21	Pakki Diwar 4 ft
2.	Kapasan	Anicut Type II	2020-21	Anicut Type II
3.	Bengu	Piplikheda	2021-22	Forest Chowki

4.	Nimbaheda	Bhanda Magra	2021-22	Anicut Type II
5.	Kapasan	Kapasan	2020-21	Boundary Pillars
6.	Borav	Borav	2020-21	Boundary Pillars
7.	Nimbaheda	Nimbaheda	2020-21	Boundary Pillars
8.	Rawatbhata	Rawatbhata	2020-21	Boundary Pillars
9.	Javda	Javda	2020-21	Boundary Pillars
10.	Chhittorgarh	Chhittorgarh	2020-21	Boundary Pillars
11.	Vijaypur	Vijaypur	2020-21	Boundary Pillars
12.	Kapasan	Vankhand Aera	2021-22	Boundary Pillars
13.	Kapasan	Vankhand Sikargah Salera (Gangrar)	2021-22	Boundary Pillars
14.	Borav	Kudalkheda	2021-22	Boundary Pillars
15.	Javda	Chordo Ki dhar	2021-22	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Bassi Mahadev site in Chittorgarh range -N $24^0$56’49” and E $74^0$42’8”

The selected plantation was carried out on 50 hac. of land at Bassi Mahadev in Chittorgarh range during the year 2020-21. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was yellow brown.



3.1.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.1.4. Species Planted: The selected tree species under plantation were of Dendrocalamus strictus

(Baans), Acacia nilotica (Desi babool), *Azadirachta indica (Neem),* Pongamia pinnata (Karanj), Emblica officinalis(Anwla), Zizyphus mauritiana (Ber), *Cassia fistula (*Amaltas), and Holoptelea integrifolia (Churel) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Bamboo, Anwla, Ronj, Amaltash Neem & Desi babool which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was average.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Dhonk, Aawla, Tendu, Belpatra & Khair were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Ratanjot, Churail, Khair and Ardu* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1020 RMT & ditch fencing of 660 RMT. Present condition of loose stone fencing is good. However, silting was reported in ditch fencing.



3.1.9. Soil and Water Conservation Measures: There are 10000 RMT (Width & depth -0.45 meters) Contour trenches, 4929 RMT Contour Dykes,1650 RMT ring trench, 01 Anicut Type II & 02 loose stone check dam in the form of water harvesting structures present in the entire plantation area.

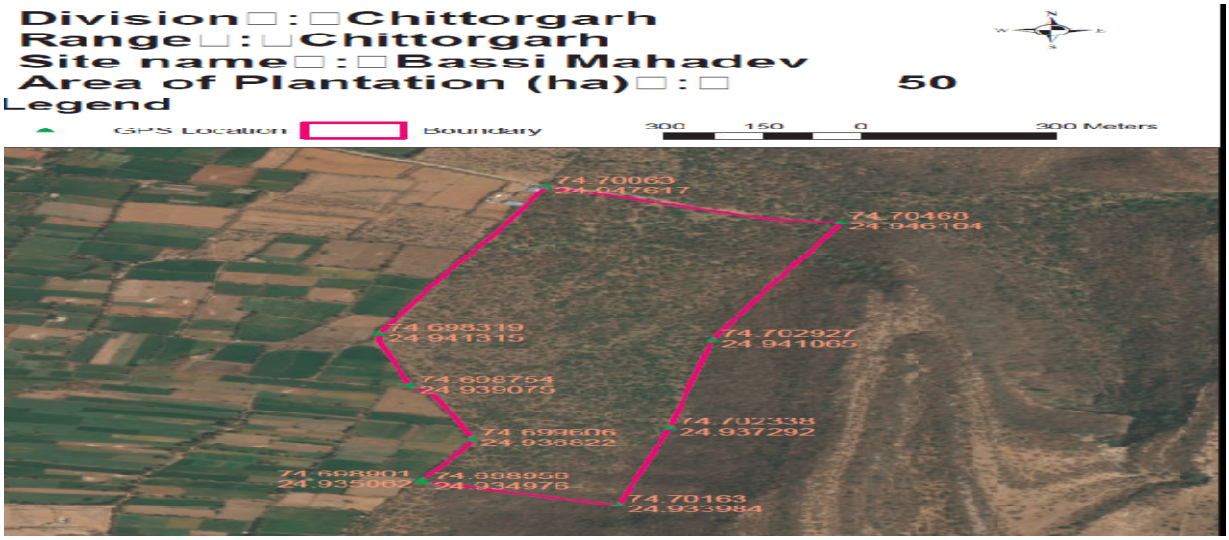
3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 47.3% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3: Status of Planted Seedlings at the site-Bassi Mahadev Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	300	0	300	0.0	0	0

Acacia leucopholea (Ronj)	700	291	409	41.6	102	22
Acacia nilotica (Desi babool)	700	375	325	53.6	123	27
Dendrocalamus strictus (Baans)	2000	1070	930	53.5	143	21
Emblica officinalis (Amla)	1100	480	620	43.6	93	24
Holoptelea integrifolia (Churel)	2000	1050	950	52.5	107	23
Azadirachta indica (Neem)	500	117	383	23.4	117	26
Cassia fistula (Amaltas)	1000	773	227	77.3	111	24
Pongamia pinnata (Karanj)	1000	550	450	55.00	123	25
Annona squamosa (Sitafal)	400	21	379	5.3	113	21
Dhok	300	0	300	0.00	0	0
Total	10000	4727	5273	47.3	118	23

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3. 1.12.Budget and expenditure

Table 3.1 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				445128
2021-22				182200				179450
2022-23				107950				107896
Total				776350				732474

3.2.1. Site 2- Dhangadmau Khurd site in Borav range -N 24.933995 and E 75.390211

The selected plantation was carried out on 50 hac. of land at Dhangadmau Khurd in Chittorgarh range during the year 2020-21. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was brown & black stony.



3.2.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pits has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and rabbits was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected tree species under plantation were of Acacia catechu (Khair), Cassia fistula (Amaltas), Dendrocalamus strictus (Baans), Emblica officinalis (Amla), Holoptelea integrifolia (Churel), Azadirachta indica (Neem), Terminalia bellirica (Baheda) & Zizyphus mauritiana (Ber).

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.





As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ber, Anwla, Churel & Desi babool which can survive in the climate. **The growth of survived plants was good.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Dhonk, Khakhra, Gurjan, Khair, Salar, Tendu, Neem, Baheda & Ber were the plants found grown naturally in this area. The growth of the plants was good.

32.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Churail, Ardu, Ratanjot, Khair and Neem* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good. Plants out of seed sowing were widely seen on trenches & thanwalas.**

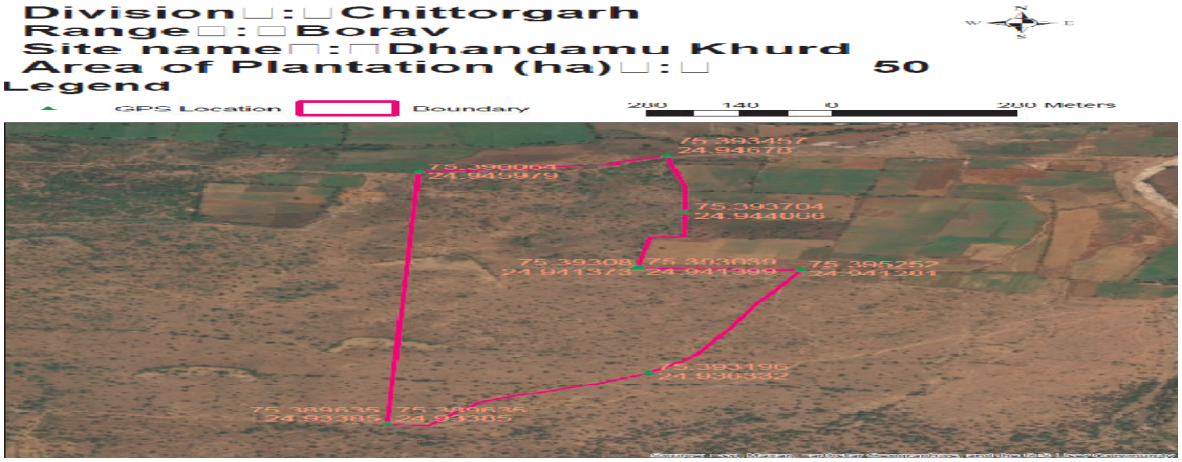
3.2.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3500 RMT. Present condition of loose stone fencing & ditch fencing is average.

3.2.9. Soil and Water Conservation Measures: There are 10500 RMT (Width & depth -0.45 meters) Contour trenches, 450 RMT ring trenches & 01 PCT/Nadi (80cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 52.4% at the site.** Table 3.2: Status of Planted Seedlings at the site- Dhangadmau Khurd Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Emblica officinalis (Amla)	2150	215	198		114	27
Acacia catechu (Khair)	1675	168	91		104	21
Zizyphus mauritiana (Ber)	2630	263	50		90	21
Terminalia bellirica (Baheda)	400	40	12		113	21
Cassia fistula (Amaltas)	442	44	42		90	21
Azadirachta indica (Neem)	1390	139	69		90	21
Holoptelea integrifolia (Churel)	1230	123	46		90	21
*Bauhinia sp. (*Kachnar*)*	83	8	16		90	21
Total	10000	1000	524	52.4	102	23

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2863550				2830769

3.3.1 Site 3- Modia Magra site in Kapasan range -N $24^0$58’43” and E $74^0$36’58”

The selected plantation was carried out on 50 hac. of land at Modia Magra in Kapasan range during the year 2020-21. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red domat & morar.



3.3.2 Treatment plan before sowing: The topography of the area was hilly & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land. **3.3.3. Health & Damages of Plantation:** The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.3.4. Species Planted: The selected tree species under plantation were of Dendrocalamus strictus (Baans), Acacia nilotica (Desi babool), Pithecellobium dulce (Jangal Jalebi), Acacia catechu (Khair),Pongamia pinnata (Karanj), Emblica officinalis(Anwla), Annona squamosa Sitaphal, Wrightia tinctoria (Khirani), Zizyphus mauritiana (Ber), *Cassia fistula (*Amaltas), and Holoptelea integrifolia (Churel) were planted.



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was average.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Dhonk, Ronj, Tendu & Churail were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Ratanjot, Khair, Katkaranj and Ardu* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.3.8. Protection Work: The selected ANR model plantation had loose stone fencing of 511 RMT & ditch fencing of 2484 RMT. Present condition of both fencing was satisfactory..

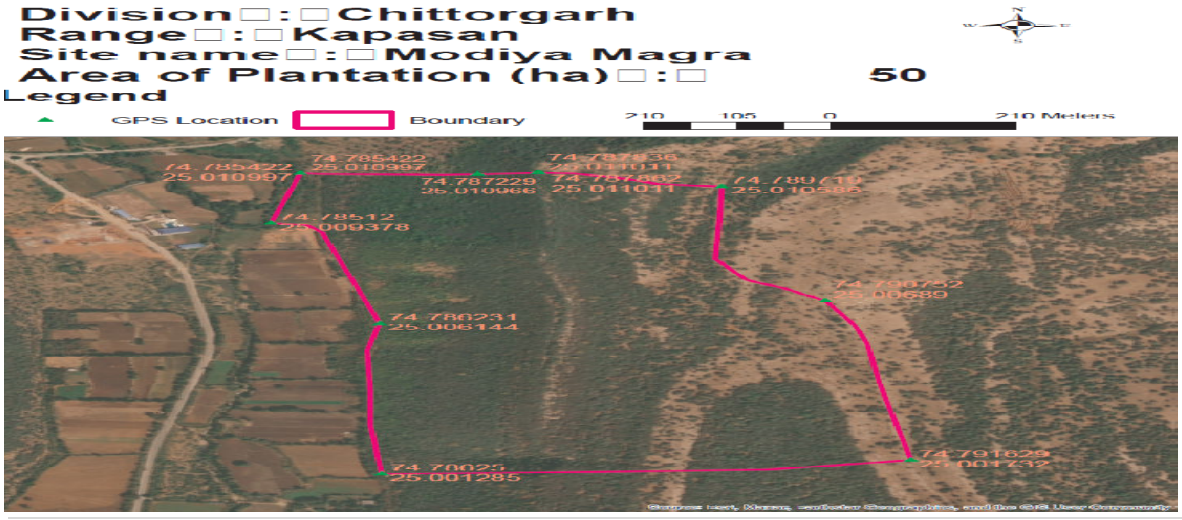
3.3.9. Soil and Water Conservation Measures: There are 5238 RMT (Width & depth -0.45 meters) Contour trenches & 4762 RMT SGT in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.1% at the site.**

Table 3.4: Status of Planted Seedlings at the site-Modia Magra Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	1400	0	1400	0.0	0	0
Wrightia tinctoria (Khirani)	500	110	390	22.0	110	22
Zizyphus mauritiana (Ber)	1400	1090	310	77.9	105	22
Annona squamosa (Sitafal)	2000	950	1050	47.5	108	21
Dendrocalamus strictus (Baans)	200	120	80	60.0	108	22
Pongamia pinnata (Karanj)	1000	330	670	33.0	110	22
Holoptelea integrifolia (Churel)	1000	497	503	49.7	123	23
Cassia fistula (Amaltas)	200	65	135	32.5	107	23
Acacia catechu (Khair)	1200	795	405	66.3	102	22
Emblica officinalis (Amla)	400	65	335	16.3	114	23
Pithecellobium dulce (Jangal Jalebi)	500	350	150	70.0	107	21
Commiphora sp. (Guggal)	200	45	155	22.5	113	22
Ficus bengalensis (bargad)	5	0	5	0.0	0	0
Ficus religiosa (Pipal))	5	0	5	0.0	0	0
Total	10010	4417	5593	44.1	108	22

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				470577
2021-22				182200				180730
2022-23				107950				107863
Total				776350				759170

3.4.1. Site 4- Nimoda site in Vijaypur range -N 24.69838 and E 74.995225

The selected plantation was carried out on 19.53 hac. of land at Nimoda in Vijaypur range during the year 2020-21. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 10% evaluation. The soil was red domat & morar stony.



3.4.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pits has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 12671 pits were dug for plantation in total 19.53 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.

3.4.4. Species Planted: The selected tree species under plantation were of Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool), Dendrocalamus strictus (Baans), Emblica officinalis (Amla), Acacia catechu (Khair), Cassia fistula (Amaltas), Annona squamosa (Sitaphal), and Zizyphus mauritiana (Ber) were planted.



In total 12671 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 12671 for 19.53 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Desi Babool, Ber, Churel & Amaltash which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was satisfactory.**



3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Ronj, Khair, Khakhra, Tendu & Kumtha were the plants found grown naturally in this area. The growth of the plant was good.

3.4.7. Regeneration through seeds sowing: Seeds of species *Ronj, Ratanjot, Katkaranj Kumtha, Khair and Ardu* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.4.8. Protection Work: The selected DFL model plantation had loose stone fencing of 925 RMT (0.8+.60/2 X 1.2) & ditch fencing of 625 RMT (1.5+.90/2 X 1.2) Present condition of loose stone fencing & ditch fencing was average. Both types of fencing required repair for better protection of plantation site.

3.4.9. Soil and Water Conservation Measures: There are 2050 RMT (Width & depth -0.45 meter) Contour trenches in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

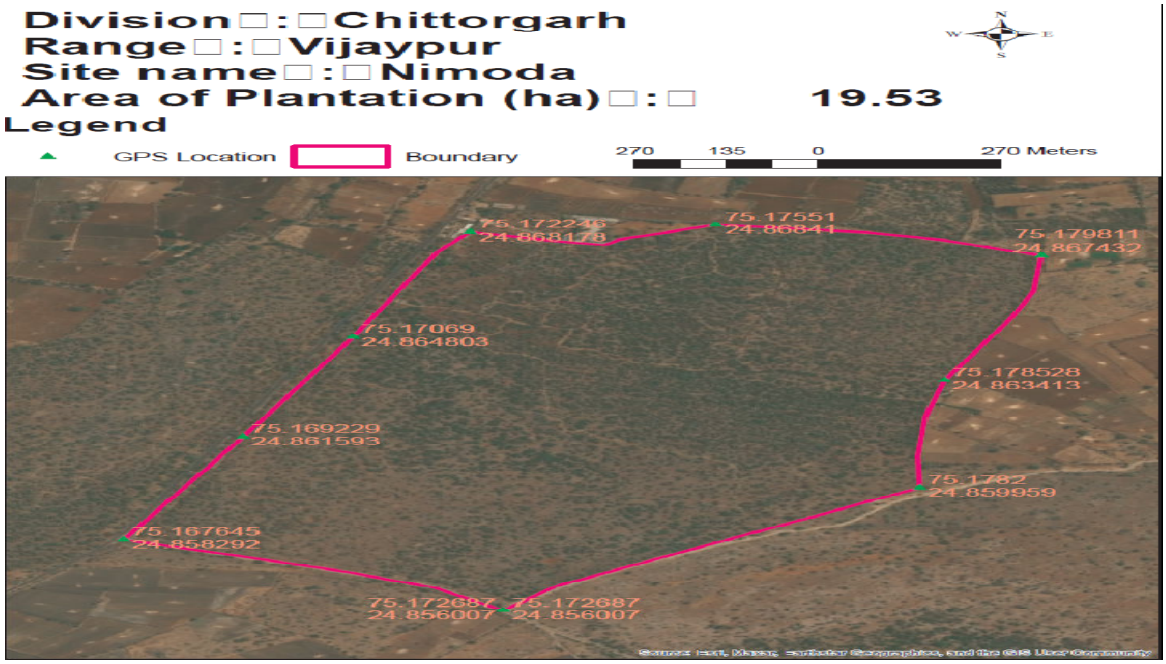
3.4.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 48.2% at the site.**

Table 3.6: Status of Planted Seedlings at the site-Nimoda Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	1750	175	78		90	22
Emblica officinalis (Amla)	1901	190	88		92	22
Acacia leucopholea (Ronj)	1261	126	75		86	20
Zizyphus mauritiana (Ber)	2119	212	53		93	21
Holoptelea integrifolia (Churel)	1288	129	103		92	22
Acacia nilotica (Desi babool)	1003	100	112		92	21
Cassia fistula (Amaltas)	1425	143	59		94	22

Dendrocalamus strictus (Baans)	1196	120	26		91	21
Annona squamosa (Sitafal)	728	73	17		88	20
Total	12671	1267	611	48.2	91	21

3.4.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 19.53 hec as per kml map.



3.5.1. Site 5-Chainpuriya Mahadev site in Vijaypur range -N 24.785872 and E 74.774035

The selected plantation was carried out on 50 hac. of land at Chainpuriya Mahadev in Vijaypur range during the year 2021-22. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red & black stony.



3.5.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pits has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.5.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and wild boars was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



Measuring growth of planted seedling

3.5.4. Species Planted: The selected tree species under plantation of Acacia catechu (Khair), Acacia leucopholea (Ronj), Zizyphus mauritiana (Ber), Terminalia bellirica (Baheda), Holoptelea integrifolia (Churel), Pongamia pinnata (Karanj), Azadirachta indica (Neem), Pongamia pinnata (Karanj ,Dendrocalamus strictus (Baans),*Cassia fistula (*Amaltas), Ficus benghalensis (Vad) and Ficus religiosa (Pipal)were planted.

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ronj, Ber, Khair, Churel & Neem which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was average.**

3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6. Natural Vegetation and Regeneration: Dhonk, Tendu, Palash, Salar & Aawla were the plants found grown naturally in this area. The growth of the plants was good.

3.5.7. Regeneration through seeds sowing: Seeds of species *Ratanjot, Khair and Ardu* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.5.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3650 RMT. Present condition of loose stone fencing is average.

3.5.9. Soil and Water Conservation Measures: There are 7100 RMT (Width & depth -0.45 meters) Contour trenches, 1500 RMT Contour Dykes, 100 RMT ring trench & 01 PCT/ Nadi in the form of water harvesting structures present in the entire plantation area.

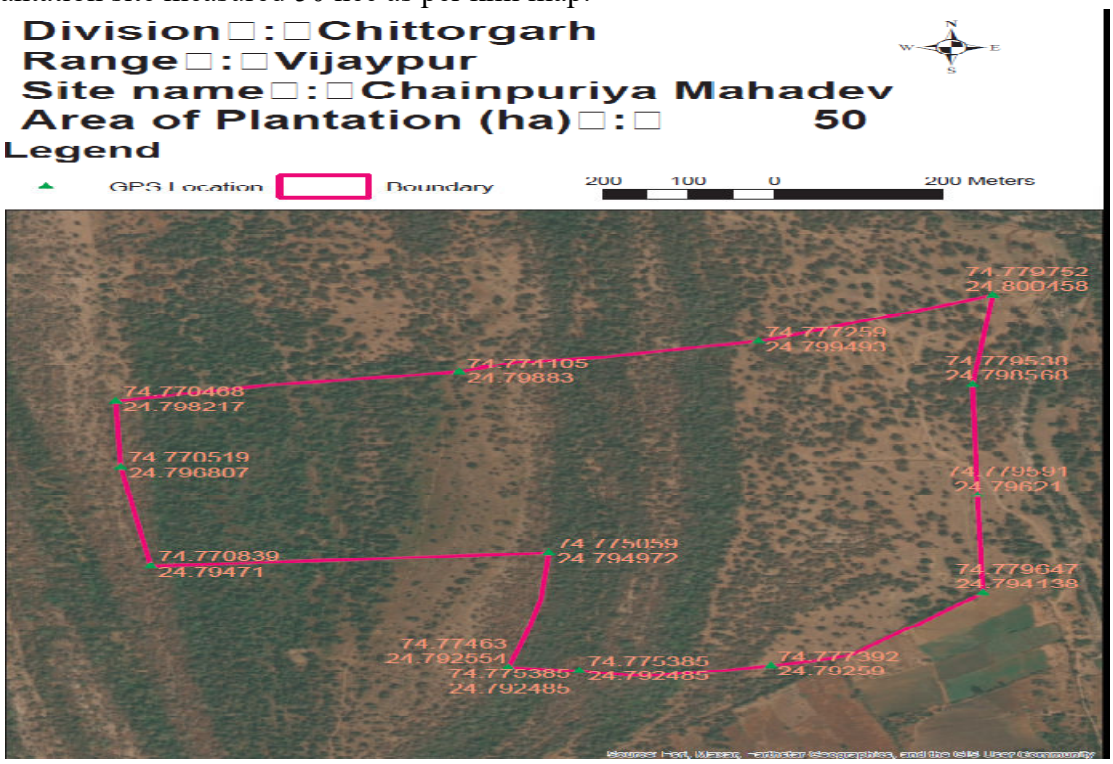
3.5.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 43.8% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was

average. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3.7: Status of Planted Seedlings at the site- Chainpuriya Mahadev Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	900	442	458	49.1	95	22
Acacia leucopholea (Ronj)	1000	398	602	39.8	95	22
Zizyphus mauritiana (Ber)	900	472	428	52.4	90	22
Emblica officinalis (Amla)	600	381	219	63.5	92	23
Azadirachta indica (Neem)	600	269	331	44.8	100	22
Syzygium cumini (Jamun)	400	221	179	55.3	90	21
Pithecellobium dulce (Jangal Jalebi)	500	311	189	62.2	90	21
Madhuka latifolia (Mahua)	300	298	2	99.3	90	22
Holoptelea integrifolia (Churel)	1160	301	859	25.9	91	22
Cassia fistula (Amaltas)	1000	299	701	29.9	90	22
Sahjan	240	78	162	32.5	90	23
Ailanthus excelsa (Ardu)	60	0	60	0.0	0	0
Terminalia bellirica (Baheda)	450	209	241	46.4	101	24
Pongamia pinnata (Karanj)	400	317	83	79.3	100	23
Dendrocalamus strictus (Baans)	680	289	391	42.5	115	24
Aritha	50	0	50	0.0	0	0
Sadad	200	97	103	48.5	95	21
Ficus religiosa (Pipal))	10	0	10	0.0	0	0
Wrightia tinctoria (Khirani)	550	0	550	0.0	0	0
Total	10000	4382	5618	43.8	95	22

3.5.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.6.1. Site 6- Baldrakha site in Chittorgarh range -N 24^{0}58’54” and E 74^{0}43’51”

The selected plantation was carried out on 50 hac. of land at Baldrakha site in Chittorgarh range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was brown.



3.6.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pits has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.6.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and rabbits was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.6.4. Species Planted: The selected tree species under plantation were of Acacia catechu (Khair), Acacia leucopholea (Ronj), Annona squamosa (Sitafal) Zizyphus mauritiana (Ber), Terminalia bellirica (Baheda), Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool), Emblica officinalis (Amla), Pongamia pinnata (Karanj), Azadirachta indica (Neem), Pongamia pinnata (Karanj ,Dendrocalamus strictus (Baans) &*Cassia fistula (*Amaltas).



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted.As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ber, Anwla, Sitafal, Churel & Desi babool which can survive in the climate. **The growth of survived plants was average.**

3.6.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.6.6. Natural Vegetation and Regeneration: Dhonk, Khair, Tendu & Aawla were the plants found grown naturally in this area. The growth of the plants was good.

3.6.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Churail, Ardu, Ratanjot, Khair and Kumtha* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.6.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3275 RMT & ditch fencing of 300 RMT. Present condition of loose stone fencing & ditch fencig is average.

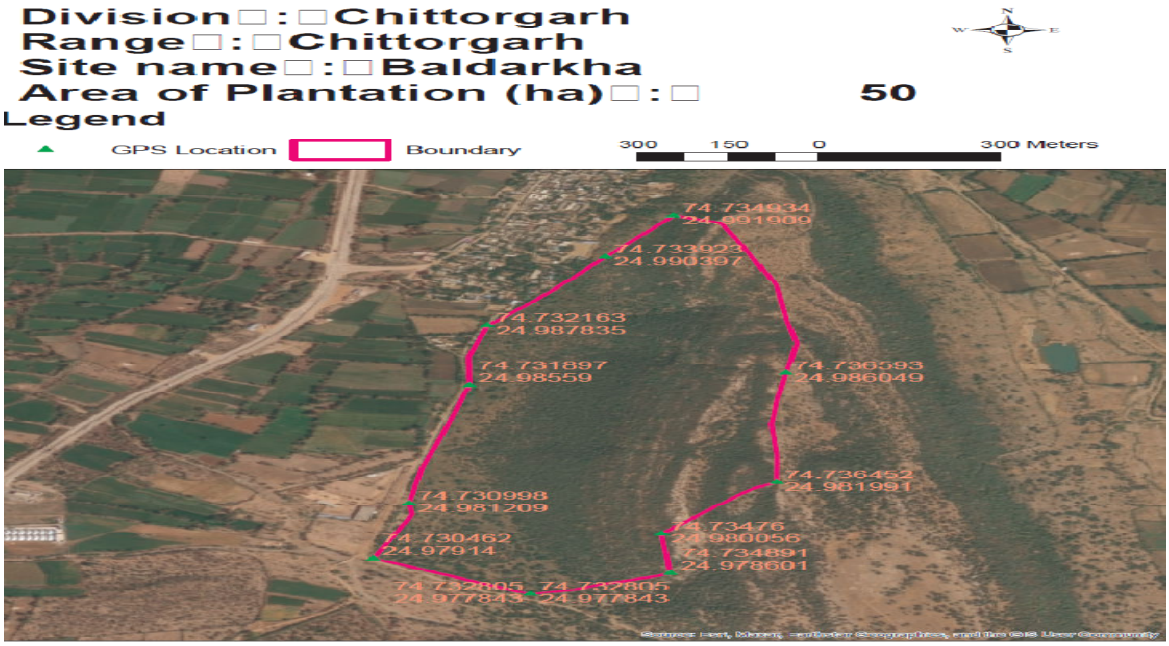
3.6.9. Soil and Water Conservation Measures: There are 7000 RMT (Width & depth -0.45 meters) Contour trenches, 1000 RMT SGT, Ring trench 800 RMT ring trenches & 10 loose stone check dam in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.6.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 44.5% at the site.**

Table 3.8: Status of Planted Seedlings at the site- Baldrakha Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	1000	100	45		90	21
Acacia leucopholea (Ronj)	300	30	0		0	0
Acacia nilotica (Desi babool)	800	80	0		0	0
Dendrocalamus strictus (Baans)	2000	200	190		97	21
Emblica officinalis (Amla)	700	70	23		90	21
Holoptelea integrifolia (Churel)	1200	120	53		99	21
Azadirachta indica (Neem)	150	15	0		0	0
Pongamia pinnata (Karanj)	800	80	75		96	21
Annona squamosa (Sitafal)	1650	165	59		108	23
Terminalia bellirica (Baheda)	200	20	0		0	0
Cassia fistula (Amaltas)	500	50	0		0	0
Zizyphus mauritiana (Ber)	700	70	0		0	0
Total	10000	1000	445	44.5	98	21

3.6.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.6.12. Budget and expenditure

Table 3.9: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				1982477
2021-22				511650				502118
2022-23				203250				203249
Total				2796100				2687844

3.7.1. Site 7- Samro Ka Leva in Bengu range -N 24.785872 and E 74.774035

The selected plantation was carried out on 50 hac. of land at Samro Ka Leva in Bengu range during the year 2021-22. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red & black with boulders& stony.



3.7.2. Treatment plan before sowing: The topography of the area was plain & undulating. Hence, as per availability of soil digging of pits has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.7.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and wild boars was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.7.4. Species Planted: The selected tree species under plantation of Acacia catechu (Khair), Acacia leucopholea (Ronj), Zizyphus mauritiana (Ber), Terminalia bellirica (Baheda), Holoptelea integrifolia (Churel), Terminalia bellirica Baheda,Azadirachta indica (Neem), Pongamia pinnata (Karanj ,Dendrocalamus strictus (Baans), Emblica officinalis (Amla), *Cassia fistula (*Amaltas), Ficus benghalensis (Vad) and Ficus religiosa (Pipal).

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared. As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ronj, Ber, Khair, Churel & Baheda which can survive in the climate. **The growth of survived plants was average.**

3.7.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.7.6. Natural Vegetation and Regeneration: Dhonk, Tendu, Khair, Ronj, Aawla, Salar & Hingot were the plants found grown naturally in this area. The growth of the plants was good.

3.7.7. Regeneration through seeds sowing: Seeds of species *Ratanjot, Khair, Kumtha, Neem and Ardu* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.7.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3350 RMT. Present condition of loose stone fencing is average.

3.7.9. Soil and Water Conservation Measures: There are 6000 RMT (Width & depth -0.45 meters) Contour trenches & 2000 RMT ring trench in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC

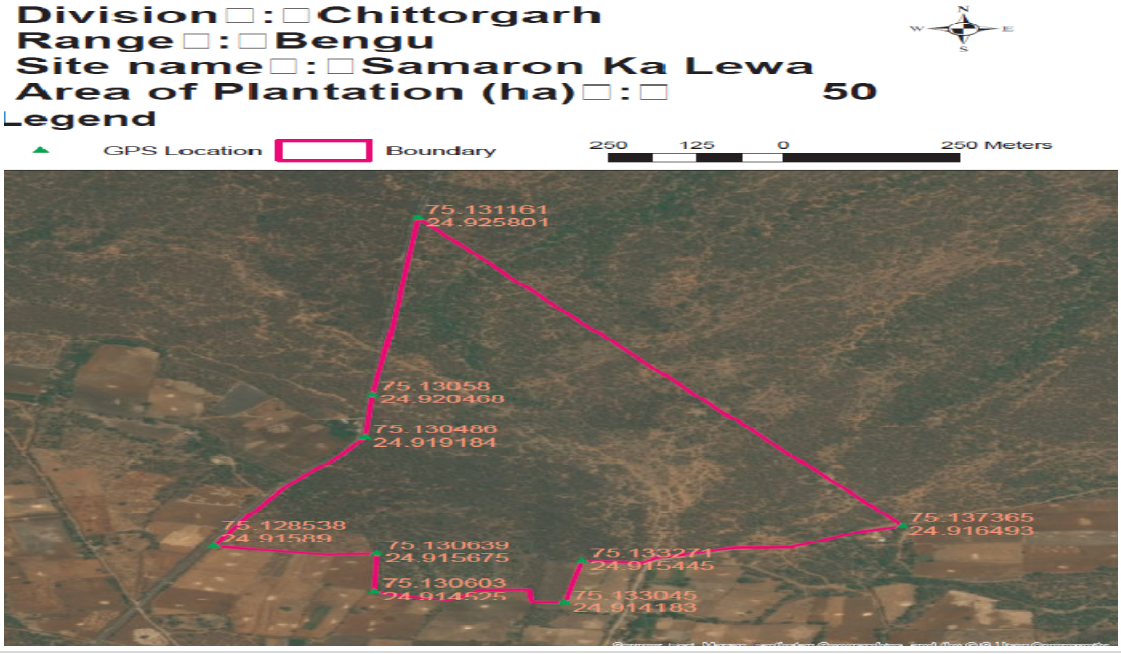
structures is done. The result shows no variation in CCT & +2 cu.m variation in loose stone check dam.

3.7.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 42.5% at the site.**

Table 3.10: Status of Planted Seedlings at the site- Samro Ka Leva Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	2000	982	1018	49.10	92	21
Zizyphus mauritiana (Ber)	1500	735	765	49.00	90	21
Acacia leucopholea (Ronj)	1000	492	508	49.20	92	21
Holoptelea integrifolia (Churel)	1000	492	508	49.20	91	21
Terminalia bellirica (Baheda)	1000	362	638	36.2	93	24
Ket	500	0	500	0.00	0	0
Azadirachta indica (Neem)	500	295	205	59.00	90	21
Pongamia pinnata (Karanj)	500	182	318	36.40	93	22
Emblica officinalis (Amla)	500	297	203	59.40	91	21
Dendrocalamus strictus (Baans)	500	78	422	15.6	112	24
Albizzia lebbeck (Siras)	300	192	108	64.00	91	21
Madhuka latifolia (Mahua)	200	113	87	56.50	91	22
Annona squamosa (Sitafal)	200	26	174	13.00	96	22
Ficus religiosa (Pipal))	100	0	100	0.00	0	0
Cassia fistula (Amaltas)	50	0	50	0.00	0	0
Wrightia tinctoria (Khirani)	50	0	50	0.00	0	0
Commiphora sp. (Guggal)	50	0	50	0.00	0	0
Others	50	0	50	0.00	0	0
Total	10000	4246	5754	42.5	94	22

3.7.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.8.1. Site 8- Rusi Rani Ka Mahal site in Nimbaheda range -N 24.535802 and E 74.63863

The selected plantation was carried out on 50 hac. of land at Rusi Rani Ka Mahal in Nimbaheda range during the year 2021-22. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was red morar & stony.



3.8.2. Treatment plan before sowing: The topography of the area was hilly & ravine. Hence, as per availability of soil digging of pits has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.8.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai & wild boars was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.8.4. Species Planted: The selected tree species under plantation were of Acacia catechu (Khair), Cassia fistula (Amaltas), Dendrocalamus strictus (Baans), Pongamia pinnata (Karanj), Pithecellobium dulce (Jangal Jalebi), Tectona grandis (Sagwan) Emblica officinalis (Amla), Holoptelea integrifolia (Churel), Kachnar, *Annona squamosa* (Sitafal) & Zizyphus mauritiana (Ber).



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as

choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ber, Khair, Churel, Sitaphal & Aawla which can survive in the climate. **The growth of survived plants was satisfactory.**

3.8.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.8.6. Natural Vegetation and Regeneration: Dhonk, Tendu , Khair, & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.8.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Bair, Ardu, Katkaranj, Khair and Desibabool* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.8.8. Protection Work: The selected ANR model plantation had ditch fencing 0f 2130 RMT & loose stone fencing of 1000RMT. Present condition of both the fencing is average.

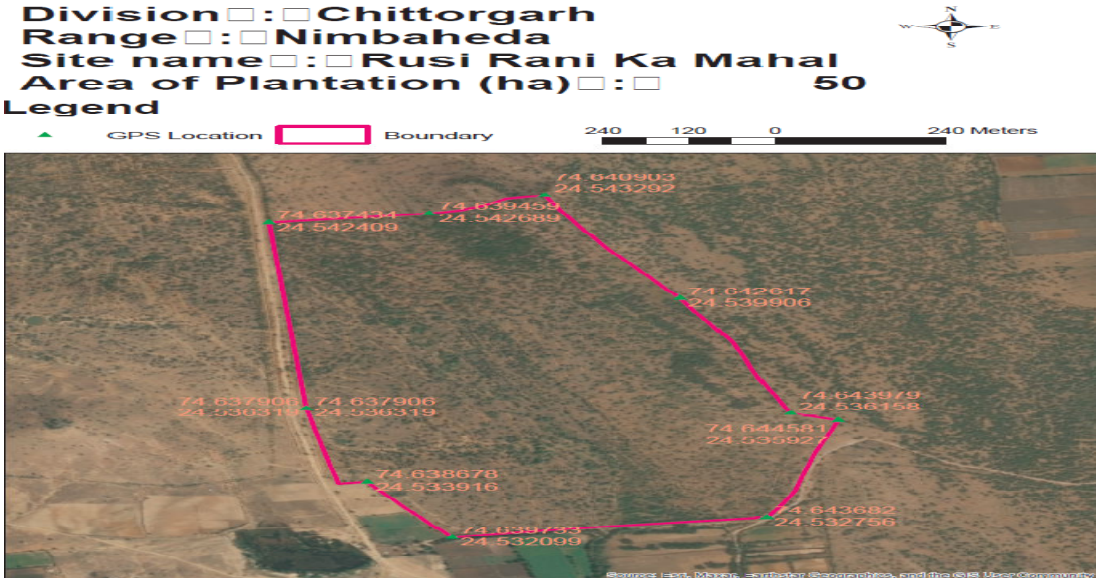
3.8.9. Soil and Water Conservation Measures: There are 7000RMT (Width & depth -0.45 meters) Contour trenches, 3000 RMT SGT &02 loose stone check dam(180 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.8.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 43.9% at the site.**.

Table 3.11: Status of Planted Seedlings at the site- Rusi Rani Ka Mahal Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	2000	200	136		91	22
Zizyphus mauritiana (Ber)	1000	100	59		90	21
Holoptelea integrifolia (Churel)	2500	250	109		92	21
Dendrocalamus strictus (Baans)	1000	100	88		95	21
Cassia fistula (Amaltas)	100	10	2		90	20
Aritha	100	10	3		90	20
*Bauhinia sp. (*Kachnar*)*	100	10	0		0	0
Cordia sinensis (Gundi)	60	6	0		0	0
Ficus bengalensis (bargad)	10	1	0		0	0
Ficus religiosa (Pipal))	10	1	0		0	0
Gular	10	1	0		0	0
Ailanthus excelsa (Ardu)	10	1	0		0	0
Emblica officinalis (Amla)	500	50	6		92	21
Annona squamosa (Sitafal)	900	90	0		0	0
Tectona grandis (Sagwan)	100	10	9		94	22
Pithecellobium dulce (Jangal Jalebi)	800	80	19		92	22
Wrightia tinctoria (Khirani)	800	80	8		90	21
Total	10000	1000	439	43.9	92	21

3.8.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.8.12. Budget and expenditure

Table 3.12: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2062545
2021-22				511650				497486
2022-23				203250				198938
Total				2796100				2758969

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft at Hathniodi, Chhittorgarh Range

At Hathniodi in Chhittorgarh range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meter. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site. GPS location of this area was $24^0$54'11" N and $74^0$91'31"E. The expenditure incurred for constructing this wall was Rs.1196516 (as per MB) against the estimated cost of Rs.12.0 lac.



Site 2- Anicut Type II at Anicut Type II, Kapasan Range



At Anicut II in Kapasan range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure were 13.4 meter, 3.9 meter & 1.35 meter respectively. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. The anicut is useful for wild animals. The GPS location of this area was $24^0$58'8" N and $74^0$36'24"E. The expenditure incurred for constructing the anicut was Rs.372747 (as per MB) against the estimated budget of Rs 375000 lac.

Site 3- Forest Chowki Peeplikheda, Bengu range

Forest Chowki at Peeplikheda site in Bengu range has been evaluated. The Forest Chowki was constructed in the year 2021-22. Site selection for construction of Forest Chowki was adequate and useful for the staff. Construction work appeared to be good and useful. The Forest Chowki created under CAMPA was in use & was properly maintained. The Forest Chowki was in use for official cum residential purpose. GPS location of this area was 25.024705 N and 75.014039 E. The expenditure incurred for constructing the Forest Chowki was Rs. 539930 (as per MB) against the estimated budget of 5.50 lacs.



Site 4 - Anicut Type II at Manda Mangra, Nimbaheda Range

At Manda Magra in Nimbaheda range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure was 15.2 meter, 8.2 meter & 1.50 meter respectively. Construction work appeared to be average and useful. Water was available in the anicut at the time of visit. The five stairs constructed at anicut site was damaged. The anicut is useful for wild animals. The GPS location of this area was $24^0$33'17" N and $74^0$37'46"E. The expenditure incurred for constructing the anicut wall was Rs.374642 (as per MB) against the estimated budget of Rs 375000 lac.



Site 5- Pillars at Kapasan, Kapasan range

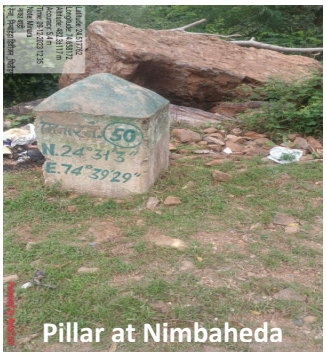


At Kapasan in Kapasan range pillars (20 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 36000 (as per MB) against the estimated cost of Rs 36000.

Site 6- Pillars at Borav, Borav range

At Borav in Borav range pillars (20 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 35488(as per MB) against the estimated cost of Rs 36000.





At Nimbaheda in Nimbaheda range pillars (20 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 1.73548 (as per MB) against the estimated cost of Rs 1.80 lac.

Site 8 -Pillars at Rawatbhata, Rawatbhata range

At Rawatbhata in Rawatbhata range pillars (20 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should



be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 88728 (as per MB) against the estimated cost of Rs 90000.

Site 9- Pillars at Javda, Javda range

At Javda in Javda range pillars (60 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 106422 (as per MB) against the estimated cost of Rs 1.08 lac.



Site 10- Pillars at Chittorgarh, Chittorgarh range

At Chhittorgarh in Chhittorgarh range pillars (20 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.. The finishing of the pillar was proper. The pillar was painted but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 168574 (as per MB) against the estimated cost of Rs 1.08 lac.



Site 11- Pillars at Vijaypur, Vijaypur range

At Vijaypur in Vijaypur range pillars (40 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 69420 (as per MB) against the estimated cost of Rs 72000.



Site 12- Pillars at Vankhand Ara, Kapasan range



At Vankhand Ara in Kapasan range pillars (20 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the

pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 4982 (as per MB) against the estimated cost of Rs 7050.

Site 13-Pillars at Vankhand Shikargah Salera, Kapasan range

At Vankhand Shikargah Salera in Kapasan range pillars (07 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted properly but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 16450 (as per MB) against the estimated cost of Rs 11625.



Site 14- Pillars at Kudalkheda, Borav range

At Kudalkheda in Borav range pillars (05 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 11625 (as per MB) against the estimated cost of Rs 16450.



Site 15- Pillars at Chordo Ki Dhar, Javda range

At Chordo ki dhar in Javda range pillars (05 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 10039 (as per MB) against the estimated cost of Rs 11750.



5. Overall assessment

Table 5: Quantitative assessment of plantation work under CAMPA in Chittorgarh division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Bassi Mahadev	ANR	50	47.3	5
2.	DhangadmauKhurd I	ANR	50	52.4	6

3.	Modia Magra	ANR	50	44.1	5
4.	Nimoda	DFL	19.53	48.2	5
5.	Chainpuriya Mahadeo	ANR	50	43.8	5
6.	Baldrakha	ANR	50	44.5	5
7.	Samro Ka Leva	ANR	50	42.5	5
8.	Russi Rani Ka Mahal	ANR	50	43.9	5

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Hathniodi 2	500	500	0
2.	Anicut Type II	Anicut Type II	13.4mX3.9mX1.35	13.4mX3.9mX1.35	0
3.	Forest Chowki	Piplikheda	01	01	0
4.	Anicut Type II	Bhanda Magra	15.2mX8.2mX1.5	15.2mX8.2mX1.5	0
5.	Boundary Pillars	Kapasan	20	20	0
6.	Boundary Pillars	Borav	20	20	0
7.	Boundary Pillars	Nimbaheda	20	20	0
8.	Boundary Pillars	Rawatbhata	20	20	0
9.	Boundary Pillars	Javda	60	60	0
10.	Boundary Pillars	Chhittorgarh	20	20	0
11.	Boundary Pillars	Vijaypur	40	40	0
12.	Boundary Pillars	Vankhand Aera	3	3	0
13.	Boundary Pillars	Vankhand Sikargah Salera (Gangrar)	7	7	0
14.	Boundary Pillars	Kudalkheda	5	5	0
15.	Boundary Pillars	Chordo Ki dhar	5	5	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Hathniodi 2	Average	6
2.	Anicut Type II	Anicut Type II	Good	7
3.	Forest Chowki	Piplikheda	Good	7
4.	Anicut Type II	Bhanda Magra	Average	5
5.	Boundary Pillars	Kapasan	Average	6

6.	Boundary Pillars	Borav	Average	6
7.	Boundary Pillars	Nimbaheda	Average	6
8.	Boundary Pillars	Rawatbhata	Average	6
9.	Boundary Pillars	Javda	Average	6
10.	Boundary Pillars	Chhittorgarh	Average	6
11.	Boundary Pillars	Vijaypur	Average	6
12.	Boundary Pillars	Vankhand Aera	Average	6
13.	Boundary Pillars	Vankhand Sikargah Salera (Gangrar)	Average	6
14.	Boundary Pillars	Kudalkheda	Average	6
15.	Boundary Pillars	Chordo Ki dhar	Average	6

Chittorgarh WL

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Chittorgarh WL Forest Division. This Forest Division with 4 Forest Ranges namely Dhariyawad, Badi Sadri, Jakham & Bassi has territorial jurisdiction over the entire Chittorgarh District.



Figure : Location of Chittorgarh district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of Chittorgarh WL Forest Division were as given in table-3.1.

Table-3.1: Selected plantation site for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Bari Sadri	Sangarikheda	2020-21	50	ANR	100%
Badi Sadri	Kala Bhata B	2021-22	50	ANR	10%

2. Selected Asset Sites for Evaluation

The selected asset sites of Chittorgarh WL Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Bassi	Javadiya Juna	2020-21	Pakki Diwar 6 ft
2.	Bassi	Amalda nadi se Ghatabao	2021-22	Pakki Diwar 6 ft
3.	Jakham	Chandana Phala se Nathu walia ke ghar tak	2021-22	Pakki Diwar 6 ft
4.	Dhariyawad	Mataji wala nala 1	2021-22	Anicut Type II
5.	Bassi	Badapani	2021-22	Anicut Type III
6.	Bassi	Naka Parsoli	2021-22	Boundary Pillar
7.	Jakham	Naka Anoppura	2021-22	Boundary Pillar
8.	Dhariyawad	Naka Panchaguda	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1-Sangarikheda site in Badi Sadri range -N 24^0 18'16" and E $74^0$34'14"

The selected plantation was carried out on 50 hac. of land at Sangarikheda in Badi Sadri range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was black.



3.1.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pits has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and rabbits was reported at the site. Cutting of plants by humans was also reported at the site. Also, widely growth of termite, soil quality and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.1.4. Species Planted: The selected tree species under plantation were Tectona grandis (Sagwan), *Holoptelea integrifolia* (Churel), Azadirachta indica (Neem), Dendrocalamus strictus (Bamboo), Pongamia pinnata (Karanj), *Cassia fistula (*Amaltas), Tamarindus indica (Imli) Emblica officinalis (Anwla), Zizyphus mauritiana (Ber) and Acacia catechu (Khair) were planted.

In total 10500 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10500 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ber, Anwla, Bamboo & Sagwan which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was average.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Mahuwa, Palash, Sagwan, Tendu & Khirni were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species Bair*„ Khair and Katkaranj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1400 RMT & ditch fencing of 1900 RMT having width at the top-0.6 meters, width at the bottom-0.8 meter & height 1.2 meters. Present condition of fencing was satisfactory. Loose stone was badly damaged& silting was reported in ditch fencing.

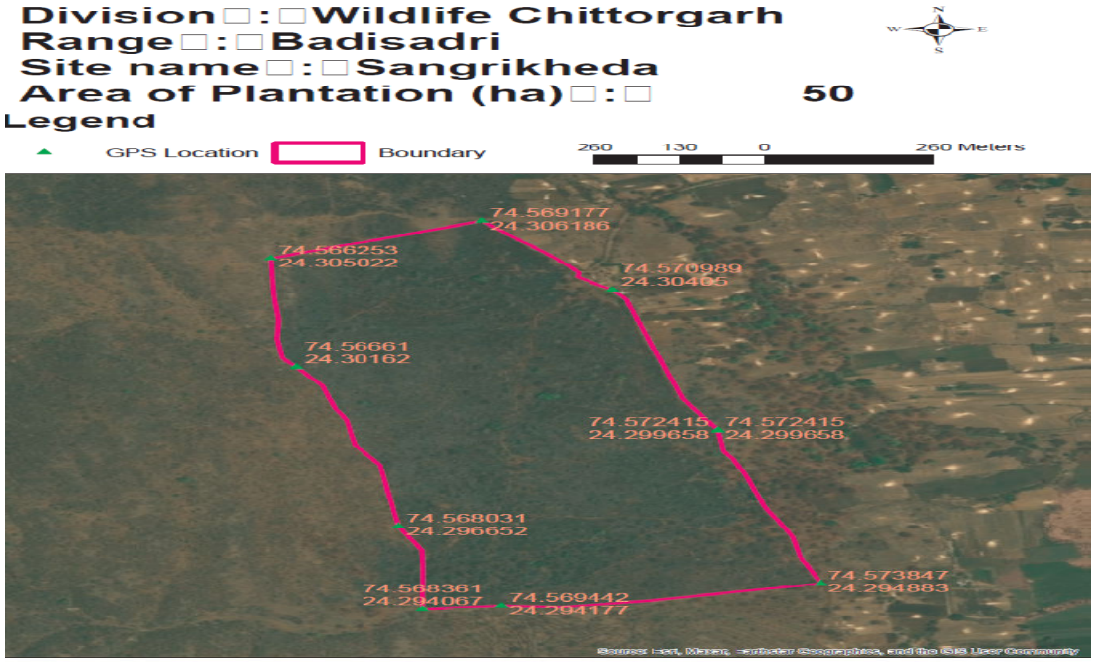
3.1.9. Soil and Water Conservation Measures: There are 20000 RMT (Width & depth -0.45 meter) Contour trenches, 01 SDS(12 meter) & Checkdams (151 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 41.8% at the site.**

Table 3: Status of Planted Seedling at the site-Sangarikheda Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	4000	1770	2230	44.3	130	24
Azadirachta indica (Neem)	500	47	453	9.4	90	20
Tamarindus indica (Imli)	500	61	439	12.2	93	23
Acacia catechu (Khair)	2000	869	1131	43.5	92	22
Emblica officinalis (Amla)	1000	540	460	54.0	93	22
Tectona grandis (Sagwan)	1000	618	382	61.8	140	30
Pongamia pinnata (Karanj)	500	189	311	37.8	90	21
Holoptelea integrifolia (Churel)	500	276	224	55.2	92	22
Cassia fistula (Amaltas)	500	21	479	4.2	90	21
Total	10500	4391	6109	41.8	101	23

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				417027
2021-22				182150				175869
Total				668350				592896

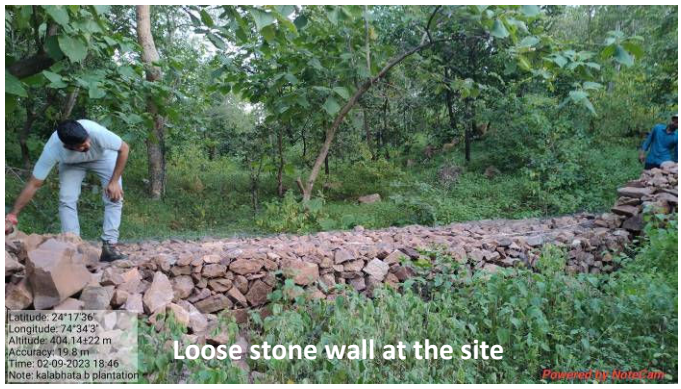
3.2.1. Site 2- Kala Bhata B site in Badi Sadri range -N 24^0 17'33" and E $74^0$34'27"

The selected plantation was carried out on 50 hac. of land at Kala Bhata B in Badi Sadri range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was black & domat.



3.2.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pits has been made for plantation. Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and rabbits was reported at the site. Cutting of plants by humans was also reported at the site. Also, widely growth of termite, soil quality and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.2.4. Species Planted: The selected tree species under plantation were Dendrocalamus strictus (Bamboo), Pongamia pinnata (Karanj), *Mahuwa, Jamun,* Ficus benghalensis (Bad)Terminalia bellirica (Baheda),Emblica officinalis (Anwla), *Madhuca longifolia (*Mahua, Wrightia tinctoria (Khirani),Peepal, Zizyphus mauritiana (Ber) and Acacia catechu (Khair) were planted.



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared. As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ber, Anwla, Bamboo & Khair which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was average.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Mahuwa, Palash, Salar, Tendu & Khirni were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species Bair , *Khair and Katkaranj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was poor.**

3.2.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1800 RMT & ditch fencing of 1250 RMT having width at the top-0.6 meters, width at the bottom-0.8 meter & height 1.2 meters. Present condition of fencing was satisfactory. Loose stone was badly damaged& silting was reported in ditch fencing.

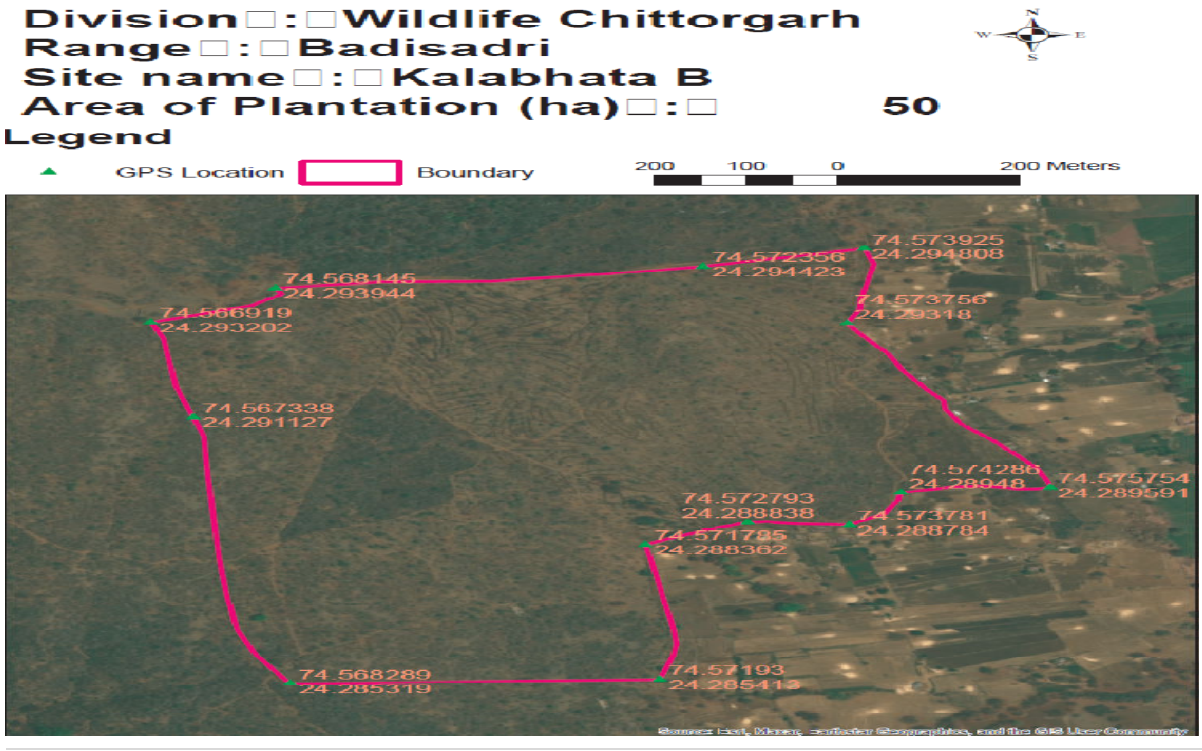
3.2.9. Soil and Water Conservation Measures: There are 20000 RMT (Width & depth -0.45 meter) in the form of water harvesting structures present in the entire plantation area. 45 meter) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 45.0% at the site.**

Table 3.4: Status of Planted Seedling at the site-Kala Bhata B Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	3000	300	148		110	24
Emblica officinalis (Amla)	2000	200	160		92	21
Acacia catechu (Khair)	1000	100	61		92	22
Zizyphus mauritiana (Ber)	1000	100	70		90	20
*Syzygium cumini (*Jamun)	500	50	11		90	20
Wrightia tinctoria (Khirani)	200	20	0		0	0
Terminalia bellirica (Baheda)	500	50	0		0	0
Madhuka latifolia (Mahua)	200	20	0		0	0
Karonda	1000	100	0		0	0
Pongamia pinnata (Karanj)	500	50	0		0	0
Ficus bengalensis (bargad)	50	5	0		0	0
Ficus religiosa (Pipal))	50	5	0		0	0
Total	10000	1000	450	45.0	95	21

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2050558
2021-22				511650				508089
2022-23				203250				200456
Total				2796100				2759103

4. Results for asset sites

4.1 Site 1- Pakki Diwar 6 Ft at Javadiya Juna, Bassi Range



At Javadiya Juna in Bassi range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 900 m length as per MB. In actual 900 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.2 meters. Construction work appeared to be good and the infrastructure was in use. The construction of pakki diwar prevents encroachment by local residents. Also, it protect agriculture field with destruction from wild boar. The GPS location of this area was $24^0$56'52" N and $74^0$53'21"E. The expenditure incurred for constructing this wall was 26.10 lac (as per MB) against the estimated budget of 26.10 lac.

Site 2- Pakki Diwar 6 Ft at Aamalda Nadi se Ghata Bao, Bassi Range

At Aamalda Naddi se Ghata Bao in Bassi range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 6 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.85 meters. Construction work appeared to be good and the infrastructure was in use. The construction of pakki diwar prevents encroachment by local residents. It is also useful in protecting wildlife viz. wild boar & rabbit etc. However, the wall was broken at some places. GPS location of this area was $24^0$59'3" N and $74^0$55'28"E. The expenditure incurred for constructing this wall was 16.75lac (as per MB) against the estimated budget of 16.75lac.



Site 3- Pakki Diwar 6 Ft at Chandana Phala to Nathu Walia ke Ghar tak, Jakham Range



At Chandana Phala se Nathu walia ke ghar tak in Jakham range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 6 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.85 meters. Construction work appeared to be good and the infrastructure was in use. The construction of pakki diwar prevents encroachment by local residents. The coping work was done properly. GPS location of this area was $24^0$6'36" N and $74^0$36'26"E. The expenditure incurred for constructing this wall was 16.75lac (as per MB) against the estimated budget of 16.75lac.

Site 4 -Anicut II at Mataji wala Nala 1, Dhariyawad Range



At Mataji wala nala1 in Dhariyawad range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure was 8 meter, 1.0 meter & 1.4 meter respectively. Construction work appeared to be good and useful. Water was available (0.1 meter) in the anicut at the time of visit. The anicut is useful for wild animals. The GPS location of this area was $24^0$11'26" N and $74^0$28'33"E. The expenditure incurred for constructing the anicut wall was 3.75 lac (as per MB) against the estimated budget of Rs 375000 lac.

Site 5- Anicut III at Badapani , Bassi Range



At Badapani, Bassi range, Anicut III has been evaluated. The Anicut III was constructed in the year 2021-22. The length, breadth & height of the structure was 18 meterX1.0 meterX1.50 as per MB. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. However water mark was observed. The anicut is useful for wild animals & human habitation residing in the near by area. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was $25^0$4'58" N and $74^0$55'14"E. The expenditure incurred for constructing the anicut wall was 6.50 lac (as per MB) against the estimated budget of Rs 6.50 lac .

Site 6- Pillars at Naka Parsoli, Bassi range



At Naka Parsoli in Bassi range pillars (05 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted with GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 48150 (as per MB) against the estimated cost of Rs 50000.

Site 7- Pillars at Naka Anoppura, Jakham range



At Naka Anoppura in Jakham range pillars (04 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted. However, the GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.47000 (as per MB) against the estimated cost of Rs 47000.

Site 8- Pillars at Naka Panchaguda, Dhariyawad range



At Naka Panhaguda in Dhariyawad range pillars (02 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted with GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.15000 (as per MB) against the estimated cost of Rs 15000.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Chittorgarh WL division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Sangarikheda	ANR	50	41.8	5
2	Kalabhata B	ANR	50	45.0	5

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 6 ft	Javadiya Juna	900	900	0
2.	Pakki Diwar 6 ft	Amalda nadi se Ghatabao	500	500	0
3.	Pakki Diwar 6 ft	Chandana Phala se Nathu walia ke ghar tak	500	500	0
4.	Anicut Type II	Mataji wala nala 1	8mX1mX1.40m	8mX1mX1.30m	Due to silting
5.	Anicut Type III	Badapani	18.5mX1mX1.5m	18.5mX1mX1.5m	0
6.	Boundary Pillar	Naka Parsoli	5	5	0
7.	Boundary Pillar	Naka Anoppura	4	4	0
8.	Boundary Pillar	Naka Panchaguda	2	2	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 6 ft	Javadiya Juna	Average	6
2.	Pakki Diwar 6 ft	Amalda nadi se Ghatabao	Good	7
3.	Pakki Diwar 6 ft	Chandana Phala se Nathu walia ke ghar tak	Good	7
4.	Anicut Type II	Mataji wala nala 1	Good	7
5.	Anicut Type III	Badapani	Good	7
6.	Boundary Pillar	Naka Parsoli	Average	6
7.	Boundary Pillar	Naka Anoppura	Average	6
8.	Boundary Pillar	Naka Panchaguda	Average	6

Churu

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Churu Forest Division. This Forest Division with 5 Forest Ranges namely Ratangarh, WL Talchhapur, Churu, Sujangarh & Rajgarh has territorial jurisdiction over the entire Churu District.

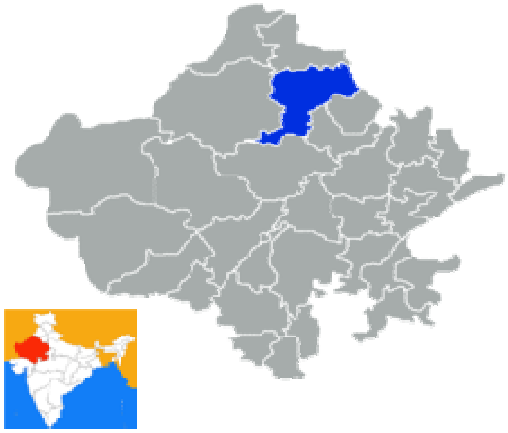


Figure 5 Location of Churu district, Rajasthan

2.1. Selected Asset Sites for Evaluation

The selected asset sites of Churu Forest Division were as given in table 1.

Table 1: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Sujangarh	Vankhand Kodasar Charla Ki Seema par	2020-21	Boundary Pillars
Rajgarh	Vanshetra Chandgothi	2021-22	Boundary Pillars
Rajgarh	Vanshetra Sankhu	2021-22	Boundary Pillars

3. Results for asset sites

3.1 Site 1- Pillars at Vankhand Kodasar, Charla ki Seema par, Sujangarh range



At Vankhand Kodasar Charla Ki Seema par in Sujangarh range (10 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing work of pillar should be proper. Number & GPS should be written on the pillar.The expenditure incurred for constructing the Pillars (50 nos.) was Rs.86993 (as per MB) against the estimated cost of Rs 90000.

Site 2- Pillars at Vanshetra Chandgothi, Rajgarh range



At Vanshetra Chandkothi in Rajgarh range (7 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. Pillars were painted with white colours & numbering has also been done on the pillars.The expenditure incurred for constructing the Pillars (50 nos.) was Rs.74742 (as per MB) against the estimated cost of Rs 75200.

Site 3- Pillars at Vanshetra Sankhu Rajgarh range



At Vanshetra Sankhu in Rajgarh range (4 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (18 nos.) was Rs.42080 (as per MB) against the estimated cost of Rs 42300.

4. Overall assessment

Table 4: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Boundary Pillar	Vankhand Kodasar Charla Ki Seema par	10	10	0
2.	Boundary Pillar	Vanshetra Chandgothi	7	7	0
3.	Boundary Pillar	Vanshetra Sankhu	4	4	0

Table 4.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Boundary Pillars	Vankhand Kodasar Charla Ki Seema par	Average	6
2	Boundary Pillars	Vanshetra Chandgothi	Average	6
3	Boundary Pillars	Vanshetra Sankhu	Average	6

Dausa

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Dausa Forest Division. This Forest Division with 5 Forest Ranges namely Bandikui, Dausa, Lalshot, Mahua & Sikrai has territorial jurisdiction over the entire Dausa District.



Figure : Location of Dausa district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Dausa Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Lalsoth	Ghata	2020-21	50	ANR	100%
Lalsoth	Dholi B	2021-22	50	ANR	10%
Bandikui	Aenchedi A	2021-22	50	ANR	100%
Mahwa	Mirzapur	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Dausa Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Dausa	Khan Bhankari	2021-22	Rescue Centre
2.	Dausa	Golmain	2021-22	Boundary Pillar
3.	Sikrai	Kalakho main	2021-22	Boundary Pillar
4.	Sikrai	Naharkhora no.11 A	2021-22	Boundary Pillar
5.	Bandikui	Dhpawan-Urwadi-Rehadia	2021-22	Boundary Pillar
6.	Bandikui	Balaji ka Thobra	2021-22	Boundary Pillar
7.	Mahwa	Mandawar-Banawad main	2021-22	Boundary Pillar
8.	Mahwa	Nandana Tahaldi Main	2021-22	Boundary Pillar
9.	Mahwa	Nandana Tahaldi A	2021-22	Boundary Pillar
10.	Mahwa	Khoncpuri	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1 Site 1- Ghata site in Lalsoth range -N 26.657829 and E 76.434367

The selected plantation was carried out on 50 ha of land at Ghata in Lalsoth range during the year 2020-21. The activities were done under the ANR (Assisted Natural Regeneration) model. The site was a forest land and selected for 100% evaluation. The soil was clayey domat & rocky.

3.1.2. Treatment plan before sowing: The topography of the area was hilly & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.

3.1.4. Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Acacia leucopholea (Ronj), Acacia senegal (Kumtha), Dalbergia sissoo (Shisham), *Butea monosperma* (Chila) and *Holoptelea integrifolia* (Churel), and were planted.



A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Churail, Desi babool, Ronj & Kumtha which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was average.



3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi babool, Dhok, Cheela and Totalis have been found grown naturally.

3.1.7. Regeneration through seeds sowing: Seeds of species Totalis, ronj and desi babool were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was average.

3.1.8. Protection Work: The selected ANR model plantation had 2100 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters. Ditch fencing was partially effective in controlling the biotic pressure. Also, 1470 RMT loose stone fencing having width at the top-0.8 meters, width at the bottom-0.6 meter & height 1.2 meters. The condition of ditch fencing & loose stone fencing was satisfactory. Silting was reported at many places of ditch fencing.

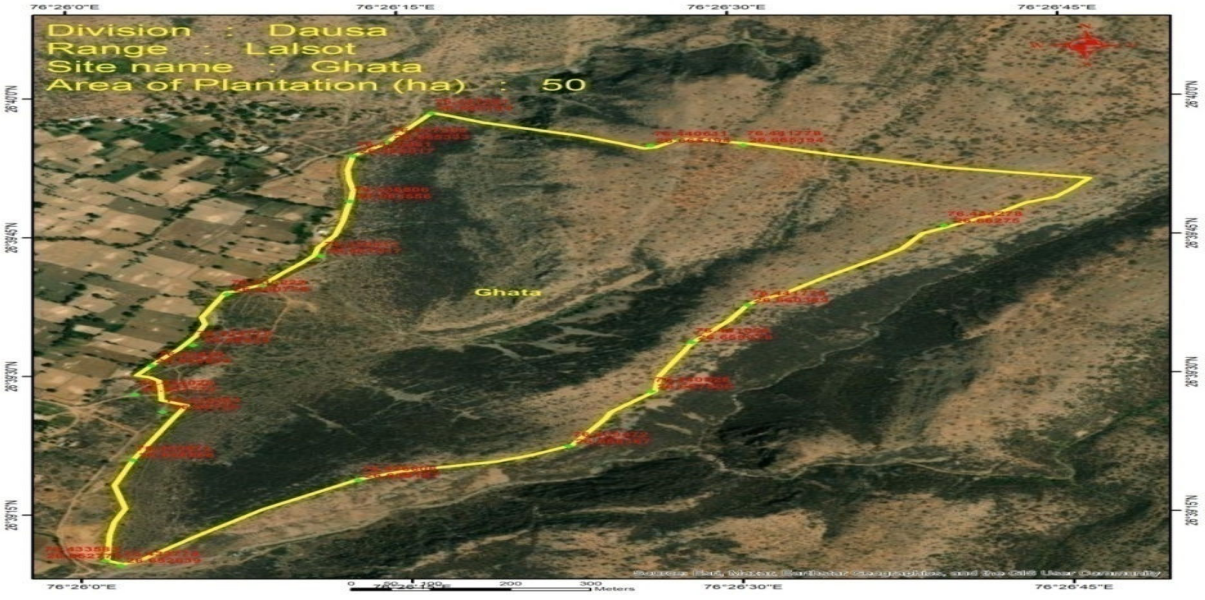
3.1.9. Soil and Water Conservation Measures: There are 8000 RMT (Width & depth -0.45 meters) Contour trenches, 2000 rmt deep CCT, 988.20 cu.m earthen check dams & 384.42 cu.m loose stone checkdams in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 100 percent counting, plants survival was 55.6% at the site.**

Table 3: Status of Planted Seedlings at the site-Ghata Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	3000	1910	1090	63.7	134	26
Acacia senegal (Kumtha)	2000	800	1200	40.0	111	25
Acacia leucopholea (Ronj)	1000	950	50	95.0	124	28
Holoptelea integrifolia (Churel)	1500	1000	500	66.7	107	27
Dalbergia sissoo (Shisham)	1000	300	700	30.0	110	25
Chhila	1500	600	900	40.0	110	27
Total	10000	5560	4440	55.6	120	26

3.1.11.GPS Location and KML file: The selected model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2019-20	-	-	-	2081200	-	-	-	2014095
2020-21	-	-	-	486200		-		384846
2021-22				182150				132589
2022-23	-	-	-	107950				105808

3.2.1. Site 2- Dholi B in Lalsoth range - N 26.703385 and E 76.412472

The selected plantation was carried out on 50 ha of land at Dholi B in Lalsoth range during the year 2021-22. The activities were done under the ANR (Assisted Natural Regeneration) model. The site was a forest land and selected for 10% evaluation. The soil was sandy & domat.

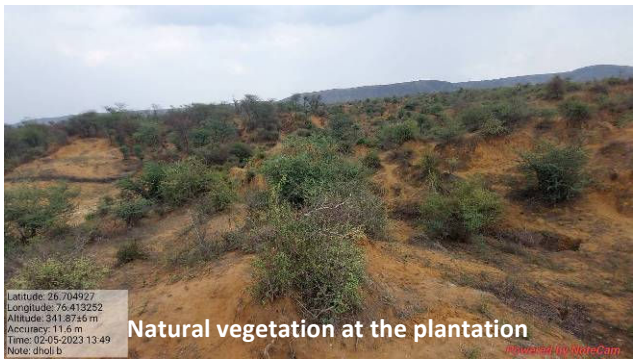
3.2.2. Treatment plan before sowing: The topography of the area was ravine & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Damage to plants by human beings was also reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.2.4. Species Planted: The selected seedlings of Acacia tortilis (Totalis), Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool), Tecomella undulata (Rohida), Acacia leucopholea (Ronj), Acacia senegal (Kumtha), Ailanthus excelsa (Ardu) and Dalbergia sissoo (Shisham) were planted.

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Churail, totalis & Desi babool which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was average.

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi babool, Chudail, Totalis, and Neem have been found grown naturally.

3.2.7. Regeneration through seeds sowing: Seeds of species kumtha, desi babool, chudail and totalis were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was poor.

3.2.8. Protection Work: The selected ANR model plantation had 3429 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters. Ditch fencing was not at all effective in controlling the biotic pressure. Ditch fencing was damaged & filled with sand at many places.

3.2.9. Soil and Water Conservation Measures: There are 9500 RMT (Width & depth -0.45 meters) Contour trenches, 500 rmt. Deep CCT, 8045 cu.m earthen check dams in the form of water harvesting structures present in the entire plantation area. Silting was reported in all the SMC structures at the plantation site. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & +4 cu.m excess in earthen check dams.



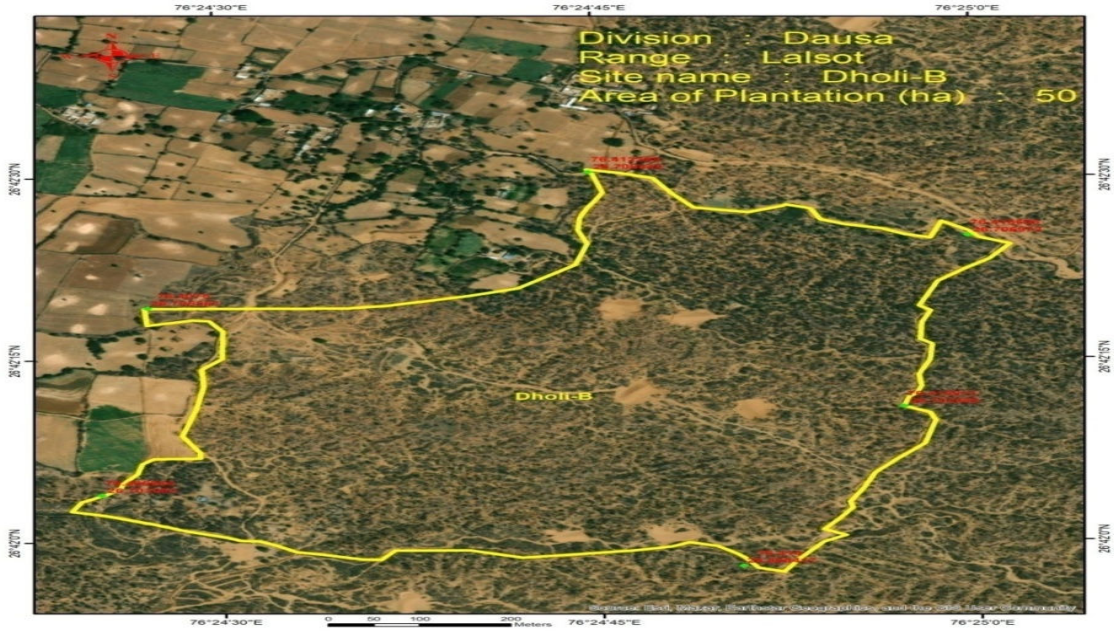
3.2.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 19.5% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was poor. The reason for low survival was poor protection & fencing at the site. VFPMC President had made separate entrance for plantation site which resulted in increase public interference (viz. grazing & damage to planted seedling) at the plantation site. A total of 10000 plants comprising of various species were planted in the 50 ha plantation area.

Table 3.2: Status of Planted Seedlings at the site- Dholi B Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	250	25	0		0	0
Acacia senegal (Kumtha)	2000	200	0		0	0

Holoptelea integrifolia (Churel)	500	50	0		0	0
Albizia lebbeck (Kala Siras)	250	25	0		0	0
Dalbergia sissoo (Shisham)	50	5	0		0	0
Acacia tortilis (Totalis)	6000	600	195		90	21
Acacia leucopholea (Ronj)	250	25	0		0	0
Ailanthus excelsa (Ardu)	50	5	0		0	0
Acacia nilotica (Desi babool)	500	50	0		0	0
Tecomella undulata (Rohida)	150	15	0		0	0
Total	10000	1000	195	19.5	90	21

3.2.11. GPS Location and KML file: The selected model under CAMPA plantation site measured 50 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**	**Plantation**	**SMC works**	**Fencing**	**Total**
2020-21	-	-	-	2081200	-	-	-	2080797
2021-22	-	-	-	511650	-	-	-	480016
2022-23	-	-	-	203250				190109

3.3.1 Site 3- Aenchedi A in Bandikui range - N 27.109932 and E 76.50028

The selected plantation was carried out on 50 ha of land at Aenchedi A in Bandikui range during the year 2021-22. The activities were done under the ANR (Assisted Natural Regeneration) model. The site was a forest land and selected for 100% evaluation. The soil was red clayey with bolders &rocks.



3.3.2. Treatment plan before sowing: The topography of the area

was hilly & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Damage to plants by human beings was also reported at the site. Also, widely growth of termite, soil quality (50 percent bolders) and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.3.4. Species Planted: The selected Seedlings of Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool), Acacia leucopholea (Ronj), Azadirachta indica (Neem),Acacia senegal (Kumtha), Zizyphus mauritiana (Ber), Pithecellobium dulce (Jangal Jalebi), Cassia fistula (Amaltas) and Dendrocalamus strictus (Baans) were planted. A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared. As far as choice of seedlings for plantation is concerned, it was proper. The growth of survived plants was average.



3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi babool, Dhok, Chudail & Neem have been found grown naturally.

3.3.7. Regeneration through seeds sowing: Seeds of species kumtha, ronj and desi babool were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was average.

3.3.8. Protection Work: The selected ANR model plantation had 1300 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters. & 950 RMT loose stone fencing. Also, hedge fencing (400 rmt.) reported at the plantation site

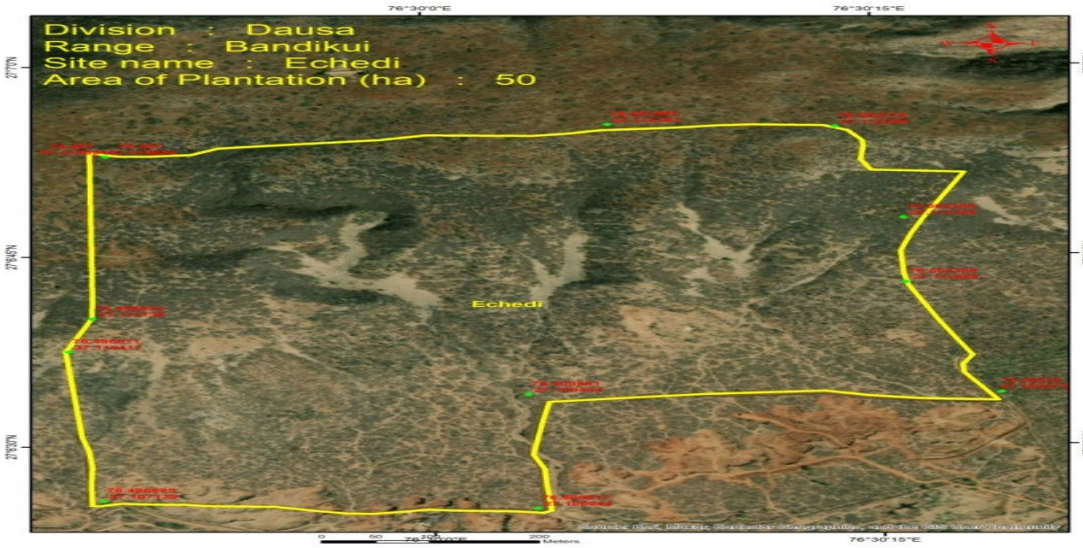
3.3.9. Soil and Water Conservation Measures: There are 3280 RMT (Width & depth -0.45 meters) Contour trenches, 830 rmt. deep CCT, 1798 cu.m loose stone checkdams & 1493 cu.m PCT/Nadi in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.2% at the site.**

Table 3.4: Status of Planted Seedlings at the site- Aenchedi A Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	1000	700	300	70.0	93	22
Holoptelea integrifolia (Churel)	1500	600	900	40.0	92	22
Acacia leucopholea (Ronj)	2500	1620	880	64.8	90	21
Acacia senegal (Kumtha)	2500	1200	1300	48.0	90	21
Dendrocalamus strictus (Baans)	500	20	480	4.00	95	23
Pithecellobium dulce (Jangal Jalebi)	300	50	250	16.67	90	21
Zizyphus mauritiana (Ber)	700	300	400	42.86	90	21
Azadirachta indica (Neem)	200	30	170	15.0	90	22
*Cassia fistula (*Amaltas)	800	0	800	0.0	0	0
Total	10000	4520	5480	45.2	91	22

3.3.11. GPS Location and KML file: The selected model under CAMPA plantation site measured 50 hec as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**	**Plantation**	**SMC works**	**Fencing**	**Total**
2020-21	-	-	-	2081200				2060495
2021-22	-	-	-	511650				479541
2022-23	-	-	-	203250				201574
Total	-	-	-	2796100				2741610

3.4.1. Site 4 Mirzapur in Mahwa range - N $26^0$1'56" and E $76^0$49'8"

The selected plantation was carried out on 50 ha of land at Mirzapur in Mahwa range during the year 2021-22. The activities were done under the ANR (Assisted Natural Regeneration) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.



3.4.2. Treatment plan before sowing: The topography of the area was ravine & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gay, wild boars and porcupine was reported at the site. Damage to plants by human beings was also reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.4.4. Species Planted: The selected seedlings of Acacia tortilis (Totalis), Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool), Azadirachta indica (Neem), Wrightia tinctoria (Khirani), Ailanthus excelsa (Ardu) and Dalbergia sissoo (Shisham) were planted.

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared. The growth of survived plants was average.

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi babool, Kumtha, Totalis and Dhonk have been found grown naturally.

3.4.7. Regeneration through seeds sowing: Seeds of species kumtha, ronj, ratanjot and totalis were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was good.

3.4.8. Protection Work: The selected ANR model plantation had 2570 RMT ditch fencing. Ditch fencing was not at all effective in controlling the biotic pressure. Ditch fencing was damaged & filled with sand at many places.

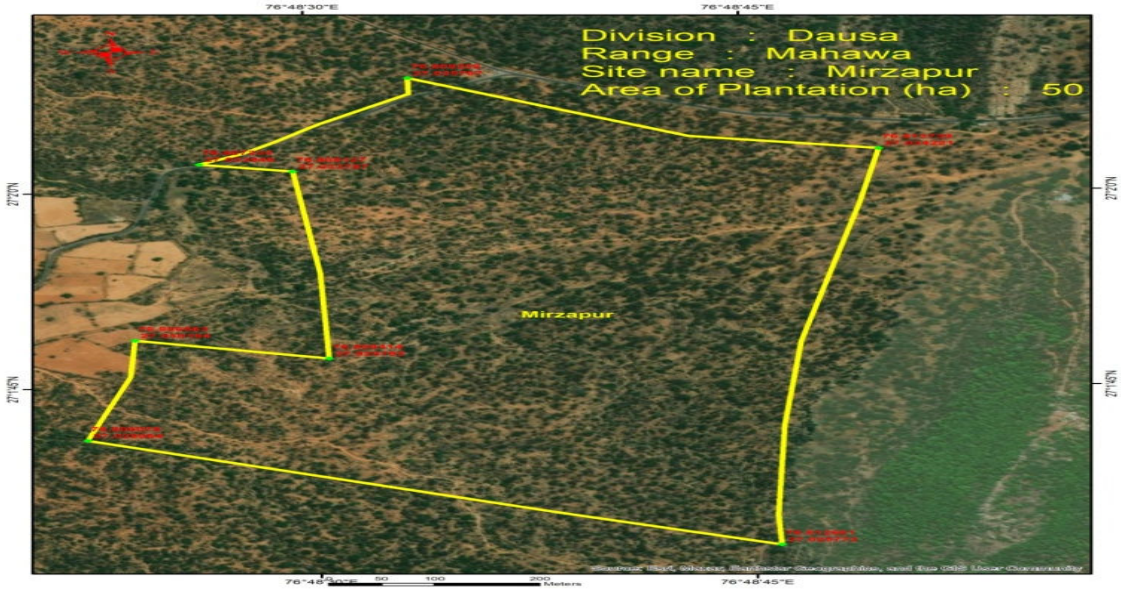
3.4.9. Soil and Water Conservation Measures: There are Contour trenches (Width & depth -0.45 meters) & 5152 cu.m earthen check dams in the form of water harvesting structures present in the entire plantation area. Silting was reported in all the SMC structures at the plantation site. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & +2 cu.m excess in earthen check dams.

3.4.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 45.4% at the site.**

Table 3.6: Status of Planted Seedlings at the site- Mirzapur Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	4500	450	202		94	24
Holoptelea integrifolia (Churel)	3000	300	99		100	21
Acacia nilotica (Desi babool)	1800	180	102		97	24
Ailanthus excelsa (Ardu)	500	50	0		90	33
Dalbergia sissoo (Shisham)	100	10	27		103	21
Wrightia tinctoria (Khirani)	65	7	20		90	21
Azadirachta indica (Neem)	20	2	4		90	21
Ficus bengalensis (Bargad)	5	1	0		0	0
Ficus religiosa (Pipal))	10	1	0		0	0
Total	10000	1000	454	45.4	96	23

3.4.11. GPS Location and KML file: The selected model under CAMPA plantation site measured 50 hec as per kml map.



3.4.12. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**	**Plantation**	**SMC works**	**Fencing**	**Total**
2020-21	-	-	-	2081200	-	-	-	2081167
2021-22	-	-	-	511650	-	-	-	492108
2022-23	-	-	-	203250				184714

4. Results for asset sites

4.1 Site 1- Rescue Centre at Khan Bhankari, Dausa range



Rescue Centre Khan Bhankari in Dausa range has been evaluated. The Rescue Centre was constructed in the year 2021-22. Site selection for construction of Rescue Centre was proper. The construction work of Rescue Centre had been completed. The infrastructure created under CAMPA was useful. The infrastructure during third party evaluation was in use & was properly maintained. Quality of Construction work was good. The work done under CAMPA was construction of room for treatment of injured animals/birds. The present condition of rescue centre was good. GPS location of this area was 26.920176 N and 76.369916 E. The expenditure incurred for constructing the Rescue Centre was Rs. 249803 (as per MB) against the estimated budget of Rs. 25.00 lacs

Site 2- Pillars at Golmain , Dausa range



At Golmain site in Dausa Pillars (05 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The land is still occupied by the local residents where the pillars were constructed. Thus, the purpose of constructing boundary pillars was not fulfilled. The expenditure incurred for constructing the Pillars (22 Nos.) was Rs. 46276 (as per MB) against the estimated cost of Rs. 51700.

Site 3- Pillars at Kalakho main , Sikrai range

At Kalakho site in Sikrai range Pillars (07 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported good and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars (32 Nos.) was Rs. 69891 (as per MB) against the estimated cost of Rs. 75200.



Site 4- Pillars at Naharkhora no.11 A, Sikrai range



At Naharkhora no.11 A site Pillars (07 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported good and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (33 Nos.) was Rs. 70009 (as per MB) against the estimated cost of Rs. 77550.

Site 5- Pillars at Dhapawan- Urwadi-Rehadiya , Bandikui range

At Dhpawan-Urwadi-Rehadia site Pillars (04 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported good and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (16 Nos.) was Rs. 37583 (as per MB) against the estimated cost of Rs. 37600.



Site 6- Pillars at Balaji Ka Thobda , Bandikui range

At Balaji Ka Thobda site Pillars (05 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The quality of construction of some of the pillar was poor. Plaster & finishing work of pillar was not proper. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (21 Nos.) was Rs. 49337 (as per MB) against the estimated cost of Rs. 49350.



Site 7 -Pillars at Mandawar Banawad Main , Mahwa range

The site visited under asset created under CAMPA was Pillars (41 Nos.) at Mandawar Banawad main site at Mahwa. At Mandawar Banawad main site Pillars (09 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (09 Nos.) was Rs. 21150 (as per MB) against the estimated cost of Rs. 21150.

Site 8- Pillars at Nandana Tahaldi Main , Mahwa range

The site visited under asset created under CAMPA was Pillars (30 Nos.) at Nandana Tahaldi Main at Mahwa. At Nandana Tahaldi Main site Pillars (06 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (06 Nos.) was Rs. 14100 (as per MB) against the estimated cost of Rs. 14100.

Site 9- Pillars at Nandana Tahaldi A , Mahwa range

The site visited under asset created under CAMPA was Pillars (05 Nos.) at Nandana Tahaldi A site at Mahwa. At Nandana Tahaldi A site Pillars (01 No.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (1 No.) was Rs. 2350 (as per MB) against the estimated cost of Rs. 2350.

4.1.10 Pillars at Khoncpuri , Mahwa range



The site visited under asset created under CAMPA was Pillars (50 Nos.) at Khonchpuri site at Mahwa. At Khonchpuri site Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (50 Nos.) was Rs. 117500 (as per MB) against the estimated cost of Rs. 114650.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Dausa division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Ghata	ANR	50	55.6	6
2	Dholi B	ANR	50	19.5	4
3	Aenchedi	ANR	50	45.2	5
4	Mirzapur	ANR	50	45.4	5

*4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Rescue Centre	Khan Bhankari	1	1	0
2.	Boundary Pillar	Golmain	5	5	0
3.	Boundary Pillar	Kalakho main	7	7	0
4.	Boundary Pillar	Naharkhora no.11 A	7	7	0
5.	Boundary Pillar	Dhpawan-Urwadi-Rehadia	4	4	0
6.	Boundary Pillar	Balaji ka Thobra	5	5	0
7.	Boundary Pillar	Mandawar-Banawad main	9	9	0
8.	Boundary Pillar	Nandana Tahaldi Main	6	6	0
9.	Boundary Pillar	Nandana Tahaldi A	1	1	0
10.	Boundary Pillar	Khoncpuri	10	10	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Rescue Centre	Khan Bhankari	Good	7
2	Boundary Pillar	Golmain	Average	6
3	Boundary Pillar	Kalakho main	Average	6
4	Boundary Pillar	Naharkhora no.11 A	Good	7
5	Boundary Pillar	Dhpawan-Urwadi-Rehadia	Good	7
6	Boundary Pillar	Balaji ka Thobra	Average	6
7	Boundary Pillar	Mandawar-Banawad main	Average	6
8	Boundary Pillar	Nandana Tahaldi Main	Average	6
9	Boundary Pillar	Nandana Tahaldi A	Average	6
10	Boundary Pillar	Khoncpuri	Average	6

Dholpur

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Dholpur Forest Division. This Forest Division with 4 Forest Ranges namely Sarmathura, Baadi, Van Vihar & Dholpur has territorial jurisdiction over the entire Dholpur District.

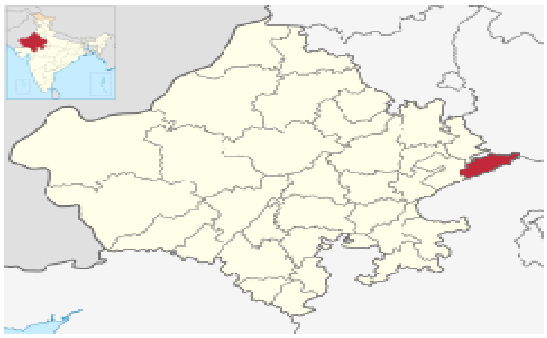


Figure: Location of Dholapur district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of Dholpur Forest Division were as given in table-3.1.

Table-3.1: Selected plantation site for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Sarmathura	Ballapura II	2021-22	50	ANR	100%
Badi	Kans ki Bawdi C	2021-22	50	ANR	10%
Van Vihar	Raikho-Ghatia	2020-21	50	DFL	100%
Van Vihar	Kile ka Dada	2020-21	50	DFL	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Dholpur Forest Division were as given in table 2.

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Sarmathura	Sidhpura	2020-21	Pakki Diwar 4 ft
Sarmathura	Dhauradada	2020-21	Anicut Type III
Sarmathura	Madanpur Block	2020-21	Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Ballapura II site in Sarmathura range -N $26^0$28’44” and E $77^0$28’47”

The selected plantation was carried out on 50 hac. of land at Ballapura II in Sarmathura range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was rocky, muram & red soil.

3.1.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai, rat, wild boars & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.1.4. Species Planted: The selected seedlings of Acacia senegal (Kumtha), Zizyphus mauritiana (Ber) Acacia nilotica (desi babool), Holoptelea integrifolia (Churel), Pongamia pinnata (Karanj, Ficus religiosa (Pipal)), Ficus religiosa (Pipal), Anogeissus pendula (Dhok) and Azadirachta indica (Neem) were planted.



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.**The growth of survived plants was satisfactory.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: *Birbra*, Khair, Dhok, Ronj and Kumtha were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species Desi babool, *Kumatha, Ronj & Kat karanj* were sown in as well as along the trenches, mud wall and on the thanwlas.

There was **g**ood growth on thanwalas, mud wall & trenches of seed sowing. **Hence, the result of sowing was good.**

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1000 RMT& ditch fencing of 2400 RMT. Present condition of fencing was satisfactory. Loose stone fencing & ditch fencing was partially effective in controlling biotic pressure.

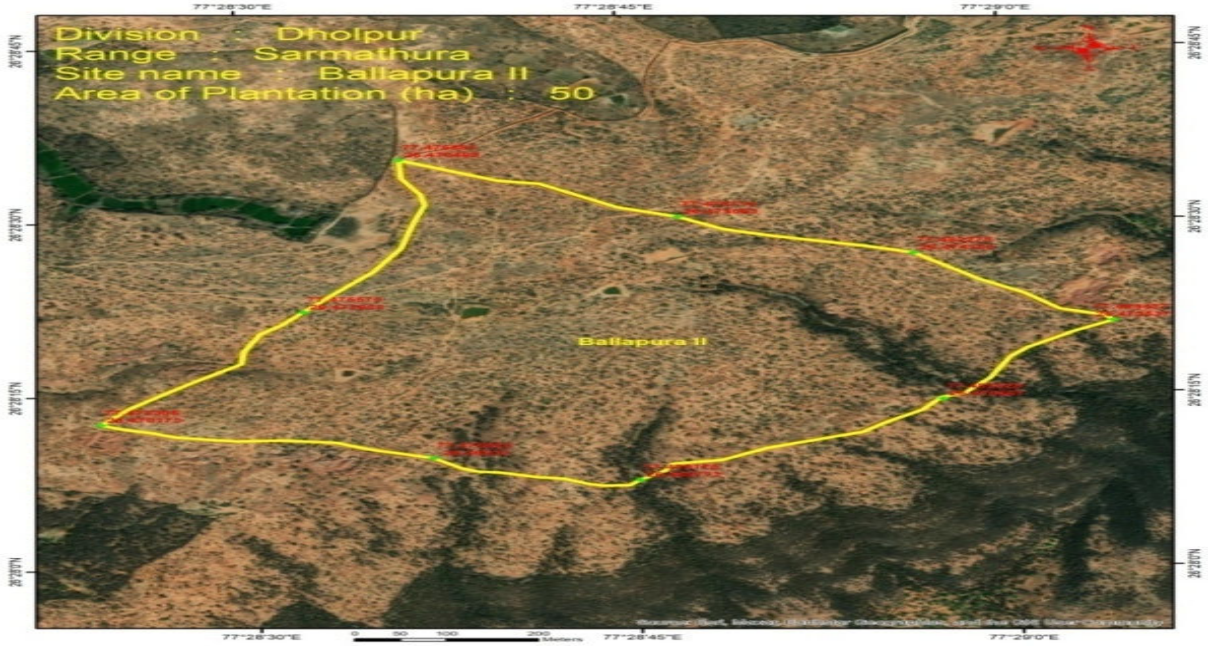
3.1.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trenches & earthen check dams (1580 cu.cm) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.9% at the site.**

Table 3: Status of Planted Seedlings at the site- Ballapura II Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	8000	3690	4310	46.1	129	29
Acacia senegal (Kumtha)	1000	370	630	37.0	100	25
Zizyphus mauritiana (Ber)	500	380	120	76.0	108	23
Dhok	50	45	5	90.0	90	21
Holoptelea integrifolia (Churel)	100	25	75	25.0	105	25
Pongamia pinnata (Karanj)	200	57	143	28.5	105	25
Dalbergia sissoo (Shisham)	50	18	32	36.0	90	21
Ficus religiosa (Pipal))	50	0	50	0.0	0	0
Azadirachta indica (Neem)	50	5	45	10.0	90	21
Total	10000	4590	5410	45.9	124	28

O. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.1. Site 2- Kans ki Bawdi C in Badi range - N 26^{0}42'12" and E 77^{0}23'10"

The selected plantation was carried out on 50 ha of land at Kans ki Bawdi C in Badi range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was rocky, muram & red soil.



3.2.2. Treatment plan before sowing: The topography of the area was hilly & ravines. Hence, as per availability of soil digging of pits has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, rat wild boars and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedling. The status of guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), Acacia tortilis (Totalis), Zizyphus mauritiana (Ber) & Holoptelea integrifolia (Churel) were planted.

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Bair, Chudail, Totalis & Desi babool which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. Hence, the site has species suitable to soil condition. The growth of survived plants was satisfactory.



3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Khair, Chudail, Kumtha, Bair, Desi babool & GoyaKhair have been found grown naturally.

3.2.7. Regeneration through seeds sowing: Seeds of species Ronj, Kumtha, desi babool, Chudail and Khair were sown in as well as along the trenches, mud wall and on the thanwlas. The result of seed sowing was good. Plants from the seeds sown were widely seen in contour trenches & mud wall.

3.2.8. Protection Work: The selected ANR model plantation had mud wall (Dola) fencing. Dola fencing was partially effective in controlling the biotic pressure.

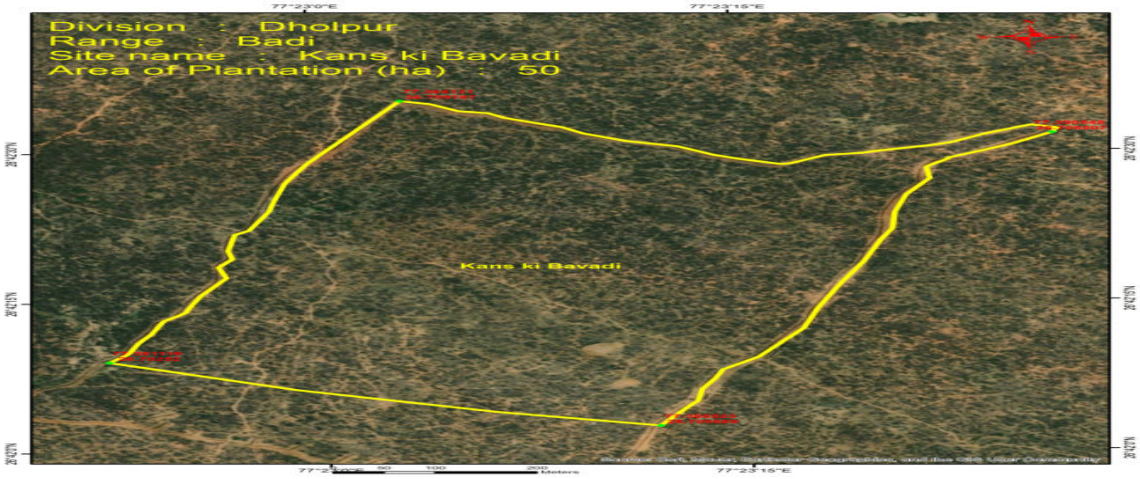
3.2.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trenches & PCT/Nadi (01) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation inSMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 44.5% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10000 plants comprising various species were planted in the 50 ha plantation area.

Table 3.1: Status of Planted Seedlings at the site-Kans ki Bawdi C Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)			190		90	25
Acacia tortilis (Totalis)			160		70	19
Zizyphus mauritiana (Ber)			75		90	25
Holoptelea integrifolia (Churel)			20		90	26
Total	10000	1000	445	44.5	85	24

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hectare as per kml map.



3.3.1. Site 3-Raykho Ghatia in Vanvihar range - N 26.476477 and E 77.544272

The selected plantation was been carried out on 50 hec of land at Raikho Ghatia of Vanvihar range during the year 2020-21. The activities were done under the DFL model. The site was a forest land and selected for 100% evaluation. The soil was rocky & red soil.

3.3.2. Treatment plan before sowing: The topography of the area was ravines &undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 35000 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory and it varies from location to location, where soil is better, growth is better. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.3.4. Species Planted: The selected seedlings of Acacia nilotica (desi babool), Acacia senegal (Kumtha), Zizyphus mauritiana (Ber), Pithecellobium dulce (Jangal Jalebi) and Holoptelea integrifolia (Churel) were planted.

A total of 35000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



The plantation of Seedlings was mixed along with the naturally growing plants already available there. Spacing between plant to plant was reported 3m/ 4m as per the available site condition. As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 35000 for 50 hectare of land. Map of planting site was prepared.



As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ber, Jangal Jalebi, Kumtha, Churail & Desi babool which can survive in the climate.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration*:* The area has been covered fully with vegetation due to this plantation. Plants like Dhok, Ronj and Desi babool have been found grown naturally. .

3.3.7. Regeneration through seeds sowing: The growth of seeds sowing plants was good. The result of seed sowing (viz. Kumtha & Ronj) was good. Plants from the seeds sown were widely seen in lines on contour trenches, mud wall & thanwalas.

3.3.8. Protection Work: The selected DFL model plantation was protected by mud wall fencing of 2500 rmt having width at the top-3.0 meters, width at the bottom-0.3 meter & height 1.2 meters. Present condition of mud wall fencing was average. Fencing has been partially effective in controlling the biotic pressures.

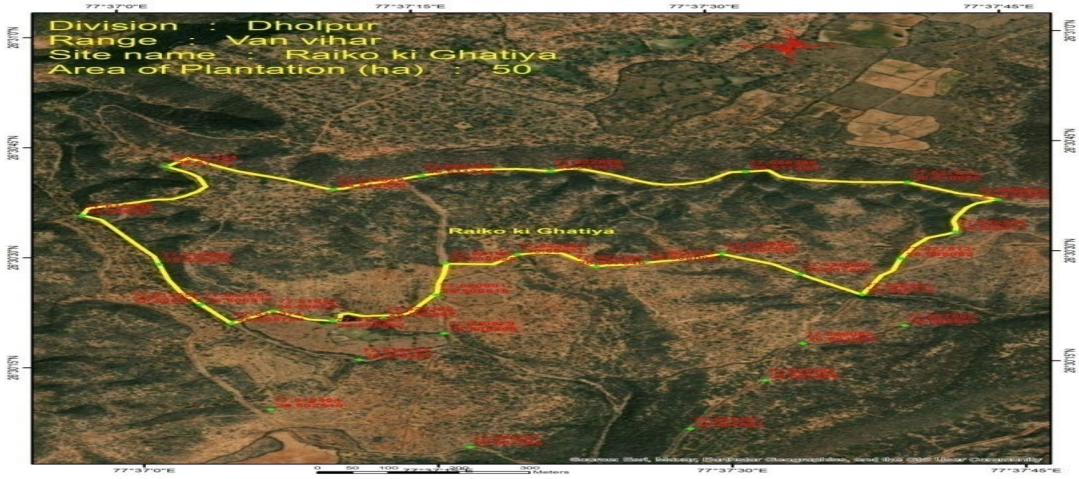
3.3.9. Soil and Water Conservation Measures: There are 15000 RMT (width at the top-1.05 meters, width at the bottom-0.45 meter & height 0.6 meters) Contour trenches & earthen check dams (02 nos.) in the form of water harvesting structures present in the entire plantation area. However, the extent of siltation of SMC structure at the plantation site is 30 percent.

3.3.10. Observations Recorded: Under this model, 700 plants per ha were planted during plantation. Based on for as 100 percent counting, plants survival was 44.2% at the site.

Table 3.2: Status of Planted Seedlings at the site-Raykho Ghatia Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	28500	14196	14304	49.8	145	24
Acacia senegal (Kumtha)	2000	305	1695	15.3	98	21
Pithecellobium dulce (Jangal Jalebi)	2000	639	1361	32.0	108	26
Zizyphus mauritiana (Ber)	400	0	400	0.0	103	23
Holoptelea integrifolia (Churel)	100	0	100	0.0	104	22
Acacia leucopholea (Ronj)	2000	318	1682	15.9	100	22
Total	35000	15458	19542	44.2	110	23

3.3.11.GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 50 hac as per kml map.



3.4.1. Site 4- Kile Ka Dada site in Van Vihar range -N 26°30'28" and E 77°37'17"

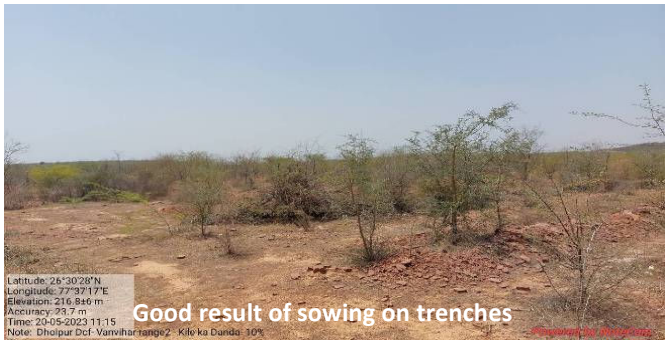
The selected plantation was carried out on 50 hac. of land at Kile Ka Dada in Van Vihar range during the year 2020-21. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 10% evaluation. The soil was rocky & sandy.

3.4.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 35000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, and porcupine was reported at the site. Also, wide growth of termite obstructs the growth of planted seedlings. Damage to planted seedling by human being was also reported at the site. The status of guarding/ fencing at the site was average.

3.4.4. Species Planted: The selected seedlings of Acacia nilotica (desi babool), Acacia senegal (Kumtha), Zizyphus mauritiana (Ber), Pithecellobium dulce (Jangal Jalebi), Acacia leucopholea (Ronj), Tamarindus indica (Imli) and Holoptelea integrifolia (Churel) were planted.



In total 35000 numbers of seedlings were planted at the site. As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 35000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Churel, Jungle Jalebi, Imli, Kumtha, Ronz, Bair & Desi babool which can survive in the climate. **The growth of survived plants was satisfactory.**



3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out

here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Desi babool & Dhonk were the plants found grown naturally in this area. The growth of the plants was good.

3.4.7. Regeneration through seeds sowing: Seeds of species Ronj & desi babool were sown in as well as along the trenches, dola fencing and on the thanwlas. The result of sowing was good. Plants from seed sowing were widely seen on trenches & thanwalas.

3.4.8. Protection Work: The selected DFL model plantation had mud wall fencing (3100 rmt). having width at the top-3.0 meters, width at the bottom-0.3 meter & height 1.2 meters. Present condition of mud wall fencing was average. Fencing has been partially effective in controlling the biotic pressures.

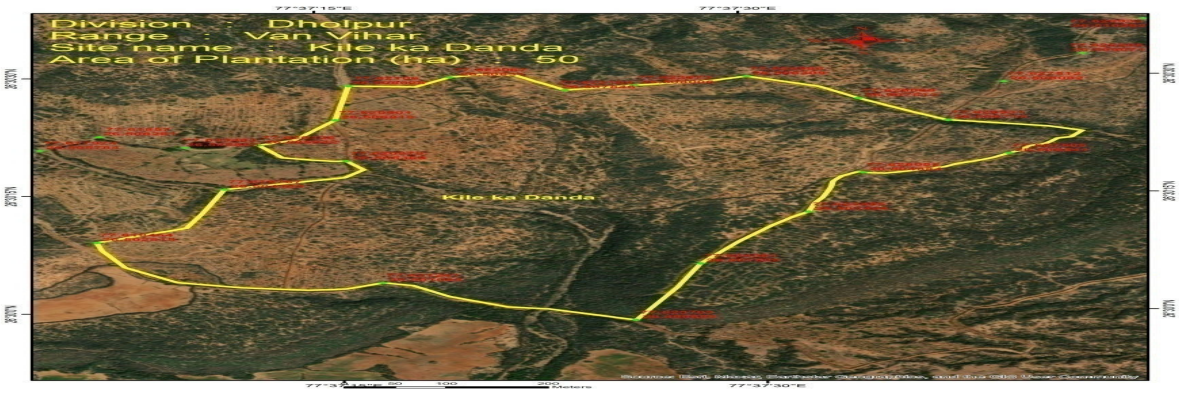
3.4.9. Soil and Water Conservation Measures: There are Contour trenches (15000 rmt) & 02 earthen check dam (1525 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 52.9% at the site.**

Table 3.3: Status of Planted Seedlings at the site- Kile ka dada Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	29000	2900			160	24
Pithecellobium dulce (Jangal Jalebi)	1500	150				0
Zizyphus mauritiana (Ber)	500	50				0
Acacia senegal (Kumtha)	3000	300				0
Holoptelea integrifolia (Churel)	500	50				0
Acacia leucopholea (Ronj)	200	20			140	23
Tamarindus indica (Imli)	300	30				0
Total	35000	3500	1853	52.9	150	23

3.4.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 50 hec as per kml map.



4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft at Sidhpura A, Sarmathura Range

At Sidhpura A in Sarmathura range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site. GPS location of this area was $26^0$32'57" N and $77^0$14'55"E. The expenditure incurred for constructing the Pakki Diwar 4ft. was (as per MB) against the estimated budget of 12.0 lac.



Site 2 -Anicut III at Dhauradada, Sarmathura Range

At Dhauradada in Sarmathura range , Anicut II has been evaluated. The Anicut III was constructed in the year 2020-21. The length, breadth & height of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. The GPS location of this area was $26^0$32'17" N and $77^0$24'32" E.



Site 3- Pillars at Madanpur Block , Sarmathura range

At Madanpur Block site in Sarmathura Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. In actual 20 pillars were found & evaluated by the third party. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. One pillar at the site was reported damaged.



5. Overall assessment

Table 5: Quantitative assessment of plantation work under CAMPA in Dholpur division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Ballapura II	ANR	50	45.9	5
2	Kas ki Bawdi C	ANR	50	44.5	5
3	Raikho-Ghatia	DFL	50	44.2	5
4	Kile ka Dada	DFL	50	52.9	6

* <5: poor (below 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Sidhpura	500	500	0
2.	Anicut Type III	Dhauradada	12.50x1.33x1.4	12.50x1.33x1.4	0
3.	Pillars	Madanpur Block	20	19	01-Damaged

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 4 ft	Sidhpura	Average	6
2	Anicut type III	Dhauradada	Average	6
3	Pillar	Madanpur Block	Average	6

Dungarpur

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Dungarpur Forest Division. This Forest Division with 6 Forest Ranges namely Dungarpur, Aaspur, Antri, Simalwara, Bichhiwara, & Sagwara has territorial jurisdiction over the entire Dungarpur District.



Figure : Location of Dungarpur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Dungarpur Forest Division for evaluation were as given in table 1.

Table 1: Plantation sites for evaluation

Sl.no	Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
1.	Aantri	Aadamal	2020-21	100	ANR	100%
2.	Seemalwara	Bansiya	2020-21	60	ANR	10%
3.	Dungarpur	Balvada	2020-21	12.528	NFL	100%
4.	Sagwara	Damariya Bora Magra	2021-22	40	ANR	10%
5.	Seemalwara	Dechara Bhagat II	2021-22	50	ANR	100
6.	Dungarpur	Kanpur Compartment no.3	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Dungarpur Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)	Remarks
1.	Bichiwara	Vankhand Kariya Mangra	2020-21	Pakki Diwar 4 ft	Completed
2.	Sagwara	Pani wala Dara	2020-21	Anicut Type II	Completed

3.	Sagwara	Kanthal C	2021-22	Pakki Diwar 4 ft	Completed
4.	Sagwara	Bhagapaliya	2021-22	Anicut Type II	Completed
5.	Dungarpur	Vankhand Ranijhula	2020-21	Boundary Pillars	Completed
6.	Aantari	Vankhand Pagara B	2020-21	Boundary Pillars	Completed
7.	Aantari	Vankhand Pagara C	2020-21	Boundary Pillars	Completed
8.	Aantari	Vankhand Pagara D	2020-21	Boundary Pillars	Completed
9.	Aaspur	Vankhand Beedlalgirji	2020-21	Boundary Pillars	Completed
10.	Aaspur	Vankhand Suliya Beraka	2020-21	Boundary Pillars	Completed
11.	Aaspur	Vankhand Kyawadi	2020-21	Boundary Pillars	Completed
12.	Aaspur	Vankhand Beda Bedi	2020-21	Boundary Pillars	Completed
13.	Dungarpur	Vankhand Ranijhula	2021-22	Boundary Pillars	Completed
14.	Bichiwara	Vankhand Chulrawaiya	2021-22	Boundary Pillars	Completed
15.	Bichiwara	Vankhand Palsisoda	2021-22	Boundary Pillars	Completed
16.	Aantari	Vankhand Bhedmata	2021-22	Boundary Pillars	Completed
17.	Aantari	Vankhand Aadamal	2021-22	Boundary Pillars	Construction work not initiated
18.	Aaspur	Vankhand Jaspur Khermal A	2021-22	Boundary Pillars	Completed
19.	Aaspur	Vankhad Falihor	2021-22	Boundary Pillars	Completed
20.	Aaspur	Vankhand Songara Mugediya	2021-22	Boundary Pillars	Completed
21.	Aaspur	Vankhand Kabja Katisaur	2021-22	Boundary Pillars	Completed
22.	Aaspur	Vankhand Ghatamawita	2021-22	Boundary Pillars	Completed

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Aadamal in Aantari range - N 23.5057 and E 73.5555

The selected plantation was carried out on 100 ha of land at Aadamal in Aantari range during the year 2020-21. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was domat & rocky.



Measuring the height of planted seedling

3.1.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 20000 pits were dug for plantation in total 100 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstructs the growth of planted seedling. The status of guarding/ fencing at the site was satisfactory.



3.1.4. Species Planted: The selected tree species under plantation were of Tectona grandis (Sagwan), Holoptelea integrifolia (Churel), Syzygium cumini (Jamun), Annona squamosa (Sitafal), Terminalia bellarica (Baheda), Madhuka latifolia (Mahua), Wrightia tinctoria (Khirani), Bombax ceiba (Semal), Anthocephalus kadamba (Kadamba)and Cassia fistula (Amaltas) were planted.



A total of 20000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 20000 for 100 hectare of land.

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Aawla, Khair, Chudail, Ronj & Neem have been found grown naturally.

3.1.7. Regeneration through seeds sowing: Seeds of species Khair, Baheda, Ronj, Khakhra, Bair, Kumtha and Ratanjot were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was good.

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3500 RMT & pucca masonry wall of 1000 RMT. Present condition of fencing was satisfactory. Loose stone fencing was partially effective in controlling the biotic pressure.

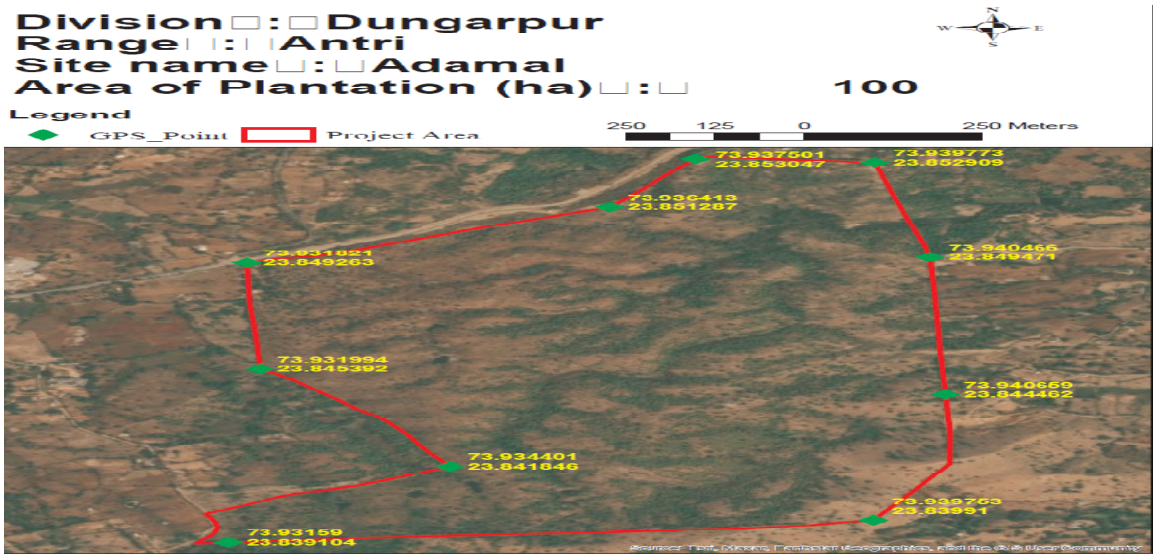
3.1.9. Soil and Water Conservation Measures: There are 21500 RMT trenches comprising 9000 RMT SGT, 12500 RMT CCT & & 11 PCT/Nadi (292 cu.m) the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.9% at the site.**

Table 3: Status of Planted Seedlings at the site-Aadamal Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	7850	5770	2080	73.5	106	24
Dendrocalamus strictus (Baans)	2500	995	1505	39.8	99	21
Syzygium cumini (Jamun)	500	54	446	10.8	90	23
Annona squamosa (Sitafal)	1300	0	1300	0.0	0	0
Madhuka latifolia (Mahua)	1000	0	1000	0.0	0	0
Terminalia bellirica (Baheda)	800	0	800	0.0	0	0
Wrightia tinctoria (Khirani)	1000	610	390	61.0	98	22
Bombax ceiba (Semal)	1000	520	480	52.0	95	21
Godal	100	0	100	0.0	0	0
Aegle marmelos (Bilpatra)	500	182	318	36.4	90	21
Cassia fistula (Amaltas)	1000	322	678	32.2	96	23
Holoptelea integrifolia (Churel)	1000	432	568	43.2	92	22
Dalbergia sissoo (Shisham)	200	95	105	47.5	117	21
Anthocephalus kadamba (Kadamba)	1000	0	1000	0.0	0	0
Sterculia urens (Kadaya)	50	0	50	0.0	0	0
Albizzia lebbeck (Siras)	200	0	200	0.0	0	0
Total	20000	8980	11020	44.9	102	23

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 100 hectare as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				972400				949021
2021-22				364300				363646
2022-23				215900				210488
Total				1552600				1523155

3.2.1. Site 2- Bansiya in Seemalwara range -N 23.3620 and E 73.517

The selected plantation was carried out on 60 hac. of land at Bansiya in Seemalwara range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was red & boulders.



Evaluation team at the plantation site



Marking & counting at the plantation site

3.2.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 12000 pits were dug for plantation in total 60 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai, wild boars, rats & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected tree species under plantation were of Tectona grandis (Sagwan), Dendrocalamus strictus (Baans), Wrightia tinctoria (Khirani), Emblica officinalis (Amla), Holoptelea integrifolia (Churel), Albizia lebbeck (Kala Siras), Bombax ceiba (Semal), Pongamia pinnata (Karanj), Madhuka latifolia (Mahua), Annona squamosa (Sitafal), Acacia catechu (Khair) and Aegle marmelos (Bilpatra)were planted.

In total 12000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 12000 for 60 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper, fair & suitable. The seedlings selected for plantation were Sagwan, Baans, Khirni, Churail & Amla which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was average.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Sagwan & Juliflora were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species *Kumatha & Khair* were sown in as well as along the trenches and on the thanwlas. There was good growth on thanwalas & trenches of seed sowing. **Hence, the result of sowing was average.**

3.2.8. Protection Work: The selected ANR model plantation had ditch fencing of 2210 RMT & loose stone fencing was 2220 RMT. Present condition of fencing was satisfactory. Ditch fencing & loose stone fencing was partially effective in controlling biotic pressure.

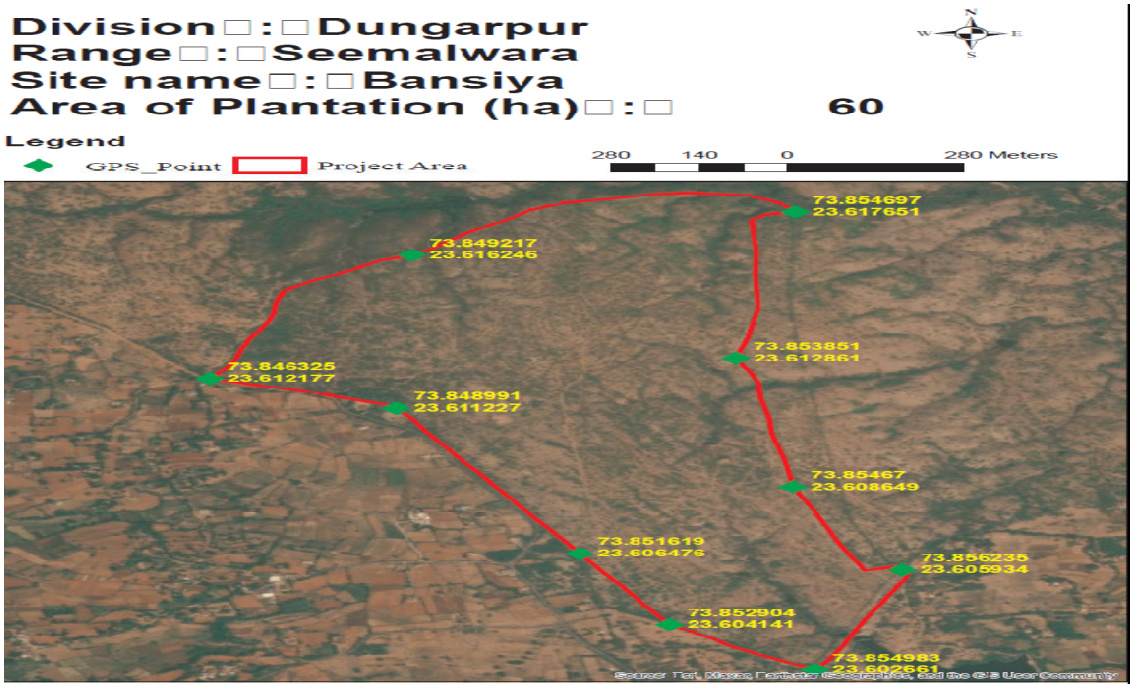
3.2.9. Soil and Water Conservation Measures: There are 12000 RMT CCT, MPT (245 cu.m) & loose stone check dams (242 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 44.2% at the site.**

Table 3.2: Status of Planted Seedlings at the site- Bansiya Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	6200	620	310		102	23
Bombax ceiba (Semal)	750	75			0	0
Dendrocalamus strictus (Baans)	500	50	76		105	20
Albizzia lebbeck (Siras)	320	32			0	0
Emblica officinalis (Amla)	1000	100	72		88	18
Acacia catechu (Khair)	450	45			0	0
Pongamia pinnata (Karanj)	250	25			0	0
Ficus religiosa (Pipal))	10	1			0	0
Annona squamosa (Sitafal)	70	7			0	0
*Mangifera indica (*Mango*)*	10	0			0	0
Zizyphus mauritiana (Ber)	310	31	72		90	20
Aegle marmelos (Bilpatra*)*	10	1			0	0
Wrightia tinctoria (Khirani)	1600	160			0	0
Sadad	70	7			0	0
Holoptelea integrifolia (Churel)	300	30			0	0
Madhuka latifolia (Mahua)	100	10			0	0
Terminalia bellirica (Baheda)	50	5			0	0
Total	12000	1199	530	44.2	96	20

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 60 hectare as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				583440				538868
2021-22				218580				217287
2022-23				129540				129169
Total				931560				885324

3.3.1. Site 3- Balwada site in Dungarpur range -N 23.4827 and E 73.3837

The selected plantation was carried out on 12.528 hac. of land at Balwada in Dungarpur range during the year 2020-21. The activities were done under the Non-Forest Land (NFL) model. The site was a forest land and selected for 100% evaluation. The soil was red & brown rocky.



3.3.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 13830 pits were dug for plantation in total 12.528 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.3.4. Species Planted: The selected tree species under plantation were of Tectona grandis (Sagwan), Dendrocalamus strictus (Baans), Tamarindus indica (Imli),Wrightia tinctoria (Khirani), Acacia leucopholea (Ronj), Azadirachta indica (Neem), Acacia catechu (Khair), Cassia fistula (Amaltas), Emblica officinalis (Amla) & *Annona squamosa* (Sitafal) were planted.

In total 13830 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 1100 plants per hectare have been planted. Thus, total number of plants planted was 13830 for 12.528 hectare of land. Map of planting site was prepared.**The growth of survived plants was poor.**

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Ronj, Juliflora, Khakhra were the plants found grown naturally in this area. The growth of the plants was poor. However, heavy growth of Juliflora was reported at the site.

3.3.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Khair, Ronj & Katkaranj* were sown in as well as along the trenches and on the thanwlas. The result of sowing was poor.

3.3.8. Protection Work: The selected NFL model plantation had loose stone fencing of 1844.06 RMT. Present condition of loose stone fencing was average. Loose stone fencing was damaged at some places.

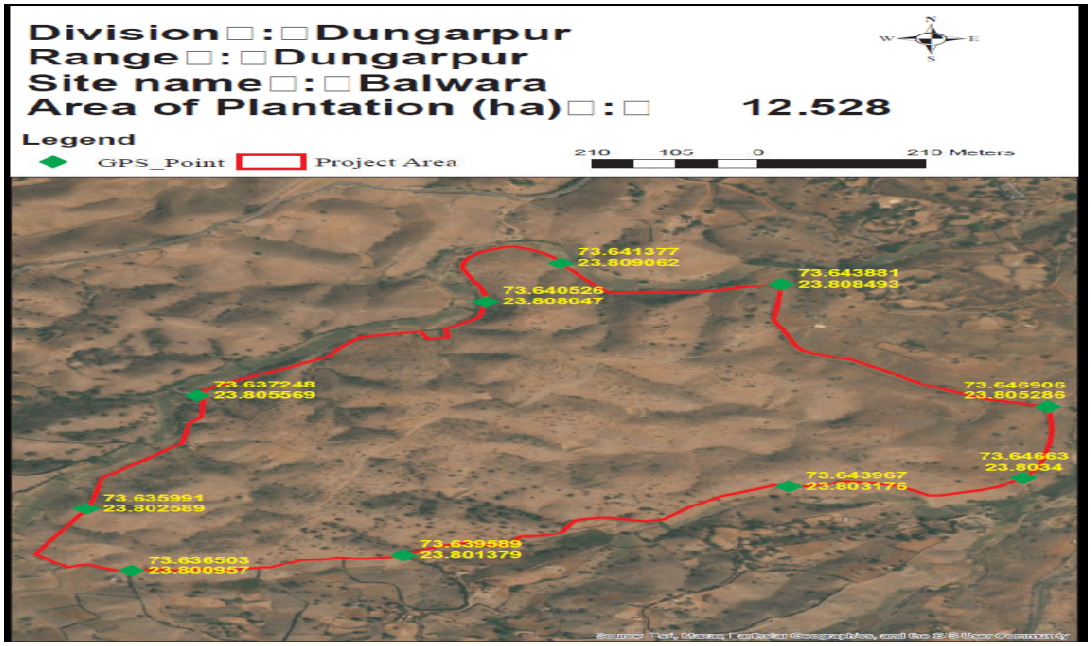
3.3.9. Soil and Water Conservation Measures: There are 2000 RMT CCT& PCT/Nadi (30 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 1100 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 41.1% at the site.**

Table 3.4: Status of Planted Seedlings at the site- Balwada Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	3800	1763	2037	46.4	58	24
Acacia leucopholea (Ronj)	900	522	378	58.0	24	21
Dendrocalamus strictus (Baans)	3000	1648	1352	54.9	62	18
Terminalia arjuna (Arjun)	50	12	38	24.0	28	16
Ficus religiosa (Pipal))	300	0	300	0.0	0	0
Tamarindus indica (Imli)	1000	232	768	23.2	30	15
Beda	800	144	656	18.0	26	16
Cassia fistula (Amaltas)	100	0	100	0.0	0	0
Wrightia tinctoria (Khirani)	1420	232	1188	16.3	28	18
Azadirachta indica (Neem)	500	170	330	34.0	26	16
Annona squamosa (Sitafal)	1900	963	937	50.7	30	18
Kabita	50	0	50	0.0	0	0
Emblica officinalis (Amla)	10	0	10	0.0	0	0
Total	13830	5686	8144	41.1	35	18

3.3.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 12.528 hec as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				679719				612249
2021-22				205660				185944
2022-23				70896				68634
Total				956275				866827

3.4.1. Site 4-Damariya Boda Magra in Sagwara range -N 23.3427 and E 73.5446

The selected plantation was carried out on 40 hac. of land at Damariya Boda Magra in Sagwara range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was red & stony.


Measuring the height of planted seedling

3.4.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 8000 pits were dug for plantation in total 40 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai, wild boars, rats & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.


Loose stone wall fencing at the site

3.4.4. Species Planted: The selected tree species under plantation were of Tectona grandis (Sagwan), Dendrocalamus strictus (Baans), Wrightia tinctoria (Khirani), Cassia fistula (Amaltas), Holoptelea integrifolia (Churel), Syzygium cumini (Jamun), Azadirachta indica (Neem), Albizia lebbeck (Kala Siras), Bombax ceiba (Semal), Pongamia pinnata (Karanj), Madhuka latifolia (Mahua), Annona squamosa (Sitafal), Acacia catechu (Khair) and Emblica officinalis (Amla) were planted.

In total 8000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 8000 for 40 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper, fair & suitable. The seedlings selected for plantation were Sagwan, Baans, Amaltas, Khirni, Churail & Amla which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was average.**

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.7. Natural Vegetation and Regeneration: Sagwan, Churail & Juliflora were the plants found grown naturally in this area. The growth of the plants was good.

3.4.8. Regeneration through seeds sowing: Seeds of species *Kumatha, Ronj, Katkaranj, Ratanjot, Khair & Khakhra* were sown in as well as along the trenches and on the thanwlas. There was good growth on thanwalas & trenches of seed sowing. **Hence, the result of sowing was average.**

3.4.9. Protection Work: The selected ANR model plantation had ditch fencing of 1500 RMT & loose stone fencing was 1800 RMT. Present condition of fencing was satisfactory. Ditch fencing & loose stone fencing was partially effective in controlling biotic pressure.

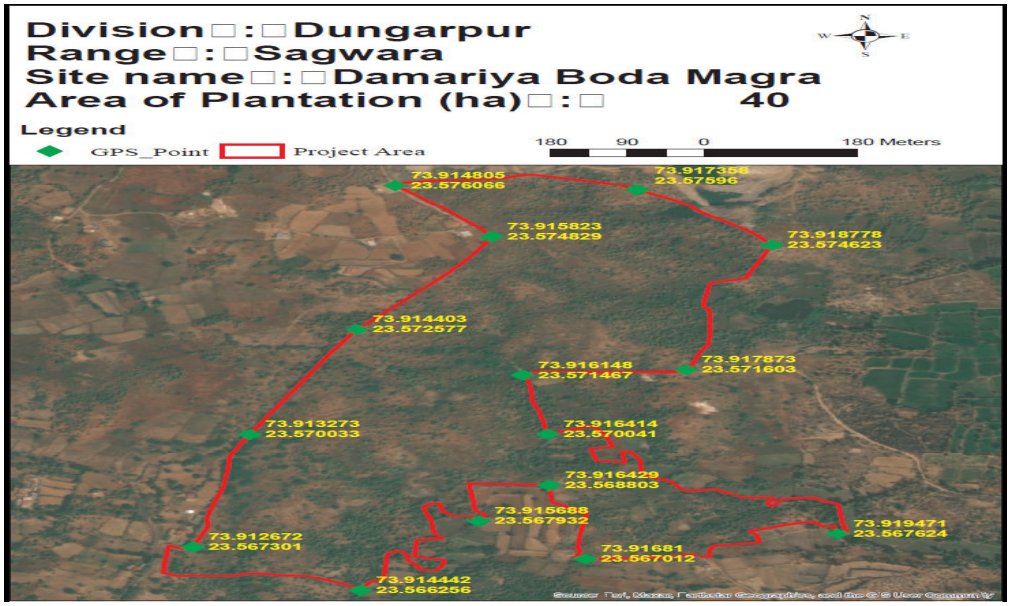
3.4.10. Soil and Water Conservation Measures: There are 8000 RMT CCT & PCT/Nadi (53 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.11. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 52.5% at the site.**

Table 3.6: Status of Planted Seedlings at the site- Damariya Boda Magra Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	4000	400	95		99	23
Dendrocalamus strictus (Baans)	1000	100	85		115	22
Wrightia tinctoria (Khirani)	500	50	0		0	0
Pongamia pinnata (Karanj)	450	45	68		116	23
Syzygium cumini (Jamun)	350	35	0		0	0
Emblica officinalis (Amla)	300	30	19		90	21
Azadirachta indica (Neem)	250	25	0		0	0
Ficus bengalensis (bargad)	10	1	0		0	0
Ficus religiosa (Pipal))	30	3	0		0	0
Annona squamosa (Sitafal)	300	30	0		0	0
Sterculia urens (Kadaya)	70	7	0		0	0
Timaru	100	10	0		0	0
Cassia fistula (Amaltas)	280	28	78		107	21
Holoptelea integrifolia (Churel)	360	36	75		96	24
Total	8000	800	420	52.5	105	22

3.4.12. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 40 hectare as per kml map.



3.4.13. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1664960				1661484
2021-22				409320				406140
2022-23				162641				162641
Total				2236921				2230265

3.5.1. Site 5-Dechra Bhagat II in Seemalwara range - N 23.481413 and E 73.711118

The selected plantation was carried out on 50 ha of land at Dechra Bhagat II in Seemalwara range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was red brown & rocky.



3.5.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation. Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.5.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstructs the growth of planted seedling. The status of guarding/ fencing at the site was satisfactory.



3.5.4. Species Planted: The selected tree species under plantation were of Tectona grandis (Sagwan), Acacia leucopholea (Ronj), Acacia catechu (Khair), Butea monosperma (Palash), Dendrocalamus strictus (Baans), Pongamia pinnata (Karanj), Annona squamosa (Sitafal&Tamarindus indica (Imli) etc.)



10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 20000 for 100 hectare of land. Map of planting site was prepared.The growth of survived plants was satisfactory.

3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Sagwan, Ronj, Tendu & Khakhra have been found grown naturally.

3.5.7. Regeneration through seeds sowing: Seeds of species Khair, Ronj, Katkaranj and Kumtha were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was average.

3.5.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1510 RMT & ditch fencing of 945 RMT. Present condition of fencing was satisfactory. Loose stone fencing was partially effective in controlling the biotic pressure.

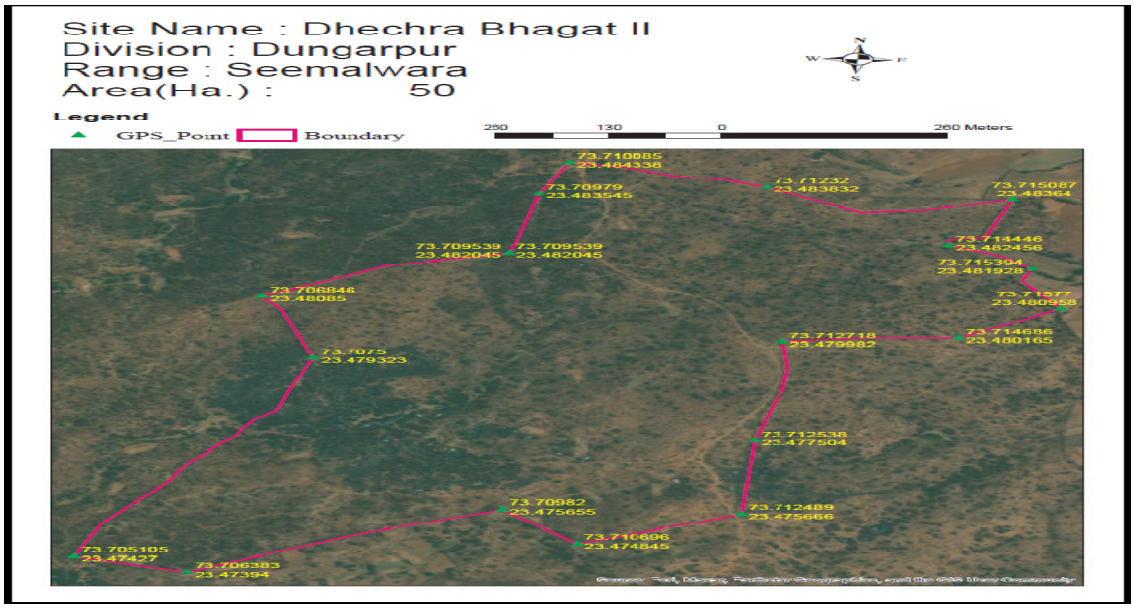
3.5.9. Soil and Water Conservation Measures: There are 10000 RMT trenches comprising 4000 RMT SGT, 6000 RMT CCT & 25 loose stone check dam (442.88 cu.m) the form of water harvesting structures present in the entire plantation area.

3.5.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.6% at the site.**

Table 3.8: Status of Planted Seedlings at the site-Dechra Bhagat II Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	4000	3855	145	96.4	112	24
Acacia leucopholea (Ronj)	700	0	700	0.0	0	0
Acacia catechu (Khair)	700	0	700	0.0	0	0
Butea monosperma (Palash)	500	0	500	0.0	0	0
Dendrocalamus strictus (Baans)	1000	297	703	29.7	104	29
Tamarindus indica (Imli)	400	127	273	31.8	90	20
Acacia nilotica (Desi babool)	200	0	200	0.0	0	0
Terminalia bellirica (Baheda)	500	183	317	36.6	90	21
Madhuka latifolia (Mahua)	200	0	200	0.0	0	0
Pongamia pinnata (Karanj)	900	0	900	0.0	0	0
Annona squamosa (Sitafal)	900	0	900	0.0	0	0
Total	10000	4462	5538	44.6	110	24

3.5.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hectare as per kml map.



3.5.12. Budget and expenditure

Table 3.9: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2006499
2021-22				511650				511069
2022-23				203240				199124
Total				2796090				2716692

3.6.1. Site 6- Kanpur Compartment No.3 in Dungarpur range -N 23.650155 and E 73.544513

The selected plantation was carried out on 50 hac. of land at Kanpur Compartment No.3 in Dungarpur range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was dark brown & boulders.



3.6.2 Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.6.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai, wild boars, rats & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.6.4. Species Planted: The selected tree species under plantation were of Tectona grandis (Sagwan), Dendrocalamus strictus (Baans), Wrightia Holoptelea integrifolia (Churel), Pongamia pinnata (Karanj), Terminalia bellirica (Baheda),Annona squamosa (Sitafal), Acacia catechu (Khair) and Emblica officinalis (Amla).

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 8000 for 40 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper, fair & suitable. The seedlings selected for plantation were Sagwan, Baans, Khair, Churail & Amla which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was average.**

3.6.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.6.6. Natural Vegetation and Regeneration: Sagwan, Khakhra, Tendu & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.6.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Ronj, Baheda, Khair & Khakhra* were sown in as well as along the trenches and on the thanwlas. There was good growth on thanwalas & trenches of seed sowing. **Hence, the result of sowing was average.**

3.6.8. Protection Work: The selected ANR model plantation had ditch fencing of 1575 RMT & loose stone fencing was 2362 RMT. Present condition of fencing was satisfactory. Ditch fencing & loose stone fencing was partially effective in controlling biotic pressure.

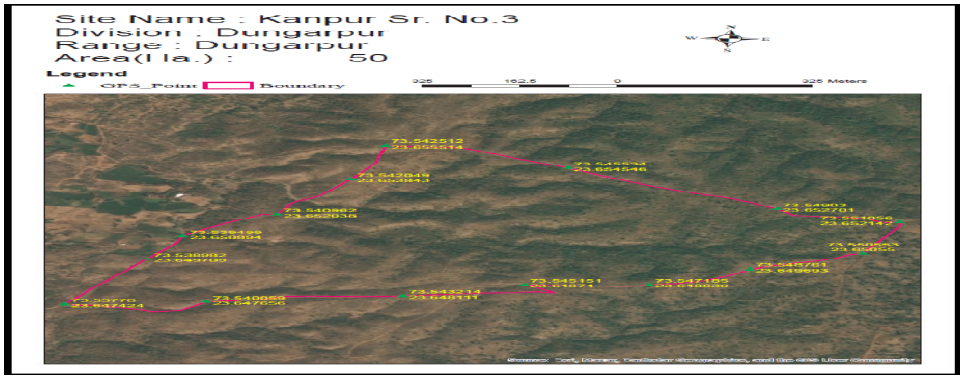
3.6.9. Soil and Water Conservation Measures: There are 10000 RMT CCT & loose stone check dam (250 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.6.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 44.6% at the site.**

Table 3.10: Status of Planted Seedlings at the site- Kanpur Compartment No.3 Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	6000	600	295		98	23
Acacia catechu (Khair)	2000	200	105		92	21
Emblica officinalis (Amla)	100	10	23		90	20
Terminalia bellirica (Baheda)	400	40	0		0	0
Pongamia pinnata (Karanj)	400	40	0		0	0
Annona squamosa (Sitafal)	500	50	0		0	0
Ficus racemosa (Hawan)	50	5	0		0	0
Dendrocalamus strictus (Baans)	50	5	6		91	21
Holoptelea integrifolia (Churel)	250	25	17		102	22
Sadad	250	25	0		0	0
Total	10000	1000	446	44.6	95	21

3.6.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 40 hectare as per kml map.



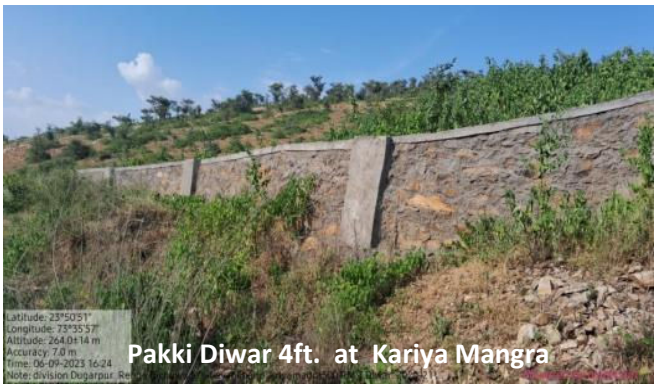
3.6.12. Budget and expenditure

Table 3.11: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2029881
2021-22				511650				479704
2022-23				203240				199370
Total				2796090				2708955

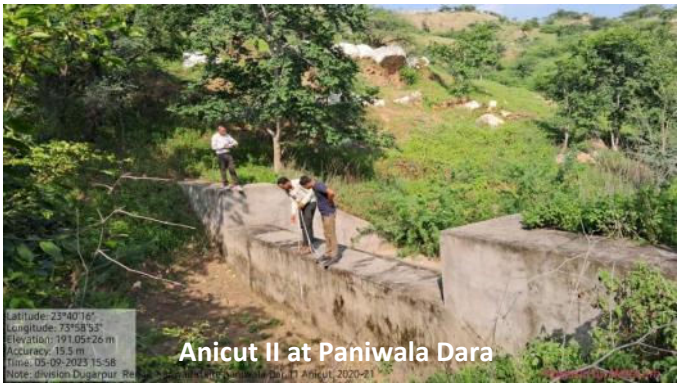
4.1 Site 1- Pakki Diwar 4 Ft at Kariyamangra , Bichiwara Range

At Vankhand Kariya Mangra in Bichiwara range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 500 m length as per MB. Also in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meter. Construction work appeared to be average and useful. Due to hilly area, illegal mining was prevalent in the area. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site from illegal mining.GPS location of this area was $23^0$51'5" N and $73^0$35'54" E. The expenditure incurred for constructing this wall was Rs. 1200000(as per MB) against the estimated cost of 12.0 lacs.



Site 2- Anicut II at Paniwala Dara, Sagwara Range

At Paniwala Dara in Sagwara range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length of Anicut II was 8.0 meters, breadth 5.0 meter, height 1.5 meters was constructed at the site. Construction work appeared to be average and useful. Water was not available in the anicut at the time of the visit. Wild animals used to drink water from the anicut. It also helps in soil & moisture conservation in the nearby area. GPS location of this area was 23.4017 N and 73.5854 E. The expenditure incurred for constructing the anicut was Rs.3.73 lac (as per MB) against the estimated budget of Rs 3.75 lac.



Site 3- Pakki Diwar 4 Ft at Kanthal C , Sagwara Range

At Kanthal C in Sagwara range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 1000 m length as per MB. Also in actual 1000 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meter. Construction work appeared to be average and useful. Due to

hilly area, illegal mining was prevalent in the area. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site.GPS location of this area was 23.4244 N and 74.619 E. The expenditure incurred for constructing this wall was 26.2 lacs (as per MB) against the estimated cost of 26.2 lacs.



Site 4- Anicut II at Bhaga Paliya, Sagwara Range

At Bhaga Paliya in Sagwara range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length of Anicut II was 9.1 meters, breadth 6.45 meter, height 1.275 meters was constructed at the site. Construction work appeared to be average and useful. Water was not available in the anicut at the time of the visit. Wild animals used to drink water from the anicut. It also helps in soil & moisture conservation in the nearby area. GPS location of this area was 23.391 N and 74.649 E. The expenditure incurred for constructing the anicut was Rs. (as per MB) against the estimated budget of Rs 3.75 lac.



Site 5- Pillars at Vankhand Ranijhula, Dungarpur range

The site visited under asset created under CAMPA was Pillars(17 nos.) at Vankhand Ranijhula at Dungarpur. At Vankhand Ranijhula in Dungarpur range Pillars (4 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 30162 (as per MB) against the estimated cost of Rs 3060.



Site 6- Pillars at Vankhand Pagara B, Aantri range



The site visited under asset created under CAMPA was Pillars(13 nos.) at Vankhand Pagara B at Aantri range. At Vankhand Pagara B in Aantri range Pillars (3 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average

and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 23400 (as per MB) against the estimated cost of Rs 23400.

Record keeping: The documents such as plan and MB were shown to the study team.

Site 7- Pillars at Vankhand Pagara C, Aantri range



The site visited under asset created under CAMPA was Pillars(4 nos.) at Vankhand Pagara C at Aantri range. At Vankhand Pagara C in Aantri range Pillars (1 No.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The pillar was partly damaged. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 7200 (as per MB) against the estimated cost of Rs 7200.

Site 8- Pillars at Vankhand Pagara D, Aantri range



The site visited under asset created under CAMPA was Pillars (4 nos.) at Vankhand Pagara D at Aantri range. At Vankhand Pagara D in Aantri range Pillars (1 No.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 7200 (as per MB) against the estimated cost of Rs 7200.

Site 9- Pillars at Vankhand Beedlalgirji, Aaspur range



The site visited under asset created under CAMPA was Pillars (15 nos.) at Vankhand Beedlalgirji at Aaspur. At Vankhand Beedlalgirji at Aaspur range Pillars (3 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the

pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 27000 (as per MB) against the estimated cost of Rs 27000.

Site 10- Pillars at Vankhand Suliya Beraka, Aaspur range



The site visited under asset created under CAMPA was Pillars (252 nos.) at Vankhand Suliya Beraka at Aaspur. At Vankhand Suliya Beraka in Aaspur range Pillars (51 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 45360 (as per MB) against the estimated cost of Rs 45360.

Site 11- Pillars at Vankhand Kyawadi, Aaspur range



The site visited under asset created under CAMPA was Pillars (14 nos.) at Vankhand Kyawadi at Aaspur. At Vankhand Kyawadi at Aaspur range Pillars (03 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 25200 (as per MB) against the estimated cost of Rs 25200.

Site 12: Pillars at Vankhand Beda Bedi, Aaspur range



The site visited under asset created under CAMPA was Pillars (11 nos.) at Vankhand Beda Bedi at Aaspur. At Vankhand Beda Bedi at Aaspur range Pillars (03 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 19800 (as per MB) against the estimated cost of Rs 19800.

Site 13- Pillars at Vankhand Ranijhula, Dungarpur range



The site visited under asset created under CAMPA was Pillars(50 nos.) at Vankhand Ranijhula at Dungarpur. At Vankhand Ranijhula in Dungarpur range Pillars (11 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 86386 (as per MB) against the estimated cost of Rs 152750.

Site 14- Pillars at Vankhand Chulrawaiya, Bichiwara range



The site visited under asset created under CAMPA was Pillars (40 nos.) at Vankhand Chulrawaiya at Bichiwara. At Vankhand Chulrawaiya in Bichiwara range Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 70711 (as per MB) against the estimated cost of Rs 192700.

Site 15- Pillars at Vankhand Palisoda, Bichiwara range

The site visited under asset created under CAMPA was Pillars(72 nos.) at Vankhand Pailsoda at Bichiwara. At Vankhand Pailsoda in Bichiwara range Pillars (12 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 127161 (as per MB) against the estimated cost of Rs 279650.



Site 16- Pillars at Vankhand Bhermata, Aantri range



The site visited under asset created under CAMPA was Pillars (90 nos.) at Vankhand Bhermata at Aantri range. At Vankhand Bhermata in Aantri range Pillars (23 No.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 202924 (as per MB) against the estimated cost of Rs 270250.

Site 18- Pillars at Vankhand Jaspur Khermal A, Aaspur range



The site visited under asset created under CAMPA was Pillars (229 nos.) at Vankhand Jaspur Khermal A at Aaspur. At Vankhand Jaspur Khermal A at Aaspur range Pillars (46 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 538150 (as per MB) against the estimated cost of Rs 538150.

4.1.19 Pillars at Vankhand Falihor, Aaspur range



The site visited under asset created under CAMPA was Pillars (195 nos.) at Vankhand Falihor at Aaspur. At Vankhand Falihor at Aaspur range Pillars (39 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 453846 (as per MB) against the estimated cost of Rs 458250.

Site 20- Pillars at Vankhand Songara Mugedia, Aaspur range



The site visited under asset created under CAMPA was Pillars (58 nos.) at Vankhand Songara Mugedia at Aaspur. At Vankhand Songara Mugedia at Aaspur range Pillars (12 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar was proper. The pillar was painted properly & number was written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 134990 (as per MB) against the estimated cost of Rs 136300.

Site 21- Pillars at Vankhand Kabja Katisaur, Aaspur range



The site visited under asset created under CAMPA was Pillars (29 nos.) at Vankhand Kabja Katisaur at Aaspur. At Vankhand Kabja Katisaur at Aaspur range Pillars (06 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The pillar was painted properly but number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 66847 (as per MB) against the estimated cost of Rs 68150.

Site 22- Pillars at Vankhand Ghatamawita, Sagwara range



The site visited under asset created under CAMPA was Pillars (93 nos.) at Vankhand Ghatamawita at Sagwara. At Vankhand Ghatamawita at Sagwara range Pillars (19 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The pillar was painted properly but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 217488 (as per MB) against the estimated cost of Rs 218550.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Dungarpur division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Aadamal	ANR	100	44.9	5
2.	Bansiya	ANR	60	44.2	5
3.	Balvada	NFL	12.528	41.1	5
4.	Damariya Boda Magra	ANR	40	52.5	6
5.	Dechara Bhagat II	ANR	50	44.6	5
6.	Kanpur Compartment no.3	ANR	50	44.6	5

*<4:very poor (below 40%), <5: poor (40- 50%), 6: average(50-60%), 7-good (60-70%), 8: very good (70-80%),9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Vankhand Kariya Mangra	500	500	0
2.	Anicut Type II	Pani wala Dara	8.0mX5.0mX1.5m	8.0mX5.0mX1.5m	0
3.	Pakki Diwar 4 ft	Kanthal C	1000	1000	0
4.	Anicut Type II	Bhagapaliya	9.1mX6.45mX1.275m	9.1mX6.45mX1.275m	0
5.	Boundary Pillars	Vankhand Ranijhula	4	4	0
6.	Boundary Pillars	Vankhand Pagara B	3	3	0
7.	Boundary Pillars	Vankhand Pagara C	1	1	0
8.	Boundary Pillars	Vankhand Pagara D	1	1	0
9.	Boundary Pillars	Vankhand Beedlalgirji	3	3	0
10.	Boundary Pillars	Vankhand Suliya Beraka	51	51	0
11.	Boundary Pillars	Vankhand Kyawadi	3	3	0
12.	Boundary Pillars	Vankhand Beda Bedi	3	3	0
13.	Boundary Pillars	Vankhand Ranijhula	11	11	0
14.	Boundary Pillars	Vankhand Chulrawaiya	10	10	0
15.	Boundary Pillars	Vankhand Palsisoda	21	21	0
16.	Boundary	Vankhand	23	23	0

	Pillars	Bhedmata			
17.	Boundary Pillars	Vankhand Jaspur Khermal A	46	46	0
18.	Boundary Pillars	Vankhad Falihor	39	39	0
19.	Boundary Pillars	Vankhand Songara Mugediya	12	12	0
20.	Boundary Pillars	Vankhand Kabja Katisaur	6	6	0
21.	Boundary Pillars	Vankhand Ghatamawita	19	19	0

5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Vankhand Kariya Mangra	Average	6
2.	Anicut Type II	Pani wala Dara	Average	6
3.	Pakki Diwar 4 ft	Kanthal C	Average	6
4.	Anicut Type II	Bhagapaliya	Average	6
5.	Boundary Pillars	Vankhand Ranijhula	Average	6
6.	Boundary Pillars	Vankhand Pagara B	Average	6
7.	Boundary Pillars	Vankhand Pagara C	Average	6
8.	Boundary Pillars	Vankhand Pagara D	Average	6
9.	Boundary Pillars	Vankhand Beedlalgirji	Average	6
10.	Boundary Pillars	Vankhand Suliya Beraka	Average	6
11.	Boundary Pillars	Vankhand Kyawadi	Average	6
12.	Boundary Pillars	Vankhand Beda Bedi	Average	6
13.	Boundary Pillars	Vankhand Ranijhula	Average	6
14.	Boundary Pillars	Vankhand Chulrawaiya	Average	6
15.	Boundary Pillars	Vankhand Palsisoda	Average	6
16.	Boundary Pillars	Vankhand Bhedmata	Average	6
17.	Boundary Pillars	Vankhand Jaspur Khermal A	Average	6
18.	Boundary Pillars	Vankhad Falihor	Average	6
19.	Boundary Pillars	Vankhand Songara Mugediya	Average	6
20.	Boundary Pillars	Vankhand Kabja Katisaur	Average	6
21.	Boundary Pillars	Vankhand Ghatamawita	Average	6

Ganganagar

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Ganganagar Forest Division. This Forest Division with 7 Forest Ranges namely Ravla, Gadsana, Sri Ganganagar, Anupgarh, Biradhwal, Rawla & Suratgarh has territorial jurisdiction over the entire Ganganagar District.

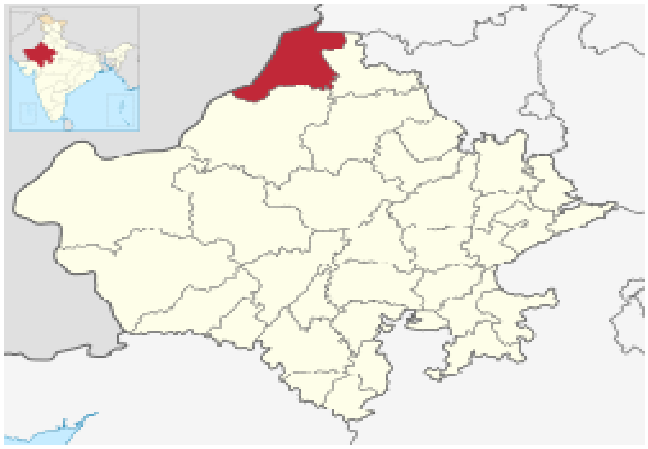


Figure 6 Location of Sri Ganganagar district, Rajasthan

2.1. Selected Asset Sites for Evaluation

The selected asset sites of Ganganagar Forest Division were as given in table 1

Table 1: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Biradhwal	1 SMR	2021-22	Boundary Pillars
Biradhwal	8 MC	2021-22	Boundary Pillars
Biradhwal	1 LGM	2021-22	Boundary Pillars
Biradhwal	2 LGM	2021-22	Boundary Pillars

3. Results for asset sites

3.1 Site 1- Pillars at 1 SMR, Biradhwal range



The site visited under asset created under CAMPA was Pillars (75 Nos.) at 1 SMR site at Biradhwal. At 1 SMR site in Biradhwal range, the Pillars (14 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average. The expenditure incurred for constructing the Pillars was Rs. 32900 (as per MB) against the estimated budget of Rs. 32900.

Site 2- Pillars at 8 MC, Biradhwal range



The site visited under asset created under CAMPA was Pillars (85 Nos.) at 8 MC site at Biradhwal. At 8 MC site in Biradhwal range, the Pillars (17 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average. The expenditure incurred for constructing the Pillars was Rs. 39950 (as per MB) against the estimated budget of Rs. 39950.

Site 3- Pillars at 1 LGM, Biradhwal range



The site visited under asset created under CAMPA was Pillars (60 Nos.) at 1 LGM site at Biradhwal. At 1 LGM site in Biradhwal range, the Pillars (12 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average. The expenditure incurred for constructing the Pillars was Rs. 28200 (as per MB) against the estimated budget of Rs. 28200.

Site 4- Pillars at 2 LGM, Biradhwal range



The site visited under asset created under CAMPA was Pillars (85 Nos.) at 2 LGM site at Biradhwal. At 2 LGM site in Biradhwal range, the Pillars (17 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average. The expenditure incurred for constructing the Pillars was Rs. 39980 (as per MB) against the estimated budget of 39980.

4. Overall assessment

Table 4: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Boundary Pillars	1 SMR	14	14	0
2.	Boundary Pillars	8 MC	17	17	0
3.	Boundary Pillars	1 LGM	12	12	0
4.	Boundary Pillars	2 LGM	17	17	0

Table 4.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Boundary Pillar	1 SMR	Average	6
2	Boundary Pillar	8 MC	Average	6
3	Boundary Pillar	1 LGM	Average	6
4	Boundary Pillar	2 LGM	Average	6

Hanumangarh

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Hanumangarh Forest Division. This Forest Division with 4 Forest Ranges namely Nohar, Rawatsar, Bhadra & Pilibanga has territorial jurisdiction over the entire Hanumangarh District.

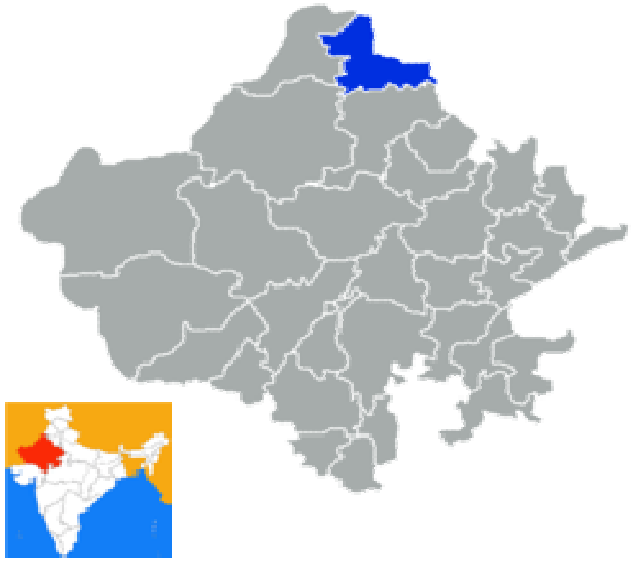


Figure 7 Location of Hanumangarh district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of Hanumangarh Forest Division were as given in table-3.1.

Table-1: Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Rawatsar	4 CLD	2021-22	25	Silvi Pastoral	100%
Nohar	Tidiyasar	2021-22	25	Silvi Pastoral	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Hanumangarh Forest Division were as given in table 1

Table 2: Asset sample sites for evaluation

Sl.no.	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Rawatsar	29 DWD	2020-21	Pakki Diwar 4 ft
2.	Nohar	Range Office	2020-21	Pakki Diwar 4 ft
3.	Hanumangarh	15 KSP	2021-22	Anicut TypeII
4.	Rawatsar	5JBD, 4 JBD,6	2020-21	Boundary Pillars

		KDD,5JBD ABC,Pohadka(5 PRKM),4 CLD, 5CLD, 1JBD,3 CLD		
5.	Rawatsar	122.5 RD	2021-22	Boundary Pillars
6.	Rawatsar	Rajasthan main Canal Between 72-135 RD	2021-22	Boundary Pillars
7.	Rawatsar	2 KDM	2021-22	Boundary Pillars
8.	Rawatsar	3 SPD	2021-22	Boundary Pillars
9.	Nohar	14 Barani	2021-22	Boundary Pillars
10.	Nohar	1 RMS	2021-22	Boundary Pillars
11.	Nohar	15 JSN	2021-22	Boundary Pillars
12.	Nohar	Chak Sardarpura	2021-22	Boundary Pillars
13.	Nohar	BP 5RMG	2021-22	Boundary Pillars
14.	Nohar	19 DPN	2021-22	Boundary Pillars
15.	Nohar	22 DPN	2021-22	Boundary Pillars
16.	Nohar	Sondi	2021-22	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1 Site 1-4 CLD site in Rawatsar range -N 29^0 11'3 and E $74^0$15'42"

The selected plantation was carried out on 25 hac. of land at 4 CLD in Rawatsar range during the year 2021-22. The activities were done under the Silvi Pastoral model (SPP). The site was a forest land and selected for 100% evaluation. The soil was sandy.

3.1.2 Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 5000 pits were dug for plantation in total 25 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3 Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and rat was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.1.4.Species Planted: The selected seedlings of Acacia tortilis (Totalis), Prosopis juliflora (Khejri) & Terminalia Zizyphus mauritiana (Ber) were planted.

In total 5000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 5000 for 25 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation was Totalis, Ber & Khejri which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was satisfactory.**



3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Totalis & Khejri were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Khejri, Dhaman & Sewan grass* was sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was average.** The result of sowing seeds was seen on contour trenches, thanwalas & ditch fencing.

3.1.8. Protection Work: The selected Silvi Pastoral model plantation had ditch fencing of 1350 RMT having width at the top-1.50 meters, width at the bottom-0.9 meters & height 1.2 meters. Also, hedge fencing of 700 rmt was reported at the site.

3.1.9 Soil and Water Conservation Measures: There are Contour trenches, Mulching & Kucchi Diggi in the form of water harvesting structures present in the entire plantation area.

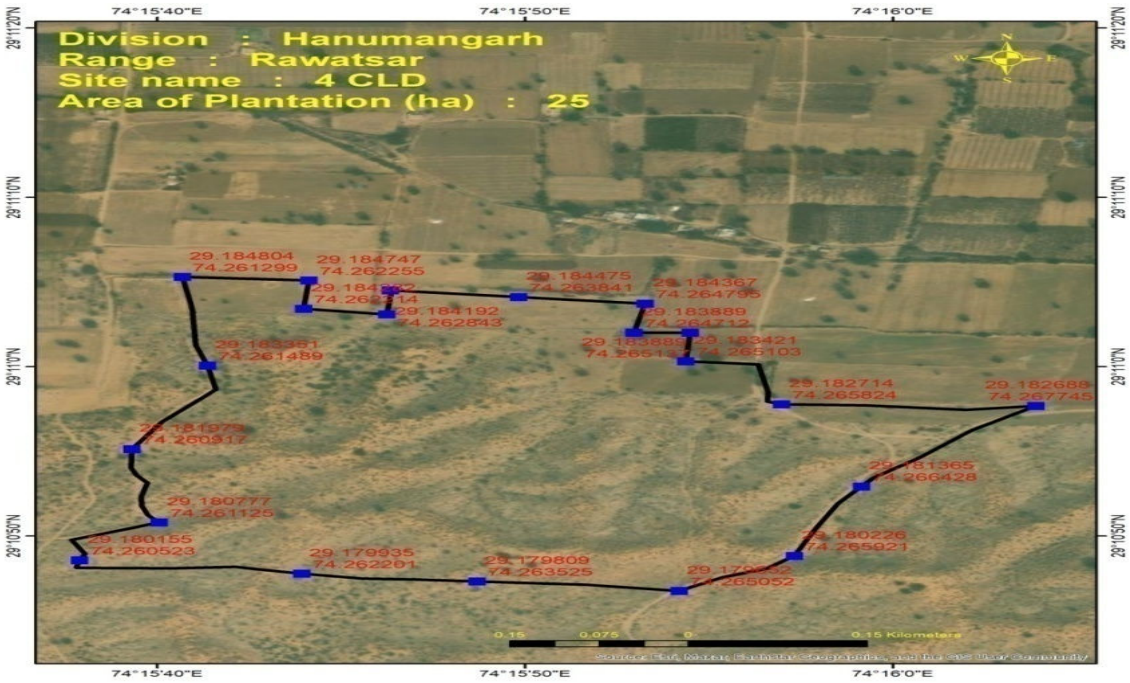
3.1.10 Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.8% at the site.**

Table 3: Status of Planted Seedlings at the site-4 CLD Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	1000	550	450	55.0	90	30
Zizyphus mauritiana (Ber)	3000	1590	1410	53.0	30	7

Prosopis juliflora (Khejri)	1000	100	900	10.0	30	5
Total	5000	2240	2760	44.8	50	11

O. GPS Location and KML file: The selected SPP model under CAMPA plantation site measured 25 Hac as per kml map.



3.2.1 Site 2- Tidiyasar site in Nohar range -N 28^0 51'9 and E $74^0$47'3"

The selected plantation was carried out on 25 hac. of land at Tidiyasar in Nohar range during the year 2021-22. The activities were done under the Silvi Pastoral (SPP) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.



3.2.2 Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 5000 pits were dug for plantation in total 25 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and rat was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.2.4. Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Dalbergia sissoo (Shisham), Acacia tortilis (Totalis), & Terminalia Zizyphus mauritiana (Ber) were planted.

In total 5000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 5000 for 25 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation was Totalis, Ber & Desi Babool which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was satisfactory.**



3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Totalis & Khejri were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species *Dhaman & Sewan grass* was sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was average.** The result of sowing seeds was seen on contour trenches, thanwalas & ditch fencing.

3.2.8. Protection Work: The selected Silvi Pastoral model plantation had ditch fencing of 1500 RMT & barbed wire fencing 0f 1500 rmt. The status of fencing is satisfactory.

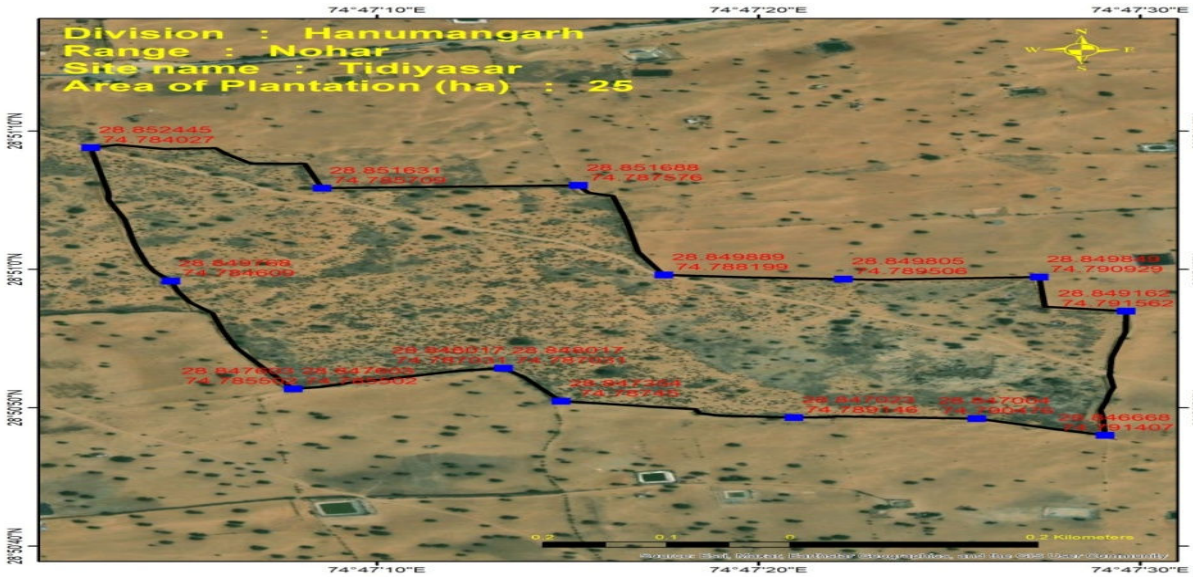
3.2.9. Soil and Water Conservation Measures: The SMC structure was not reported at the plantation site

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 48.60% at the site.**

Table 3.1: Status of Planted Seedlings at the site-Tidiyasar Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)					90	30
Acacia nilotica (Desi babool)					220	32
Zizyphus mauritiana (Ber)					220	29
Dalbergia sissoo (Shisham)					230	33
Total	5000	500	243	48.6	190	31

3.2.11. GPS Location and KML file: The selected SPP model under CAMPA plantation site measured 25 Hac as per kml map.



4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft at 29 DWD, Rawatsar Range

At 29 DWD in Rawatsar range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 500 m length as per MB. In actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.23 m. Construction work appeared to be average and the infrastructure was useful. The finishing of pakki diwar was not proper. Plaster work was not completely done. GPS location of this area was $29^0$13'27" N and $74^0$22'0"E. The construction of Pakki Diwar 4 ft helped in preventing encroachment. The expenditure incurred for constructing this wall was (as per MB) against the estimated budget of 12.0 lacs



Site 2- Pakki Diwar 4 Ft at Range Office Nohar, Nohar Range

At range office Nohar, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 250 m length as per MB. In actual 250 m pakki diwar was constructed at the site. The width of the diwar was 0.26 m. Construction work appeared to be average and the infrastructure was useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment. GPS location of this area was



$29^0$11’18” N and $74^0$47’6” E. The expenditure incurred for constructing this wall was Rs.591219 (as per MB) against the estimated budget of Rs. 6.0 lacs

Site 3- Anicut Type II /Kucchi Diggi at 15 KSP, Hanumangarh Range



At 15 KSP in Hanumangarh range, Kucchi Diggi has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & depth of the structure is 49.80 m, 31.80 m & 3.80 m. Construction work appeared to be good and useful. Canal water of the nearby area used to collect in Kucchi Diggi. Water was available in the Kucchi Diggi at the time of visit. The GPS location of this area was $29^0$28’28” N and $74^0$20’11” E. The expenditure incurred for constructing the anicut was 3.75 lac (as per MB) against the estimated budget of 3.75 lac.

Site 4- Pillars at 5JBD, 4 JBD, 6 KDD,5 JBD ABC, Pohadka(5 PRKM),4 CLD, 5 CLD, 1 JBD, 3 CLD Rawatsar range



At 5JBD, 4 JBD,6 KDD,5JBD ABC,Pohadka(5 PRKM),4 CLD, 5CLD, 1JBD,3 CLD site in Rawatsar range, the Pillars (100 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars were 19 in numbers as per MB. In actual 19 pillars were found & evaluated by the third party. However, due to weak foundation and high intensity wind 05 pillars were either fallen on the ground or submerged in sand. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. GPS location of pillars area was 29.217429 N and 74.227377 E. The present condition of pillars was average. The expenditure incurred for constructing the 500 Pillars was lacs (as per MB) against the estimated budget of 9.0 lacs.

Site 5- Pillars at 122.5 RD, Rawatsar range



At 122.5 RD site in Rawatsar range, the Pillars (04 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.

Site 6- Pillars at Rajasthan main Canal between 72-135 RD, Rawatsar range

At Rajasthan main Canal Between 72-135 RD site in Rawatsar range, the Pillars (42 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.



Site 7- Pillars at 2 KDM, Rawatsar range



At 2 KDM site in Rawatsar range, the Pillars (02) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary.

Site 8- Pillars at 3 SPD, Rawatsar range



At 3 SPD site in Rawatsar range, the Pillars (03 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.

Site 9- Pillars at 14 Barani, Nohar range

At 14 Barani site in Nohar in range, the Pillars (13 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.



Site 10- Pillars at 1 RMS, Nohar range



At 1 RMS site in Nohar range, the Pillars (02 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.

Site 11- Pillars at 15 JSN, Nohar range



At 15 JSN site in Nohar range, the Pillars (02 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.

Site 12- Pillars at Chak Sardarpura, Nohar range



At Chak Sardarpura site in Nohar range, the Pillars (09 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.

Site 13- Pillars at BP 5 RMG, Nohar range

At BP 5 RMG site in Nohar range, the Pillars (02 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.



Site 14- Pillars at 19 DPN, Nohar range

At BP 19 DPN site in Nohar range, the Pillars (03 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary.



The present condition of pillars was average. The expenditure incurred for constructing 250 Pillars of 14 Barani, Sonari, 15 JSN,1RMS, 22 DPN, 19 DPN, 5 RMG was lacs (as per MB) against the estimated budget of Rs. 587500.

Site 15- Pillars at 22 DPN, Nohar range

At BP 22 DPN site in Nohar range, the Pillars (02 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.



4.1.16 Pillars at Sondi , Nohar range



At Sondi site in Nohar range, the Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. Construction work appeared to be average and useful. The construction of pillars helped in marking forest boundary. The present condition of pillars was average.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Hanumangarh division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	4 CLD	Silvi Pastoral	25	44.8	5
2	Tidiyasar	Silvi Pastoral	25	48.6	5

* <4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	29 DWD	500	500	0
2.	Pakki Diwar 4 ft	Range Office	250	250	0
3.	Anicut TypeII/ Kucchi Diggi	15 KSP	49.80x31.80 x3.80	49.80x31.80x3.80	0
4.	Boundary Pillars	5JBD, 4 JBD,6 KDD,5JBD ABC,Pohadka(5 PRKM),4 CLD, 5CLD, 1JBD,3	10	100	0

		CLD			
5.	Boundary Pillars	122.5 RD	4	4	0
6.	Boundary Pillars	Rajasthan main Canal Between 72-135 RD	42	42	0
7.	Boundary Pillars	2 KDM	2	2	0
8.	Boundary Pillars	3 SPD	3	3	0
9.	Boundary Pillars	14 Barani	13	13	0
10.	Boundary Pillars	1 RMS	2	2	0
11.	Boundary Pillars	15 JSN	2	2	0
12.	Boundary Pillars	Chak Sardarpura	9	9	0
13.	Boundary Pillars	BP 5RMG	2	2	0
14.	Boundary Pillars	19 DPN	3	3	0
15.	Boundary Pillars	22 DPN	2	2	0
16.	Boundary Pillars	Sondi	20	20	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rating of quality of construction
1.	Pakki Diwar 4 ft	29 DWD	Average	6
2.	Pakki Diwar 4 ft	Range Office	Average	6
3.	Anicut Type II	15 KSP	Good	7
4.	Boundary Pillar	5JBD, 4 JBD,6 KDD,5JBD ABC,Pohadka(5 PRKM),4 CLD, 5CLD, 1JBD,3 CLD	Average	6
5.	Boundary Pillar	122.5 RD	Average	6
6.	Boundary Pillar	Rajasthan main Canal Between 72-135 RD	Average	6
7.	Boundary Pillar	2 KDM	Average	6
8.	Boundary Pillar	3 SPD	Average	6
9.	Boundary Pillar	14 Barani	Good	7
10.	Boundary Pillar	1 RMS	Good	7
11.	Boundary Pillar	15 JSN	Good	7
12.	Boundary Pillar	Chak Sardarpura	Good	7
13.	Boundary Pillar	BP 5RMG	Good	7
14.	Boundary Pillar	19 DPN	Good	7
15.	Boundary Pillar	22 DPN	Good	7
16.	Boundary Pillar	Sondi	Good	7

Jaipur Zoo

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Jaipur Zoo Forest Division. This Forest Division with 3 Forest Range namely Office Campus, Jaipur Pradeshik & Nahargarh Biological Park has territorial jurisdiction over the entire Jaipur District.



Figure : Location of Jaipur district, Rajasthan

2.1. Selected Asset Sites for Evaluation

The selected asset sites of Jaipur Zoo Forest Division were as given in table 1

Table 1: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Jaipur Pradeshik	Ghat Ke Balaji, Naka Galta, Forest Block-Amagarh	2020-21	Pakki Diwar 6 ft
Jaipur Pradeshik	Lala Kund, Jhalana Leopard Reserve	2021-22	Anicut III

3. Results for asset sites

3.1 Site 1-Pakki Diwar 6 Ft at Ghat Ke Balaji, Naka Galta , Jaipur Pradeshik Range



At Ghat Ke Balaji Naka Galta in Jaipur Pradeshik range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 730 rmt length as per MB. Also, in actual 730 rmt pakki diwar was constructed at the site. The pakki diwar was costructed at two places viz. 124 rmt at the Kusth

Ashram side & the remaining 606 rmt at Ghat Ke Balaji side. Construction work appeared to be average and the infrastructure was useful in protecting forest area. However, the pakki diwar was damaged at many places. It should be repaired. GPS location of this area was 26.90721 N and 75.865675 E. The expenditure incurred for constructing this wall was Rs. 1789561 (as per MB) against the estimated budget of Rs. 2000000.

Site 2-Anicut III at Lala Kund, Jhalana Leopard Reserve, Jaipur Pradeshik Range



At Lala Kund, Jhalana Leopard Reserve in Jaipur Pradeshik range, Anicut III has been evaluated. The Anicut III was constructed in the year 2021-22. The length, breadth & height of the structure was as per MB. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. Presently anicut was used as water point for wild animals. The GPS location of this area was 26.872145 N and 75.85118 E. The expenditure incurred for constructing the anicut wall was Rs.514057 (as per MB) against the estimated budget of Rs 6.5 lac.

4. Overall assessment

Table 4.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 6 ft	Ghat Ke Balaji, Naka Galta, Forest Block-Amagarh	730	730	0
2.	Anicut III	Lala Kund, Jhalana Leopard Reserve	15x1.2x1.2	15x1.2x1.2	0

Table 4.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 6 ft	Ghat Ke Balaji	Average	6
2	Anicut III	Jhalana Leopard Reserve	Average	6

Jaipur North

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Jaipur North Forest Division. This Forest Division with 6 Forest Ranges namely Achrol, Kotputli, Shahpura,Veratnagar, Paota & Chomu has territorial jurisdiction over the entire Jaipur District.



Figure : Location of Jaipur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Jaipur North Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Pawta	Aantela Bawdi	2020-21	50	ANR	100%
Achrol	Samrend Khurd "C"	2021-22	50	ANR	10%
Kothputli	Panch Pahadi (Hapuda)	2021-22	50	ANR	100%
Viratnagar	Dhawali A	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Jaipur North Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Kothputli	Bandh Buchara	2020-21	Pakki Diwar 4 ft
Achrol	Rundal	2020-21	Pakki Diwar 4 ft
Paota	Vankhand Buchara A	2020-21	Boundary Pillars
Paota	Vankhand Aantela Bhabhuru block 51	2020-21	Boundary Pillars
Sahpura	Kumbhawas Garhi Barodia 52	2020-21	Boundary Pillars
Viratnagar	Badi line 43 C	2020-21	Boundary Pillars
Viratnagar	Berki Makreta ki dungri 46 A	2020-21	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Aantela Bawdi site in Pawta range -N 27.489206 and E 75.99921

The selected plantation was carried out on 50 hac. of land at Aantela Bawdi in Pawta range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy.



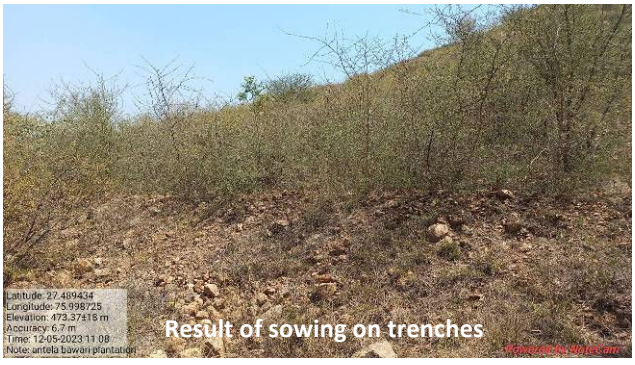
3.1.2. Treatment plan before sowing: The topography of the area was hilly & ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10226 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, rats and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average

3.1.4. Species Planted: The selected seedlings of Dalbergia sissoo (Shisham), Acacia nilotica (Desi babool), *Azadirachta indica (Neem),* Acacia tortilis (Totalis), Holoptelea integrifolia (Churel), Acacia leucopholea (Ronj) and Zizyphus mauritiana (Ber) were planted.

In total 10226 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10226 for 50 hectare of land. **The growth of survived plants was very good.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.



3.1.6. Natural Vegetation and Regeneration: Totalis, Churel, Dhok & Ronzwere the plants found grown naturally in this area. The growth of the plants was very good.

3.1.7. Regeneration through seeds sowing: Seeds of species Kumtha, Totalis, Churel & Ronj were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.1.8. Protection Work: The selected ANR model plantation had ditch fencing of 2678 RMT having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters and 656 RMT loose stone wall fencing. Present condition of fencing was satisfactory.

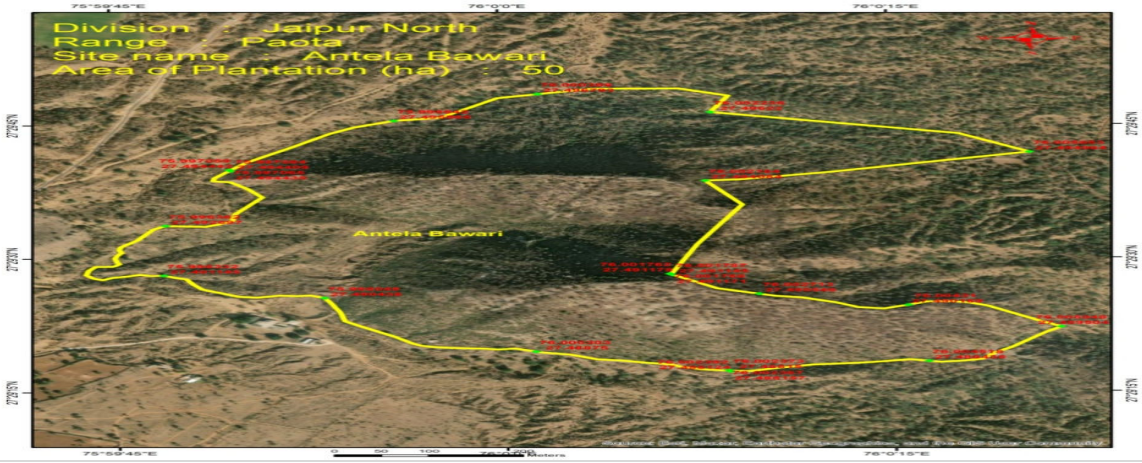
3.1.9. Soil and Water Conservation Measures: There are 14000 RMT Contour trenches, 1220 deep CCT, 255.68 cu.m loose stone check dams and 1172.79 cu.m earthen check dams in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 62.0% at the site.**

Table 3: Status of Planted Seedlings at the site-Aantela Bawdi Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	4680	2889	1791	61.7	171	31
Holoptelea integrifolia (Churel)	1690	1132	558	67.0	103	22
Dalbergia sissoo (Shisham)	800	494	306	61.8	123	27
Acacia leucopholea (Ronj)	1200	722	478	60.2	90	21
Zizyphus mauritiana (Ber)	370	232	138	62.7	90	23
Anogeissus pendula (Dhok)	322	199	123	61.8	90	27
Azadirachta indica (Neem)	210	77	133	36.7	90	21
Acacia nilotica (Desi babool)	410	347	63	84.6	105	25
Kakeda	220	151	69	68.6	96	21
Tecomella undulata (Rohida)	170	27	143	15.9	90	33
Others	154	68	86	44.2	101	24
Total	10226	6338	3888	62.0	132	27

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.1. Site 2- Samrend Khurd C in Achrol range - N 27.121421 and E 76.067424

The selected plantation was carried out on 50 ha of land at Samred Khurd C in Achrol range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was sandy.



3.2.2. Treatment plan before sowing: The topography of the area was hilly & ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle (viz. goat & sheep) and destruction by Neel gai, rats and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor. There was no provision of guarding for the current year.

3.2.4. Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), *Acacia leucophoelea (*ronj), *Holoptelea integrifolia* (Churel), *Zizyphus mauritiana (*Ber), Dalbergia sissoo (Shisham) and Acacia tortilis (Totalis) were planted.



A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ronj, Churel, totalis & Desi babool which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was good.

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi babool, Hingot and Ronj have been found grown naturally.

3.2.7. Regeneration through seeds sowing: Seeds of species kumtha, Katkaranj, Cheela and Khejari were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was good. Plants from the seeds sown were widely seen in contour trenches.

3.2.8. Protection Work: The selected ANR model plantation had 2115 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters. Ditch .fencing was partially effective in controlling the biotic pressure. Also, 1640 rmt loose stone wall fencing, barbed wire fencing of 205 rmt & hedge fencing of 245 rmt reported at the site.

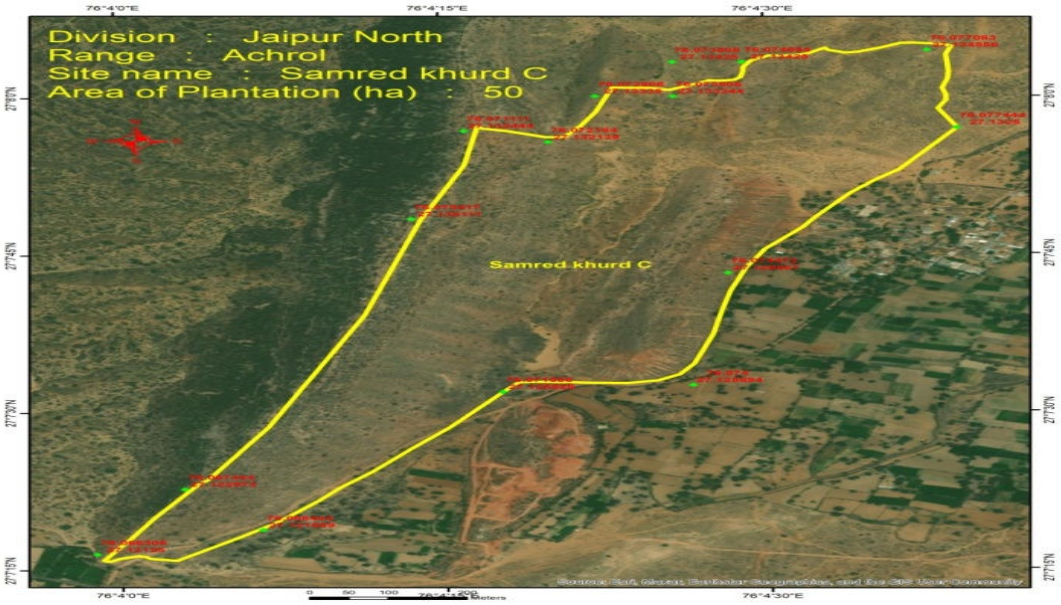
3.2.9. Soil and Water Conservation Measures: There are 9600 RMT (Width & depth -0.45 meter) Contour trenches, 1800 rmt Contour Dykes,1300 rmt Deep CCT, 1000 rmt SGT, 1035 cu.m earthen check dams, 822 cu m loose stone check dam & 455 cu.m WHS in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & loose stone check dam & +2 cu.m excess in WHS structures.

3.2.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 52.6% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was good. A total of 10000 plants comprising of various species were planted in the 50 ha plantation area.

Table 3.2: Status of Planted Seedlings at the site- Samred Khurd C Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	2500	250	136	54.4	100	30
Acacia nilotica (Desi babool)	2500	250	127	50.8	90	30
Holoptelea integrifolia (Churel)	1000	100	59	59.0	90	27
Zizyphus mauritiana (Ber)	2000	200	103	51.5	120	35
Dalbergia sissoo (Shisham)	500	50	22	44.0	105	32
Acacia leucopholea (Ronj)	1500	150	79	52.7	70	21
Total	10000	1000	526	52.6	96	29

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.3.1. Site 3-Panchpahadi (Hapuda) in Kothputli range - N 27^{0}31'41.5' and E 76^{0}11'39.9'

The selected plantation was carried out on 50 hec land of Panch Pahadi (Hapuda) at Kothputli range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was sandy.



3.3.2. Treatment plan before sowing: The topography of the area was hilly &ravine. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



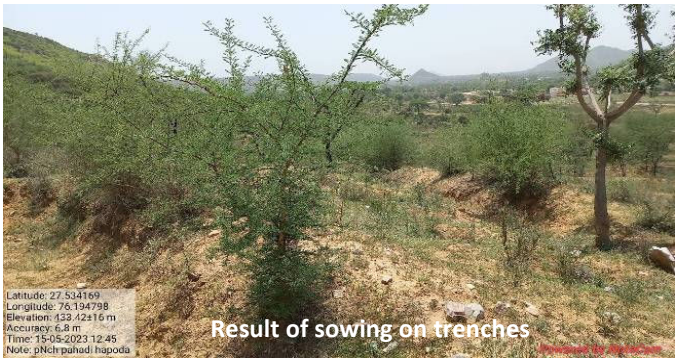
3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, rat and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.4. Species Planted: The selected seedlings of Acacia nilotica (desi babool), Acacia leucopholea (Ronj), Azadirachta indica (Neem), Anogeissus pendula (Dhok) and Holoptelea integrifolia (churail) were planted.



A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was good.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.



3.3.6. Natural Vegetation and Regeneration*:* The area has been covered fully with vegetation due to this plantation. Plants like Kumtha, Dhok, and Cheela have been found grown naturally.

3.3.7. Regeneration through seeds sowing: The result of seed sowing (viz. Kumtha & Ronj) was good. Proper growth of plants from the seed sown was seen on contour trenches.

3.3.8. Protection Work: The selected ANR model plantation was protected by ditch fencing of 1380 RMT having width at the top-1.05 meters, width at the bottom-0.9 meters & depth 1.20 meters. The fencing was filled with soil at some places. Fencing has been partially effective in controlling the biotic pressures. Also, loose stone wall fencing (1650 rmt) & hedge fencing (100 rmt) reported at the site

3.3.9. Soil and Water Conservation Measures: There are 7000 RMT (Width & depth - 0.45 meter) Contour trenches, 200 rmt. Contour Dykes, 2800 rmt. Deep CCT, 702 cu.m PCT/Nadi & 743 cu.m loose stone check dams in the form of water harvesting structures present in the entire plantation area

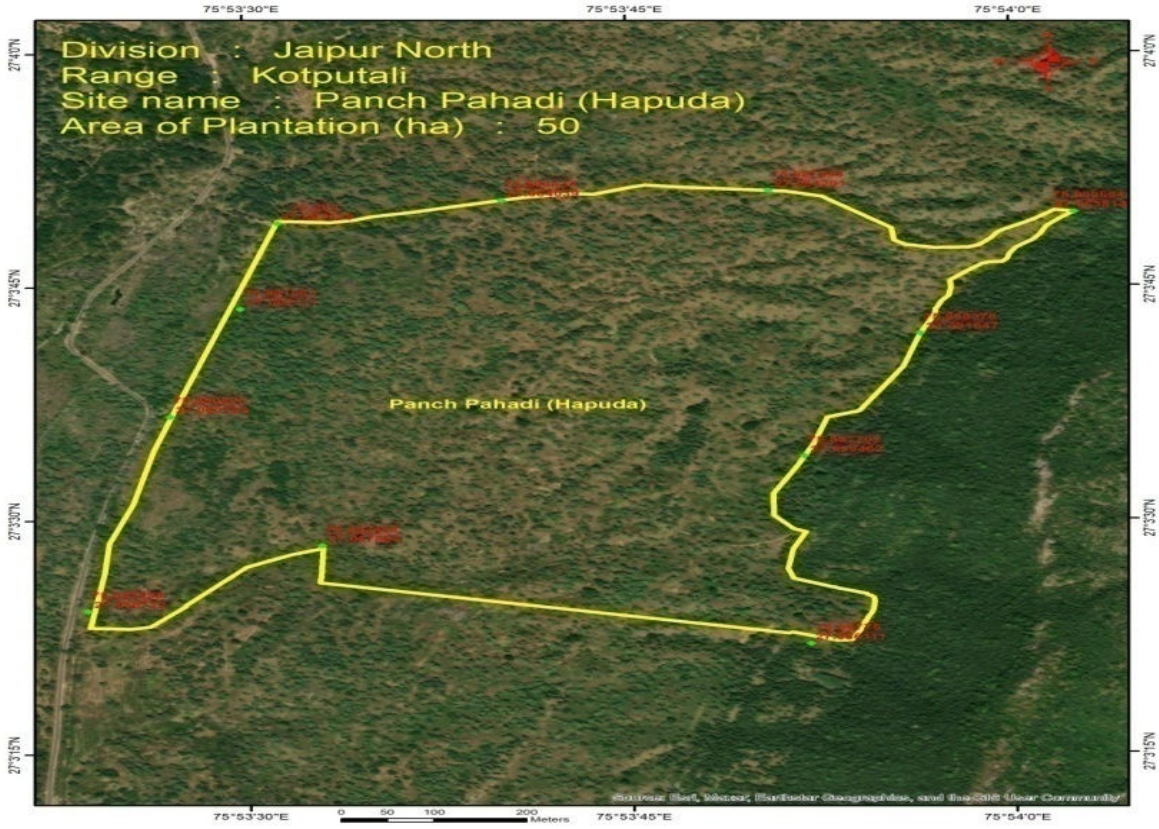
3.3.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 100 percent counting, plants survival was 54.0% at the site.

Table 3.3: Status of Planted Seedlings at the site- Panch Pahadi (Hapuda) Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	4000	2236	1764	55.90	90	21
Acacia leucopholea (Ronj)	3500	1919	1581	54.83	90	21
Anogeissus pendula (Dhok)	1500	748	752	49.87	90	21

Azadirachta indica (Neem)	200	92	108	46.00	90	21
Acacia nilotica (Desi babool)	300	196	104	65.33	143	36
Acacia senegal (Kumtha)	500	211	289	42.20	90	27
Total	10000	5402	4598	54.0	92	21

3.3.11.GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.4.1. Site 4-Dhawali A in Viratnagar range - N 27.294014 and E 76.074075

The selected plantation was carried out on 50 hec land of Dhawali A at Viratnagar range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was sandy & hard layer.



3.4.2. Treatment plan before sowing: The topography of the area was hilly &ravine. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, rat and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of

water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.4.4. Species Planted: The selected seedlings of Acacia nilotica (desi babool), Acacia tortilis (Totalis), Dalbergia sissoo (Shisham), Zizyphus mauritiana (ber), Tamarindus indica (Imli), Siras, Khejdi, and Holoptelea integrifolia (churail) were planted.



Growth of planted seedling at the plantation site

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was good.

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.



Plantation site Dhawali A Site

3.4.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. Plants like Totalis, Ardu, Kakeda,Churel, and Desi babool have been found grown naturally.

3.4.7. Regeneration through seeds sowing: The result of seed sowing (viz. Kumtha & Karanj, Ronj & Desi babool) was average. Proper growth of plants from the seed sown was rarely seen on contour trenches.

3.4.8. Protection Work: The selected ANR model plantation was protected by ditch fencing of 2550 RMT having width at the top-1.05 meters, width at the bottom-0.9 meters & depth 1.20 meters. The fencing was filled with soil at many places. Fencing has been partially effective in controlling the biotic pressures. 800 rmt loose stone wall fencing reported at the plantation site

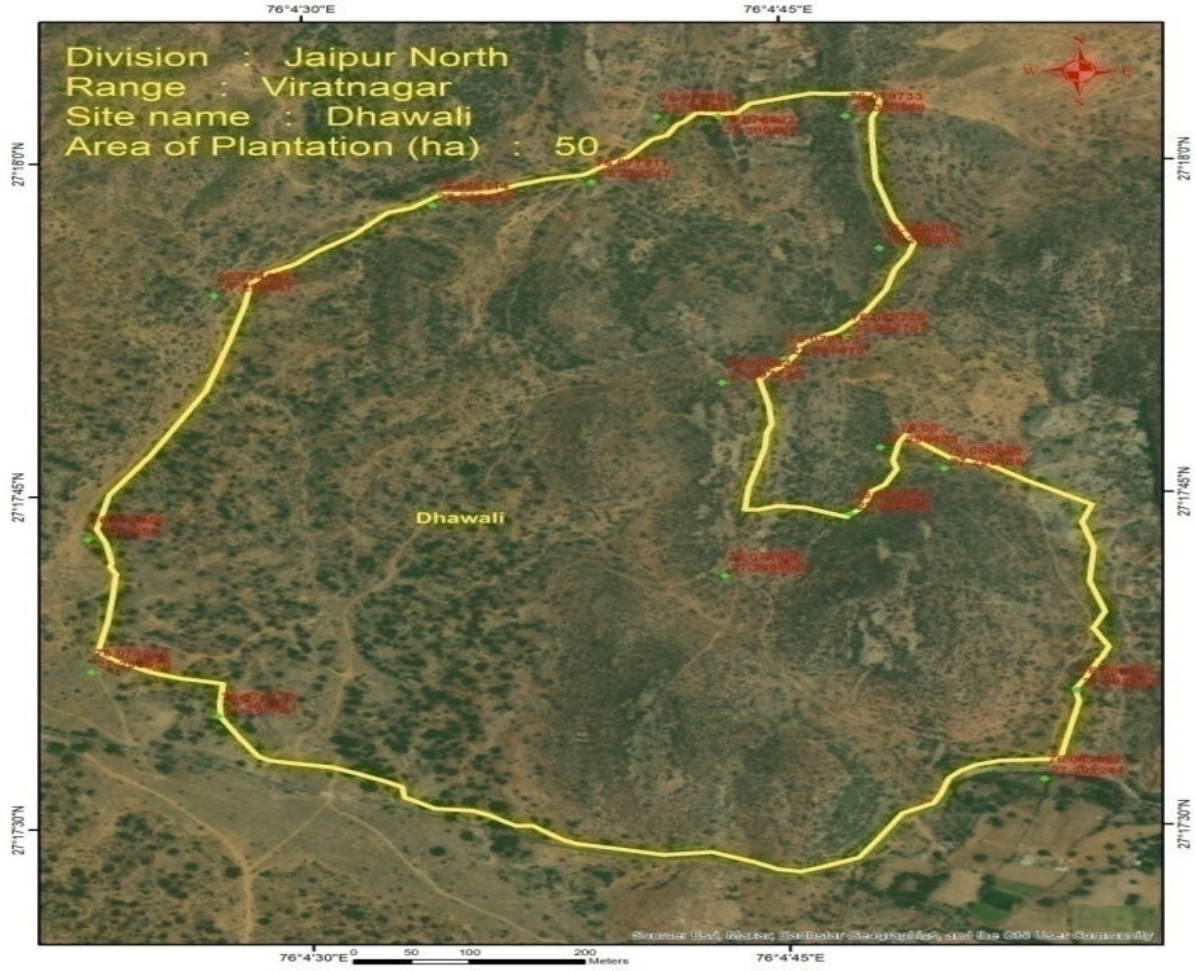
3.4.9. Soil and Water Conservation Measures: There are 2300 RMT (Width & depth - 0.45 meter) Contour trenches, 1440 rmt. Contour Dykes, 3100 rmt. SGT, 980 rmt CCT, 205 cu.m loose stone check dam & 2338 cu.m earthen check dams in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 10 percent counting, plants survival was 55.7% at the site.

Table 3.4: Status of Planted Seedlings at the site- Dhawali A Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	4000	400			148	37
Acacia leucopholea (Ronj)	2200	220			90	21
Holoptelea integrifolia (Churel)	1000	100			90	26
Acacia nilotica (Desi babool)	1000	100			146	35
Dalbergia sissoo (Shisham)	500	50			105	37
Prosopis juliflora (Khejri)	500	50			90	27
Zizyphus mauritiana (Ber)	500	50			104	28
Tamarindus indica (Imli)	200	20			90	28
Albizzia lebbeck (Siras)	100	10			90	21
Total	10000	1000	557	55.7	119	29

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft. at Bandh Buchara, Kothputli range

At Bandh Buchara in Kothputli range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 100 m length as per MB. Also, in actual 100 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be average and useful. Coping & pitching work on wall was reported properly. Wall was found intact and within size as mentioned in MB. The construction of Pakki Diwar 4 ft helped in preventing encroachment. GPS location of this area was $27^0$35'0" N and $75^0$57'33" E. The expenditure incurred for constructing this wall was Rs. 189068 (as per MB) against the estimated budget of Rs. 200000.



Site 2- Pakki Diwar 4 Ft at Rundal, Achrol range

At Rundal in Achrol range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 250 m length as per MB. In actual 250 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be average and useful. The wall was constructed with coping & pointing work. The present condition of wall was average. The construction of Pakki Diwar 4 ft helped in preventing encroachment. The 5 meter area of wall near Baldev Khatik house has been left open which should be closed. GPS location of this area was 27.237595 N and 76.880617 E. The expenditure incurred for constructing this wall was Rs. 473890 (as per MB) against the estimated budget of Rs. 500000.



Site 3- Pillars at Vankhand Buchara A, Pawta range

At Vankhand Buchara A site in Pawta Pillars (04Nos.) have been evaluated. The pillars were constructed in the year 2020-21.Pillars were found as per mentioned in the MB. The pillars constructed were reported average and useful. However, quality of plaster work of pillar should be improved.The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs.2832 (as per MB) against the estimated cost of Rs 3000.



Site 4- Pillars at Vankhand Aantela Bhabhuru Block 51, Pawta range

At Vankhand Aantela Bhabhuru Block 51 site in Pawta Pillars (02Nos.) have been evaluated. The pillars were constructed in the year 2020-21. Pillars were found as per mentioned in the MB. The pillars constructed were reported average and useful. However, quality of plaster work of pillar should be improved. The pillars evaluated were submerged in sand. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs. 5664(as per MB) against the estimated cost of Rs. 6000



Site 5- Pillars at Kumbhawas Garhi Barodia 52, Sahpura range

At Kumbhawas Garhi Barodia 52 site in Sahpura Pillars (06 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. Pillars were found as per mentioned in the MB. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs. 54000 (as per MB) against the estimated cost of Rs 49875.



Site 6- Pillars at Badi Line 43 C, Viratnagar range



At Badi line 43 C site at Viratnagar Pillars (06 Nos.) have been evaluated. The pillars were constructed in the year 2020-21.. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs. 8496 (as per MB) against the estimated cost of Rs 9000.

4.1.7 Pillars at Berki Makreta ki Dungri 46 A, Viratnagar range

The site visited under asset created under CAMPA was Pillars (10 Nos.) at Berki Makreta Ki Dungri 46 A site at Viratnagar range. At Berki Makreta Ki Dungri 46 A site in Viratnagar Pillars (02 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The



pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs. 2832 (as per MB) against the estimated cost of Rs 3000.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Jaipur North division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Aatela Bawdi	ANR	50	62.0	7
2	Samrend Khurd "C"	ANR	50	52.6	6
3	Panch Pahadi	ANR	50	54.0	6
4	Dhawali A	ANR	50	55.7	6

* <4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Bandh Buchara	100	100	0
2.	Pakki Diwar 4 ft	Rundal	250	250	0
3.	Boundary Pillars	Vankhand Buchara A	4	4	0
4.	Boundary Pillars	Vankhand Aantela Bhabhuru block 51	2	2	0
5.	Boundary Pillars	Kumbhawas Garhi Barodia 52	6	6	0
6.	Boundary Pillars	Badi line 43 C	6	6	0
7.	Boundary Pillars	Berki Makreta ki dungri 46 A	2	2	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 4 ft	Bandh Buchara	Average	6
2	Pakki Diwar 4 ft	Rundal	Average	6
3	Boundary Pillars	Vankhand Buchara A	Average	6
4	Boundary Pillars	Vankhand Aantela Bhabhuru block 51	Average	6
5	Boundary Pillars	Kumbhawas Garhi Barodia 52	Average	6
6	Boundary Pillars	Badi line 43 C	Average	6
7	Boundary Pillars	Berki Makreta ki dungri 46 A	Average	6

Jaipur WL

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Jaipur WL Forest Division. This Forest Division with 5 Forest Ranges namely Nahargarh, Jamwaramgarh, Raisar, Wild life Jaipur & Ajabgarh has territorial jurisdiction over the entire Jaipur District.



Figure : Location of Jaipur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Jaipur WL Forest Division for evaluation were as given in table 1.

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Jamua Ramgarh	Nimbi A	2020-21	40	ANR	100%
Raisar	Kharad	2021-22	50	ANR	10%
Jamua Ramgarh	Bhomiya Dyoda Dungar	2021-22	50	ANR	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Jaipur WL Forest Division were as given in table 2

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Raisar	Kelanwas	2020-21	Pakki Diwar 6 ft
2.	Jamua Ramgarh	Bawariyo ki dhani Nimbi	2020-21	Pakki Diwar 6 ft
3.	Jamua Ramgarh	Khatiyo ki dhani	2020-21	Pakki Diwar 6 ft
4.	Raisar	Raisar	2020-21	Forest Chowki
5.	Raisar	Jamwa Ghat	2020-21	Anicut Type II
6.	Jamua Ramgarh	Neelkhan Khawarani ji	2021-22	Pakki Diwar 6 ft
7.	Ajabgarh	Bhomiya Jangal	2021-22	Anicut Type II
8.	Raisar	Vankhand devitla	2021-22	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1-Nimbi A site in Jamua Ramgarh range -N 27.081395 and E 76.017425

The selected plantation was carried out on 40 hac. of land at Nimbi A in Jamua Ramgarh range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was hard.



3.1.2 Treatment plan before sowing: The topography of the area was hilly, ravine & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 8000 pits were dug for plantation in total 40 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was excellent. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.1.4. Species Planted: Seedlings of Holoptelea integrifolia (Churel), Dalbergia sissoo (Shisham), Acacia senegal (Kumtha), Acacia tortilis (Totalis), Azadirachta indica (Neem) and Bharbhara were planted.

In total 8000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 8000 for 40 hectare of land. Map of planting site was prepared. As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Churel, Shisham, Totalis,Neem & Kumtha which can survive in harsh & dry climate. The choice of plants was

made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was good.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Dhonk, Desi babool, Kumtha & Totalis were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species Kumtha & Ronj were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.1.8.. Protection Work: The selected ANR model plantation had ditch fencing of 660 RMT having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters. Also, barbed wire fencing (1155 rmt) is reported at the site.

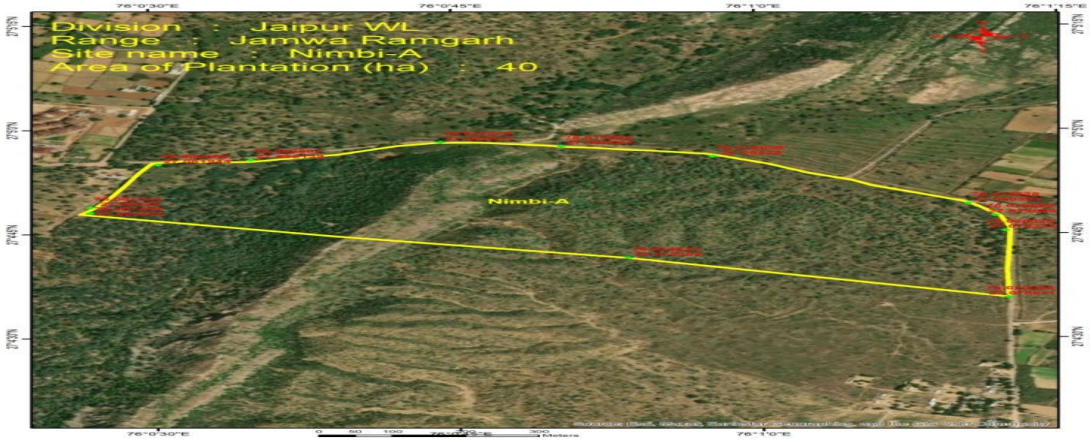
3.1.9. Soil and Water Conservation Measures: There are 8000 RMT (Width & depth -0.45 meter) Contour trenches in the form of water harvesting structures present in the entire plantation area. Also, earthen check dam (2753 cu. m) & talai (694 cu.m.) reported at the site

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 52.2% at the site.**

Table 3: Status of Planted Seedlings at the site-Nimbi A Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dalbergia sissoo (Shisham)	3300	1491	1809	45.2	120	25
Holoptelea integrifolia (Churel)	2000	1193	807	59.7	90	24
Zizyphus mauritiana (Ber)	1000	161	839	16.1	45	19
Acacia tortilis (Totalis)	1300	1141	159	87.8	70	19
Acacia leucopholea (Ronj)	330	167	163	50.6	60	21
Acacia nilotica (Desi babool)	50	18	32	36.0	75	22
Ficus religiosa (Pipal))	20	3	17	15.0	65	19
Total	8000	4174	3826	52.2	75	21

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 40 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21	-	-	-	1300000				
2021-22	-	-	-	389000				
Total	-	-	-	1689000				

3.2.1. Site 2- Kharad in Raisar range - N 27.097605 and E 76.121948

The selected plantation was carried out on 50 ha of land at Papad in Jamua Ramgarh range during the year 2021-22. The activities were done under the ANR (Assisted Natural Regeneration) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.

3.2.2. Treatment plan before sowing: The topography of the area was hilly & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.2.4. Species Planted: The selected seedlings of *Holoptelea integrifolia* (Churel), Acacia leucopholea (Ronj), Acacia nilotica (Desi babool), Azadirachta indica (Neem), Khejri & Peepal were planted.

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of

plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Churail, ronj & desi babool, which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was average.

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi babool, Dhok and Ronj have been found grown naturally.

3.2.6. Regeneration through seeds sowing: Seeds of species desi babool, kumtha, cheela and ronj were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was average. Plants from the seed sown were rarely seen on contour trenches.

3.2.7. Protection Work: The selected ANR model plantation had 3050 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters. Ditch fencing was partially effective in controlling the biotic pressure. Also, 550 RMT loose stone fencing having width at the top-0.8 meter, width at the bottom-0.6 meter & height 1.2 meters. Hedge fencing of 225 rmt is also reported at the site. The condition of ditch fencing & loose stone fencing was satisfactory. The ditch fencing, loose stone wall fencing & hedge fencing was partially effective in controlling the biotic pressure.

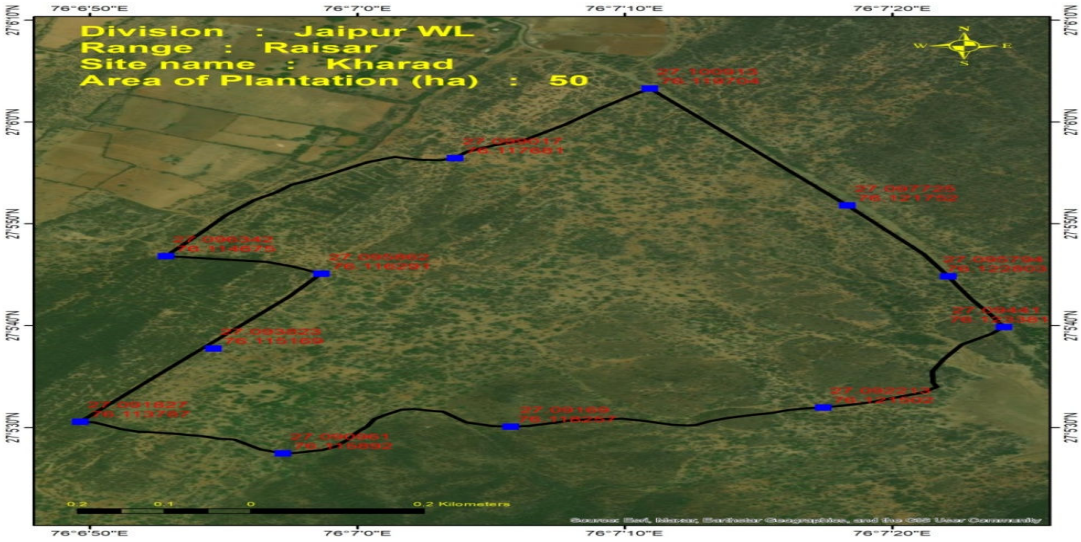
3.2.8. Soil and Water Conservation Measures: There are 13000 RMT (Width & depth -0.45 meter) Contour trenches, 980 cu.m PCT/Nadi in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.9. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 49.7% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was excellent. A total of 10000 plants comprising of various species were planted in the 50 ha plantation area.

Table 3.2: Status of Planted Seedlings at the site-Kharad Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	1900	190	70	36.8	60	24
Acacia nilotica (Desi babool)	2492	249	194	77.8	90	23
Azadirachta indica (Neem)	1740	174	27	15.5	75	25
Zizyphus mauritiana (Ber)	2668	267	176	66.0	75	26
Others	1200	120	30	25.0	75	27
Total	10000	1000	497	49.7	75	25

3.2.11. GPS Location and KML file: The selected model under CAMPA plantation site measured 50 hec as per kml map.



3.3.1 Site 3-Bhomiya Dyoda Dungar in Jamua Ramgarh range - N 26.932464 and E 76.035471

The selected plantation was carried out on 50 ha of land at Bhomiya Dyoda Dungar in Jamua Ramgarh range during the year 2021-22. The activities were done under the ANR (Assisted Natural Regeneration) model. The site was a forest land and selected for 100% evaluation. The soil was sandy & black domat.



3.3.2. Treatment plan before sowing: The topography of the area was ravines/hilly & sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.4. Species Planted: The selected tree species under plantation were Acacia tortilis (Totalis), Dalbergia sissoo (Shisham), *Holoptelea integrifolia* (Churel), Acacia leucopholea (Ronj), Zizyphus mauritiana (Ber), Acacia nilotica (Desi babool), Ficus religiosa (Pipal), Ardu,Gular and Azadirachta indica (Neem) were planted.



A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was average.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi babool, Khair, Churail, Totalis, and Ber have been found grown naturally.

3.3.7. Regeneration through seeds sowing: Seeds of species kumtha, totalis, desi babool and khair were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was average. Plants from the seed sown were rarely seen on contour trenches.

3.3.8. Protection Work: The selected ANR model plantation had 2963 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters. Ditch fencing was partially effective in controlling the biotic pressure. Also, 179 RMT loose stone fencing having width at the top-0.8 meter, width at the bottom-0.6 meter & height 1.2 meters. The condition of ditch fencing & loose stone fencing was satisfactory. At many places ditch fencing was covered with soil. At some places thorny plants were kept on ditch fencing in order to protect the plant from Cattles' grazing.

3.3.9. Soil and Water Conservation Measures: There are 12950 RMT (Width & depth -0.45 meter) Contour trenches, 3950 rmt dykes, 3091 cu.m earthen check dams & 31.14 cu.m loose stone checkdams in the form of water harvesting structures present in the entire plantation area.

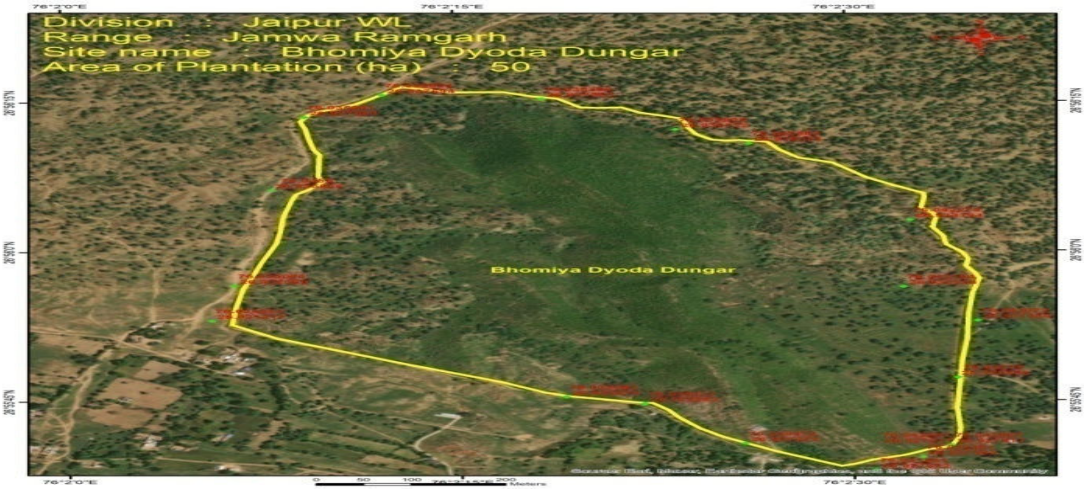
3.3.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 100 percent counting, plants survival was 54.8% at the site.**

Table 3.3: Status of Planted Seedlings at the site- Bhomiya Dyoda Dungar Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	2800	2400	400	85.7	101	22
Dalbergia sissoo (Shisham)	4800	2600	2200	54.2	118	23
Acacia leucopholea (Ronj)	970	125	845	12.9	90	21

Zizyphus mauritiana (Ber)	480	50	430	10.4	90	21
Holoptelea integrifolia (Churel)	380	90	290	23.7	90	21
Acacia nilotica (Desi babool)	300	210	90	70.0	101	21
Azadirachta indica (Neem)	140	0	140	0.0	0	0
Ailanthus excelsa (Ardu)	90	0	90	0.0	0	0
Ficus religiosa (Pipal))	20	0	20	0.0	0	0
Gular	20	0	20	0.0	0	0
Total	10000	5475	4525	54.8	109	22

3.2.11. GPS Location and KML file: The selected model under CAMPA plantation site measured 50 hec as per kml map.



3.3.12. Budget and expenditure

3.3.13. Table 3.4: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**	**Plantation**	**SMC works**	**Fencing**	**Total**
2020-21				2000000			-	1742502
2021-22				511000				502873
Total				2511000				2245375

4. Results for asset sites

4.1 Site 1- Pakki Diwar 6 Ft at Kelanwas, Raisar range



At Kelanwas in Raisar range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 250 m length as per MB. Also, in actual 250 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 6 Ft. Construction work appeared to be good and useful. Coping & pointing work of wall was completed. The quality of construction was good. The construction of Pakki Diwar 6 ft helped in preventing encroachment. GPS location of this area was 27.073673 N and 76.027867 E.

The expenditure incurred for constructing this wall was Rs. 573871 (as per MB) against the estimated budget of Rs. 725000.

Site 2- Pakki Diwar 6 Ft at Bawariyo ki dhani Nimbi, Jamua Ramgarh range

At Bawariyo ki dhani Nimbi in Jamua Ramgarh range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 300 m length as per MB. Also, in actual 306 m pakki diwar was constructed at the site. The width of the diwar was 0.38 meter & height was 6 Ft. Construction work appeared to be average and useful. Coping & pointing work is done properly. The wall is constructed in two parts. About 50 meters space is left between two parts. Due to which the forest area remain open. It should be closed in order to protect forest. The construction of Pakki Diwar 6 ft helped in preventing encroachment. GPS location of this area was 27.071951 N and 76.01775 E. The expenditure incurred for constructing this wall was Rs. 682535 (as per MB) against the estimated budget of Rs. 870000



Site 3- Pakki Diwar 6 Ft at Khatiyo ki dhani , Jamua Ramgarh range



At Khatiyo ki dhani in Jamua Ramgarh range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 300 m length as per MB. Also, in actual 300 m pakki diwar was constructed at the site. The width of the diwar was 0.60 meter & height was 6 Ft. Construction work appeared to be average and useful. Coping & pointing work of wall was completed. However, coping work on the top of the wall had not been done properly. The construction of Pakki Diwar 6 ft helped in preventing encroachment. GPS location of this area was 27.017424 N and 76.081019 E. The expenditure incurred for constructing this wall was Rs. 688628 (as per MB) against the estimated budget of Rs. 870000

Site 4- Forest Chowki Raisar, Raisar range



Forest Chowki at Raisar site in Raisar range has been evaluated. The Forest Chowki was constructed in the year 2020-21. Site selection for construction of Forest Chowki was adequate. Construction work appeared to be good and useful. The Forest Chowki created

under CAMPA was in use and also properly maintained. The Forest Chowki is in good working condition. Plaster, flooring & other repair work is properly done. The building is in use by Forest Guard. GPS location of this area was 27.149763 N and 76.113649 E. The expenditure incurred for constructing the Forest Chowki was Rs. 466278 (as per MB) against the estimated budget of Rs. 550000.

Site 5- Anicut II at Jamwa Ghat, Raisar Range



At Jamwa Ghat in Raisar range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure is as per MB. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. The Jamwa Ghat anicut is very useful. Presently, the structure is used as water point for wild animals. The GPS location of this area was 27.040211 N and 76.078835 E. The expenditure incurred for constructing the anicut wall was Rs.302949 (as per MB) against the estimated budget of 3.75 lac.

Site 6- Pakki Diwar 6 Ft at Neelkhan Khawwarani ji, Jamua Ramgarh range



At Neel Khan Khawwarani ji in Jamua Ramgarh range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 300 m length as per MB. Also, in actual 300 m pakki diwar was constructed at the site. The width of the diwar was 0.60 meter & height was 6 Ft. Construction work appeared to be average and useful. Coping & pointing work of wall was completed. However, coping work on the top of the wall had not been done properly. The construction of Pakki Diwar 6 ft helped in preventing encroachment. GPS location of this area was 27.00175 N and 76.080897 E. The expenditure incurred for constructing this wall was Rs. 824514 (as per MB) against the estimated budget of Rs.1005000.

Site 7- Anicut II at Bhomiya Jungle, Ajabgarh Range



At Bhomiya Jungle in Ajabgarh range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. The quality of construction of

anicut should be maintained. Anicut should be used as water point for wild animals. The GPS location of this area was 27.150237 N and 76.304403 E. The expenditure incurred for constructing the anicut wall was Rs.374851 (as per MB) against the estimated budget of 3.75 lac.

Site 8- Pillars at Vankhand Devitla 69, Raisar range



At Vankhand Devitla site in Raisar Pillar (5 No.) has been evaluated. The pillar was constructed in the year 2021-22. The pillar constructed was reported average and useful. The construction of pillar helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs.42941 (as per MB) against the estimated cost of Rs 58750.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Jaipur WL division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Nimbi A	ANR	40	52.2	6
2	Kharad	ANR	50	49.7	5
3	Bhomiya Dyoda Dungar	ANR	50	54.8	6

* <4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 6 ft	Kelanwas	250	250	0
2.	Pakki Diwar 6 ft	Bawariyo ki dhani Nimbi	300	306	+6
3.	Pakki Diwar 6 ft	Khatiyo ki dhani	300	300	0
4.	Forest Chowki	Raisar	01	01	0
5.	Anicut Type II	Jamwa Ghat	6x0.90x1.4	6x0.90x1.4	0
6.	Pakki Diwar 6 ft	Neelkhan Khawarani ji	300	300	0
7.	Anicut Type II	Bhomiya Jangal	6x0.90x1.4	6x0.90x1.4	0
8.	Boundary Pillars	Vankhand devitla	5	5	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 6 ft	Kelanwas	Good	7
2	Pakki Diwar 6 ft	Bawariyo ki dhani Nimbi	Average	6
3	Pakki Diwar 6 ft	Khatiyo ki dhani	Average	6
4	Anicut Type II	Jamwa Ghat	Very Good	8
5	Pakki Diwar 6 ft	Neelkhan Khawarani ji	Good	7
6	Anicut Type II	Bhomiya Jangal	Average	6
7	Boundary Pillars	Vankhand devitla	Good	7
8	Forest Chowki	Raisar	Very Good	8

DCF Jaipur

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Jaipur Forest Division. This Forest Division with 5 Forest Ranges namely Amer, Phagi, Jaipur Pradeshik, Dudu & Bassi has territorial jurisdiction over the entire Jaipur District.



Figure : Location of Jaipur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Jaipur Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Dudu	Bichun Kairiya	2020-21	50	ANR	100%
Amer	Jairampura first year	2020-21	5.510	NFL	10%
Amer	Bharthari	2021-22	50	ANR	100%
Dudu	Bhairuji Bichun main	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Jaipur Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Bassi	Dhamasya	2020-21	Pakki Diwar 4 ft
Phagi	Forest Colony	2020-21	Pakki Diwar 4 ft
Amer	Neendar Bainar	2021-22	Boundary Pillars
Amer	Amer 54	2021-22	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Bichun Kairia site in Dudu range -N 27.799866 and E 75.329389

The selected plantation was carried out on 50 hac. of land at Bichun Kairia in Dudu range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy.





3.1.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, rats and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average



3.1.4. Species Planted: The selected seedlings of Zizyphus mauritiana (Ber), Holoptelea integrifolia (Churel), Azadirachta indica (Neem), Acacia leucopholea (Ronj), Acacia tortilis (Totalis,) Ficus religiosa (Pipal), Dalbergia sissoo (Shisham) and Zizyphus mauritiana (Ber) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.**The growth of survived plants was average.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Kumtha, Dhonk & Kakeda were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *kumatha, totalis, and desi babool* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.1.8.. Protection Work: The selected ANR model plantation had ditch fencing of 2240 RMT having width at the top-0.8 meters, width at the bottom-0.6 meters & height 1.2 meters. Present condition of fencing is satisfactory. Also, loose stone wall (920 rmt) & barbed wire fencing(30 meter) fencing is reported at the plantation site

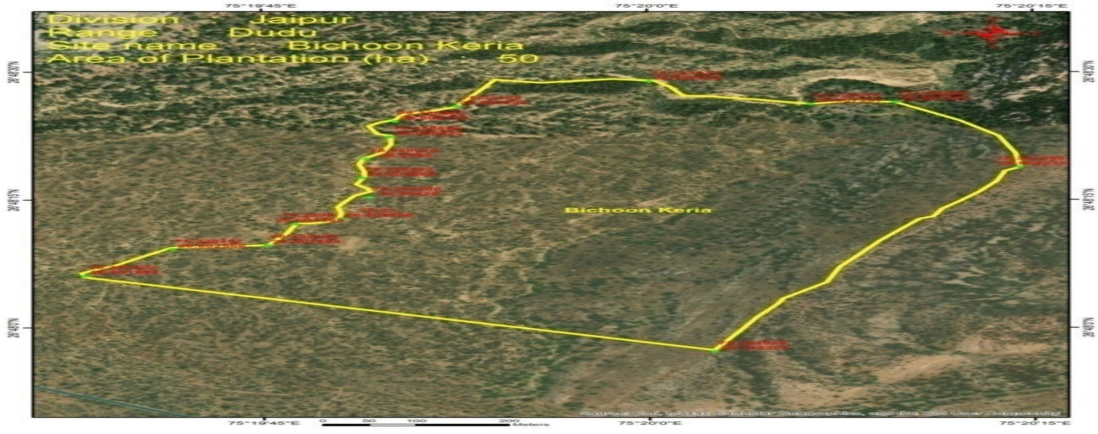
3.1.9. Soil and Water Conservation Measures: There are 11270 RMT (Width & depth -0.45 meter) Contour trenches, 4100 rmt Contour Dykes, 9105.88 cu.m earthen check dam, 928.85 WHS &368.39 cu.m loose stone check dam in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.0% at the site.**

Table 3: Status of Planted Seedlings at the site-Bichun Kairiya Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia senegal (Kumtha)	2000	993	1007	49.7	90	30
Zizyphus mauritiana (Ber)	500	352	148	70.4	60	19
Dalbergia sissoo (Shisham)	1500	621	879	41.4	70	25
Holoptelea integrifolia (Churel)	850	392	458	46.1	60	19
Azadirachta indica (Neem)	500	226	274	45.2	60	21
Acacia leucopholea (Ronj)	300	105	195	35.0	50	18
Acacia tortilis (Totalis)	3500	1404	2096	40.1	45	13
Albizzia lebbeck (Siras)	200	57	143	28.5	50	18
Others	650	254	396	39.1	50	17
Total	10000	4404	5596	44.0	59	20

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



Site 2- Jairampura Ist year in Amer range - N 27.066614 and E 75.681537

The selected plantation was carried out on 5.510 ha of land at Jairampura Ist year in Amer range during the year 2020-21. The activities were done under the NFL (Non Forest Land) model. The site was a forest land and selected for 100% evaluation. The soil was sandy.



3.2.2. Treatment plan before sowing: The topography of the area was plain & ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 6000 pits were dug for plantation in total 5.510 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3 Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, rats and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.2.4. Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), *Acacia leucophoelea (*ronj), *Holoptelea integrifolia* (Churel), *Zizyphus mauritiana (*Ber), Dalbergia sissoo (Shisham), Pongamia pinnata (Karanj) and Azadirachta indica (Neem) were planted.

A total of 6000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. The growth of survived plants was average.

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.



3.2.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi babool, Khejdi, and Ronj have been found grown naturally.

3.2.7. Regeneration through seeds sowing: Seeds of species kumtha and desi babool were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was average. Plants from the seed sown were rarely seen in contour trenches.

3.2.8. Protection Work: The selected NFL model plantation had 936 RMT ditch fencing. The ditch fencing was filled with soil at many places. Loose stone fencing was partially effective in controlling the biotic pressure.

3.2.9. Soil and Water Conservation Measures: There are 2000 RMT (Width & depth -0.45 meters) Contour trenches in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 1150 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 44.3% at the site.** Table 3.1: Status of Planted Seedlings at the site-Jairampura Ist year Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	1500	300	168	56.0	90	24
Dalbergia sissoo (Shisham)	1000	200	122	61.0	150	36
Acacia nilotica (Desi babool)	1500	300	144	48.0	150	35
Azadirachta indica (Neem)	500	100	28	28.0	100	28
Zizyphus mauritiana (Ber)	300	50	31	62.0	140	30
Pongamia pinnata (Karanj)	1200	200	17	8.5	90	24
Total	6000	1150	510	44.3	120	30

3.2.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 5.510 hec as per kml map.



3.3.1. Site 3-Bharthari in Amer range - N 27^{0}3'37 and E 75^{0}53'28"

The selected plantation was carried out on 50 hec land of Bharthari at Amer range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was sandy & hard layer.





3.3.2. Treatment plan before sowing: The topography of the area was ravine. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle's and destruction by Neel gai, rats and porcupine was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.4. Species Planted: The selected seedlings of Acacia nilotica (desi babool), Acacia tortilis (Totalis), Azadirachta indica (Neem) and Holoptelea integrifolia (Churel), were planted.

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Totalis, Churel & Desi babool which can survive in harsh & dry climate.

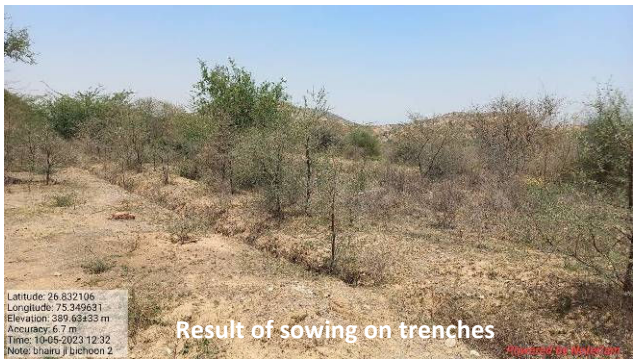


3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration*:* The area has been covered fully with vegetation due to this plantation. Plants like Khejdi, Kumtha, Ronj and Rohida have been found grown naturally. .

3.3.7. Regeneration through seeds sowing: The growth of seeds sowing plants was average. The result of seed sowing (Kumtha) was average. Some plants from the seed sown were seen on contour trenches.

3.3.8. Protection Work: The selected ANR model plantation was protected by ditch fencing of 1020 RMT having width at the top-1.05 meters, width at the bottom-0.9 meter & depth 1.20 meters & also by loose stone wall of 2100 rmt. The ditch fencing was filled with soil at many places. Fencing has been partially effective in controlling the biotic pressures.



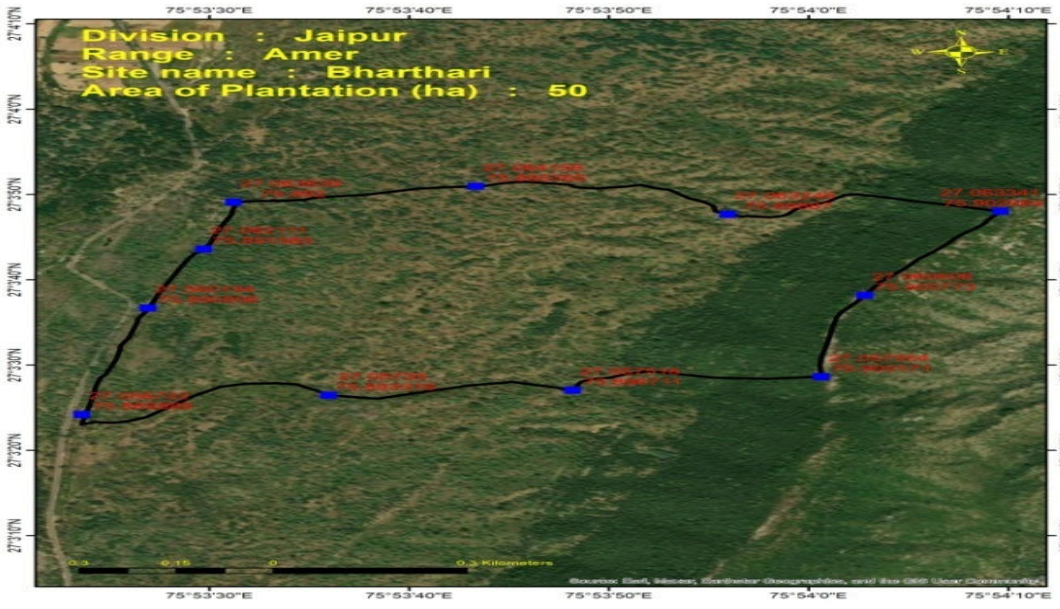
3.3.9. Soil and Water Conservation Measures: There is 1200 RMT (Width & depth - 0.45 meters) Contour trenches & 6200 cu.m earthen check dam in the form of water harvesting structures present in the entire plantation area

3.3.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 100 percent counting, plants survival was 43.1% at the site.

Table 3.2: Status of Planted Seedlings at the site-Bharthari Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	2700	927	1773	34.3	90	25
Dalbergia sissoo (Shisham)	2100	1015	1085	48.3	90	26
Azadirachta indica (Neem)					120	27
Acacia nilotica (Desi babool)	3275	1128	2147	34.4	150	32
Acacia tortilis (Totalis)	1925	1243	682	64.6	140	32
Total	10000	4313	5687	43.1	118	28

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.4.1. Site 4-Bhairuji Bichun Main in Dudu range - N 26.797922 and E 75.329978

The selected plantation was carried out on 50 ha of land at Bhairuji Bichun Main in Dudu range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.



3.4.2. Treatment plan before sowing:

The topography of the area was hilly & ravine. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, and porcupine was reported at the site. Also, widely growth of termite, soil quality, destruction by human beings and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.4.4. Species Planted: The selected seedlings of Acacia nilotica (desi babool), Holoptelea integrifolia (Churel), Acacia tortilis (Totalis), Acacia senegal (Kumtha), Prosopis juliflora (Khejri) and Azadirachta indica (Neem) were planted.

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted blockwise according to the availability of space in the plantation area. Technique of planting at the site was pit.



As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared. **As far as choice of seedlings for plantation is concerned, it was proper**. The growth of survived plants was average.

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: The vegetation cover has increased to some extent. Plants such as Ronj, Desi babool, Khejri and Kumtha have been found grown naturally in this area.

3.4.7. Regeneration through seeds sowing: Seeds of species like Ronj, Khejri, Kumtha have been sown for natural regeneration. The result of seed sowing was poor with hardly one-two plants were seen on the CCT.

3.4.8. Protection Work: The selected ANR model plantation had ditch fencing of 1092 RMT & loose stone wall fencing of 1980 RMT & barbed wire fencing of 620 rmt. Present condition of fencing was good. Ditch fencing & loose stone wall fencing & barbed wire fencing was fully effective in controlling the biotic pressure.

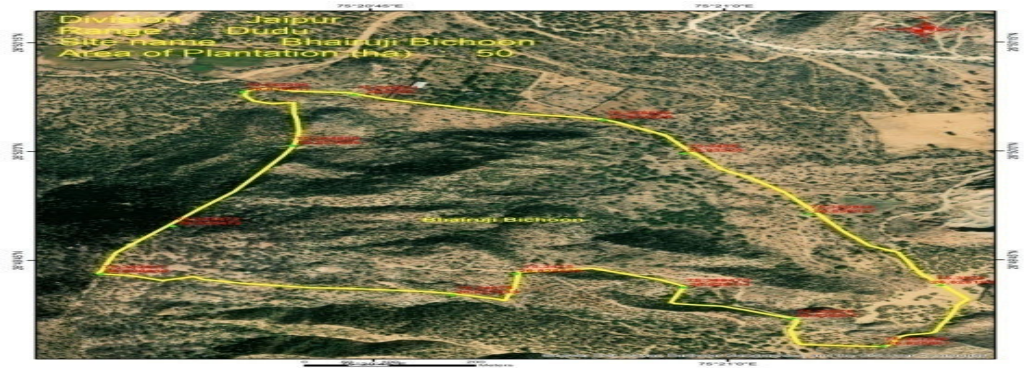
3.4.9. Soil and Water Conservation Measures: There are 2330 RMT (Width & depth -0.45 meters)Contour trenches & 2000 RMT Contour Dykes, 5600 cu m talai and 200 cu. meter earthen check dam in the form of water harvesting structures present in the entire plantation area. These trenches & earthen checkdam are prepared for rainwater harvesting and soil conservation. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under ANR model at the site, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 53.8% at the site.**

Table 3.3: Status of planted Seedlings at the site- at Bhairuji Bichun Main Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	5000	500			150	25
Acacia senegal (Kumtha)	3000	300			45	16
Acacia tortilis (Totalis)	1500	150			60	21
Holoptelea integrifolia (Churel)	500	50			65	19
Azadirachta indica (Neem)					65	19
Prosopis juliflora (Khejri)					65	19
Acacia leucopholea (Ronj)					65	19
Total	10000	1000	538	53.8	86	23

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft. at Dhamasya, Bassi range



At Dhamasya site in Bassi range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 328.34 m length as per MB. Also, in actual 330 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be good and useful. Pitching & coping work on wall was reported. The construction of Pakki Diwar 4 ft helped in preventing encroachment. GPS location of this area was 26.897415 N and 76.154745 E. The expenditure incurred for constructing this wall was Rs. 612942 (as per MB) against the estimated budget of Rs 788000.

Site 2- Pakki Diwar 4 Ft at Forest Colony , Phagi range



At Forest Colony in Phagi range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 30.41 m length as per MB. Also, in actual 31 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be good and useful. The wall is constructed in two places under Mungana Naka range. First 20 meters in Jawahar Nagar Forest colony and the remaining 10 meters behind peetal factory petrol pump The construction of Pakki Diwar 4 ft helped in preventing encroachment. GPS location of this area was 26.934605 N and 75.795341 E. The expenditure incurred for constructing this wall was Rs. 98678 (as per MB) against the estimated budget of Rs.

Site 3- Boundary Pillar at Neendar Bainar, Amer range

At Neendar Bainar site in Amer Pillar (05 Nos.) has been evaluated. The pillar was constructed in the year 2021-22. The pillar found correct as per mentioned in the MB. The pillar constructed was reported average and useful. The construction of pillar helped in marking forest boundary. The expenditure incurred for constructing the Pillars was Rs.6792 (as per MB) against the estimated cost of Rs 7000.

Site 4- Boundary Pillar at Amer 54, Amer range

At Amer 54 site in Amer range Pillar (5 No.) has been evaluated. The pillar was constructed in the year 2021-22. The pillar found correct as per mentioned in the MB. Pillar cover the forest boundary. The pillar constructed was reported average and useful. The construction of pillar helped in marking forest boundary. The expenditure incurred





for constructing the Pillars (05 Nos.) was Rs.11325 (as per MB) against the estimated cost of Rs.11325.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Jaipur division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Bichun Kairiya	ANR	50	44.04	5
2	Jairampura first year	NFL	5.510	44.3	5
3	Bharthari	ANR	50	43.1	5
4	Bhairuji Bichun main	ANR	50	53.8	6

* <5: poor (below 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Dhamasya	328.34	330	+1.66
2.	Pakki Diwar 4 ft	Forest Colony	30.41	31	+0.59
3.	Boundary Pillars	Neendar Bainar	5	5	0
4.	Boundary Pillars	Amer 54	5	5	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 4 ft	Dhamasya	Average	6
2	Pakki Diwar 4 ft	Forest Colony	Average	6
3	Boundary Pillars	Neendar Bainar	Average	6
4.	Boundary Pillars	Amer 54	Average	6

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in DDP Jaisalmer Forest Division. This Forest Division with 4 Forest Ranges namely Jaisalmer, Lathi, Pokharan & Dabla has territorial jurisdiction over the entire Jaisalmer District.

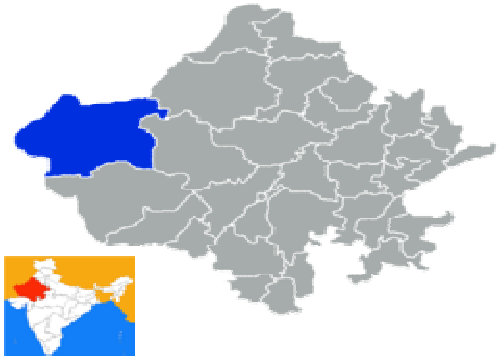


Figure 8 Location of Jaisalmer district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of DDP Jaisalmer Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Jaisalmer	C. A. N.F.L Dabla III	2020-21	42.06	NFL	100%
Jaisalmer	S.P. Karahjod C	2021-22	25	Silvi Pastoral	10%

3.1.1. Site 1-CA NFL Dabla III site in Jaisalmer range -N 26.840405 and E 71.040424

The selected plantation was carried out on 42.06 hac. of land at CA NFL Dabla III in Jaisalmer range during the year 2020-21. The activities were done under the CA Non Forest Land (CA NFL) model. The site was a forest land and selected for 100% evaluation. The soil was sandy & stony.



3.1.2. Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 46266 pits were dug for plantation in total 42.06

hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was very good. Grazing by stray animals & cattle and destruction by Neel gai and wild boar was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.

3.1.4. Species Planted: The selected tree species under plantation were Acacia tortilis (Totalis), Tecomella undulata (Rohida), Prosopis juliflora (Khejri), Acacia senegal (Kumtha), Salvadora persica (Jaal), and Zizyphus mauritiana (Ber) were planted.



In total 46266 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 1100 plants per hectare have been planted. Thus, total number of plants planted was 46266 for 42.06 hectare of land. **The growth of survived plants was very good.**

3.1.5. Watering of plants: Watering to plants was given in first year of plantation. After that watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Desi babool, Khejri, Ber & Jaal were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *kumatha* were sown in as well as along the furrow and on the thanwlas. **The result of sowing was excellent.** The plants grown out of seed sowing was widely seen on contour furrow at many patches.

3.1.8. Protection Work: The selected NFL model plantation had barbed wire fencing with welded wire mash jali of 3000 RMT. Present condition of fencing was good.

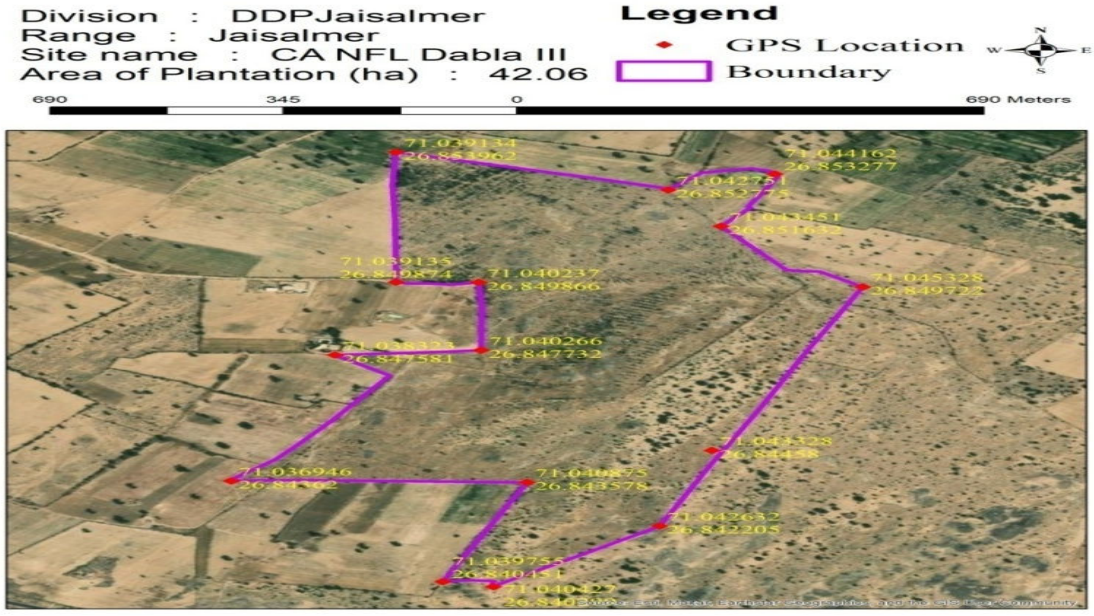
3..1.9. Soil and Water Conservation Measures: There are 10000 RMT Contour furrow, & 1 pucca tanka in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 1100 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 71.9% at the site.**

Table 3.1: Status of Planted Seedlings at the site-CA NFL Dabla III Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	26000	19164	6836	73.7	130	24
Prosopis juliflora (Khejri)	400	16	384	4.0	90	21
Tecomella undulata (Rohida)	266	13	253	4.9	90	21
Zizyphus mauritiana (Ber)	100	16	84	16.0	90	21
Acacia senegal (Kumtha)	17000	13760	3240	80.9	102	21
Salvadora persica (Jaal)	2500	308	2192	12.3	90	21
Total	46266	33277	12989	71.9	116	23

3.1.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 42.06 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs. In Lac)				Expenditure (Rs. In Lac)				
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total	Remark
2020-21	-	-	-	22.82				22.78 +2.30	Due amount of Rs. 2.30 lac (Yr.2019-20)included in expen

2021-22				6.9				6.9	
2022-23				2.38				2.35	
Total				32.1				32.03+2.30	

3.2.1. Site 2- Karahjod C site in Jaisalmer range -N 26.99314 and E 70.994554

The selected plantation was carried out on 25 hac. of land at Karahjod site in Jaisalmer range during the year 2021-22. The activities were done under the Silvi Pastoral (SPP) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.





3.2.1. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 5000 pits were dug for plantation in total 25 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.2. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and rat was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.2.3. Species Planted: The selected seedlings of Acacia tortilis (Totalis), Acacia senegal (Kumtha), Salvadora persica (Jaal) & Terminalia Zizyphus mauritiana (Ber) were planted.

In total 5000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 5000 for 25 hectare of land. **The growth of survived plants was satisfactory.**

3.2.4. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.5. Natural Vegetation and Regeneration: Jal, Ber & Khejri were the plants found grown naturally in this area. The growth of the plants was good.

3.2.6. Regeneration through seeds sowing: Seeds of species Kumtha Khejri &*Sewan grass* was sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was average.**

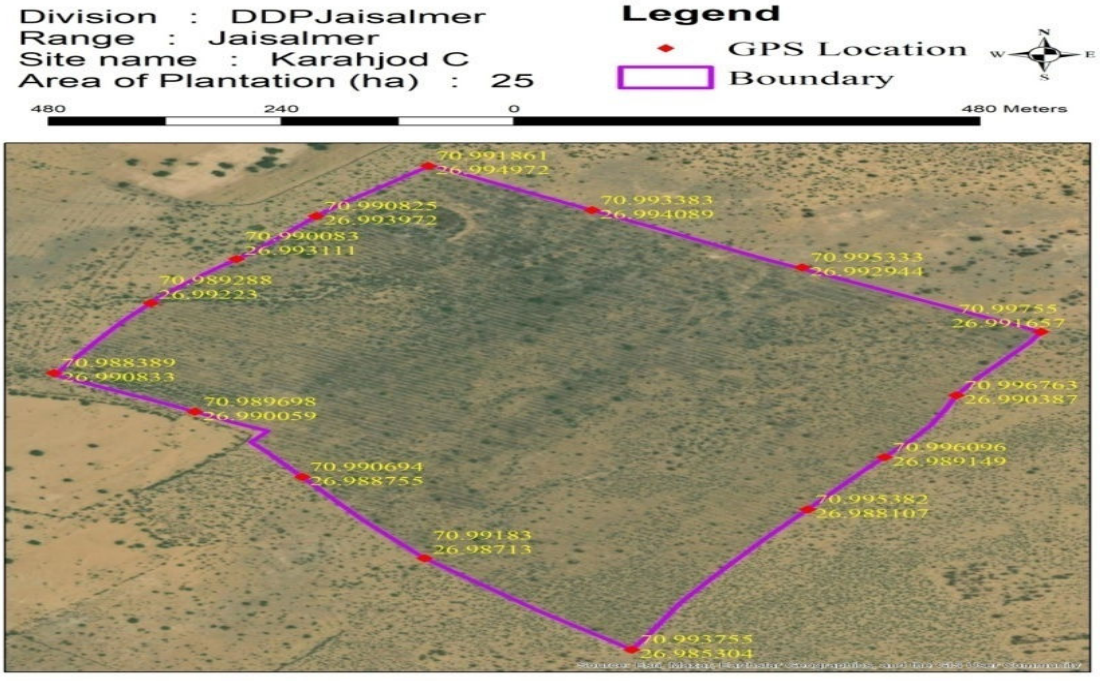
3.2.7. Protection Work: The selected Silvi Pastoral model plantation had barbed wire fencing with welded wire mesh. The status of fencing is satisfactory.

3.2.8. Soil and Water Conservation Measures: There are 24783 RMT Contour furrow, in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.9. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 44.8% at the site.** Table 3.2: Status of Planted Seedlings at the site-Karahjod Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)		0	147		92	22
Zizyphus mauritiana (Ber)		0	43		90	21
Acacia senegal (Kumtha)		0	21		90	21
Salvadora persica (Jaal)		0	13		90	21
Total	5000	500	224	44.8	91	21

3.2.11. GPS Location and KML file: The selected SPP model under CAMPA plantation site measured 25 Hac as per kml map.



3.2.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				4.35				4.18
2021-22				7.64				6.83
2022-23				2.13				1.81
Total				14.12				12.82

4. Overall assessment

Table 4: Quantitative assessment of plantation work created under CAMPA in DDP Jaisalmer division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	CA NFL Dabla III	CA NFL	42.06	71.9	8
2	Karahjod	Silvi Pastoral	25	44.8	5

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Jaisalmer DNP (WL)

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Jaisalmer DNP (WL) Forest Division. This Forest Division has 3 Forest Ranges namely, WL Jaisalmer, WL Myazlar & WL Barmer.

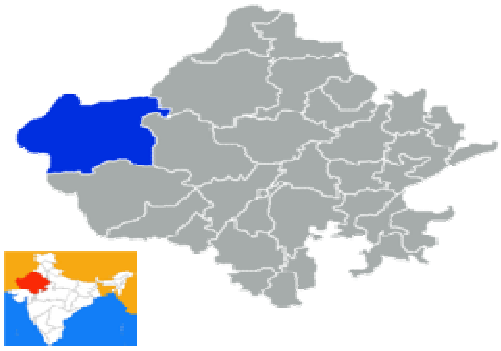


Figure 9 Location of Jaisalmer district, Rajasthan

2.1. Selected Asset Sites for Evaluation

The selected asset sites of Jaisalmer DNP (WL) Forest Division were as given in table 1

Table 1: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Van Jeev Barmer	Girab range Van Jeev Barmer	2021-22	Pakki Diwar 6 ft.
Van Jeev Jaisalmer	Sam Beriyar Chowki	2021-22	Forest Chowki

3. Results for asset sites

3.1 Site 1- Pakki Diwar 6 Ft at Girab range Van Jeev Barmer , Van Jeev Barmer range

At Girab range Van Jeev Barmer in Van Jeev Barmer range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 6 ft and 700 m length as per MB. Also, in actual 700 m pakki diwar was constructed at the site. The width of the diwar was 0.60 meter & height was 6 Ft. Construction work appeared to be good and useful. Coping & pointing work of wall was completed. The coping work on the top of the wall had been done properly. The construction of Pakki Diwar 6 ft helped in preventing encroachment. GPS location of this area was 26.018413 N and 76.669808 E. The expenditure incurred for constructing this wall was Rs. 2343523 (as per MB) against the estimated budget of Rs. 2344540.



Site 2- Forest Chowki at Sam Beriyar Chowki ,Van Jeev Jaisalmer range



Forest Chowki at Sam Beriyar Chowki in Van Jeev Jaisalmer range has been evaluated. The Forest Chowki was constructed in the year 2021-22. Site selection for construction of Forest Chowki was adequate. Construction work appeared to be good and useful. The Forest Chowki created under CAMPA was used for residence purpose of forest guard. The Forest Chowki constructed under CAMPA was properly maintained. Quality of construction & present condition of the Forest Chowki was good. GPS location of this area was 26.824682 N and 70.507147 E. The expenditure incurred for constructing the Forest Chowki was Rs. 464373 (as per MB) against the estimated budget of Rs. 550000.

4. Overall assessment

Table 4: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 6 ft	Girab range Van Jeev Barmer	700	700	0
2.	Forest Chowki	Sam Beriyar Chowki	1	1	0

Table 4.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 6 ft	Girab range Van Jeev Barmer	Good	7
2	Forest Chowki	Sam Beriyar Chowki	Good	7

IGNP Jaisalmer II

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in IGNP Jaisalmer II Forest Division. This Forest Division with 5 Forest Ranges namely Nachna, I, Unit III, Bharewala & III B.

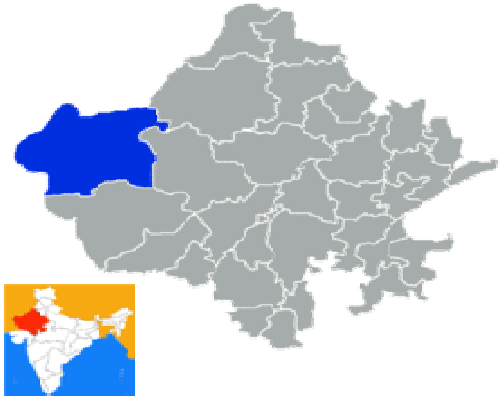


Figure 10 Location of Jaisalmer district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of IGNP ST II Jaisalmer Forest Division were as given in table-1.

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
IInd (merged range IIIrd 1438 RD)	CA Planting KNM 0-3 RD (C)	2020-21	20	CA-NFL	100%
IInd 1438 RD	CA 0-3 RD KNM (E)	2021-22	15	CA- NFL	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of IGNP Jaisalmer II Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
First 1251 RD Nachna	Range Office	2020-21	Forest Guard Chowki
Fifth (merged range First 'O')	Nagga Barani	2020-21	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1 Site 1- CA Planting KNM 0-3 RD (C) site in IInd (merged range IIIrd) 1438 RD -N 27.230473 and E 71.197192

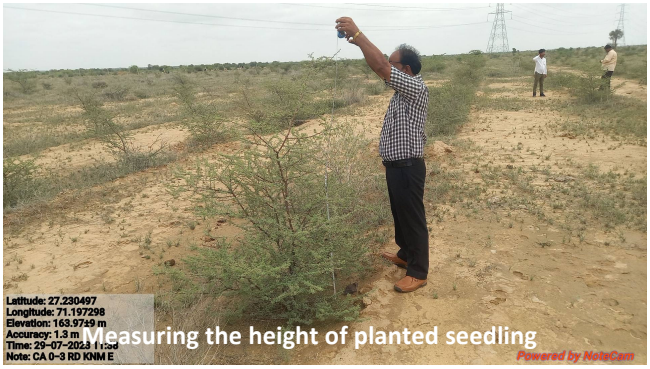
The selected plantation was carried out on 20 hac. of land at CA Planting KNM 0-3 RD (C) in IInd (merged rangeIII[rd] 1438 RD) range during the year 2020-21. The activities were done under the Non Forest Land (NFL) model. The site was a forest land and selected for 100% evaluation. The soil was sandy & domat.



3.1.2. Treatment plan before sowing: The topography of the area was plane. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 22000 pits were dug for plantation in total 20 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Destruction Neel gai, Cattle & by rats was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.



3.1.4. Species Planted: The selected tree species under plantation were Acacia tortilis (Totalis), Acacia senegal (Kumtha), Tecomella undulata (Rohida) and Prosopis juliflora (Khejri) were planted.

In total 22000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 1100 plants per hectare have been planted. Thus, total number of plants planted was 60,000 for 20 hectare of land.

3.1.5. Watering of plants: Three times watering to plants was reported at the site during the first year. As per requirement of plants watering to plants was provided in the next consecutive year.

3.1.6. Natural Vegetation and Regeneration: The plantation model was Non- forest land (NFL).Only seedlings planted were reported at the site. Thus, Natural Vegetation and Regeneration was not reported at the site

3.1.7. Regeneration through seeds sowing: Seeds of species *kumatha* were sown in as well as along the furrow and on the thanwlas. **The result of sowing was average.**

3.1.8. Protection Work: The selected NFL model plantation had barbed wire fencing with welded wire mesh of 2019 RMT. Present condition of fencing was good.

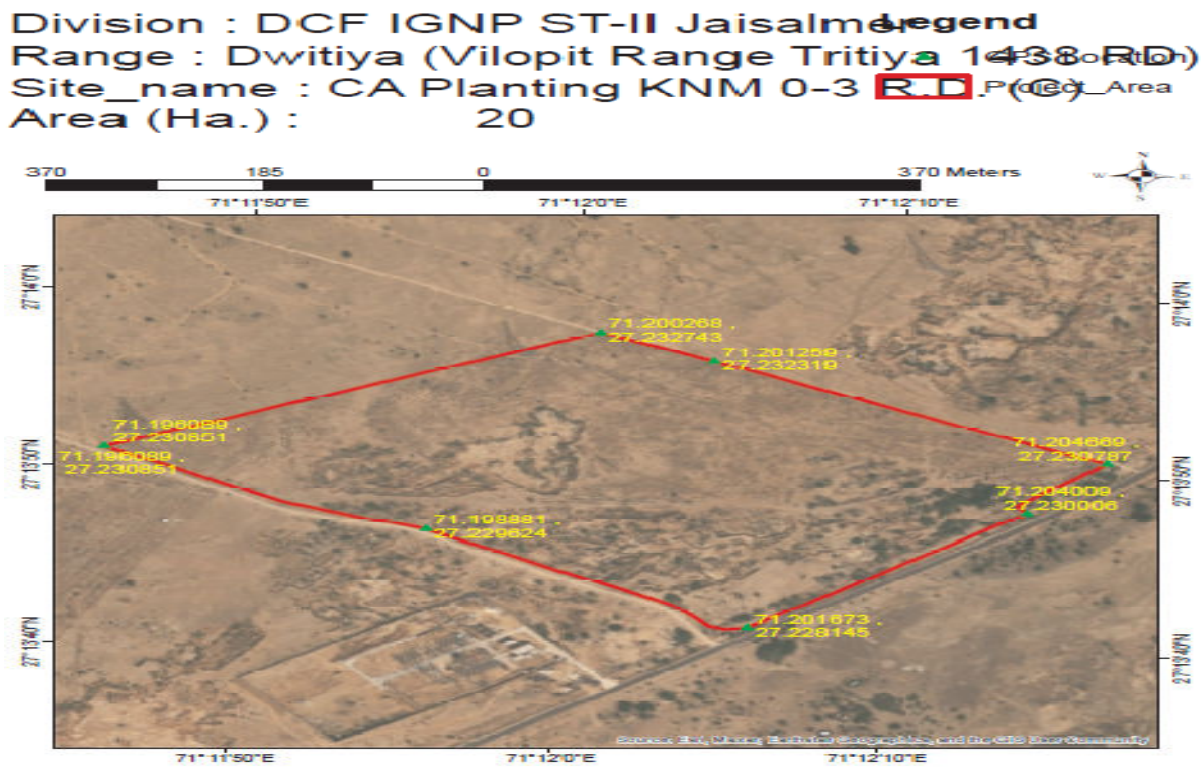
3.1.9. Soil and Water Conservation Measures: There are V ditch of 12000 RMT &Contour furrow of 8000 RMT in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 1100 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 54.7% at the site.**

Table 3: Status of Planted Seedlings at the site- CA Planting KNM 0-3 RD (C) Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	18500	11018	7482	59.6	139	22
Acacia senegal (Kumtha)	2700	948	1752	35.1	90	21
Tecomella undulata (Rohida)	600	47	553	7.8	113	21
Prosopis juliflora (Khejri)	200	21	179	10.5	90	21
Total	22000	12034	9966	54.7	117	21

3.1.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 20 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.3 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs. In Lac)				Expenditure (Rs. In Lac)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21	-	-	-	10.85				10.57
2021-22	-	-	-	3.28				3.28
2022-23				1.13				1.13
Total	-	-	-	15.26				14.98

3.2.1. CA 0-3 RD KNM (E) site in IInd 1438 RD Mohangarh range -N 27.223946 and E 71.18783

The selected plantation was carried out on 15 hac. of land at CA 0-3 RD KNM (E) in IInd 1438 RD Mohangarh range during the year 2021-22. The activities were done under the Non-Forest Land (NFL) model. The site was a forest land and selected for 10% evaluation. The soil was sandy & domat.





3.2.2. Treatment plan before sowing: The topography of the area was plane. Hence, as per availability of soil digging of trench cum pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 16500 pits were dug for plantation in total 15 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals Neel gai & cattle and destruction by rats was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.



3.2.4. Species Planted: The selected tree species under plantation were Acacia

tortilis (Totalis), Tecomella undulata (Rohida), Zizyphus mauritiana (Ber), and Salvadora persica (Jaal), were planted.

In total 16,500 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was trench cum pit.

As per the model, 1100 plants per hectare have been planted. Thus, total number of plants planted was 16500 for 15 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Totalis & Rohida, Jal & Ber which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was average.**

3.2.5. Watering of plants: Three times watering to plants was reported at the site during the first year. As per requirement of plants watering to plants was provided in the next consecutive year.

3.2.6. Natural Vegetation and Regeneration: The plantation model was Non forest land (NFL).Only seedlings planted were reported at the site. Thus, Natural Vegetation and Regeneration was not reported at the site

3.2.7. Regeneration through seeds sowing: Seeds of species *kumatha & khejri* were sown in as well as along the furrow and on the thanwlas. **The result of sowing was average.**

3.2.8. Protection Work: The selected NFL model plantation had barbed wire fencing of 3471 RMT with welded wire mesh. Present condition of fencing was good.

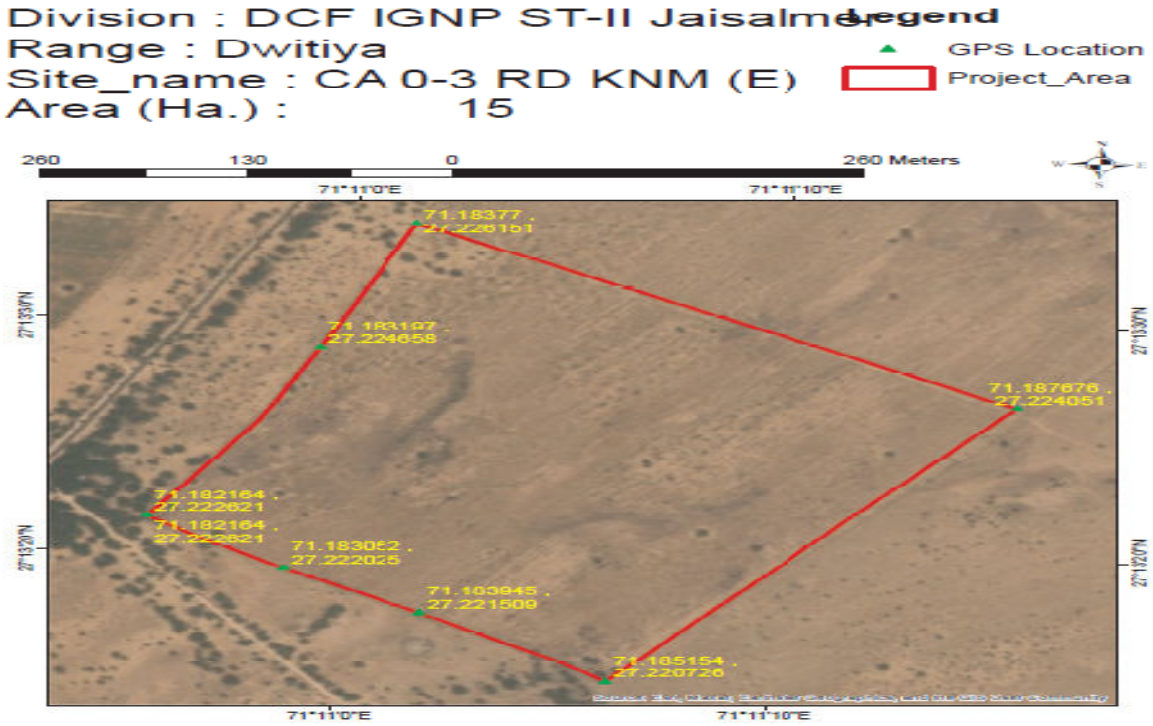
3.2.9. Soil and Water Conservation Measures: There are 7000 RMT trenches cum V ditches & 10000 rmt contour furrows in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 1100 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 51.3% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 16500 plants comprising of various species were planted in the 15 hectare plantation area.

Table 3.1: Status of Planted Seedlings at the site—0-3 RD KNM (E) Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tecomella undulata (Rohida)	5000	500	154		92	22
Acacia tortilis (Totalis)	9600	960	529		94	22
Zizyphus mauritiana (Ber)	1500	150	121		90	21
Salvadora persica (Jaal)	400	40	42		90	21
Total	16500	1650	846	51.3	92	22

3.2.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 15 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.5 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs. In Lac)				Expenditure (Rs. In Lac)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21	-	-	-	6.91	-	-	-	5.90
2021-22	-	-	-	8.56	-	-	-	8.56
2022-23				2.75				2.75
Total	-	-	-	18.22	-	-	-	17.21

4. Results for asset sites

4.1 Site 1- Forest Guard Chowki at Range Office, First 1251 RD Nachna range



Forest Chowki at Range Office in First 1251 RD Nachna range has been evaluated. The Forest Chowki was constructed in the year 2020-21. Site selection for construction of Forest Chowki was adequate. Construction work appeared to be good and useful. The Forest Chowki created under CAMPA was used for residence purpose of forest guard. The Forest Chowki constructed under CAMPA was properly maintained. Quality of construction &

present condition of the Forest Chowki was good. GPS location of this area was 27.457277 N and 71.70911 E. The expenditure incurred for constructing the Forest Chowki was Rs. 550000 (as per MB) against the estimated budget of Rs. 550000.

Site 2- Pillars at Nagga Barani, Fifth (merged range First 'O') range



At Nagga Barani site in Fifth (merged range First 'O') range, the Pillars (17 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing work of pillar was proper. Number was written on the pillar. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (85 Nos.) was 1.02 lac (as per MB) against the estimated cost of Rs. 1.53 lac.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in IGNP ST II Jaisalmer division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	CA Planting KNM 0-3 RD (C)Site	NFL	20	54.7	6
2.	CA 0-3 RD KNM (E)	NFL	15	51.3	6

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Forest Guard Chowki	Range Office	1	1	0
2.	Nagga Barani	Boundary Pillars	17	17	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pillars	Nagga Barani	Good	7
2	Forest Chowki	Range Office	Good	7

Jalore

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Jalore Forest Division. This Forest Division with 4 Forest Ranges namely Jalore, Raniwara, Bhinmal & Jasvantpura has territorial jurisdiction over the entire Jalore District.

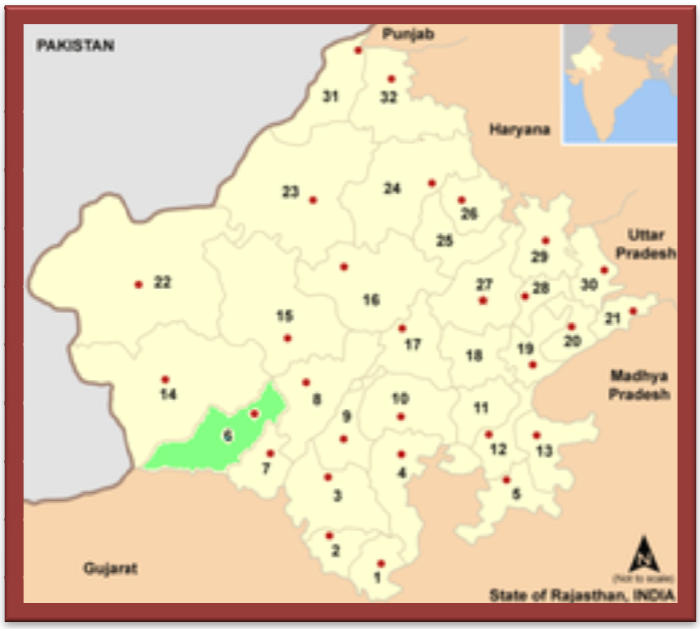


Figure 11 Location of Jalore district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Jalore Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Raniwara	Raniwara Khurd	2020-21	50	ANR	100%
Jaswantpura	Panseri B	2021-22	50	ANR	10%
Jalore	Meda Jod	2021-22	50	Silvi Pastoral	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Jalore Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no.	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Jalore	Paniya Nada Jalore	2020-21	Pakki Diwar 4 ft
2.	Jaswantpura	Range Office	2020-21	Range Office
3.	Jaswantpura	Jain Dharmshala Dantawas se up to NREGA diwar	2021-22	Pakki Diwar 6 ft

4.	Jalore	Meda Chiparwada	2021-22	Pakki Diwar 4 ft
5.	Raniwada	Karwada	2021-22	MPT
6.	Raniwada	Raniwada	2021-22	MPT
7.	Raniwada	Vankhand Dungri	2020-21	Boundary Pillar
8.	Raniwada	Dodwadiya (Vankhand Raniwara)	2020-21	Boundary Pillar
9.	Raniwada	Vankhand Pal Jod & Kudi Sariyana	2020-21	Boundary Pillar
10.	Raniwada	Vankhand Meda	2020-21	Boundary Pillar
11.	Raniwada	Vankhand Varetha	2020-21	Boundary Pillar
12.	Raniwada	Vanshetra Badgaon	2021-22	Boundary Pillar
13.	Raniwada	Vankhand Kagmala A	2021-22	Boundary Pillar
14.	Raniwada	Vankhand Padawi	2021-22	Boundary Pillar
15.	Raniwada	Vanshetra Dantwada	2021-22	Boundary Pillar
16.	Raniwada	Vankhand Mandaradi	2021-22	Boundary Pillar
17.	Raniwada	Vankhand Jalera Khurd	2021-22	Boundary Pillar
18.	Raniwada	Vankhand Sataru	2021-22	Boundary Pillar
19.	Raniwada	Vankhand Roda	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1-Raniwara Khurd site in Raniwara range -N 24. 767919 and E 72.216207

The selected plantation was carried out on 50 hac. of land at Raniwara Khurd in Raniwara range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy & hard clayey.





3.1.2. Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. It is reported excellent having fair amount of soil. Grazing by stray animals & cattle and destruction by Neel gai, rats & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.1.4. Species Planted: The selected tree species under plantation were Acacia senegal (Kumtha) and Acacia tortilis (Totalis).


Result of sowing in SGT

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.

As far as choice of seedlings for plantation is concerned, it was proper, fair & suitable. The seedlings selected for plantation were Kumtha & Totalis which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was good.**


CCT at the site

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: *Totalis, Siras & Juliflora* were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species Kumatha & Totalis were sown in as well as along the trenches and on the thanwlas. There was good growth on thanwalas & SGTof seed sowing. **Hence, the result of sowing was excellent.** The growth of plant out of seed sowing was better than the planted seedling.

3.1.8. Protection Work: The selected ANR model plantation had ditch fencing of 2235 RMT having top width 1.5m, bottom width 0.9 m & depth 1.2m. Present condition of fencing was satisfactory. Also, loose stone wall fencing of 790 rmt & barbed wire fencing of 832 rmt was reported at the site. The present condition of fencing was satisfactory. The loose stone wall was damaged & trench fencing was filled with soil.

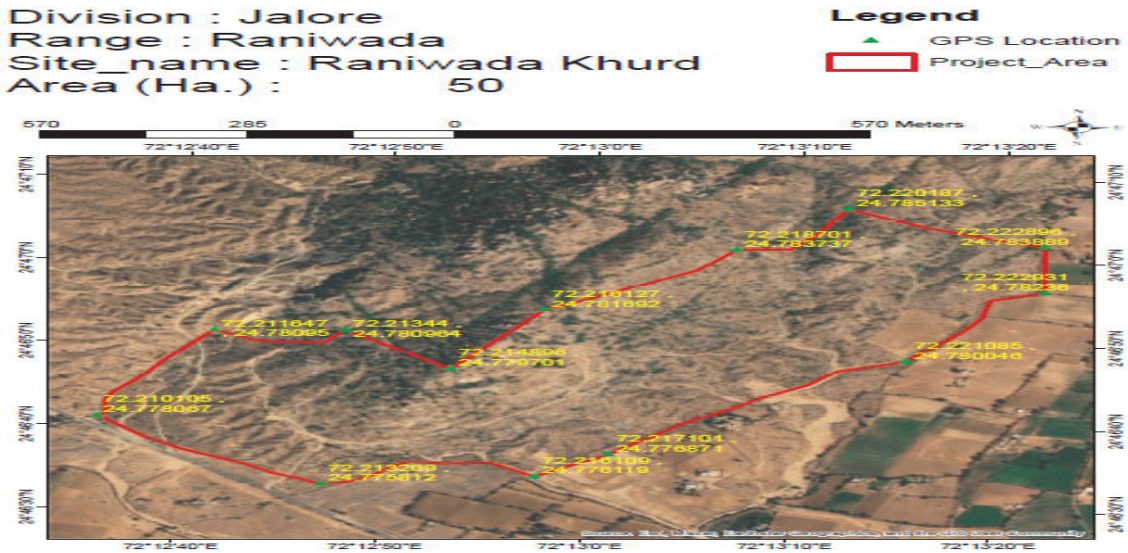
3.1.9. Soil and Water Conservation Measures: There are 350 RMT Contour trenches, 3200 rmt SGT, 450 rmt Deep CCT, earthen check dams (7581 cu.cm) & loose stone check dam (621 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 62.2% at the site.**

Table 3: Status of Planted Seedlings at the site- Raniwara Khurd Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	7000	4980	2020	71.14	127.3	29
Acacia senegal (Kumtha)	2000	1240	760	62.00	98.7	26
Others	1000	0	1000	0.00	0.0	0
Total	10000	6220	3780	62.20	121.6	28

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				478191
2021-22				182150				182141
Total				668350				660332

3.2.1. Site 2-Panseri B site in Jaswantpura range -N 24.809728 and E 72.341302

The selected plantation was carried out on 50 hac. of land at Panseri B site in Jaswantpura range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.



Plantation Board at the site

3.2.2. Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of

soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. Grazing by stray animals & cattle and destruction by Neel gai, rats, wild boar & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.


Measuring the height of planted seedling

3.2.4. Species Planted: The selected tree species under plantation were Acacia senegal (Kumtha), Ziziphus jujuba (Ber) and Acacia tortilis (Totalis).

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.



Earthen Check dam at the site

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper, fair & suitable. The seedlings selected for plantation were Kumtha, Ber & Totalis which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was good.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: *Totalis, Kumtha & Ber* were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species Kumatha & Totalis were sown in as well as along the trenches and on the thanwlas. There was good growth on thanwalas & trenches of seed sowing. **Hence, the result of sowing was average.**

3.2.8. Protection Work: The selected ANR model plantation had ditch fencing of 3420 RMT having top width 1.5m, bottom width 0.9 m & depth 1.2m. Present condition of fencing was satisfactory.

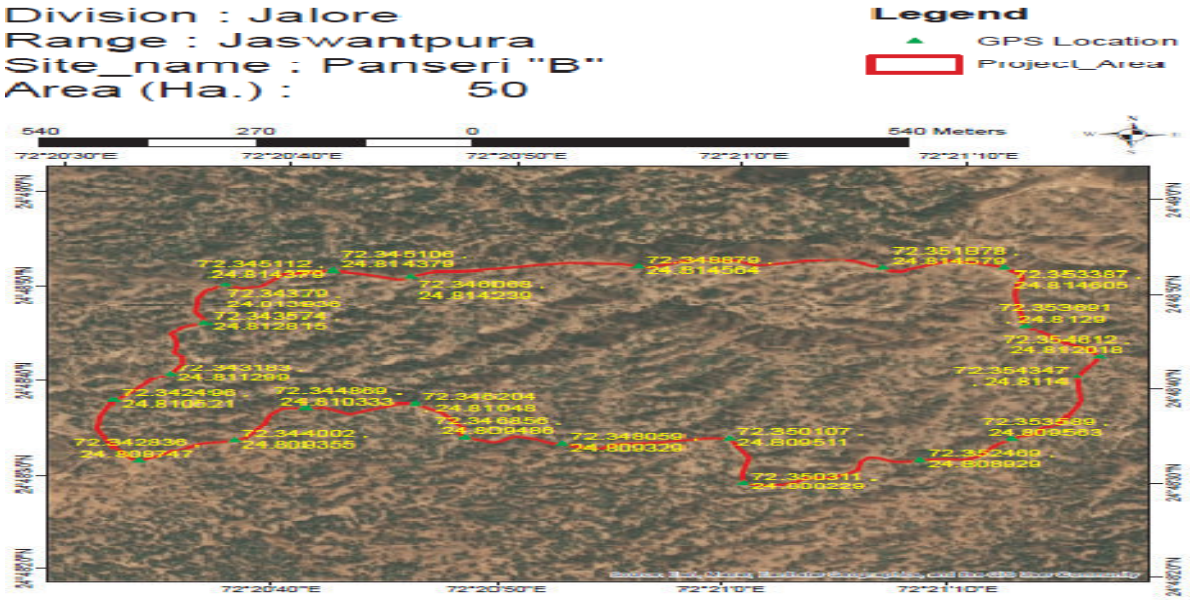
3.2.9. Soil and Water Conservation Measures: There are 16000 RMT Contour trenches & earthen check dams (7780 cu.cm) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & +4 cu.m. excess in earthen check dams.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 52.8% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10000 plants comprising four species were planted in the 50 hectare plantation area.

Table 3.2: Status of Planted Seedlings at the site- Panseri B Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	6800	680			100.8	23
Acacia senegal (Kumtha)	2200	220			95.6	22
Zizyphus mauritiana (Ber)	1000	100			90.0	21
Total	10000	1000	528	52.8	97.9	22

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				20.812				20.54
2021-22				5.1165				4.93
Total				25.9285				25.47

3.3.1. Site 3- Meda Jod site in Jalore range -N 25.228733 and E 72.777265

The selected plantation was carried out on 50 hac. of land at Meda Jod in Jalore range during the year 2021-22. The activities were done under the Silvi Pastoral model (SPP). The site was a forest land and selected for 100% evaluation. The soil was clayey & bolders.





3.3.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai and rabbit was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.3.4. Species Planted: The selected seedlings of Acacia senegal (Kumtha), Ziziphus jujuba (Ber), Tecomella undulata (Rohida), Salvadora persica (Jal) and Acacia tortilis (Totalis)were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 5000 for 25 hectare of land. **The growth of survived plants was satisfactory.**

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Desi babool, Juliflora, Ber, Kumtha & Jal were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Totalis, Dhaman grass, Desi Babool, Khejri & Ber* was sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was average.**

3.3.8. Protection Work: The selected Silvi Pastoral model plantation had ditch fencing of 2950 RMT having width at the top-1.50 meters, width at the bottom-0.9 meters & height 1.2 meters. Present condition of fencing was satisfactory.

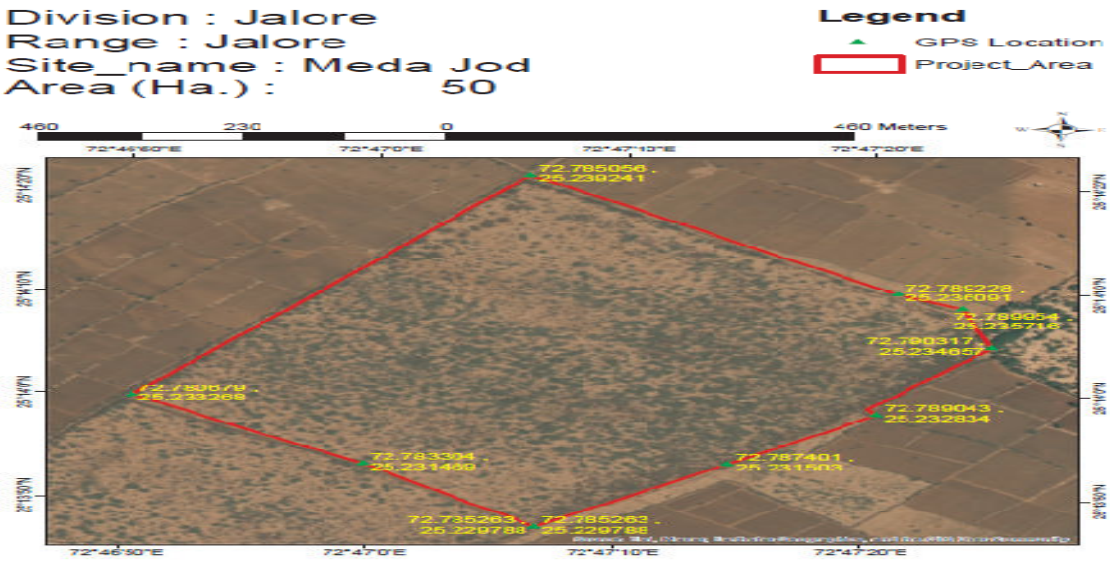
3.3.9. Soil and Water Conservation Measures: There are Contour Furrow (30000 rmt.) in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.8% at the site.**

Table 3.4: Status of Planted Seedlings at the site-Meda Jod Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	2700	2024	676	75.0	91.6	22
Acacia senegal (Kumtha)	3600	1600	2000	44.4	90.8	21
Tecomella undulata (Rohida)	1900	84	1816	4.4	90.0	21
Zizyphus mauritiana (Ber)	1250	836	414	66.9	91.6	21
Salvadora persica (Jaal)	550	36	514	6.5	90.0	21
Total	10000	4580	5420	45.8	91.3	21

3.3.11. GPS Location and KML file: The selected SPP model under CAMPA plantation site measured 50 Hac as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				870000				709639
2021-22				1529550				1462000
Total				2399550				2171639

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft at Paniya Nada, Jalore Range

Paniya Nada in Jalore range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meter. Construction work appeared to be good and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site. However, some part of pakki diwar was damaged by the local community. GPS location of this area was 25°21'1" N and 72°35'9"E. The expenditure incurred for constructing this wall was 11.92 lac (as per MB) against the estimated cost of 12.0 lacs.



Site 2 - Range Office at Jaswantpura range

Range Office at Jaswantpura range has been evaluated. The Range Office was constructed in the year 2020-21. Site selection for construction of Range Office was adequate. Construction work appeared to be good and useful. The Range Office created under CAMPA was used by department staff (Ranger) for residential purpose. The Range Office constructed under CAMPA was properly maintained. Electricity fitting & sanitary connection of Range Office was completed. Quality of construction & present condition of the Range Office was good. GPS location of this area was 24.80865 N and 72.457968 E. The expenditure incurred for constructing the Range Office was 10.50 lac (as per MB) against the estimated budget of 10.50 lac.



Site 3- Pakki Diwar 6 Ft at Jain Dharmshala Dantlawas se up to NREGA diwar, Jaswantpura Range

At Jain Dharmshala Dantawas se up to NREGA diwar in Jaswantpura range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 6 ft and 1560 rmt length as per MB. Also, in actual 1560 rmt pakki diwar was constructed at the site. However, 12 meter diwar near to nallah was found fallen at the time of visit due to damage by the local community. Construction work appeared to be average



and the infrastructure was useful in protecting forest area. GPS location of this area was 24.848142 N and 72.379795 E. The expenditure incurred for constructing this wall was 52.26 lac (as per MB) against the estimated budget of 51.13 lac.

Site 4- Pakki Diwar 4 Ft at Meda Chipparwara , Jalore Range



At Meda Chipparwara in Jalore range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 1000 m length as per MB. Also, in actual 1000 m pakki diwar was constructed at the site. But 25 meter diwar was badly damaged due to cyclone & heavy rain. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be average and useful. GPS location of this area was 25°301348 N and 72°775412 E. The expenditure incurred for constructing this wall was 25.38 lac (as per MB) against the estimated cost of 26.20 lacs.

Site 5- MPT at Karwara, Raniwara Range



At Karwara in Raniwara range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (30.2m), breadth (2.6m) & height (3.1 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the time of visit. The GPS location of this area was 24°844222 N and 72°111475 E. The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 68024 (as per MB) against the estimated budget of Rs.70000.

Site 6- MPT at Raniwara, Raniwara Range



At Raniwara in Raniwara range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (30m), breadth (2.5m) & height (2.8 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was available (up to 2.5 meter) in the MPT at the time of visit. The GPS location of this area was 24°844218 N and 72°11146 E.The MPT is useful for forest area & wild animals. One fair was held in the nearby area every year where Cattle used to come. The availability of water in the MPT is useful for these cattles also. The expenditure incurred for constructing the MPT was Rs. 68024 (as per MB) against the estimated budget of Rs.70000.

Site 7- Pillars at Vankhand Dungari , Raniwara range



The site visited under asset created under CAMPA was Pillars (20 Nos.) at Vankhand Dungari site at Raniwara. At Vankhand Dungari site Pillars (04 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars (20 Nos.) was Rs. 24964 (as per MB) against the estimated cost of Rs. 36000.

Site 8- Pillars at Dodwadiya (Vankhand Raniwara) , Raniwara range



The site visited under asset created under CAMPA was Pillars (25 Nos.) at Dodwadiya (Vankhand Raniwara) site at Raniwara. At Vankhand Dungari site Pillars (05 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars (25 Nos.) was Rs. 31486 (as per MB) against the estimated cost of Rs. 45000.

Site 9- Pillars at Vankhand Pal Jod & Kudi Sariyana , Raniwara range



The site visited under asset created under CAMPA was Pillars (50 Nos.) at Vankhand Pal Jod & Kudi Sariyana site at Raniwara. At Vankhand Pal Jod & Kudi Sariyana site Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (50 Nos.) was Rs. 63925 (as per MB) against the estimated cost of Rs. 90000.

Site 10- Pillars at Vankhand Meda , Raniwara range



The site visited under asset created under CAMPA was Pillars (50 Nos.) at Vankhand Meda site at Raniwara. At Vankhand Meda site Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars (50 Nos.) was Rs. 88765 (as per MB) against the estimated cost of Rs. 90000.

Site 11- Pillars at Vankhand Varetha, Raniwara range



The site visited under asset created under CAMPA was Pillars (55 Nos.) at Vankhand Varetha site at Raniwara. At Vankhand Varetha site Pillars (11 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The expenditure incurred for constructing the Pillars (50 Nos.) was Rs. 67846 (as per MB) against the estimated cost of Rs. 99000.

Site 12- Pillars at Vanshetra Badgaon, Raniwara range



The site visited under asset created under CAMPA was Pillars (120 Nos.) at Vanshetra Badgaon site at Raniwara. At Vanshetra Badgaon site Pillars (24 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars (120 Nos.) was Rs. 282000(as per MB) against the estimated cost of Rs. 135628.

Site 13- Pillars at Vankhand Kagmala A , Raniwara range



The site visited under asset created under CAMPA was Pillars (35 Nos.) at Vankhand Kagmala A site at Raniwara. At Vankhand Kagmala A site Pillars (07 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The

construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars (35 Nos.) was Rs. 82250 (as per MB) against the estimated cost of Rs. 59508.

Site 14- Pillars at Vankhand Padawi , Raniwara range



The site visited under asset created under CAMPA was Pillars (55 Nos.) at Vankhand Padawi site at Raniwara. At Vankhand Padawi site Pillars (11 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars (55 Nos.) was Rs. 92876 (as per MB) against the estimated cost of Rs. 188000.

Site 15- Pillars at Vanshetra Dantwara, Raniwara range

The site visited under asset created under CAMPA was Pillars (80 Nos.) at Vanshetra Dantwara site at Raniwara. At Vanshetra Dantwara site Pillars (16 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The expenditure incurred for constructing the Pillars (80 Nos.) was Rs. 135628 (as per MB) against the estimated cost of Rs. 188000.



Site 16- Pillars at Vankhand Mandaradi, Raniwara range

The site visited under asset created under CAMPA was Pillars (30 Nos.) at Vankhand Mandaradi site at Raniwara. At Vankhand Mandaradi site Pillars (06 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (30 Nos.) was Rs. 50852 (as per MB) against the estimated cost of Rs. 70500.



Site 17- Pillars at Vankhand Jalera Khurd, Raniwara range

The site visited under asset created under CAMPA was Pillars (50 Nos.) at Vankhand Jalera Khurd site at Raniwara. At Vankhand Jalera Khurd site Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars (50 Nos.) was Rs. 84406 (as per MB) against the estimated cost of Rs. 117500.



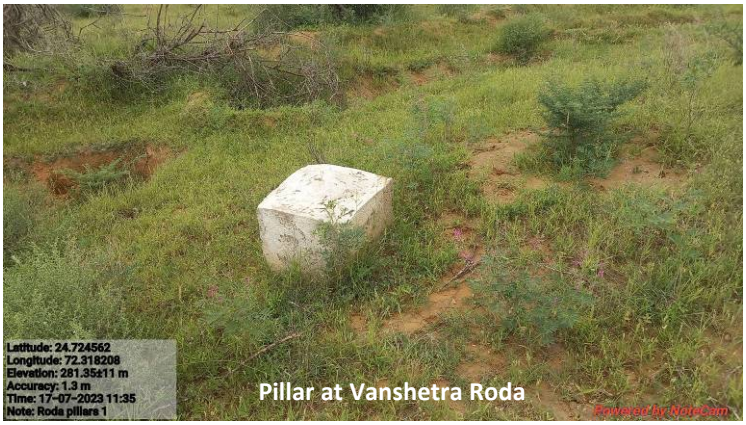
Site 18- Pillars at Vankhand Satru, Raniwara range

The site visited under asset created under CAMPA was Pillars (60 Nos.) at Vankhand Satru site at Raniwara. At Vankhand Satru site Pillars (12 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars (60 Nos.) was Rs. 101003 (as per MB) against the estimated cost of Rs. 141000.



Site 19- Pillars at Vanshetra Roda , Raniwara range

The site visited under asset created under CAMPA was Pillars (120 Nos.) at Vanshetra Roda site at Raniwara. At Vanshetra Roda site Pillars (24 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars (120 Nos.) was Rs. 203436 (as per MB) against the estimated cost of Rs. 282000.



5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Jalore division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Raniwara Khurd	ANR	50	62.2	7
2	Panseri B	ANR	50	52.8	6
3	Meda Jod	Silvi Pastoral	50	45.8	5

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation	
1.	Range Office	Jaswantpura	1	1	0	
2.	Pakki Diwar 4 ft	Paniya Nada Jalore	500	500	0	
3.	Pakki Diwar 6 ft	Jain Dharmshala Dantawas se up to NREGA diwar	1560	1548	12	Damaged by local community
4.	Pakki Diwar 4 ft	Meda Chiparwada	1000	975	25	Damaged due to cyclone & heavy rain
5.	MPT	Karwada	30.2x2.6x3.1	30.2x2.6x3.1	0	
6.	MPT	Raniwada	30x2.5x2.8	30x2.5x2.8	0	
7.	Boundary Pillar	Vankhand Dungri	4	4	0	
8.	Boundary Pillar	Dodwadiya (Vankhand Raniwara)	5	5	0	
9.	Boundary Pillar	Vankhand Pal Jod & Kudi Sariyana	10	10	0	
10.	Boundary Pillar	Vankhand Meda	10	10	0	
11.	Boundary Pillar	Vankhand Varetha	11	11	0	
12.	Boundary Pillar	Vanshetra Badgaon	24	24	0	
13.	Boundary Pillar	Vankhand Kagmala A	7	7	0	
14.	Boundary Pillar	Vankhand Padawi	11	11	0	
15.	Boundary Pillar	Vanshetra Dantwada	16	16	0	

16.	Boundary Pillar	Vankhand Mandaradi	6	6	0	
17.	Boundary Pillar	Vankhand Jalera Khurd	10	10	0	
18.	Boundary Pillar	Vankhand Sataru	12	12	0	
19.	Boundary Pillar	Vankhand Roda	24	24	0	

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Paniya Nada Jalore	Average	6
2.	Pakki Diwar 6 ft	Jain Dharmshala Dantawas se up to NREGA diwar	Average	6
3.	Pakki Diwar 4 ft	Meda Chiparwada	Average	6
4.	MPT	Karwada	Average	6
5.	MPT	Raniwada	Average	6
6.	Boundary Pillar	Vankhand Dungri	Average	6
7.	Boundary Pillar	Dodwadiya (Vankhand Raniwara)	Average	6
8.	Boundary Pillar	Vankhand Pal Jod & Kudi Sariyana	Average	6
9.	Boundary Pillar	Vankhand Meda	Average	6
10.	Boundary Pillar	Vankhand Varetha	Average	6
11.	Boundary Pillar	Vanshetra Badgaon	Average	6
12.	Boundary Pillar	Vankhand Kagmala A	Average	6
13.	Boundary Pillar	Vankhand Padawi	Average	6
14.	Boundary Pillar	Vanshetra Dantwada	Average	6
15.	Boundary Pillar	Vankhand Mandaradi	Average	6
16.	Boundary Pillar	Vankhand Jalera Khurd	Average	6
17.	Boundary Pillar	Vankhand Sataru	Average	6
18.	Boundary Pillar	Vankhand Roda	Average	6
19.	Range Office	Jaswantpura	Good	7

Jhalawar

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Jhalawar Forest Division. This Forest Division with 7 Forest Ranges namely Khanpur, Dag, Manoharthana, Aklera, Jhalawar, Bakani & Asnawar has territorial jurisdiction over the entire Jhalawar District.



Figure : Location of Jhalwar district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Jhalawar Forest Division for evaluation were as given in table 1.

Table 1: Plantation sites for evaluation

Sl.no	Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
1.	Bakani	Guradkheda	2020-21	50	ANR	100%
2.	Khanpur	Chamlasa	2020-21	26.160	NFL	10%
3.	Khanpur	Chalet	2020-21	32.140	NFL	100%
4.	Khanpur	Khatakhedi	2020-21	36.0	NFL	10%
5.	Khanpur	Garayta	2020-21	23.70	NFL	100%
6.	Dag	Harnavda I	2020-21	77	NFL	10%
7.	Manoharthana	Kotra I	2021-22	50	DFL	100%
8.	Jhalawar	Bavdikheda	2021-22	50	ANR	10%
9.	Khanpur	Baisar	2021-22	50	ANR	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Jhalawar Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Jhalawar	Field trial	2020-21	Pakki Diwar 4 ft
2.	Khanpur	Bislai	2020-21	Anicut Type II
3.	Jhalawar	Mandashyampura	2020-21	Anicut Type III
4.	Jhalawar	Jhalawar	2020-21	Boundary Pillar

5.	Dug	Dug	2020-21	Boundary Pillar
6.	Khanpur	Haliheda	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Gurarkheda site in Bakani range -N $24^0$20'22" and E $76^0$20'33"

The selected plantation was carried out on 50 hac. of land at Gurarkheda in Bakani range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red moram & stony.



3.1.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boar, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.

3.1.4. Species Planted: The selected tree species under plantation were Holoptelea integrifolia (Churel), Acacia catechu (Khair), Acacia leucopholea (Ronj), Acacia nilotica (Desi babool),Pithecellobium dulce (Jangal Jalebi), Zizyphus mauritiana (Ber), *Azadirachta indica (Neem)* Emblica officinalis (Amla), Dalbergia sissoo (Shisham)& Pongamia pinnata (Karanj) were planted.



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the

plantation area. Technique of planting at the site was pit. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land.. **The growth of survived plants was good.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Palash, Neem, Bamboo & Churel were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Khair, Karanj & Bair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

31.8. Protection Work: The selected ANR model plantation had ditch fencing of 3200 RMT (1.5+.90/2 X 1.2). Present condition of ditch fencing was average. Silting was reported in some parts of ditch fencing.

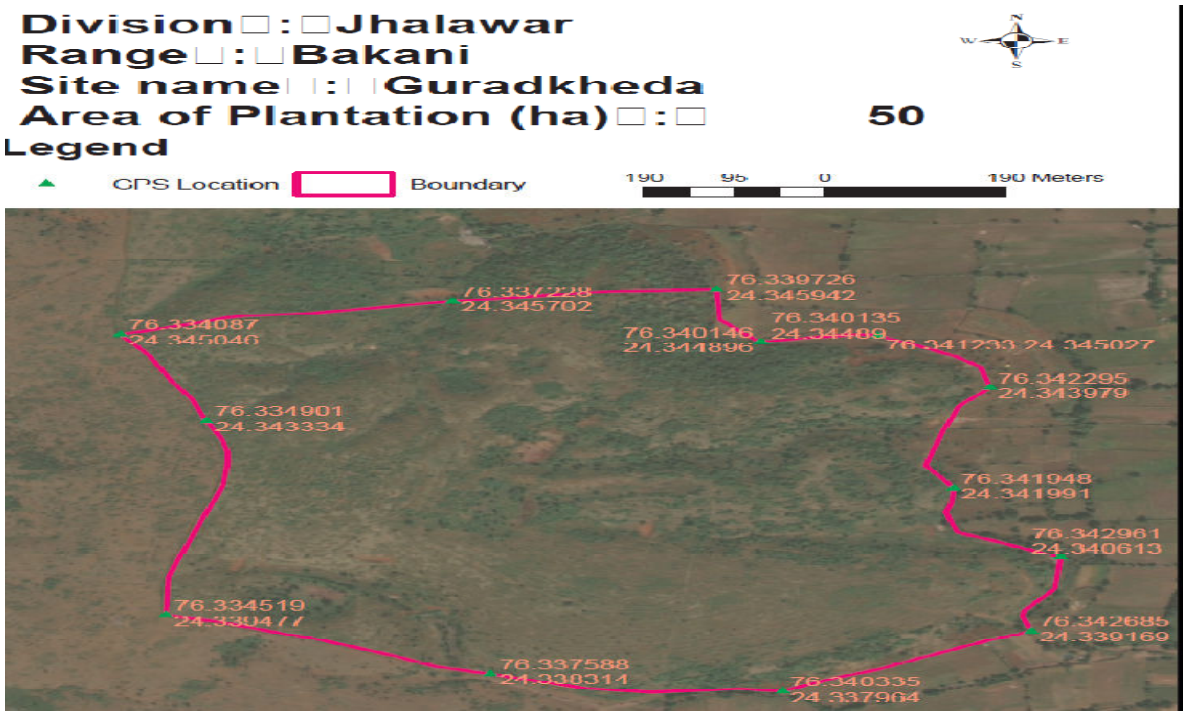
3.1.9. Soil and Water Conservation Measures: There are 2500 RMT (Width & depth -0.45 meters) Contour trenches, 1000 RMT Deep CCT & 05 MPT in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 50.6% at the site.**

Table 3: Status of Planted Seedlings at the site-Gurarkheda Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	500	250	250	50.0	127	23
Acacia leucopholea (Ronj)	1000	540	460	54.0	117	23
Acacia nilotica (Desi babool)	1000	460	540	46.0	132	24
Dendrocalamus strictus (Baans)	100	0	100	0.0	0	0
Emblica officinalis (Amla)	800	110	690	13.8	94	21
Holoptelea integrifolia (Churel)	1800	1204	596	66.9	117	25
Azadirachta indica (Neem)	600	310	290	51.7	112	23
Pongamia pinnata (Karanj)	1200	510	690	42.50	116	22
Dalbergia sissoo (Shisham)	1500	885	615	59.0	104	22
Pithecellobium dulce (Jangal Jalebi)	300	210	90	70.00	104	21
Zizyphus mauritiana (Ber)	1200	585	615	48.75	100	22
Total	10000	5064	4936	50.6	113	23

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.1. Site 2- Chamlasa site in Khanpur range -N 24^{0}41'44" and E 76^{0}14'40"

The selected plantation was carried out on 26.160 hac. of land at Chamlasa in Khanpur range during the year 2020-21. The activities were done under the Non Forest Land (NFL) model. The site was a forest land and selected for 10% evaluation. The soil was black & red in colour.



3.2.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 21000 pits were dug for plantation in total 26.160 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and rabbits, rats was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of



guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected tree species under plantation were of *Acacia leucophoelea (*ronj), Azadirachta indica (Neem), Zizyphus mauritiana (Ber) and, Acacia catechu (Khair), Holoptelea integrifolia (Churel), *Azadirachta indica (Neem)* Emblica officinalis (Amla))& Pongamia pinnata (Karanj).



In total 35000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 1000 plants per hectare have been planted. Thus, total number of plants planted was 21000 for 26.160hectare of land. **The growth of survived plants was satisfactory.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Neem, Ronj, and Ber were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: The plantation site was NFL**.** The seed sowing was not reported at the site.



3.2.8. Protection Work: The selected NFL model plantation had loose stone fencing of 1620 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. Also, 2100 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters was reported at the site. The status both the fencing was satisfactory .

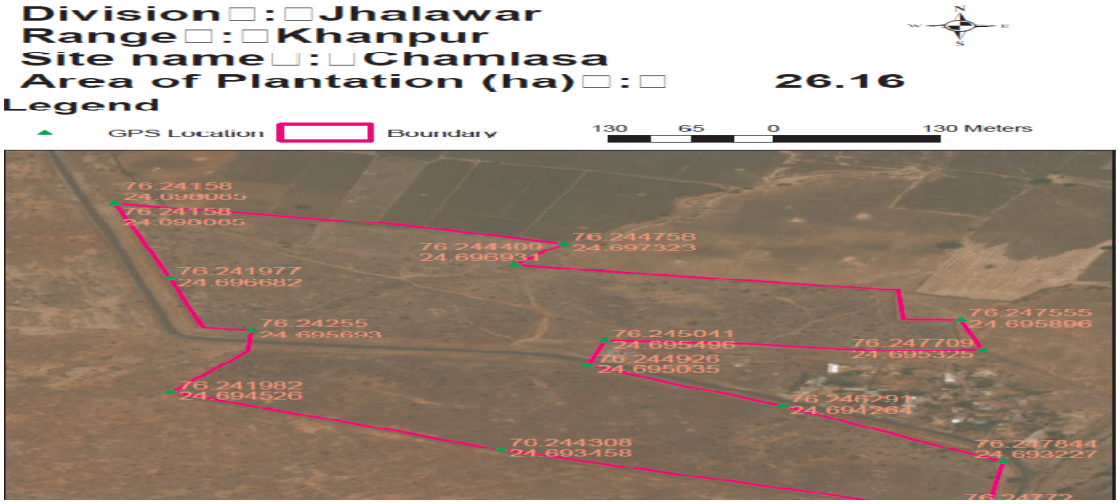
3.2.9. Soil and Water Conservation Measures: The SMC measures were not reported at the plantation site.

3.2.10. Observations Recorded: Under this model, 1000 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 44.0% at the site.** Table 3.1: Status of Planted Seedlings at the site-Chamlasa Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	3420	342	210		106	23
Acacia leucopholea (Ronj)	5700	570	181		118	24
Emblica officinalis (Amla)	500	50	0		0	0

Holoptelea integrifolia (Churel)	5500	550	249		123	23
Azadirachta indica (Neem)	150	15	11		130	21
Pongamia pinnata (Karanj)	500	50	0		0	0
Zizyphus mauritiana (Ber)	5200	520	274		118	22
Ficus religiosa (Pipal))	15	2	0		0	0
Ficus bengalensis (bargad)	15	2	0		0	0
Total	21000	2100	925	44.0	117	23

3.2.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 26.160 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.2: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs. In Lac)				Expenditure (Rs. In Lac)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1419338				872601
2021-22				429443				325643
2022-23				148040				131770
Total				1996821				1330014

3.3.1. Site 3- Chalet site in Khanpur range -N $24^0$43’1” and E $76^0$13’31”

The selected plantation was carried out on 32.140 hac. of land at Chalet in Khanpur range during the year 2020-21. The activities were done under the Non Forest Land (NFL) model. The site was a forest land and selected for 100% evaluation. The soil was sandy & bolders.

3.3.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 35360 pits were dug for plantation in total 32.140 hac of land. The seedlings were planted after



applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and rabbits, rats was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.4 Species Planted: The selected tree species under plantation were of *Acacia leucophoelea (*ronj), Zizyphus mauritiana (Ber), Acacia catechu (Khair), Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool) & Pongamia pinnata (Karanj).

In total 35360 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 1100 plants per hectare have been planted. Thus, total number of plants planted was 35360 for 32.140 hectare of land. Map of planting site was prepared. As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Ronj, Bair, Karanj, Khair & Churel which can survive in the climate. **The growth of survived plants was satisfactory.**

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Churel, Ronj, and Ber were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Khair, Ronj & Kumtha* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.



3.3.8. Protection Work: The selected NFL model plantation had 3625 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters was reported at the site. The status both the fencing was satisfactory.

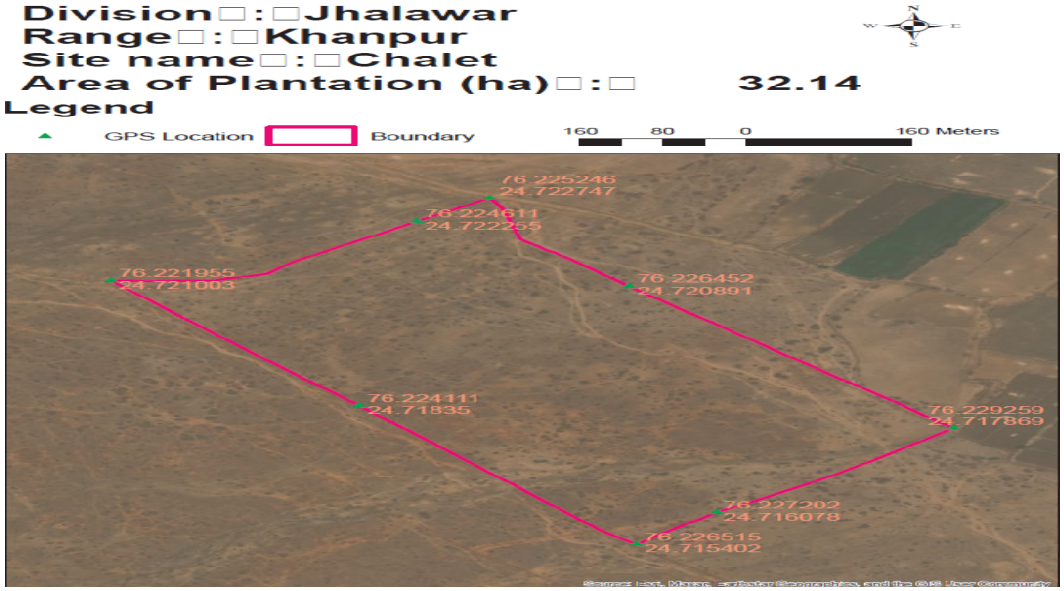
3.3.9. Soil and Water Conservation Measures: The SMC measures were not reported at the plantation site.

3.3.10. Observations Recorded: Under this model, 1000 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 42.3% at the site.**

Table 3.3: Status of Planted Seedlings at the site-Chalet Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	5800	2440	3360	42.1	99	21
Acacia leucopholea (Ronj)	8200	3760	4440	45.9	117	23
Acacia nilotica (Desi babool)	1500	800	700	53.3	118	22
Holoptelea integrifolia (Churel)	7480	3100	4380	41.4	100	21
Zizyphus mauritiana (Ber)	7500	2750	4750	36.67	98	21
Pongamia pinnata (Karanj)	4880	2100	2780	43.0	105	21
Total	35360	14950	20410	42.3	107	22

3.3.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 32.140 hec as per kml map.



3.3.12. Budget and expenditure

Table 3.4: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs. In Lac)				Expenditure (Rs. In Lac)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1743789				1817742
2021-22				527610				455546
2022-23				181880				160014
Total				2453279				2433302

3.4.1. Site 4- Khatakhedi site in Khanpur range -N 24^{0}48’52” and E 76^{0}17’54”

The selected plantation was carried out on 36.0 hac. of land at Khatakhedi in Khanpur range during the year 2020-21. The activities were done under the Non Forest Land (NFL) model. The site was a forest land and selected for 10% evaluation. The soil was black domat.

3.4.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 39600 pits were dug for plantation in total 36.0 hac of land. **3.4.3. Health & Damages of Plantation:** The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and rabbits, rats was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.


Measuring the height of planted seedling

3.4.4. Species Planted: The selected tree species under plantation were of *Acacia leucophoelea (*ronj), Acacia catechu (Khair), *Cassia fistula (*Amaltas), Jamun, Acacia nilotica (Desi babool)& Pongamia pinnata (Karanj).


Preparation for 10% counting at the site

In total 39600 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit. As per the model, 1100 plants per hectare have been planted. Thus, total number of plants planted was 39600 for 36.0 hectare of land. **The growth of survived plants was good.**

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6.. Natural Vegetation and Regeneration: Desi babool, Juliflora, Neem, Mango and Jamun were the plants found grown naturally in this area. The growth of the plants was good.


CCT at the plantation site

3.4.7. Regeneration through seeds sowing: Seeds of species *Khair, Ronj, Bair & Kumtha* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

3.4.8. Protection Work: The selected NFL model plantation had ditch fencing of 5827 RMT having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters was reported at the site. The status of ditch fencing was satisfactory .

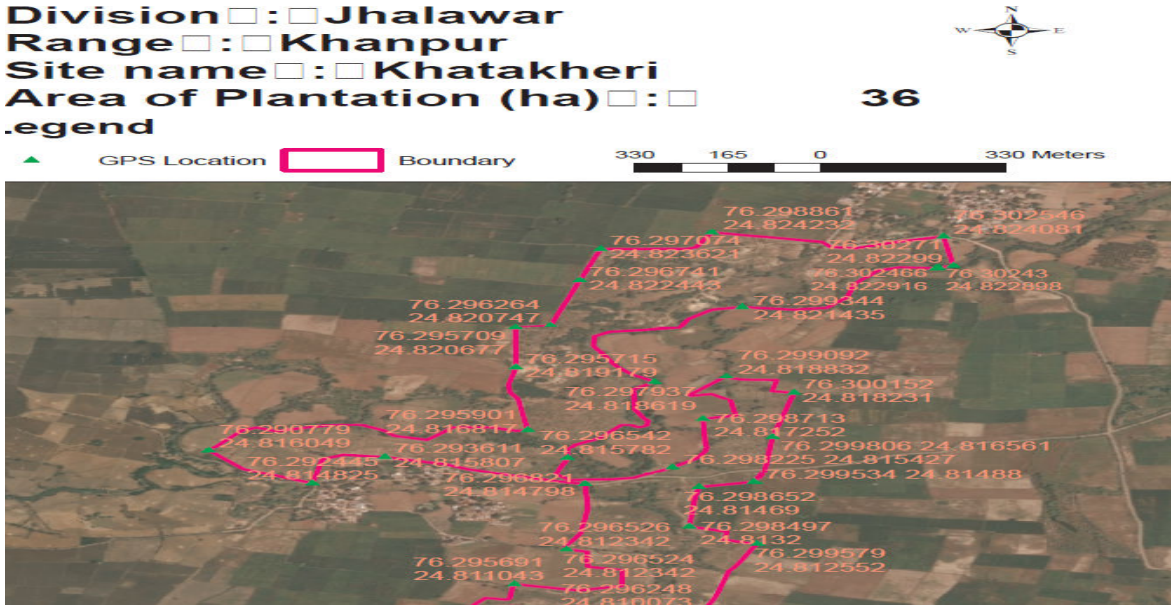
3.4.9. Soil and Water Conservation Measures: There are 5000 RMT (Width & depth -0.45 meters) Contour trenches in the form of water harvesting structures present in the entire

plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structure.

3.4.10. Observations Recorded: Under this model, 1100 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 53.5% at the site.** Table 3.5: Status of Planted Seedlings at the site-Khatakhedi Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	6825	683	310		100	21
Acacia leucopholea (Ronj)	10000	1000	502		96	21
Acacia nilotica (Desi babool)	21000	2100	1240		107	23
*Syzygium cumini (*Jamun)	200	20	21		105	21
Cassia fistula (Amaltas)	1175	118	0		0	0
Pongamia pinnata (Karanj)	400	40	47		114	23
Total	39600	3960	2120	53.5	100	21

3.4.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 36.0 hec as per kml map.



3.4.12. Budget and expenditure

Table 3.6: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs. In Lac)				Expenditure (Rs. In Lac)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1953216				1204854
2021-22				590976				511026
2022-23				203724				181434
Total				2747916				1897314

3.5.1. Site 5- Garayta site in Khanpur range -N 24^{0}41’35” and E 76^{0}18’37”

The selected plantation was carried out on 23.70 hac. of land at Garayta in Khanpur range during the year 2020-21. The activities were done under the Non Forest Land (NFL) model. The site was a forest land and selected for 100% evaluation. The soil was black & yellow.



3.5.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 26070 pits were dug for plantation in total 23.70 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.5.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and rabbits, rats was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.5.4. Species Planted: The selected tree species under plantation were of *Acacia leucophoelea (*ronj), Zizyphus mauritiana (Ber), Acacia catechu (Khair), *Cassia fistula (*Amaltas), Dalbergia sissoo (Shisham) Holoptelea integrifolia (Churel), Tamarindus indica (Imli),Jamun Acacia nilotica (Desi babool) & Pongamia pinnata (Karanj).

In total 26070 numbers of seedlings were planted at the site. Seedlings of above plants were planted.As per the model, 1100 plants per hectare have been planted. Thus, total number of plants planted was 26070 for 23.70 hectare of land. **The growth of survived plants was good.**

3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6. Natural Vegetation and Regeneration: Desi babool, Neem, Khair and Ber were the plants found grown naturally in this area. The growth of the plants was good.

3.5.7. Regeneration through seeds sowing: Seeds of species *Khair, & Katkaranj* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

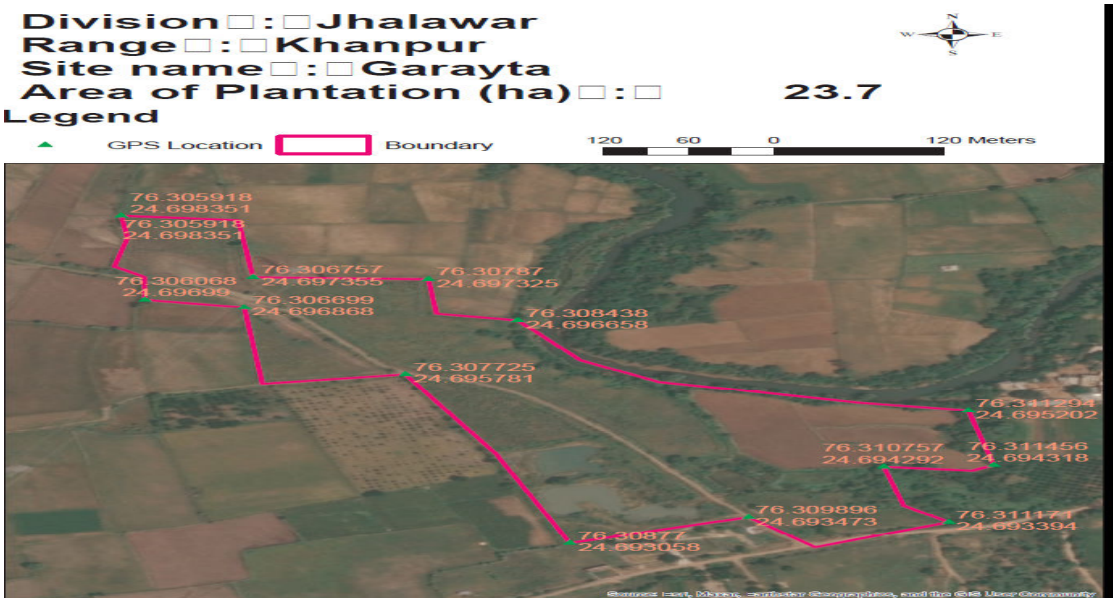
3.5.8.. Protection Work: The selected NFL model plantation had loose stone fencing of 50 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. Also, 3676 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters was reported at the site. The status both the fencing was satisfactory.

3.5.9. Soil and Water Conservation Measures: The SMC measures were not reported at the plantation site.

3.5.10. Observations Recorded: Under this model, 1100 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 56.8% at the site.** Table 3.7: Status of Planted Seedlings at the site-Garayta Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	1400	650	750	46.43	105	22
Acacia leucopholea (Ronj)	5500	3000	2500	54.55	112	22
Acacia nilotica (Desi babool)	11700	7650	4050	65.38	108	22
Holoptelea integrifolia (Churel)	500	281	219	56.20	107	22
Syzygium cumini (Jamun)	1200	480	720	40.00	100	21
Zizyphus mauritiana (Ber)	2500	1250	1250	50.00	92	21
Dalbergia sissoo (Shisham)	2000	779	1221	38.95	103	22
Cassia fistula (Amaltas)	700	410	290	58.57	103	21
Tamarindus indica (Imli)	200	110	90	55.00	105	23
Pongamia pinnata (Karanj)	370	190	180	51.35	105	22
Total	26070	14800	11270	56.8	108	22

3.5.11 GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 23.70 hec as per kml map.



3.5.12. Budget and expenditure

Table 3.8: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs. In Lac)				Expenditure (Rs. In Lac)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1285867				1012221
2021-22				389059				341453
2022-23				134118				124296
Total				1809044				1477970

3.6.1. Site 1- Harnavda I site in Dag range -N 24. 03559 and E 75.86564

The selected plantation was carried out on 77.0 hac. of land at Harnavda I in Dag range during the year 2020-21. The activities were done under the Non Forest Land (NFL) model. The site was a forest land and selected for 10% evaluation. The soil was moram & stony.

3.6.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 77000 pits were dug for plantation in total 77.0 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.6.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and rabbits, rats was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.6.4. Species Planted: The selected tree species under plantation were of *Acacia leucophoelea (*ronj), Acacia catechu (Khair), *Azadirachta indica (Neem),* Dalbergia sissoo (Shisham), Zizyphus mauritiana (Ber), Holoptelea integrifolia (Churel),Acacia nilotica (Desi babool), Pithecellobium dulce (Jangal Jalebi)& Pongamia pinnata (Karanj).

In total 77000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 1000 plants per hectare have been planted. Thus, total number of plants planted was 77000 for 77.0 hectare of land. **The growth of survived plants was good.**

3.6.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.6.6. Natural Vegetation and Regeneration: Desi babool, Ronj, Palash and Khair were the plants found grown naturally in this area. The growth of the plants was good.



3.6.7. Regeneration through seeds sowing: Seeds of species *Khair, Katkaranj & Kumtha* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

3.6.8. Protection Work: The selected NFL model plantation had ditch fencing of 5130 RMT having width at the top-1.5 meters, width at the bottom-0.9 meter & height 1.2 meters was reported at the site. The status of ditch fencing was satisfactory.

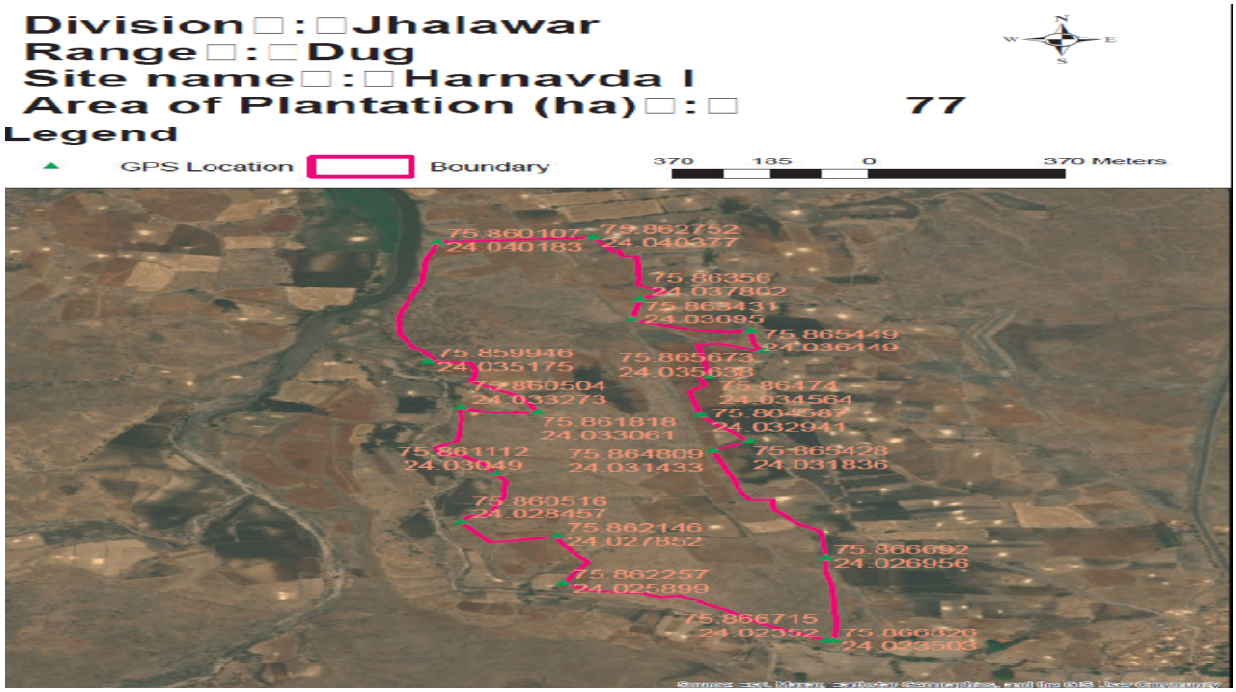
3.6.9. Soil and Water Conservation Measures: There Contour trenches (Width & depth -0.45 meters) &03 MPT in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structure.

3.6.10. Observations Recorded: Under this model, 1000 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 52.3% at the site.**

Table 3.9: Status of Planted Seedlings at the site-Harnavda I Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	20000	2000	1140		103	23
Acacia leucopholea (Ronj)	5000	500	260		110	21
Holoptelea integrifolia (Churel)	30000	3000	1680		96	21
Azadirachta indica (Neem)	5000	500	0		0	0
Pongamia pinnata (Karanj)	5000	500	371		106	21
Dalbergia sissoo (Shisham)	2000	200	240		112	23
Zizyphus mauritiana (Ber)	5000	500	139		95	21
Pithecellobium dulce (Jangal Jalebi)	5000	500	200		103	21
Total	77000	7700	4030	52.3	99	21

3.6.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 77.0 hec as per kml map.



3.6.12. Budget and expenditure

Table 3.10: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs. In Lac)				Expenditure (Rs. In Lac)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				26.19				26.19
2021-22				12.64				11.10
2022-23				4.3				4.1
Total				43.13				41.39

3.7.1. Kotra I site in Manoharthana range -N $24^0$25’27’and E $76^0$47’40”

The selected plantation was carried out on 50 hac. of land at Kotra I in Manoharthana range during the year 2021-22. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 100% evaluation. The soil is stony with boulders.

3.7.2. Treatment plan before sowing: The topography of the area was hilly & ravine. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 35000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.7.3 Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai, wild boar, rat and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.7.4. Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Holoptelea integrifolia (Churel), Emblica officinalis (Amla) Acacia catechu (Khair), Pongamia pinnata (Karanj), Tectona grandis (Sagwan), Pithecellobium dulce (Jangal Jalebi) and Azadirachta indica (Neem) were planted.



In total 35000 numbers of seedlings were planted at the site. As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 35000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.7.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.7.6. Natural Vegetation and Regeneration: Khair, Palash, Neem & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.7.7. Regeneration through seeds sowing: Seeds of species *Ratanjot, Katkaranj, Mahuwa & Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.7.8. Protection Work: The selected DFL model plantation had ditch fencing of 3900 RMT. Present condition of ditch fencing was average.

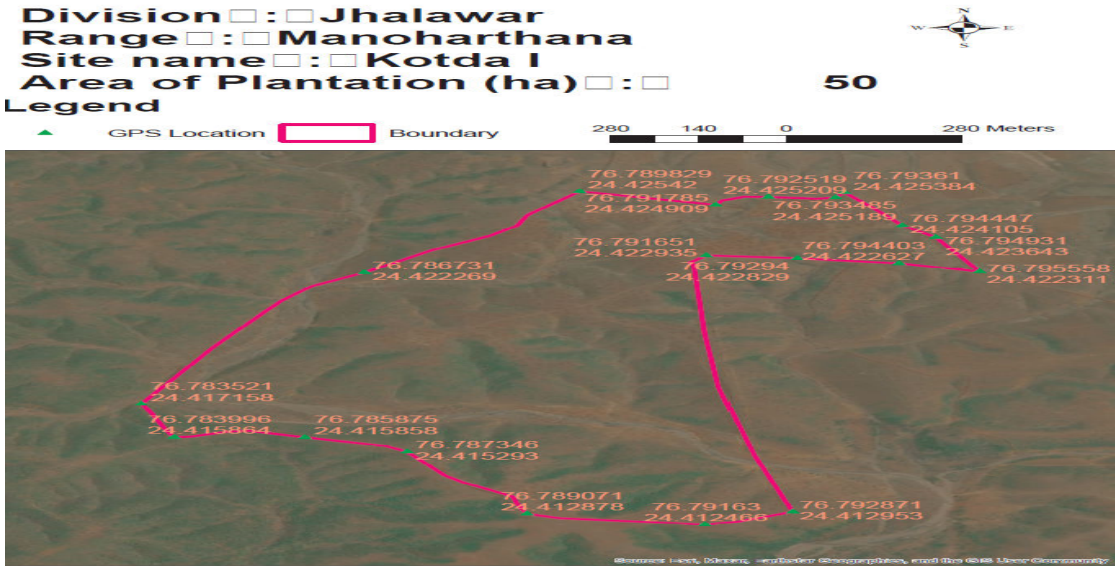
3.7.9. Soil and Water Conservation Measures: There are 15000 RMT Contour trenches, 07 loose stone checkdams & 01 MPT in the form of water harvesting structures present in the entire plantation area.

3.7.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 42.5% at the site.**

Table 3.11: Status of Planted Seedlings at the site-Kotda I

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	2000	1153	847	57.65	105	21
Acacia leucopholea (Ronj)	2000	803	1197	40.15	92	21
Acacia nilotica (Desi babool)	1000	584	416	58.40	93	21
Terminalia arjuna (Arjun)	1000	303	697	30.30	100	21
Emblica officinalis (Amla)	1000	402	598	40.20	91	21
Holoptelea integrifolia (Churel)	10000	4508	5492	45.08	103	21
Azadirachta indica (Neem)	2000	607	1393	30.35	100	21
Zizyphus mauritiana (Ber)	7000	3009	3991	42.99	96	21
Tectona grandis (Sagwan)	2000	501	1499	25.05	91	23
Pithecellobium dulce (Jangal Jalebi)	2000	1007	993	50.35	102	23
Pongamia pinnata (Karanj)	5000	2009	2991	40.18	98	22
Total	35000	14886	20114	42.5	96	21

3.7.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 50 hec as per kml map.



3.8.1. Site 8- Bawadikheda site in Jhalawar range -N 24^{0}37'32" and E 76^{0}9'13"

The selected plantation was carried out on 50 hac. of land at Bavadikheda in Jhalawar range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was red domat.

3.8.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land.

3.8.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.8.4. Species Planted: The selected tree species under plantation were Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Dalbergia sissoo (Shisham), *Azadirachta indica (Neem),* Dendrcalamus strictus(Bamboo), Emblica officinalis (Amla), Dalbergia sissoo (Shisham)& Pongamia pinnata (Karanj) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was good.**

3.8.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.8.6. Natural Vegetation and Regeneration: Neem, Khakhra, Desi babool, Khair, Khejri & Bair were the plants found grown naturally in this area. The growth of the plants was good.

3.8.7. Regeneration through seeds sowing: Seeds of species *Khair, Kumtha & Katkaranj were* sown in as well as along the trenches and on the thanwlas. The result of sowing was average.



3.8.8.Protection Work: The selected ANR model plantation had ditch fencing of 3200 RMT. Present condition of ditch fencing was average.

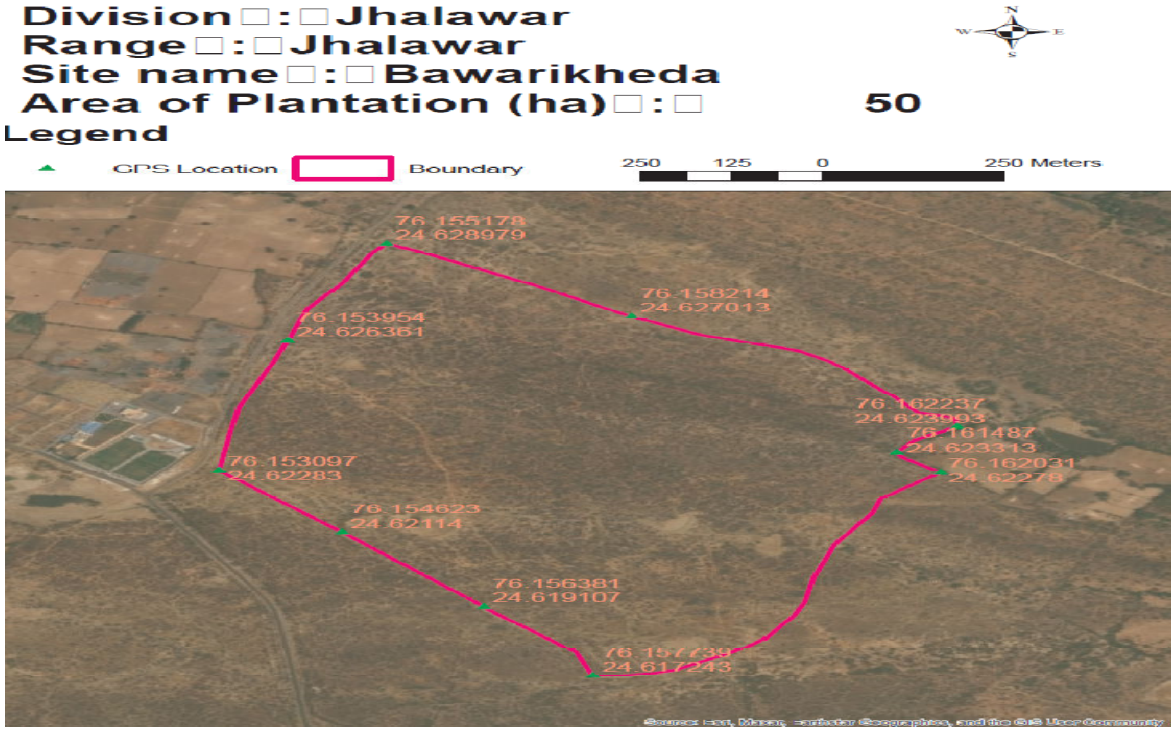
3.8.9. Soil and Water Conservation Measures: There are 1300 RMT (Width & depth -0.45 meters) Contour trenches, 4100 RMT Deep CCT & 03 MPT in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structure.

3.8.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 51.6% at the site.**

Table 3.12: Status of Planted Seedlings at the site-Bavdikheda Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	2000	200	90		108	22
Acacia nilotica (Desi babool)	2000	200	250		114	23
Dendrocalamus strictus (Baans)	500	50	0		0	0
Emblica officinalis (Amla)	500	50	20		90	21
Azadirachta indica (Neem)	500	50	0		0	0
Dalbergia sissoo (Shisham)	2000	200	96		116	22
Kalam	500	50	0		0	0
Pongamia pinnata (Karanj)	1000	100	55		105	25
Terminalia arjuna (Arjun)	400	40	5		90	27
Ficus bengalensis (bargad)	200	20	0		0	0
Ficus religiosa (Pipal))	200	20	0		0	0
Commiphora sp. (Guggal)	200	20	0		0	0
Total	10000	1000	516	51.6	111	23

3.8.12. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.9.1. Site 9- Baisar site in Khanpur range -N 24^{0}45’55” and E 76^{0}26’14”

The selected plantation was carried out on 50 hac. of land at Baisar in Khanpur range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was boulders & stony.

3.9.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.9.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boar, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.

3.9.4. Species Planted: The selected tree species under plantation were Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Dalbergia sissoo (Shisham), *Azadirachta indica (Neem),* Emblica officinalis (Amla), Dalbergia sissoo (Shisham)& Pongamia pinnata (Karanj) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Aawla, **The growth of survived plants was satisfactory.**



3.9.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.9.6. Natural Vegetation and Regeneration: Palash, Juliflora, Desi babool, Peepal, Khair & Bair were the plants found grown naturally in this area. The growth of the plants was good.



3.9.7. Regeneration through seeds sowing: Seeds of species *Khair & Desi Babool were* sown in as well as

along the trenches and on the thanwlas. The result of sowing was average.

3.9.8. Protection Work: The selected ANR model plantation had loose stone wall fencing of 3240 RMT. Present condition of loose stone fencing was average.

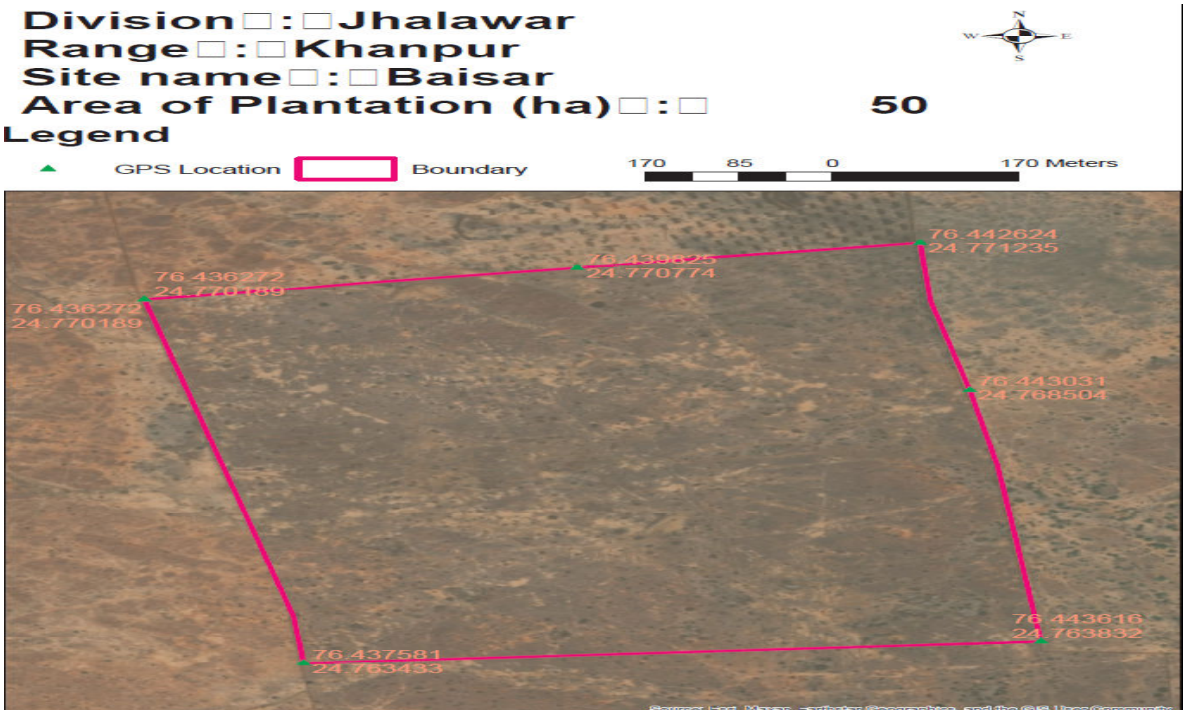
3.9.10. Soil and Water Conservation Measures: There are 5000 RMT (Width & depth -0.45 meters) Contour trenches, 5000 RMT SGT, 150 cu.m loose stone check dam & 03 MPT in the form of water harvesting structures present in the entire plantation area.

3.9.11. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 46.9% at the site.**

Table 3.13: Status of Planted Seedlings at the site-Baisar Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	1050	720	330	68.57	98	21
Dendrocalamus strictus (Baans)	175	0	175	0.00	0	0
Emblica officinalis (Amla)	200	39	161	19.50	101	21
Holoptelea integrifolia (Churel)	2750	1560	1190	56.73	99	21
Azadirachta indica (Neem)	550	0	550	0.00	0	0
Pongamia pinnata (Karanj)	475	61	414	12.84	103	23
Zizyphus mauritiana (Ber)	4100	2270	1830	55.37	115	26
Aegle marmelos (Bilpatra)	500	0	500	0.00	0	0
Dalbergia sissoo (Shisham)	200	35	165	17.50	101	21
Total	10000	4685	5315	46.9	101	22

3.9.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft. at Field trial, Jhalawar range



At Field trial site in Jhalawar range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 150 m length as per MB. Also, in actual 152 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be good and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protect plantation site. GPS location of this area was $24^0$36'52" N and $76^0$9'28"E. The expenditure incurred for constructing this wall was Rs. 264989 (as per MB) against the estimated cost of Rs. 36.00 lac.

Site 2- Anicut II at Bislai, Khanpur Range

At Bislai in Khanpur range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure was 9 meter, 1.0 meter & 1.4 meter respectively. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. The anicut is useful for wild animals. The GPS location of this area was $24^0$34'33" N and $76^0$26'51"E.The wall of the anicut was damaged. The plaster work of anicut was not proper & quality of construction was poor. The expenditure incurred for constructing the anicut wall was Rs.373908 (as per MB) against the estimated budget of Rs 375000 lac.



Site 3- Anicut III at Mandashyampura , Jhalawar Range

At Mandashyampura, Jhalawar range, Anicut III has been evaluated. The Anicut III was constructed in the year 2020-21. The length, breadth & height of the structure were 18 meterX1.0 meterX1.50 as per MB. Construction work appeared to be good and useful. Water was available (0.2 meter) in the anicut at the time of visit. The anicut is useful for wild animals & human habitation residing in the nearby area. It also helps in soil moisture retention, decrease in soil



erosion & also change in water level. The GPS location of this area was $24^0$25'34" N and $76^0$5'11"E. The expenditure incurred for constructing the anicut wall was Rs.525189 (as per MB) against the estimated budget of Rs 6.00 lac.

Site 4- Pillars at Jhalawar, Jhalawar range



At Jhalawar in Jhalawar range pillars (15 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. Pillars were damaged by mining workers & require repair. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 27000 (as per MB) against the estimated cost of Rs 27000.

Site 5- Pillars at Dug, Dug range



At Dug in Dug range pillars (20 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. Some pillars were damaged by local community & require repair. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 36000 (as per MB) against the estimated cost of Rs 36000.

Site 6- Pillars at Haliheda, Khanpur range



At Haliheda in Khanpur range pillars (20 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. Some pillars were damaged by local community & require repair. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 47000 (as per MB) against the estimated cost of Rs 47000.

5. Overall assessment

Table 5: Quantitative assessment of plantation works created under CAMPA in Jhalawar division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Guradkheda	ANR	50	50.6	6
2	Chamlasa	NFL	26.16	44.0	5
3	Chalet	NFL	32.140	42.3	5
4	Khatakhedi	NFL	36.0	53.5	6
5	Garayta	NFL	23.70	56.8	6
6	Harnavda I	NFL	77	52.3	6
7	Kotra I	DFL	50	42.5	5
8	Bavdikheda	ANR	50	51.6	6
9	Baisar	ANR	50	46.9	5

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Field trial	150	152	+2
2.	Anicut Type II	Bislai	9mX1mX1.4	9mX1mX1.4	0
3.	Anicut Type III	Mandashyampura	18mX1mX1.5	18mX1mX1.5	0
4.	Boundary Pillar	Jhalawar	15	15	01-Damaged 01-partly damaged
5.	Boundary Pillar	Dag	20	20	02-Damaged
6.	Boundary Pillar	Haliheda	20	20	02-Damaged

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rating of quality of construction	Rating of Crack	Rating of settlement in structure	Quality of workmanship	Rating of quality of workmanship
1.	Pakki Diwar 4 ft	Field trial	Good	7	No	No	Good	7
2.	Anicut Type II	Bislai	Average	6	No	No	Average	6
3.	Anicut Type III	Mandashyampura	Good	7	No	No	Good	7
4.	Boundary Pillar	Jhalawar	Average	6	No	No	Average	6
5.	Boundary Pillar	Dag	Average	6	No	No	Average	6
6.	Boundary Pillar	Haliheda	Average	6	No	No	Average	6

Jhunjhunu

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Jhunjhunu Forest Division. This Forest Division with 5 Forest Ranges namely Khetri, Udaipurwati, Chirani, Jhunjhunu & Navalgarh has territorial jurisdiction over the entire Jhunjhunu District.

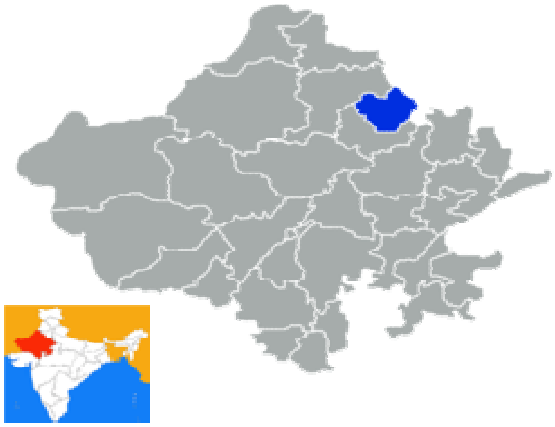


Fig: Location of Jhunjhunu district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of Jhunjhunu Forest Division were as given in table-1.

Table-1: Selected plantation site for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Khetri	Makdo II	2020-21	50	ANR	100%
Udaipurwati	Guda Dahar	2020-21	50	ANR	10%
Udaipurwati	Girawadi	2021-22	50	ANR	100%
Jhunjhunu	Beed Jhunjhunu	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Jhunjhunu Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Khetri	Shyampura Bhitera	2020-21	Pakki Diwar 4 ft
2.	Udaipurwati	Napa Bhairu	2020-21	Pakki Diwar 6 ft
3.	Udaipurwati	Sahwali Van shetra Kot	2020-21	Pakki Diwar 6 ft
4.	Khetri	From Sati mata mandir to Shyampura Bhitera	2021-22	Pakki Diwar 4 ft
5.	Udaipurwati	Kankariya 57 Main	2020-21	Boundary Pillar
6.	Khetri	Kankariya 57 Main	2020-21	Boundary Pillar
7.	Udaipurwati	Kankariya Main 57 Vankhand	2021-22	Boundary Pillar
8.	Khetri	Khetri-48, Madhogarh Vankhand	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Makdo II site in Khetri range -N 28.087913 and E 75.798676

The selected plantation was carried out on 50 hac. of land at Makdo II in Khetri range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was clayey domat & morar.


Plantation site Makdo II

3.1.2. Treatment plan before sowing: The topography of the area was ravines & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.

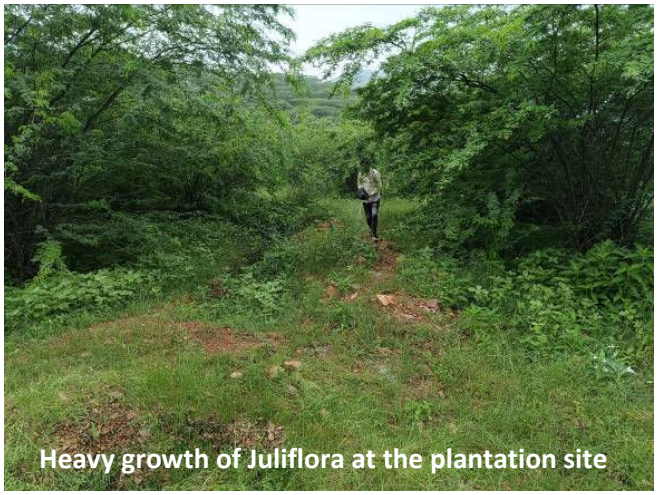

Growth of planted seedling at the plantation site

3.1.4. Species Planted: The selected tree species under plantation were Holoptelea integrifolia (Churel), Dalbergia sissoo (Shisham), Acacia leucopholea (Ronj), Azadirachta indica (Neem), Ficus bengalensis (bargad), Ficus religiosa (Pipal) and Zizyphus mauritiana (Ber) were planted.

In total 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared. **The growth of survived plants was average.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Juliflora, Kumtha Ronj & Desi Kikar were the plants found grown naturally in this area. The growth of the plants was good.


Heavy growth of Juliflora at the plantation site

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Desi babool & Bair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average. Plants from seed sowing were widely seen on trenches & thanwalas.

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 150 RMT (0.8+.60/2 X 1.2) & ditch fencing of 2115 RMT (1.5+.90/2 X 1.2). Present condition of loose stone fencing & ditch fencing was average. Silting was reported in some parts of ditch fencing.

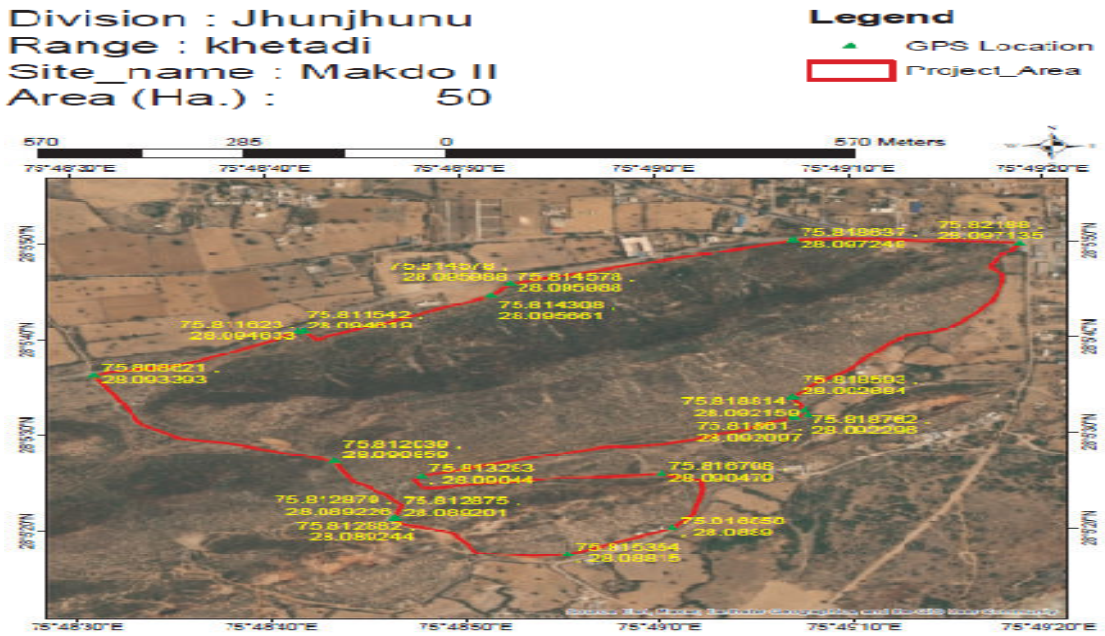
3.1.9. Soil and Water Conservation Measures: There are 5000 RMT (Width & depth -0.45 meters) SGT, 4000 RMT Contour trenches, 1000 RMT Deep CCT & PCT/Nadi (1183.08 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10 Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.2% at the site.**

Table 3: Status of Planted Seedlings at the site- Makdo II Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Azadirachta indica (Neem)	89	7	82	7.9	90	20
Zizyphus mauritiana (Ber)	458	197	261	43.01	92	21
Holoptelea integrifolia (Churel)	1969	872	1097	44.3	95	22
Dalbergia sissoo (Shisham)	103	17	86	16.5	90	22
Acacia leucopholea (Ronj)	7341	3330	4011	45.4	91	21
Ficus bengalensis (Bargad)	20	0	20	0.0	0	0
Ficus religiosa (Pipal))	20	0	20	0.0	0	0
Total	10000	4423	5577	44.2	92	21

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				483250
2021-22				182150				182150
2022-23				107950				107937
Total				776300				773337

3.2.1. Site 2-Guda Dahar site in Udaipurwati range -N 27. 826919 and E 75.646576

The selected plantation was carried out on 50 hac. of land at Guda Dehar in Udaipurwati range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was red & stony.


Plantation site Guda Dehar

3.2.2. Treatment plan before sowing: The topography of the area was hilly & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying

pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle's and destruction by Neel gai, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected tree species under plantation were eleven. Seedlings of and Acacia nilotica (Desi babool), Acacia leucopholea (Ronj), Zizyphus mauritiana (Ber) and *Azadirachta indica (Neem)* were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was good.**


Growth of planted seedling at the plantation


Result of sowing on trenches

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Juliflora & Desi babool were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Ardu, Bair, Churail, Ronj, Desi babool* were sown in as well as along the trenches and on the thanwlas. The result of sowing was good.

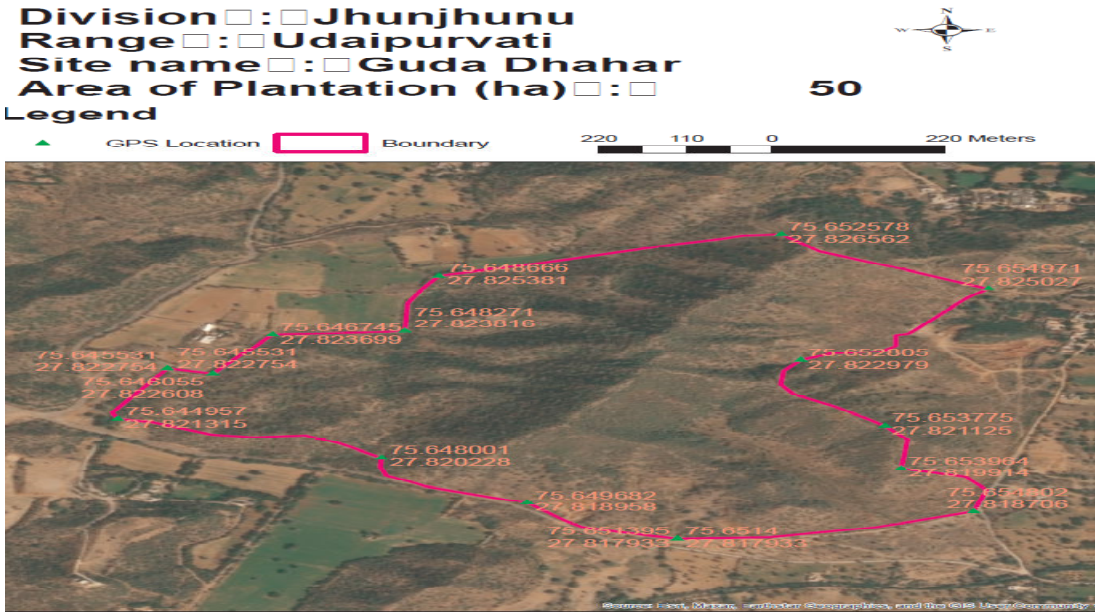
3.2.8. Protection Work: The selected ANR model plantation had ditch fencing of 2600 RMT (1.5+.90/2 X 1.2). Present condition of ditch fencing was average. Ditch fencing was partially effective in controlling the biotic pressure.

3.2.9. Soil and Water Conservation Measures: There are 4175 RMT (Width & depth -0.45 meter) Contour trenches, 6000 RMT & earthen check dam (319.52 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structure.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 52.3% at the site.** Table 3.2: Status of Planted Seedlings at the site- Guda Dehar Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	500	50			92	23
Zizyphus mauritiana (Ber)	2000	200			90	21
Acacia leucopholea (Ronj)	7000	700			92	22
Azadirachta indica (Neem)	100	10			0	0
Others	400	40			0	0
Total	10000	1000	523	52.3	91	22

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map



3.3.1. Site 3-Girawadi site in Udaipurwati range -N 27.719118 and E 75.533839

The selected plantation was carried out on 50 hac. of land at Girawadi in Udaipurwati range during the year 2021-22. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red with boulders.


Plantation site Girawadi

3.3.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.


Growth of planted seedling at the plantation site

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.

3.3.4. Species Planted: The selected tree species under plantation were of Acacia leucopholea (Ronj), Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool), and Cheela were planted.In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. **The growth of survived plants was average.**


Result of sowing on trenches

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Desi babool, Ronj & Juliflora were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Desibabool & Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.3.8. Protection Work: The selected ANR model plantation had loose stone fencing of 400 RMT & ditch fencing of 1200 RMT. Present condition of fencing was average.

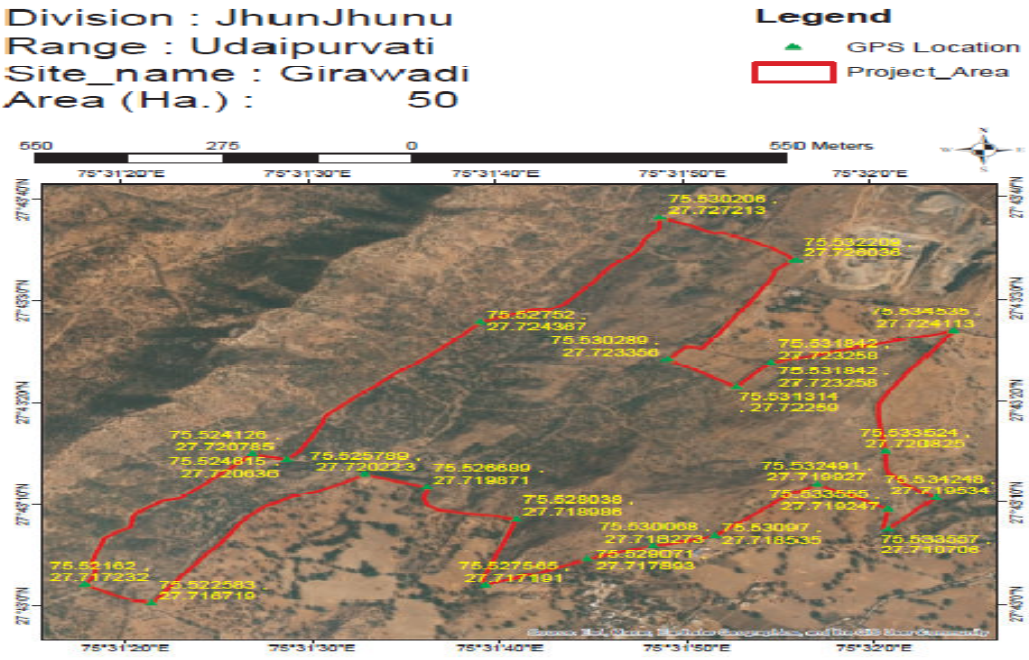
3.3.9. Soil and Water Conservation Measures: There are 5000 RMT Contour trenches, 5000 RMT contour Dykes, earthen checkdam (1000 cu.m) & loose stone Checkdam (1359.75 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 46.7% at the site.**

Table 3.3: Status of Planted Seedlings at the site-Girawadi Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia leucopholea (Ronj)	7210	3389	3821	47.0	92	21
Holoptelea integrifolia (Churel)	840	292	548	34.8	92	22
Acacia nilotica (Desi babool)	1000	672	328	67.2	93	22
Butea monosperma (Palash)	900	321	579	35.7	90	21
Others	50	0	50	0.00	90	21
Total	10000	4674	5326	46.7	91	21

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



.4.1. Site 4-Beed Jhunjhunu site in Jhunjhunu range -N 28. 170597and E 75.448285

The selected plantation was carried out on 50 hac. of land at Beed Jhunjhunu in Jhunjhunu range during the year 2021-22. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.



3.4.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.**

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, rat, rabbit and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.

3.4.4. Species Planted: The selected tree species under plantation were Tecomella undulata (Rohida), Prosopis juliflora (Khejri) & Zizyphus mauritiana (Ber).

In total 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared. **The growth of survived plants was good.**



Growth of planted seedling at the site

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Jal, Khair, Dhaman grass & Kumtha were the plants found grown naturally in this area. The growth of the plants was good.



Measuring the height of planted seedling

3.4.7. Regeneration through seeds sowing: Seeds of species *Kumatha and Ber* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good on trenches.**

3.4.8. Protection Work: The selected ANR model plantation had barbed wire fencing of 2100 RMT. Present condition of barbed wire fencing was good.

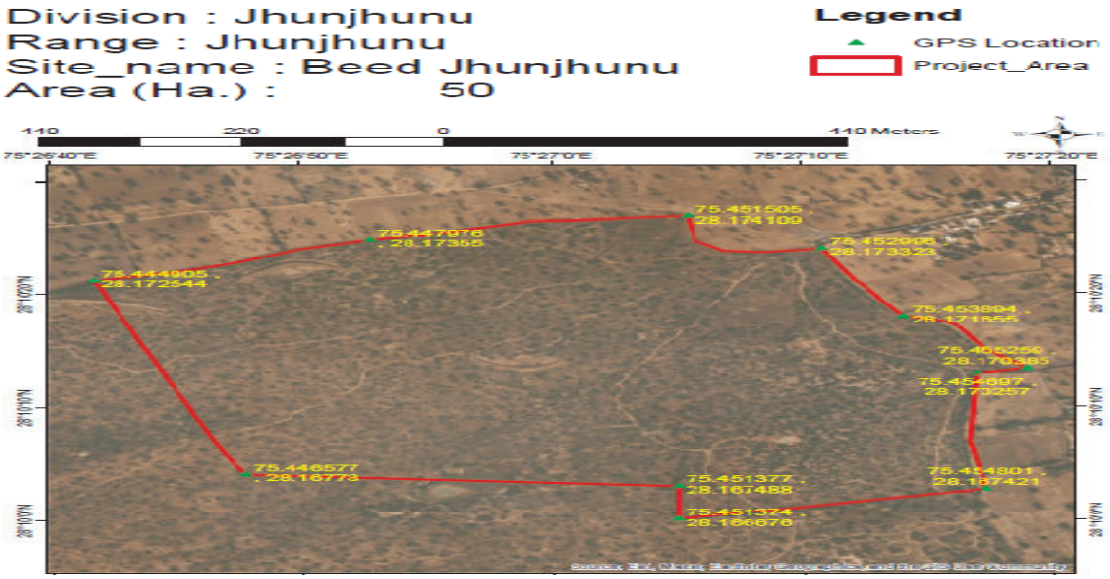
3.4.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trenches & earthen check dams (1489 cu.m) pond (1454 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & earthen check dams & +3 cu.m excess in pond.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 61.8% at the site.**

Table 3.4: Status of Planted Seedling at the site- Beed Jhunjhunu Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	9000	900	562		90	22
Prosopis juliflora (Khejri)	500	50	29		60	20
Tecomella undulata (Rohida)	500	50	27		45	18
Total	10000	1000	618	61.8	65	20

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.4.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2080000
2021-22				511650				511650
Total				2592850				2591650

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft at Shyampura Bhitera, Khetri Range

At Shyampura Bhitera (illegal mining prone area) in Khetri range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 1000 m length as per MB. Also, in actual 1000 m pakki diwar was constructed at



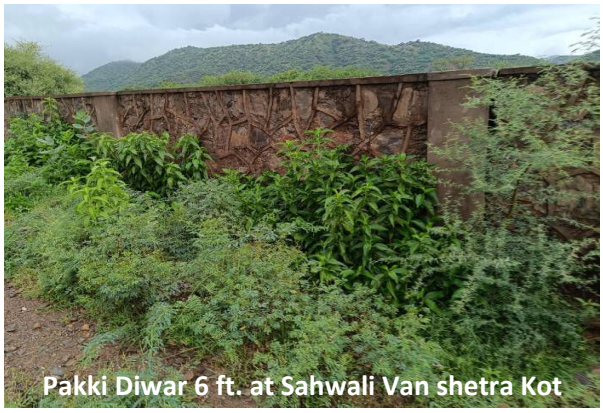
the site. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be good and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protect plantation site. GPS location of this area was $27^0$59'55" N and $75^0$41'4"E. The expenditure incurred for constructing this wall was Rs. (as per MB) against the estimated cost of Rs. 24.00 lac.

Site 2- Pakki Diwar 6 Ft at Napa Bhairu, Udaipurwati Range

At Napa Bhairu in Udaipurwati range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 200 rmt length as per MB. Also, in actual 200 rmt pakki diwar was constructed at the site. Construction work appeared to be good and the infrastructure was useful in protecting forest area. GPS location of this area was 27.681068 N and 75.44638 E. The expenditure incurred for constructing this wall was Rs. (as per MB) against the estimated budget of Rs 5.80 lac.


Measuring Pakki Diwar 6 ft.

Site 3- Pakki Diwar 6 Ft at Sahwali Van shetra Kot, Udaipurwati Range


Pakki Diwar 6 ft. at Sahwali Van shetra Kot

At Sahwali Van Shetra Kot in Udaipurwati range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 370 rmt length as per MB. Also, in actual 370 rmt pakki diwar was constructed at the site. Construction work appeared to be good and the infrastructure was useful in protecting forest area. GPS location of this area was 27.70064 N and 75.45616 E. The expenditure incurred for constructing this wall was Rs. (as per MB) against the estimated budget of Rs.10.73 lac.

Site 4- Pakki Diwar 4 Ft at Sati Mata Mandir to Shyampura Bhitera, Khetri Range

From Sati Mata Mandir to Shyampura Bhitera (illegal mining prone area) in Khetri range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 1000 m length as per MB. Also, in actual 1000 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be good and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protect


Evaluation team at pakki diwar site

plantation site. GPS location of this area was $28^0$0'41" N and $75^0$42'53"E. The expenditure incurred for constructing this wall was Rs. (as per MB) against the estimated cost of Rs. 26.20 lac.

Site 5- Pillars at Kankariya 57 Main, Udaipurwati range

At Kankariya 57 main in Udaipurwati range (10 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper & number should be written on the pillar.



Site 6- Pillars at Kankariya 57 Main, Khetri range

At Kankariya 57 main in Khetri range (30 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 100484 (as per MB) against the estimated cost of Rs 27000.



Site 7- Pillars at Kankariya Main-57 Vankhand, Udaipurwati range

At Kankariya main 57 Vankhand in Udaipurwati range (08 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.



Site 8- Pillars at Khetri 48 Madhogarh Vankhand, Khetri range

At Khetri 48 Madhogarh Vankhand in Khetri range (12 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper.



Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 141000 (as per MB) against the estimated cost of Rs 89021.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Jhunjhunu division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Makdo II	ANR	50	44.2	5
2.	Guda Dehar	ANR	50	52.3	6
3.	Girawadi	ANR	50	46.7	6
4.	Beed Jhunjhunu	ANR	50	61.8	7

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Khetri	1000	1000	0
2.	Pakki Diwar 6 ft	Udaipurwati	200	200	0
3.	Pakki Diwar 6 ft	Udaipurwati	370	370	0
4.	Pakki Diwar 4 ft	Khetri	1000	1000	0
5.	Boundary Pillar	Udaipurwati	10	10	0
6.	Boundary Pillar	Khetri	30	30	0
7.	Boundary Pillar	Udaipurwati	8	8	0
8.	Boundary Pillar	Khetri	12	12	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Khetri	Good	7
2.	Pakki Diwar 6 ft	Udaipurwati	Good	7
3.	Pakki Diwar 6 ft	Udaipurwati	Good	7
4.	Pakki Diwar 4 ft	Khetri	Good	7
5.	Boundary Pillar	Udaipurwati	Average	6
6.	Boundary Pillar	Khetri	Average	6
7.	Boundary Pillar	Udaipurwati	Average	6
8.	Boundary Pillar	Khetri	Average	6

Jodhpur

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Jodhpur Forest Division. This Forest Division with 6 Forest Ranges namely Baap, Phalodi, Bilada,Bhopalgarh, Luni & Osian has territorial jurisdiction over the entire Jodhpur District.

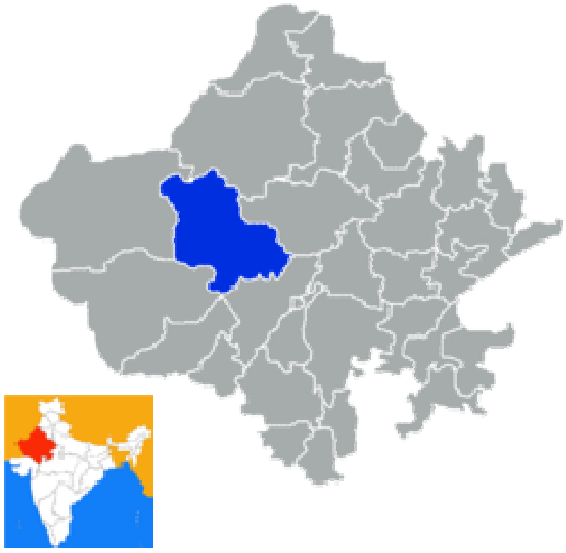


Figure 12 Location of Jodhpur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Jodhpur Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Bap	Udat B	2021-22	45	ANR	100%
Balesar	Vanbhumi Aagolai	2021-22	50	ANR	10%
Osian	Vanshetra Punasar	2021-22	25	ANR	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Jodhpur Forest Division were as given in table 2.

Table 2: Asset sample sites for evaluation

Sl.no.	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Osiyan	Vankhand Bhikamkaur	2020-21	Pakki Diwar, 4ft.
2.	Bap	Vankhand Bap	2020-21	Boundary Pillar
3.	Mandor	Vankhand Beriganga	2021-22	Boundary Pillar
4.	Shergarh	Vankhand Dechu Fatehgarh	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Udat B site in Bap range -N 27.548657 and E 72.708023

The selected plantation was carried out on 45 ha. of land at Udat B in Bap range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy.



3.1.2. Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 9000 pits were dug for plantation in total 45 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3 Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory

3.1.4. Species Planted: The selected tree species under plantation were Prosopis juliflora (Khejdi), Terminalia Zizyphus mauritiana (Ber), Acacia tortilis (Totalis) and Acacia senegal (Kumtha) were planted.

In total 9000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. **The growth of survived plants was satisfactory.**



3.1.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6 Natural Vegetation and Regeneration: Totalis, Bair & Peelu were the plants found grown naturally in this area. The growth of the plants was average.

3.1.7. Regeneration through seeds sowing: Seeds of species *kumatha, Sewan, Dhaman grass & Khejdi* was sown in as well as along the trenches and on the thanwlas. **The result of sowing was poor.** Plants out of seed sowing were rarely seen on trenches & thanwalas.

3.1.8. Protection Work: The selected ANR model plantation had barbed wire fencing with welded wire mesh jali of 2300 RMT. The barbed wire fencing with welded wire mesh jali was partially effective in controlling the biotic pressure.



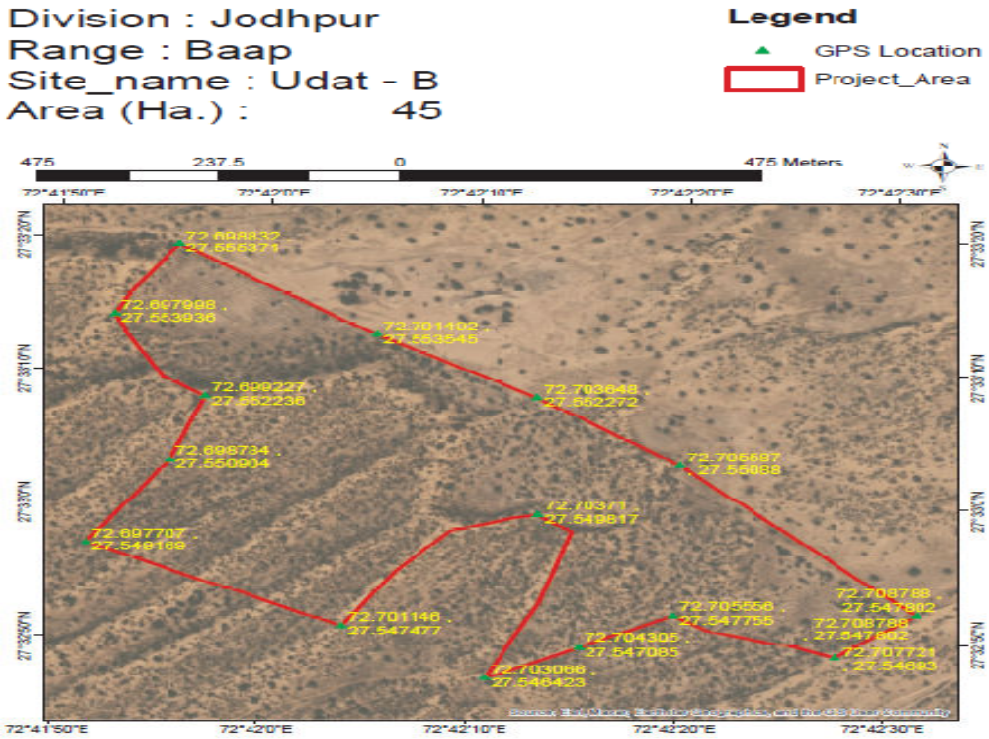
3.1.9. Soil and Water Conservation Measures: There are 980 RMT Contour trenches, 4780RMT V ditch, 15060 RMT Mulching in the form of water harvesting structures present in the entire plantation area. One Tanka was constructed at the plantation site

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.7% at the site.**

Table 3: Status of Planted Seedling at the site-Udat B Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	7000	3652	3348	52.2	102	22
Acacia senegal (Kumtha)	500	275	225	55.0	90	21
Zizyphus mauritiana (Ber)	1000	120	880	12.0	90	21
Prosopis juliflora (Khejri)	500	65	435	13.0	90	21
Total	9000	4112	4888	45.7	101	21

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 45 hectare as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1873080				
2021-22				460485				
2022-23				182925				
Total				2516490				2471724

3.2.1. Site 2-Vanbhumi Aagolai site in Balesar range -N 26.281847 and E 72.63948

The selected plantation was carried out on 50 ha. of land at Vanbhumi Aagolai in Balesar range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was clayey & sandy.



Growth of planted seedling at the site

3.2.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, porcupine, rat & rabbit was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory

3.2.4. Species Planted: The selected tree species under plantation were Terminalia Zizyphus mauritiana (Ber), Acacia tortilis (Totalis), *Azadirachta indica* (Neem), Holoptelea integrifolia (Churel) and Acacia senegal (Kumtha) were planted.

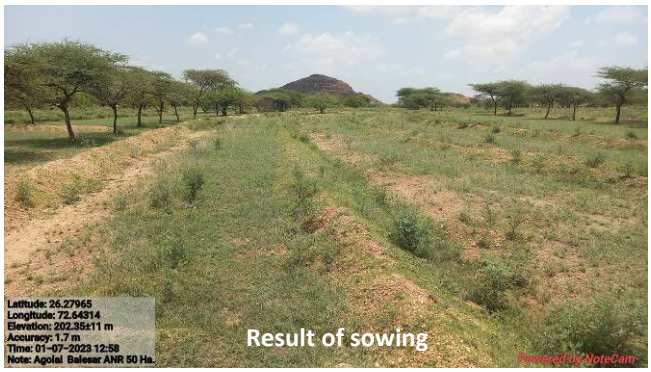


Measuring the height of planted seedling

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. **The growth of survived plants was average.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Totalis & Kumtha were the plants found grown naturally in this area. The growth of the plants was good.



3.2.7. Regeneration through seeds sowing: Seeds of species *kumatha, Sewan, Dhaman & Khejdi* was sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.2.8. Protection Work: The selected ANR model plantation had barbed wire fencing of 10500 RMT & ditch fencing of 14500 rmt. The barbed wire fencing & ditch fencing was fully effective in controlling the biotic pressure. The present condition of barbed wire fencing was good. However, ditch fencing was filled with soil at many places.

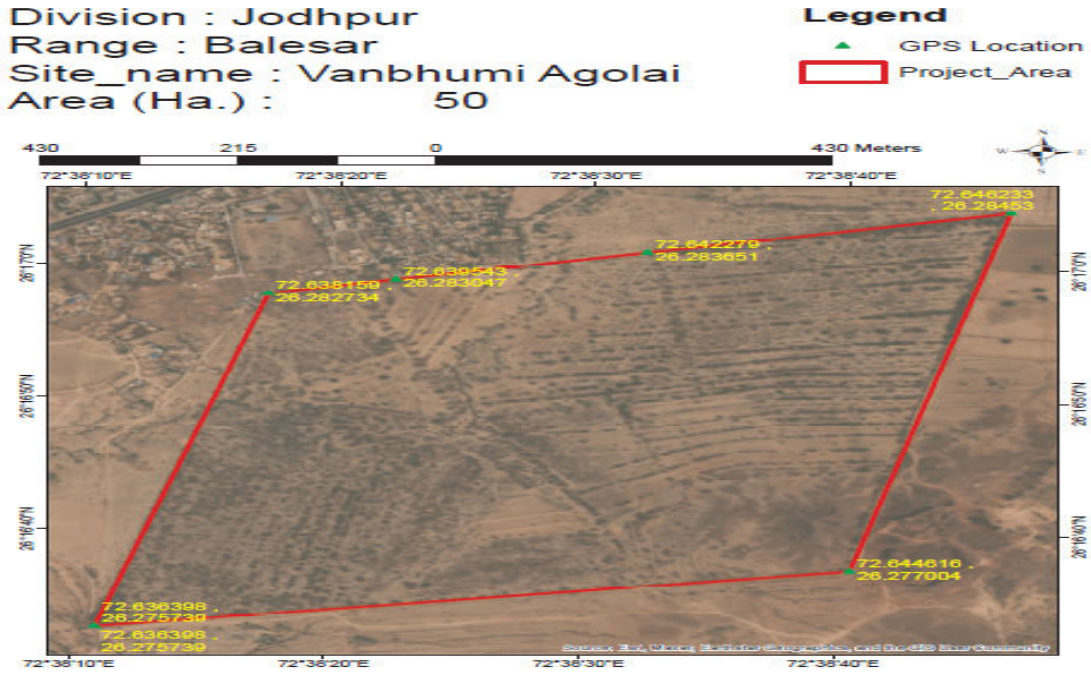
3.2.9. Soil and Water Conservation Measures: There are 15000 RMT V ditch & 1 PCT/Nadi in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 51.2% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10000 plants comprising of various species were planted in the 50 hectare plantation area.

Table 3.2: Status of Planted Seedling at the site- Aagolai Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia senegal (Kumtha)	2000	200	32		92	21
Acacia tortilis (Totalis)	7500	750	468		94	22
Zizyphus mauritiana (Ber)	300	30	12		90	21
Azadirachta indica (Neem)	100	10	0		0	0
Holoptelea integrifolia (Churel)	100	10	0		0	0
Total	10000	1000	512	51.2	92	21

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hectare as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				
2021-22				511650				
2022-23				203250				
Total				2796100				2730813

3.3.1. Site 3- Punasar site in Osiyan range -N 27.063668 and E 73.07733

The selected plantation was carried out on 25 ha. of land at Punasar in Osiyan range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy & stony.



3.3.2. Treatment plan before sowing: The topography of the area was plain & hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 5000 pits were dug for plantation in total 25 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai & rat was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory



3.3.4. Species Planted: The selected tree species under plantation were Prosopis juliflora (Khejdi), Terminalia Zizyphus mauritiana (Ber), Acacia tortilis (Totalis) and Acacia senegal (Kumtha) were planted.

In total 5000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. **The growth of survived plants was satisfactory.** At some places the result of sowing was good, whereas at some places the result of sowing was average.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.



3.3.6. Natural Vegetation and Regeneration: Totalis, Kumtha & Khejri were the plants found grown naturally in this area. The growth of the plants was average.

3.3.7. Regeneration through seeds sowing: Seeds of species *kumatha, Sewan &Dhaman* was sown in as well as along the trenches and on the thanwlas. **The result of sowing was satisfactory.**

3.3.8. Protection Work: The selected ANR model plantation had barbed wire fencing with welded wire mesh jali of 2330 RMT. The barbed wire fencing with welded wire mesh jali was fully effective in controlling the biotic pressure.

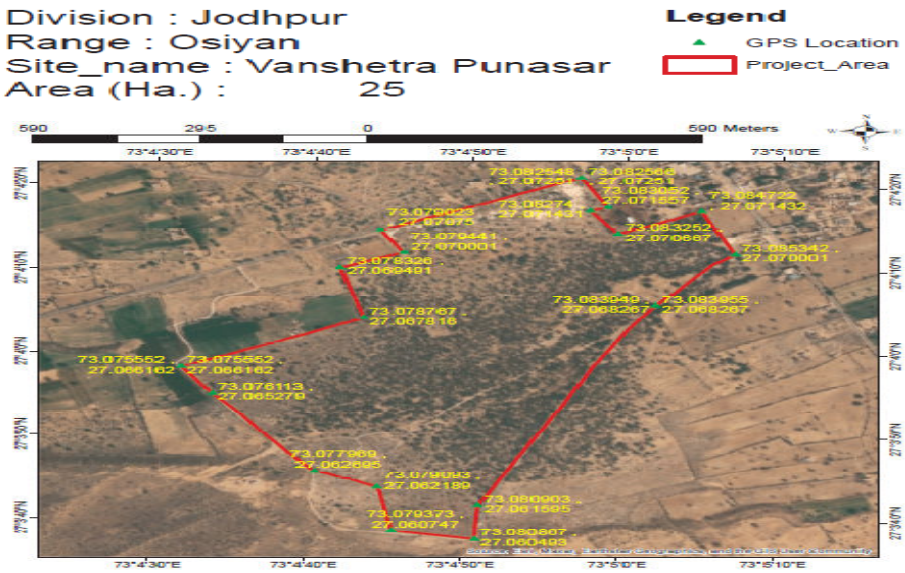
3.3.9. Soil and Water Conservation Measures: There are 6000 RMT V ditch, 19.53 cu.m loose stone check dam, 780 cu.m PCT/Nadi & 1000 RMT Mulching in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 51.5% at the site.**

Table 3.4: Status of Planted Seedling at the site-Punasar Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	3500	2506	994	71.6	93	21
Acacia senegal (Kumtha)	500	0	500	0.0	0	0
Zizyphus mauritiana (Ber)	500	45	455	9.0	90	21
Prosopis juliflora (Khejri)	500	25	475	5.0	90	21
Total	5000	2576	2424	51.5	93	21

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 25 hectare as per kml map.



3.3.12. Budget and expenditure

Table 3.7 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1040600				
2021-22				255825				
2022-23				101625				
Total				1398050				1372550

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft. at Vankhand Bhikamkaur , Osiyan range

At Vankhand Bhikamkaur in Osiyan range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 500 m length as per MB. In actual 400 m pakki diwar was constructed at the site. The width of the diwar was 0.40 meter & height was 1.20 meter. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & conservation of willife. However, still larger part of vankhand is still left open. Hence, the entire vankhand should be protected by constructing Pakki diwar. GPS location of this area was 26.82246 N and 72.79666 E. The expenditure incurred for constructing this wall was Rs. 119250 (as per MB) against the estimated budget of Rs. 119250.



Site 2- Pillars at Vankhand Bap, Bap range



At Vankhand Bap in Bap range (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported good and useful. The construction of pillars helped in marking forest boundary. The finishing work of pillar was proper.The expenditure incurred for constructing the Pillars was Rs. 90000 (as per MB) against the estimated cost of Rs 90000.

Site 3- Pillars at Vankhand Beriganga, Mandor range



At Vankhand Beriganaga in Mandor range (15Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. Earlier lot of construction activity had been done in the area due to unawareness amongst local community & forest department about boundary. But now due to construction of the pillar the construction activity might be stopped. The finishing work of pillar should be proper. Number & GPS should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.164215 (as per MB) against the estimated cost of Rs 176250.



Site 4- Pillars at Vankhand Dechu, Shergarh range

At Vankhand Dechu in Shergarh range (05 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported good and useful. The construction of pillars helped in marking boundary between forest land & pasture land. The finishing work of pillar was proper. The pillar was painted with number mentioned on the pillar.The expenditure incurred for constructing the Pillars was Rs.58320 (as per MB) against the estimated cost of Rs 58750.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Jodhpur division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Udat B	ANR	45	45.7	5
2	Vanbhumi Aagolai	ANR	50	51.2	6
3	Vanshetra Punasar	ANR	25	51.5	6

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar, 4ft.	Vankhand Bhikamkaur	500	500	0
2.	Boundary Pillar	Vankhand Bap	10	10	0
3.	Boundary Pillar	Vankhand Beriganga	15	15	0
4.	Boundary Pillar	Vankhand Dechu Fatehgarh	5	5	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar, 4ft.	Vankhand Bhikamkaur	Average	6
2.	Boundary Pillar	Vankhand Bap	Average	6
3.	Boundary Pillar	Vankhand Beriganga	Average	6
4.	Boundary Pillar	Vankhand Dechu Fatehgarh	Good	7

Karauli

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Karauli Forest Division. This Forest Division with 6 Forest Ranges namely Hindaun, Mandrayal, Masalpur, Karauli, Sapotra & Gudachanndraji has territorial jurisdiction over the entire Karauli District.



Figure : Location of Karauli district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Karauli Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Karauli	Ataiba	2020-21	50	ANR	100%
Mandrayal	Todi	2020-21	50	ANR	10%
Masalpur	Goder	2021-22	55	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Karauli Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Gudhachandraji	Mehndipur ki Dungri evam Vankhand Nahar Kohra 11 A	2020-21	Pakki Diwar 4 ft
2.	Karauli	Kota B	2020-21	Boundary Pillars
3.	Masalpur	Mardai Daudpur	2020-21	Boundary Pillars
4.	Masalpur	Mahuwa Kheda Main & B	2020-21	Boundary Pillars
5.	Sapotra	Naroli Dang/Dabra A	2020-21	Boundary Pillars
6.	Gudhachandraji	Naharkohra no. 11A	2020-21	Boundary Pillars
7.	Mandrayal	Vankhand Gurdah	2021-22	Boundary Pillars
8.	Masalpur	Vankhand Banswadi	2021-22	Boundary Pillars
9.	Karauli	Vankhand Ratiyapur	2021-22	Boundary Pillars
10.	Sapotra	Vankhand Khirkhida Baloti	2021-22	Boundary Pillars
11.	Sapotra	Vankhand Dabra B	2021-22	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Ataiba site in Karauli range -N 26°22' 24" and E 76°58' 0"

The selected plantation was carried out on 50 hac. of land at Ataiba in Karauli range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red & rocky.

3.1.2. Treatment plan before sowing: The topography of the area was hilly & plateau. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars, rats and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.1.4. Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Dalbergia sissoo (Shisham), Tamarindus indica (Imli), Terminalia bellarica (Baheda), Acacia leucopholea (Ronj) and Acacia senegal (Kumtha) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.**The growth of survived plants was satisfactory.**



3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Dhonk, Babool, totalis & kumtha were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Ronj, desi babool & Khair* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average. Plants from seeds sowing were seen on trenches & thanwalas.

3.1.8. Protection Work: The selected ANR model plantation had loose stone wall fencing of 3160 RMT. Present condition of loose stone wall fencing was satisfactory.

3.1.9. Soil and Water Conservation Measures: There are 8000 RMT Contour trenches, 500 rmt deep CCT, 1000 rmt SGT & loose stone checkdam (247.5 cu.m) in the form of water harvesting structures present in the entire plantation area.

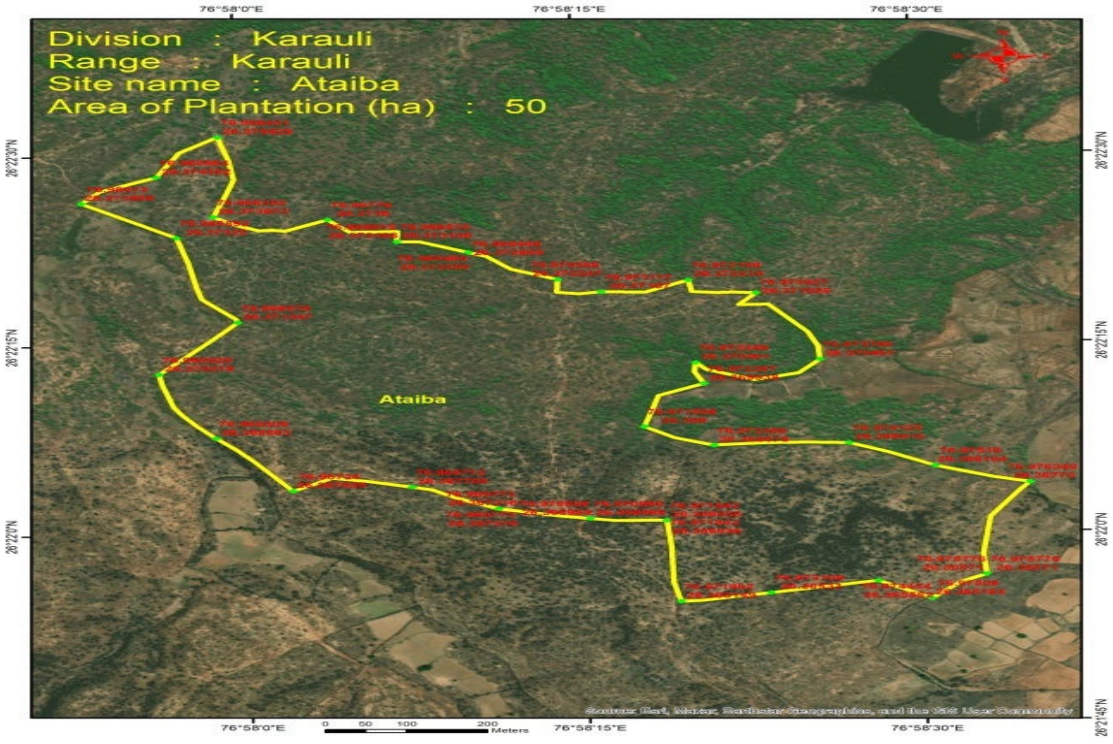

Loose stone wall at the plantation site

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.3% at the site.**

Table 3: Status of Planted Seedlings at the site- Ataiba Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	2800	2040	760	72.9	118	26
Terminalia bellirica (Baheda)	500	0	500	0.0	0	0
Tamarindus indica (Imli)	500	0	500	0.0	0	0
Dalbergia sissoo (Shisham)	800	0	800	0.0	0	0
Zizyphus mauritiana (Ber)	1700	810	890	47.6	105	21
Holoptelea integrifolia (Churel)	1700	135	1565	7.9	90	21
Acacia leucopholea (Ronj)	2000	1440	560	72.0	90	21
Total	10000	4425	5575	44.3	101	22

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.1. Site 2- Todi site in Mandrayal range -N 26°16' 59" and E 77°16' 6"

The selected plantation was carried out on 50 hac. of land at Todi in Mandrayal range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.

3.2.2. Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land.





3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.2.4. Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Acacia tortilis (Totalis), Acacia leucopholea (Ronj) and Dalbergia sissoo (Shisham) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. **The growth of survived plants was average.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Desi babool, Totalis and Goya khair were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species *Ronj & Desi babool* were sown in as well as along the trenches and on the thanwlas. The result of sowing was good. Plants from seeds sowing were widely seen on trenches & thanwalas.

3.2.8. Protection Work: The selected ANR model plantation had ditch fencing of 3500 RMT. Present condition of ditch fencing was satisfactory. Silting was reported in some parts of ditch fencing.

3.2.9. Soil and Water Conservation Measures: There are 7570 RMT Contour trenches, 2500 RMT SGT & earthen checkdam (2722.34 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC

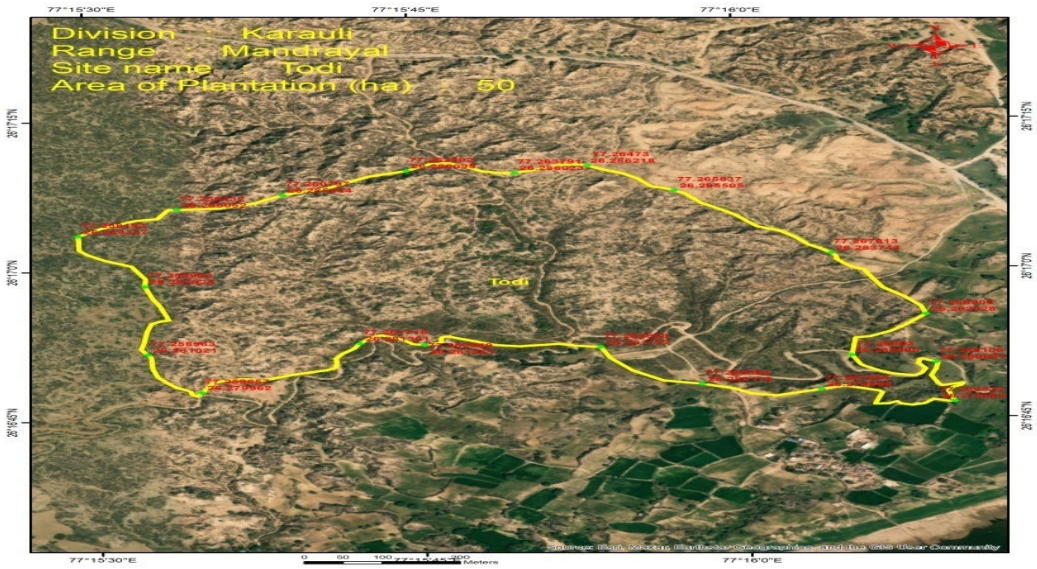
structures is done. The result shows no variation in CCT & +2 cu.m excess in earthen checkdam.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 58.3% at the site.**

Table 3.1: Status of Planted Seedlings at the site- Todii Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)			372		141	27
Dalbergia sissoo (Shisham)			25		90	21
Acacia tortilis (Totalis)			125		138	28
Acacia leucopholea (Ronj)			61		90	21
Total	10000	1000	583	58.3	129	26

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.3.1. Site 3- Goder site in Masalpur range -N 26°31' 59" and E 77°12' 58"

The selected plantation was carried out on 50 hac. of land at Goder in Masalpur range during the year 2021-22. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was Red & stony.


Mud/dola fencing at the plantation site

3.3.2. Treatment plan before sowing:

The topography of the area was hilly & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 55 hac of land. The seedlings were planted after applying pesticides and manure in the

pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle's and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.3.4. Species Planted: The selected seedlings of Acacia leucopholea (Ronj), Holoptelea integrifolia (Churel), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj) and Acacia nilotica (Desi babool) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. **The growth of survived plants was satisfactory.**

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Khair, Desi babool, Ronj, Bair, Dhok & Goya Khair were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Desi babool, Kumtha & Ronj,* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.3.8. Protection Work: The selected ANR model plantation had loose stone wall fencing of 200 RMT& mud/ dola fencing of 2000 rmt. Present condition of fencing was good.



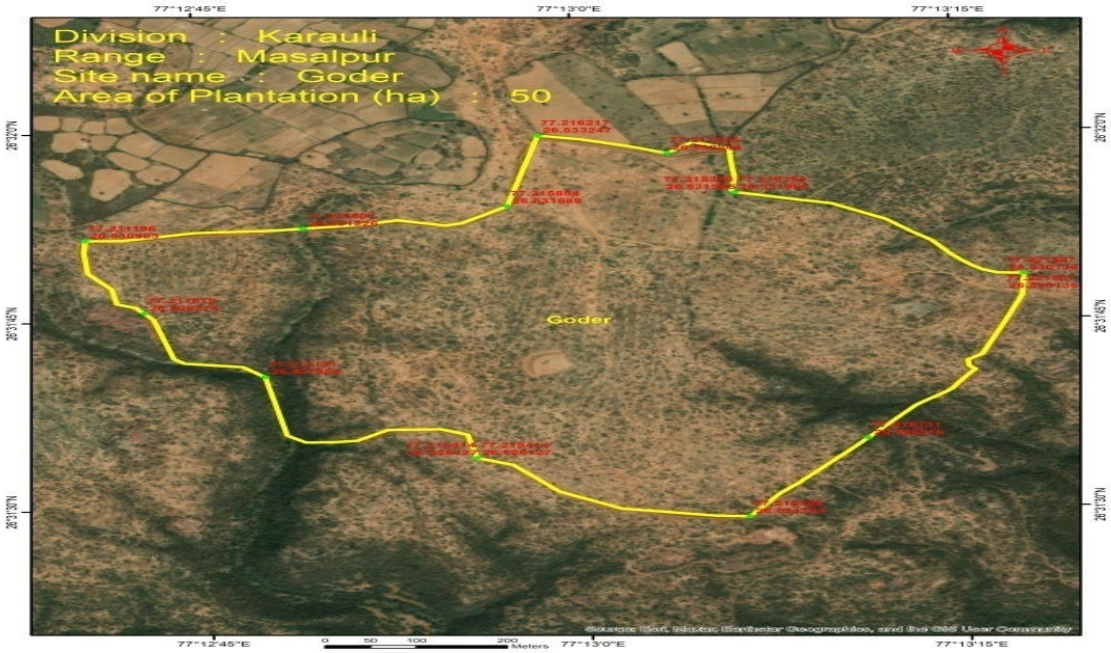
3.3.9. Soil and Water Conservation Measures: There are 17200 RMT Contour trenches in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 49.50% at the site.**

Table 3.2: Status of Planted Seedlings at the site- Goder Site

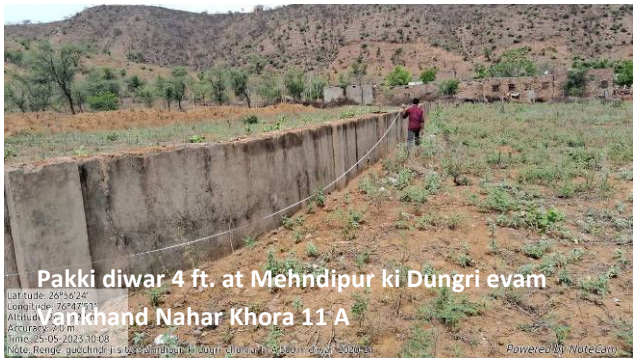
Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	5000	2030	2970	40.6	130	26
Acacia leucopholea (Ronj)	2000	1625	375	81.3	95	21
Holoptelea integrifolia (Churel)	1500	405	1095	27.0	90	21
Pongamia pinnata (Karanj)	700	415	285	59.3	105	25
Zizyphus mauritiana (Ber)	700	475	225	67.9	108	24
Others (Bad& Pipal)	100	0	100	0.0	0	0
Total	10000	4950	5050	49.5	106	23

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



4. Results for asset sites

4.1 Site 1-Pakki Diwar 4 Ft at Mehndipur Ki Dungri evam Vankhand Nahar Kohra 11 A , Gudhachandraji Range



At Mehndipur ki Dungri evam Vankhand Nahar Kohra 11 A in Gudhachandraji range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 500 m length as per MB. But in actual 483 m pakki diwar was constructed at the site at two places. 428 meter diwar was constructed at one place & 55 meter was constructed at other side. The width of the diwar was 0.45 meter & height was 1.20 meter. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site. The diwar was damaged at some places & plaster work of diwar was incomplete. GPS location of this area was $26^0$56’24” N and $76^0$47’47”E.

The expenditure incurred for constructing this wall was Rs. (as per MB) against the estimated budget of Rs. 24.0 lac.

Site 2 -Pillars at Kota B, Karauli range

At Kota B site in Karauli Pillars (25 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.



Site 3- Pillars at Mardai Daudpur, Masalpur range

At Mardai Daudpur site in Masalpur Pillars (19 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. Few pillars at the site were either damaged or fallen on ground. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars (95 Nos.) was Rs. 196200 (as per MB) against the estimated cost of Rs 195696.



Site 4- Pillars at Mahuwa Kheda Main & B, Masalpur range

At Mahuwa Kheda Main & B site in Masalpur Pillars (09 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars were 40 in numbers as per MB. In actual 09 pillars were evaluated by the third party. One pillar evaluated was fallen on ground. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars (40 Nos.) was Rs. 82800 (as per MB) against the estimated cost of Rs 82440.



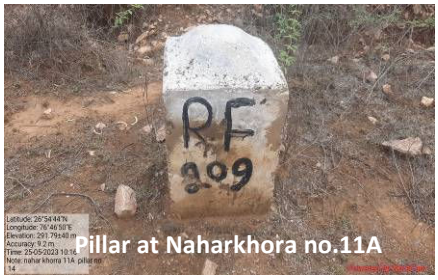
Site 5- Pillars at Naroli Dang/ Dabra A, Sapotra range

At Naroli Dang/ Dabra A site in Sapotra Pillars (07 nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (70 nos.) was Rs. (as per MB) against the estimated cost of Rs. 144000



Site 6- Pillars at Nahar Khora no.11 A, Gudhachanraji range

At Nahar Khora no.11 A site in Gudhachandraji Pillars (17 nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. Few pillars at the site were either damaged or fallen on ground. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars (83 Nos.) was Rs. 182129 (as per MB) against the estimated cost of Rs.



Site 7- Pillars at Vankhand Gurdah, Mandrayal range

At Vankhand Gurdah site at Mandrayal Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.

Record keeping: The documents such as plan and MB were shown to the study team.



Site 8- Pillars at Vankhand Banswadi, Masalpur range

At Vankhand Banswadi site in Masalpur Pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars was Rs. 41800 (as per MB) against the estimated cost of Rs 47000.



Site 9- Pillars at Ratiyapura, Karauli range



At Ratiyapura site in Karauli range Pillars (41 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars (100 Nos.) was Rs. (as per MB) against the estimated cost of 2.35 lac.

Site 10- Pillars at Vankhand Khirkhida Baloti, Sapotra range

At Vankhand Khirkhida Baloti site in Sapotra Pillars (12 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.



Site 11- Pillars at Vankhand Dabra B, Sapotra range

At Vankhand Dabra B site in Sapotra Pillars (09 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.



5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Karauli division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Ataiba	ANR	50	44.3	5
2	Todi	ANR	50	58.3	6
3	Goder	ANR	50	49.5	5

* <4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Mehndipur ki Dungri evam Vankhand Nahar Kohra 11 A	500	483	-17
2.	Boundary Pillars	Kota B	25	25	0
3.	Boundary Pillars	Mardai Daudpur	19	12	05- Dagamed 02- Fallen on ground
4.	Boundary Pillars	Mahuwa Kheda Main & B	9	9	0
5.	Boundary Pillars	Naroli Dang/Dabra A	7	7	0
6.	Boundary Pillars	Naharkohra no. 11A	17	13	04- Damaged
7.	Boundary Pillars	Vankhand Gurdah	20	20	0
8.	Boundary Pillars	Vankhand Banswadi	20	19	01- Fallen on ground

9.	Boundary Pillars	Vankhand Ratiyapur	41	41	0
10.	Boundary Pillars	Vankhand Khirkhida Baloti	12	12	0
11.	Boundary Pillars	Vankhand Dabra B	9	9	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Mehndipur ki Dungri evam Vankhand Nahar Kohra 11 A	Average	6
2.	Boundary Pillars	Kota B	Average	6
3.	Boundary Pillars	Mardai Daudpur	Average	6
4.	Boundary Pillars	Mahuwa Kheda Main & B	Average	6
5.	Boundary Pillars	Naroli Dang/Dabra A	Average	6
6.	Boundary Pillars	Naharkohra no. 11A	Average	6
7.	Boundary Pillars	Vankhand Gurdah	Average	6
8.	Boundary Pillars	Vankhand Banswadi	Average	6
9.	Boundary Pillars	Vankhand Ratiyapur	Average	6
10	Boundary Pillars	Vankhand Khirkhida Baloti	Average	6
11.	Boundary Pillars	Vankhand Dabra B	Average	6

Karauli RTR

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in RTR Karauli Forest Division. This Forest Division with 4 Forest Ranges namely Mandrayal, Kaila Devi, Nainiyaki & Karanpur has territorial jurisdiction over the entire Karauli District.



Figure : Location of Karauli district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of Karauli RTR Forest Division were as given in table-1.

Table-1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Naniyaki	Cheer Ki Narauli C	2020-21	50	ANR	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Karauli RTR Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Nainiyaki	Lamba ka Jharna Ghateshwar type 2	2020-21	Anicut Type II
Kaila Devi	Vankhand Marmada	2020-21	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Cheer Ki Naroli C site in Naniyaki range -N 26°14' 35" and E 76°49' 60"

The selected plantation was carried out on 50 hac. of land at Cheer ki Narol C in Naniyaki range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was domat.



3.1.2. Treatment plan before sowing: The topography of the area was hilly & dang. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai rats and porcupine was reported at the site. Also, widely growth of termite, soil quality, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.1.3. Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Acacia leucopholea (Ronj) & Zizyphus mauritiana (Ber) were planted.

In total 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was good.**



3.1.4 Watering of plants: The

provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.5. Natural Vegetation and Regeneration: Dhonk, Desi babool, Khair, Ber, Karanj & Ronj were the plants found grown naturally in this area. The growth of the plants was satisfactory.

3.1.6. Regeneration through seeds sowing: Seeds of species *Kumtha, Ronj, Kat Karanj & Desi babool* were sown in as well as along the trenches and on the thanwlas. The result of sowing was good. Plants from seeds sowing were widely seen on trenches & thanwalas.

3.1.7. Protection Work: The selected ANR model plantation had loose stone fencing of 2280 RMT. Present condition of loose stone fencing was satisfactory.

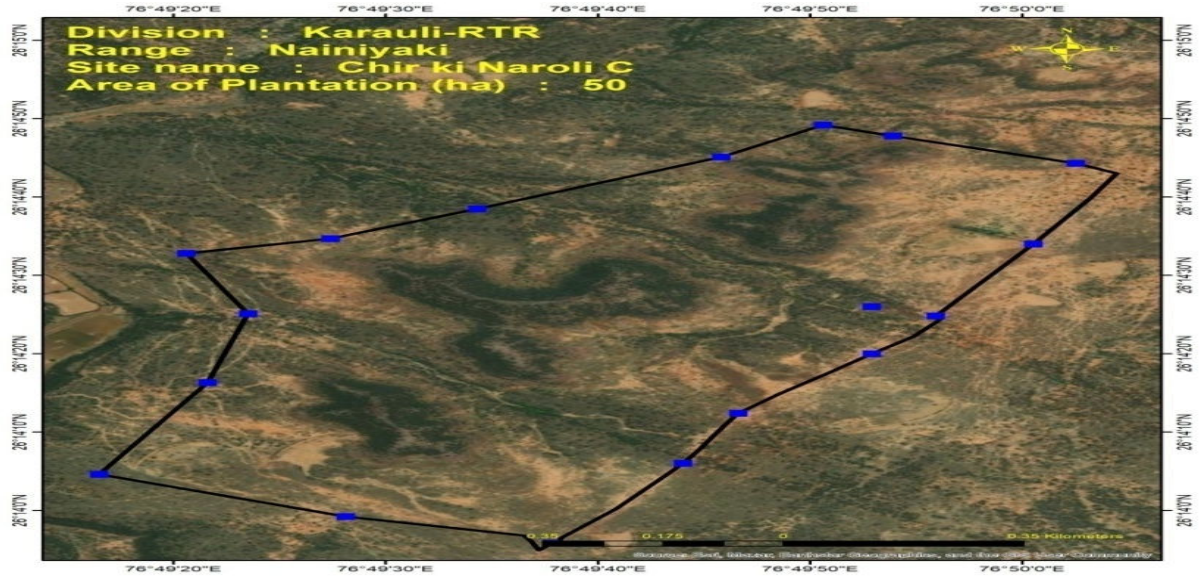
3.1.8. Soil and Water Conservation Measures: There are 14500 RMT Contour trenches & Loose stone checkdam (1008.84 cu.m) in the form of water harvesting structures present in the entire plantation area. PCT/Nadi was also reported at the site

3.1.9. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 53.6% at the site.**

Table 3: Status of Planted Seedlings at the site- Cheer Ki Naroli C Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	3500	2110	1390	60.29	107	27
Zizyphus mauritiana (Ber)	3000	1520	1480	50.67	105	27
Acacia leucopholea (Ronj)	3500	1730	1770	49.43	104	26
Total	10000	5360	4640	53.6	106	26

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21	486200	375000		861200	486133	373224		859357
2021-22	182150			182150	180037			180037
2022-23	107950		107950	107787				107787
Total								

4. Results for asset sites

4.1 Site 1- Anicut II at Nainiyaki, Lamba Ka Jharna type 2, Nainiyaki Range



At Lamba ka Jharna Ghateshwar type 2 in Nainiyaki range , Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. The GPS location of this area was $26^0$10'46" N and $76^0$42'34" E. The expenditure incurred for constructing the anicut wall was Rs.373224 (as per MB) against the estimated budget of 3.75 lac.

Site 2- Pillars at Marmada, Kaila Devi range

At Marmada site in Kaila Devi Pillar (2 No.) has been evaluated. The pillar was constructed in the year 2020-21. Out of sanctioned 25 pillars, only 10 pillars have been constructed due to unavailability of GPS Coordinates for the remaining pillars to be constructed. The pillar was 10 in number. The pillar constructed was reported average and useful. The construction of pillar helped in marking forest boundary. The expenditure incurred for constructing the Pillars (10 Nos.) was Rs.16581 (as per MB) against the estimated cost of Rs 18000.



5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Karauli RTR division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Cheer ki Narauli C	ANR	50	53.6	6

* <5: poor (below 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Anicut Type II	Lamba ka Jharna Ghateshwar type 2	6x0.80x1.4	6x0.80x1.4	0
2.	Boundary Pillar	Vankhand Marmada	2	2	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Anicut II	Lamba ka Jharna Ghateshwar type 2	Average	6
2	Pillar	Vankhand Marmada	Average	6

Kota

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Kota Forest Division. This Forest Division with 7 Forest Ranges namely Kanwas, Ladpura, Sultanpur, Itawa, Mandana, modak & Dag has territorial jurisdiction over the entire Kota District.



Figure : Location of Kpta district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of Kota Forest Division were as given in table 1.

Table-1: Selected plantation site for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Mandana	Singhpura B	2020-21	50	ANR	100%
Kanwas	Dhani Aamli	2020-21	50	ANR	10%
Mandana	Barodiya II	2021-22	50	ANR	100%
Kanwas	Sankhera	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Kota Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Ladpura	Behind Hadoti Colony & Mukundra Vihar	2020-21	Pakki Diwar 4 Ft.

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1-Singhpura B in Mandana range – N 24.88681 and E 76.01135

The selected plantation was carried out on 50 hec of land at Singhpura B of Mandana range during the year 2020-21. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was red & stony.



Plantation site Singhpura B

3.1.2. Treatment plan before sowing:

The topography of the area was ravine. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



Measuring the height of planted seedling

3.1.3. Health & Damages of Plantation:

The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.1.4. Species Planted: The selected tree species under plantation were of *Acacia nilotica* (desi babool), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj), Cassia fistula (Amaltas) and Holoptelea integrifolia (Churel).

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. he growth of survived plants was average.



Result of sowing on trenches

3.1.5. Watering of plants:

The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration*:*

The area has been covered fully with vegetation due to this plantation. Plants like Desi babool, Neem, Churail, Ronj, Khair and Bair have been found grown naturally.

3.1.7. Regeneration through seeds sowing: The growth of seeds sowing plants was average. The result of seed sowing (viz. Desi babool, Khair, Kumtha & Chheela) was good.

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2530 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters. Present condition of fencing was average.

3.1.9. Soil and Water Conservation Measures: There is 10000 RMT (Width & depth - 0.45 meters) Contour trenches & PCT/Nadi (599.88 cu.m) in the form of water harvesting structures present in the entire plantation area.

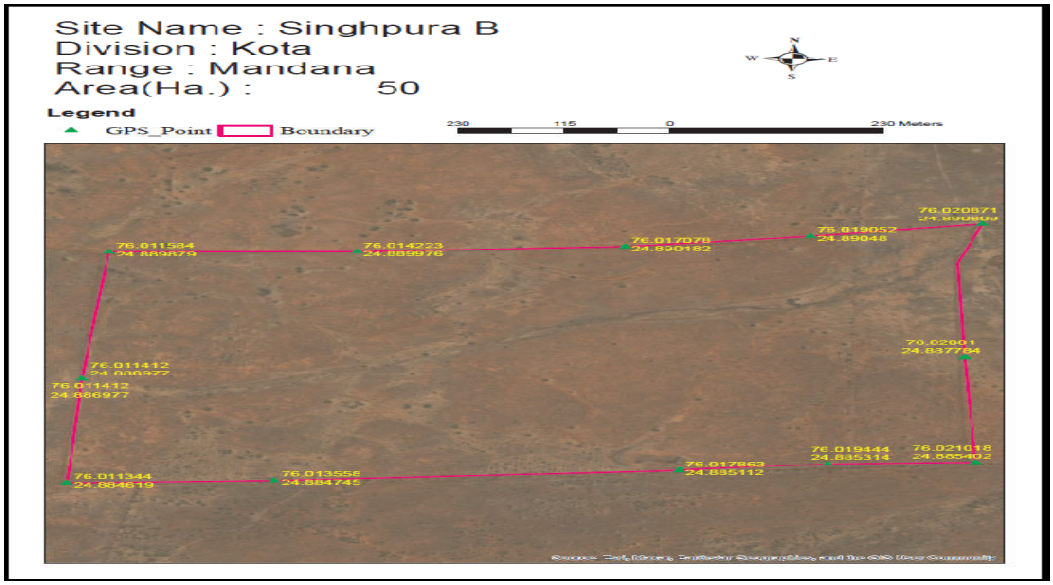


3.1.10 Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 100 percent counting, plants survival was **43.7%** at the site. A

Table 3: Status of Planted Seedlings at the site-Singhpura B Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	2000	1165	835	58.3	90	21
Zizyphus mauritiana (Ber)	4000	1015	2985	25.4	90	21
Acacia leucopholea (Ronj)	2000	1271	729	63.6	93	22
Acacia nilotica (Desi babool)	1800	891	909	49.5	90	21
Cassia fistula (Amaltas)	200	23	177	11.5	90	21
Total	10000	4365	5635	43.7	91	21

3.1.11.GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.1.12. Budget and expenditure:

Table 3.1: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	Plantation	SMC works	Boundary wall/Fencing	Total	Plantation	SMC works	Boundary wall/Fencing	Total
2020-21				486200				420291
2021-22				182150				174122
2022-23				107950				101449
Total				776300				695862

3.2.1 Site 2- Dhani Aamli in Kanvas range - N 24.898557 and E 76.437757

The selected plantation was carried out on 50 ha of land at Dhani Aamli in Kanvas range during the year 2020-21. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was Red clayey & stony.



3.2.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and deer was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.2.4. Species Planted: The selected tree species under plantation were of Prosopis juliflora (Khejri), Acacia nilotica (Desi babool), Azadirachta indica (Neem), Pithecellobium dulce (Jangal Jalebi), *Holoptelea integrifolia* (Churel), *Zizyphus mauritiana (*Ber) and Acacia catechu (Khair) were planted.

A total of 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was average.

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Dhonk, Churel, Khejdi and Bair were the plants found grown naturally in this area. The growth of the plant was good.

3.2.7. Regeneration through seeds sowing: Seeds of species Khair, Kumtha Desi babool were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was average.

3.2.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3400 RMT having width at the top-0.6 meters, width at the bottom-0.68 meters & height 1.2 meters. Present condition of fencing was average. Some part of the fencing was damaged by Cattle & wild animals.

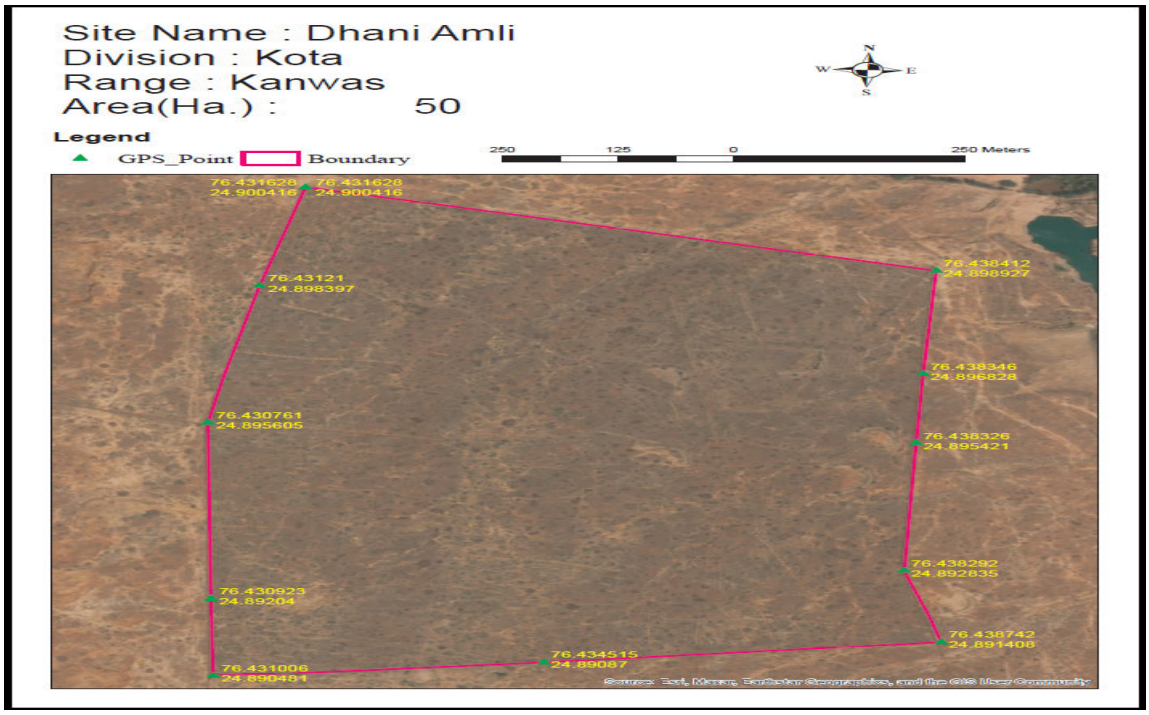
3.2.9. Soil and Water Conservation Measures: There are 12000 RMT Contour trenches in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT.

3.2.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 46.3% at the site.**

Table 3.2: Status of Planted Seedlings at the site- Dhani Aamli Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Prosopis juliflora (Khejri)	4000	400	135		44	16
Zizyphus mauritiana (Ber)	2000	200	17		52	18
Acacia nilotica (Desi babool)	1000	100	174		80	21
Acacia catechu (Khair)	1000	100	67		42	14
Azadirachta indica (Neem)	200	20	17		26	12
Holoptelea integrifolia (Churel)	800	80	22		40	14
Pithecellobium dulce (Jangal Jalebi)	500	50	22		45	14
Albizzia lebbeck (Siras)	200	20	7		36	12
Terminalia arjuna (Arjun)	200	20	2		38	10
Butea monosperma (Palash)	100	10	0		0	0
Total	10000	1000	463	46.3	45	15

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.3.1 Site 3- Barodiya II in Mandana range – N $25^0$22'2" and E $75^0$97'82"

The selected plantation was carried out on 50 hec of land at Barodiya II of Mandana range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was stony, morar & boulders .



3.3.2 Treatment plan before sowing:

The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.4. Species Planted: The selected tree species under plantation were of *Acacia nilotica* (desi babool), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj), Acacia catechu (Khair) &Emblica officinalis (Amla)



Loose stone wall at the site

A total of 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was good.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration*:* The area has been covered fully with vegetation due to this plantation. Plants like Dhonk, Cheela, Ronj, Khair and Bair have been found grown naturally. .

3.3.7. Regeneration through seeds sowing: The growth of seeds sowing plants was average. The result of seed sowing (viz. Desi babool, Khair, Kumtha, Ronj & Ardu) was good.

3.3.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2820 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters. Present condition of fencing was average.

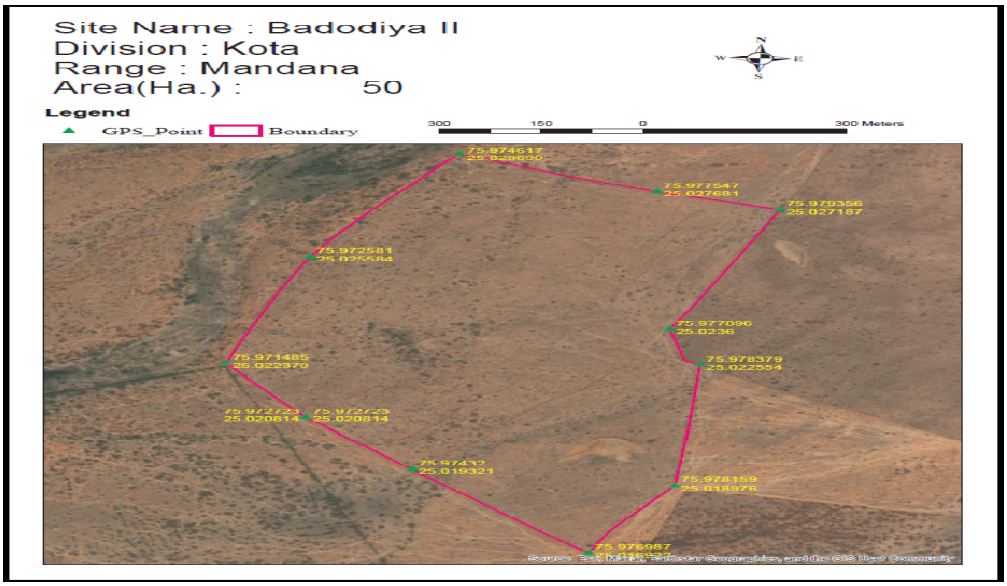
3.3.9. Soil and Water Conservation Measures: There is 11000 RMT (Width & depth - 0.45 meters) Contour trenches in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 100 percent counting, plants survival was **61.7%** at the site.

Table 3.3: Status of Planted Seedlings at the site- Badodiya Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	3400	2998	402	88.2	85	23
Acacia leucopholea (Ronj)	3500	1273	2227	36.4	55	16
Zizyphus mauritiana (Ber)	1800	1042	758	57.9	58	14
Acacia catechu (Khair)	800	587	213	73.4	56	15
Emblica officinalis (Amla)	500	272	228	54.4	48	12
Total	10000	6172	3828	61.7	60	16

3.3.11.GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.3.12. Budget and expenditure:

Table 3.4: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	Plantation	SMC works	Boundary wall/Fencing	Total	Plantation	SMC works	Boundary wall/Fencing	Total
2020-21	-	-		2081200				1897776
2021-22	-	-		511650				489972
2022-23				203250				193627
Total				2796100				2581375

3.4.1 Site 4- Sankhera in Kanvas range - N 24.875792 and E 76.451132

The selected plantation was carried out on 50 ha of land at Sankhera in Kanvas range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was Red clayey & stony.



Growth of planted seedling at the site

3.4.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars and

deer was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.4.4. Species Planted: The selected tree species under plantation were of Prosopis juliflora (Khejri), Acacia nilotica (Desi babool), Acacia leucopholea (Ronj), Emblica officinalis (Amla), Pithecellobium dulce (Jangal Jalebi), *Holoptelea integrifolia* (Churel), *Zizyphus mauritiana (*Ber) and Acacia catechu (Khair) were planted.



A total of 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was good.

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Dhonk, Churel, Khejdi and Bair were the plants found grown naturally in this area. The growth of the plant was good.

3.4.7. Regeneration through seeds sowing: Seeds of species Khair, Kumtha & Desi babool were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was poor.

3.4.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2700 RMT having width at the top-0.6 meters, width at the bottom-0.68 meters & height 1.2 meters. Present condition of fencing was average.

3.4.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trenches in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT.

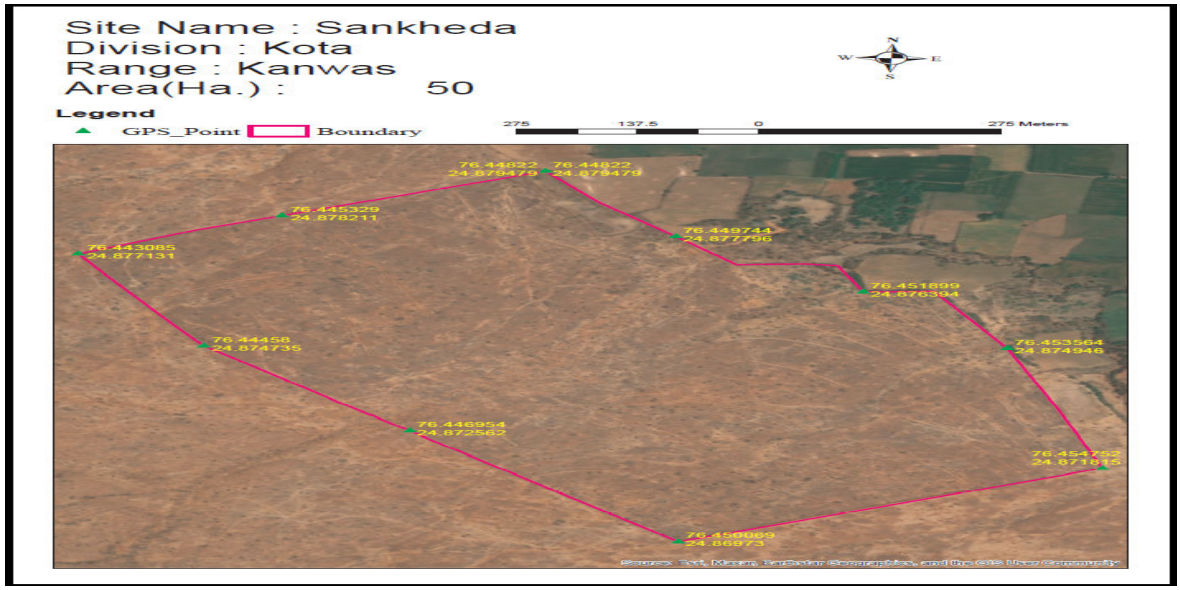
3.4.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 53.2% at the site.**

Table 3.5: Status of Planted Seedlings at the site- Sankhera Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	4000	400	96		82	22
Acacia leucopholea (Ronj)	3000	300	127		48	16
Zizyphus mauritiana (Ber)	1000	100	41		52	16
Holoptelea integrifolia (Churel)	500	50	141		65	18
Emblica officinalis (Amla)	500	50	97		46	14

Acacia catechu (Khair)	500	50	0		0	0
Pithecellobium dulce (Jangal Jalebi)	400	40	23		56	18
Terminalia arjuna (Arjun)	100	10	7		44	14
Total	10000	1000	532	53.2	56	17

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft behind Hadoti colony & Mukundra Vihar, Ladpura Range



Behind Hadoti Colony & Mukundra Vihar at Ladpura range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 279 m length as per MB. Also, in actual 279 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meters & height was 1.20 meter. Construction work appeared to be good and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site. GPS location of this area was 25.106593 N and 75.827265 E. The expenditure incurred for constructing this wall was Rs. 348606 (as per MB) against the estimated cost of 16.0 lac

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Kota division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Singhpura B	ANR	50	43.7	5

2.	Dhani Aamli	ANR	50	46.3	5
3.	Barodiya II	ANR	50	61.7	7
4.	Sankhera	ANR	50	53.2	6

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Behind Hadoti Colony & Mukundra Vihar	279	279	0

Table 4.3: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 4 ft	Behind Hadoti Colony & Mukundra Vihar	Good	7

Kota WL

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Kota WL Forest Division. This Forest Division with 5 Forest Ranges namely Kota Zoo Campus, Jaitpura, Bhainsrodgarh, Ramgarh Bundi & Shergarh has territorial jurisdiction over the entire Kota District.



Figure : Location of Kpta district, Rajasthan

2.1. Selected Asset Sites for Evaluation

The selected asset sites of Kota WL Forest Division were as given in table 1

Table 1: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Jaitpur	Papda Naka	2020-21	Anicut Type II
Jaitpur	Moti Maharaj Ghatla to Nadi ki Jhopda	2021-22	Pakki Diwar 6 ft
Jaitpur	Falasthuni naka Guda Sdavartiya	2021-22	Anicut Type II
Jaitpur	Sendri Vankhand Peepalya Manakchowk	2021-22	Anicut Type III

3. Results for asset sites

At Papra Naka in Jaitpur range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length of Anicut II was 3.80 meters, breadth 3.60 meter, height 1.20 meters was constructed at the site. Construction work appeared to be average and useful. Water was available (up to 1 meter) in the anicut at the time of the visit. Wild animals used to drink water from the anicut. It also helps in soil & moisture conservation in the nearby area. GPS location



of this area was 25.565883 N and 75. 887628 E. The expenditure incurred for constructing the anicut was Rs.3.75 lac (as per MB) against the estimated budget of Rs 3.75 lac.

Site 2-Pakki Diwar 6 Ft at Moti Maharaj Ghatla to Nadi Ka Jhopra, Jaitpur Range



At Moti Maharaj Ghatla to Nadi ki Jhopda in Jaitpur range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 6 ft and 1500 m length as per MB. Also in actual 1500 m pakki diwar was constructed at the site. The width of the diwar was 0.38 m & height was 1.82 meter. Construction work appeared to be good & useful. The construction of Pakki Diwar 6 ft helped in preventing encroachment & protect plantation site. GPS location of this area was 25.568915 N and 75.932057 E. The expenditure incurred for constructing this wall was Rs.50.17711 (as per MB) against the estimated budget of Rs.50.25 lac.

Site 3 Anicut II at Phalasthuni naka Sadavartiya, Jaitpur Range



At Phalasthuni naka Sadavartiya in Jaitpur range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length of Anicut II was 10 meters, breadth 0.90 meter, height 1.20 meters was constructed at the site. Construction work appeared to be average and useful. Water was available (up to 1ft.) in the anicut at the time of the visit. Wild animals used to drink water from the anicut. It also helps in soil & moisture conservation in the nearby area. GPS location of this area was $25^{0}36'2"$ N and $75^{0}49'2"$ E. The expenditure incurred for constructing the anicut was Rs.375 lac (as per MB) against the estimated budget of Rs 3.75 lac.

Site 4- Anicut III at Sendri Vankhand Peeplaya Manakchowk, Jaitpura Range



At Sendri Vankhand Peepalya Manakchowk in Jaitpura range Anicut III has been evaluated. The Anicut III was constructed in the year 2021-22. The length of the structure was 15 meters, breadth 1 meter, height 1.2 meters as per MB. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. Wild animals used to drink water from the anicut. The GPS location of this area was 25.582622 N and

75.90409 E. The expenditure incurred for constructing the anicut was Rs. 649852(as per MB) against the estimated budget of Rs 6.50 lac.

4. Overall assessment

Table 4: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Anicut Type II	Papda Naka	3.8mX3.6mX1.2m	3.8mX3.6mX1.2m	0
2.	Pakki Diwar 6 ft	Moti Maharaj Ghatla to Nadi ki Jhopda	1500	1500	0
3.	Anicut Type II	Falasthuni naka Guda Sdavartiya	10.0mX0.9mX1.2m	10.0mX0.9mX1.2m	0
4.	Anicut Type III	Sendri Vankhand Peepalya Manakchowk	15.0mX1.0mX1.2m	15.0mX1.0mX1.2m	0

Table 4.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Anicut Type II	Papda Naka	Good	7
2	Pakki Diwar 6 ft	Moti Maharaj Ghatla to Nadi ki Jhopda	Good	7
3	Anicut Type II	Falasthuni naka Guda Sdavartiya	Average	6
4	Anicut Type III	Sendri Vankhand Peepalya Manakchowk	Average	6

Nagaur

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Nagaur Forest Division. This Forest Division with 4 Forest Ranges namely Parbatsar, Nagaur, Merta & Kuchaman has territorial jurisdiction over the entire Nagaur District.



Figure 13 Location of Nagaur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Nagaur Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Kuchaman	Chopra Ki Dhani	2020-21	50	ANR	100%
Parbatsar	Peelwa	2020-21	20	DFL	10%
Kuchaman	Chapri (Pratham)	2020-21	30	DFL	100%
Kuchaman	Sawaipura Palri B Balaji	2021-22	50	ANR	10%
Parbatsar	Dhokaliya	2021-22	50	ANR	100%

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1-Chopra Ki Dhani site in Kuchaman range -N 27.076558 and E 74.80202

The selected plantation was carried out on 50 hac. of land at Chopra Ki Dhani in Kuchaman range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy domat and chikni domat.

3.1.2. Treatment plan before sowing: The topography of the area was hilly & sandy. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, rabbit, deer, porcupine and rats was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory



3.1.4. Species Planted: The selected tree species under plantation were Acacia Tortilis (Totalis), *Acacia Nilotica* (desi babool), *Holoptelea Integrifolia* (Churel), Terminalia Zizyphus mauritiana (Ber), Tamarindus Indica (Imli) &Pongamia Pinata (Karanj).



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. **The growth of survived plants was satisfactory.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Totalis, Desi Babool, Dhonk & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Totalis, Ronj, Ber & Khejri* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.1.8. Protection Work: The selected ANR model plantation had ditch fencing of 2070 RMT having width at the top-1.50 meters, width at the bottom-0.9 meter & height 1.2 meters. Also, 400 RMT loose stone fencing & 190 meters barbed wire fencing was reported at the site.

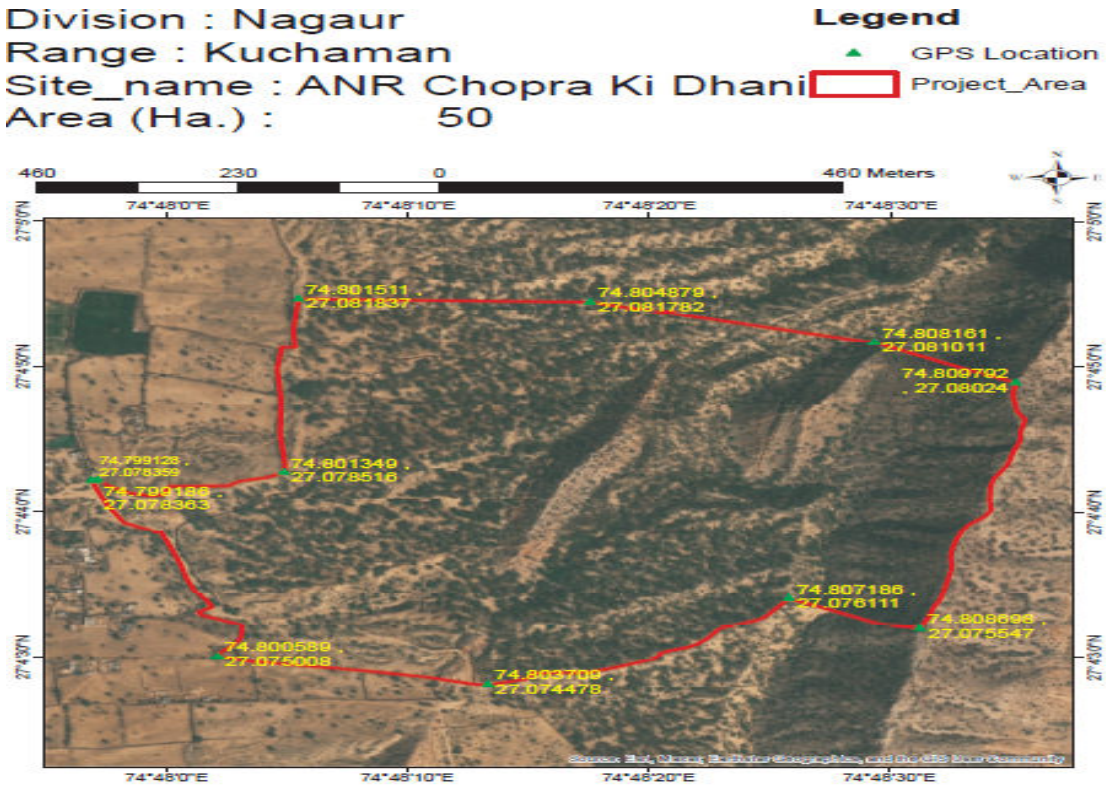
3.1.9. Soil and Water Conservation Measures: There are 4000 RMT (Width & depth -0.45 meter) Contour trenches, 5000 RMT SGT, 1000 RMT deep CCT, 349 cu. meter loose stone check dam, 01 PCT/ Nadi & 10349 cu. meter earthen check dam in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 47.9% at the site.**

Table 3: Status of Planted Seedlings at the site-Chopra Ki Dhani Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	600	386	214	64.3	135	25
Tamarindus indica (Imli)	300	61	239	20.3	90	21
Holoptelea integrifolia (Churel)	700	120	580	17.1	90	21
Pongamia pinnata (Karanj)	1045	169	876	16.2	90	21
Acacia tortilis (Totalis)	6950	3767	3183	54.2	119	24
Zizyphus mauritiana (Ber)	400	283	117	70.8	93	21
Aegle marmelos (Bilpatra)	1	0	1	0.0	0	0
Ficus bengalensis (Bargad)	1	0	1	0.0	0	0
Ficus religiosa (Pipal)	1	0	1	0.0	0	0
Pomegranate	1	0	1	0.0	0	0
Guava	1	0	1	0.0	0	0
Total	10000	4786	5214	47.9	116	24

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2019-20				2081200				2070197
2020-21				486200				486199
2021-22				182150				182150
2022-23				107950				107950

3.2.1. Site 2- Peelwa site in Parbatsar range -N 26.685423 and E 74.618134

The selected plantation was carried out on 20 hac. of land at Peelwa in Parbatsar during the year 2020-21. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 10% evaluation. The soil was sandy, clayey & rocky.



3.2.2. Treatment plan before sowing: The topography of the area was hilly/plain & ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 14004 pits were dug for plantation in total 20 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected seedlings of Acacia leucopholea (Ronj), Pongamia pinnata (Karanj), Acacia nilotica (Desi babool), Acacia tortilis (Totalis), Tecomella undulata (Rohida), Tamarindus indica (Imli), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj) and Dalbergia sissoo (Shisham) were planted.



In total 14004 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 700 plants per hectare have been planted. **The growth of survived plants was good.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Totalis were the plants found grown naturally in this area. The growth of the plants was good.



3.2.7. Regeneration through seeds sowing: Seeds of species Ronj, *Kumatha, Desi babool & Totalis were* sown in as well as along the trenches and on the thanwlas. **The result of sowing was good on trenches.**

3.2.8. Protection Work: The selected DFL model plantation had ditch fencing of 2550 RMT. Present condition of fencing was average.

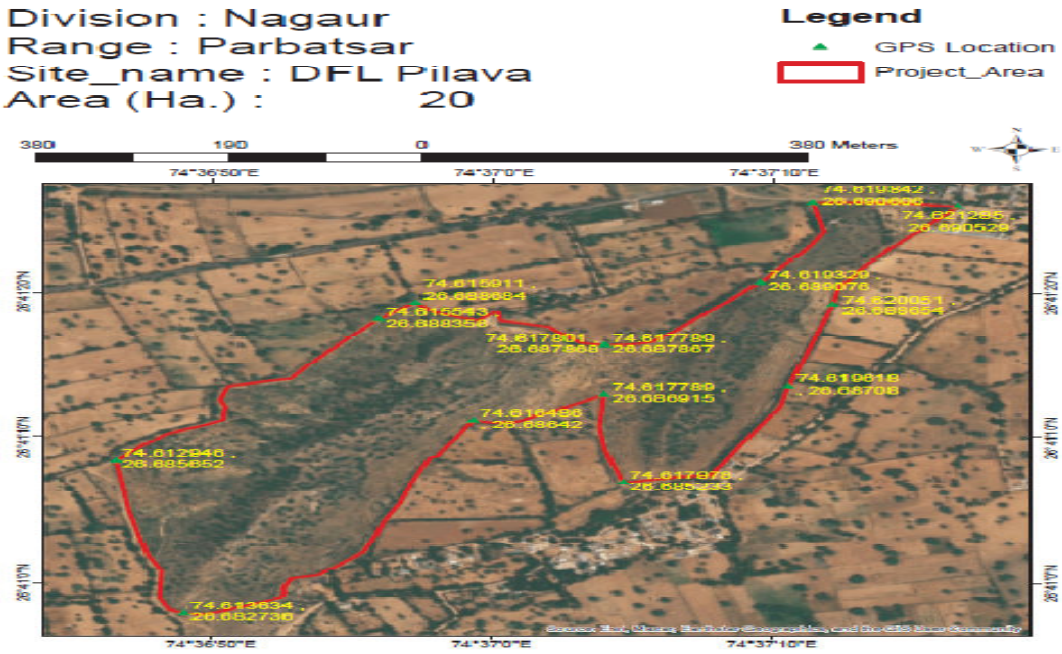
3.2.9. Soil and Water Conservation Measures: There are 6000 RMT Contour trenches, & 09 earthen Checkdam (300 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 52.2% at the site.**

Table 3.2: Status of Planted Seedlings at the site-Peelwa Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	2637	264	80		135	33
Acacia tortilis (Totalis)	4397	440	580		144	35
Acacia leucopholea (Ronj)	2488	249	50		117	33
Prosopis juliflor (Khejri)	1800	180	10		90	21
Zizyphus mauritiana (Ber)	1287	129	0		0	0
Tamarindus indica (Imli)	500	50	5		90	21
Dalbergia sissoo (Shisham)	170	17	5		135	21
Subabool	400	40	0		0	0
Tecomella undulata (Rohida)	300	30	0		0	0
Pongamia pinnata (Karanj)	20	2	0		0	0
Ficus bengalensis (Bargad)	2	0	0		0	0
Ficus religiosa (Pipal)	3	0	1		90	21
Total	14004	1400	731	52.2	136	33

3.2.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 20 hec as per kml map.



P.

Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2019-20				697160				696649
2020-21				710000				707358
2021-22				235740				231857
2022-23				120760				115165
Total				1763660				1751029

3.3.1 Site 3-Chapri Pratham site in Kuchaman range -N 27.272095 and E 74.941045

The selected plantation was carried out on 30 hac. of land at Chapari Pratham in Kuchaman during the year 2020-21. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 100% evaluation. The soil was sandy.



3.3.1. Treatment plan before sowing: The topography of the area was ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 21000 pits were dug for plantation in total 30 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.3.2. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.3. Species Planted: The selected seedlings of Acacia leucopholea (Ronj), Pongamia pinnata (Karanj), Acacia nilotica (Desi babool), Acacia tortilis (Totalis), Prosopis juliflora (Khejri), Tamarindus indica (Imli), Holoptelea integrifolia (Churel), Zizyphus mauritiana (Ber) and were planted. In total 21000 numbers of seedlings were planted at the site. As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 21000 for 30 hectare of land. **The growth of survived plants was poor.**



3.3.4. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.5. Natural Vegetation and Regeneration: Ronj, *Khair, Desi babool, Neem & Ber* were the plants found grown naturally in this area. The growth of the plants was good.

3.3.6. Regeneration through seeds sowing: Seeds of species Kumtha & Totalis were sown in as well as along the trenches and on the thanwlas. **The result of sowing was poor on trenches.**

3.3.7. Protection Work: The selected DFL model plantation had ditch fencing of 2700 RMTm & barbed wire fencing of 250 rmt. Present condition of fencing was poor. Both the fencing were badly damaged.

3.3.8. Soil and Water Conservation Measures: There are 9000 RMT Contour trenches, earthen Checkdam (2390 cu.m) & PCT/Nadi (1371 cu.m) in the form of water harvesting structures present in the entire plantation area.

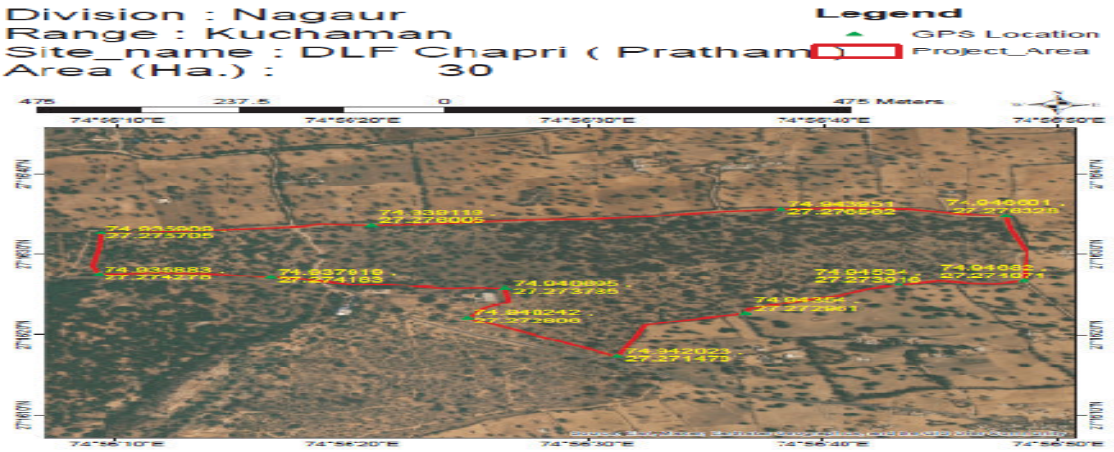
3.3.9. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 13.80% at the site.**

Plant species collar girth & height was also measured. The growth of planted plants was poor. The reason for low survival was poor protection & fencing at the site. The ditch fencing & barbed wire fencing was badly damaged. Grazing by Cattles (Cow, Goat & Buffalo) was found by the team member during the visit. Also, human habitation area is very close to the plantation site. The Cattle & people frequently used to enter the site. A total of 21000 plants comprising of various species were planted in the 30 hectare plantation area.

Table 3.4: Status of Planted Seedlings at the site-Chapari Pratham Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	7900	2880	5020	36.5	95	21
Acacia nilotica (Desi babool)	2100	0	2100	0.0	0	0
Acacia leucopholea (Ronj)	1600	0	1600	0.0	0	0
Prosopis juliflora (Khejri)	1000	0	1000	0.0	0	0
Zizyphus mauritiana (Ber)	3700	20	3680	0.5	93	21
Tamarindus indica (Imli)	800	0	800	0.0	0	0
Pongamia pinnata (Karanj)	1500	0	1500	0.0	0	0
Holoptelea integrifolia (Churel)	1000	0	1000	0.0	0	0
Cordia sinensis (Gundi)	1200	0	1200	0.0	0	0
Others	200	0	200	0.0	0	0
Total	21000	2900	18100	13.8	94	21

3.3.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 30 hec as per kml map.



3.3.12. Budget and expenditure

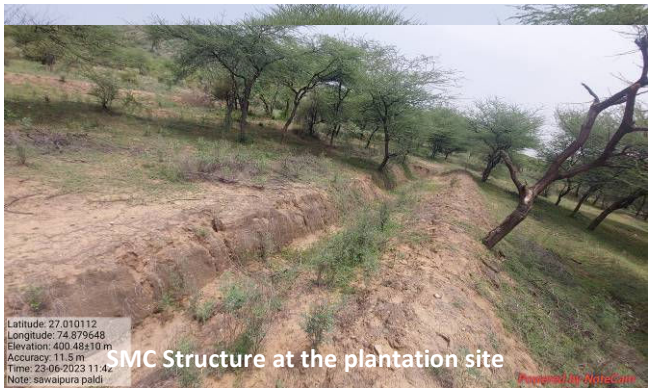
Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2019-20				1045740				1032466
2020-21				1078000				1061681
2021-22				353610				353610
2022-23				181140				181140
Total				2658490				2628897

3.4.1. Sawaipura Palri B Balaji site in Kuchaman range -N 27.011506 and E 74.880863

The selected plantation was carried out on 50 hac. of land at Sawaipura Palri B Balaji in Kuchaman range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was sandy and clayey hard soil.

3.4.2. Treatment plan before sowing: The topography of the area was hilly & sandy. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai and rats was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.4.4. Species Planted: The selected tree species under plantation were Acacia Tortilis (Totalis), *Acacia Nilotica* (desi babool), Prosopis juliflora (Khejri), *Holoptelea Integrifolia* (Churel), Terminalia Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj) &Pongamia Pinata (Karanj).



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted.**The growth of survived plants was satisfactory.**

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Totalis, Kakeda, Dhonk & Jal were the plants found grown naturally in this area. The growth of the plants was good.

3.4.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Totalis & Desi Babool* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.4.8. Protection Work: The selected ANR model plantation had ditch fencing of 1850 RMT having width at the top-1.50 meters, width at the bottom-0.9 meter & height 1.2 meters. Also, 1575 RMT loose stone fencing & 100 meters barbed wire fencing was reported at the site.

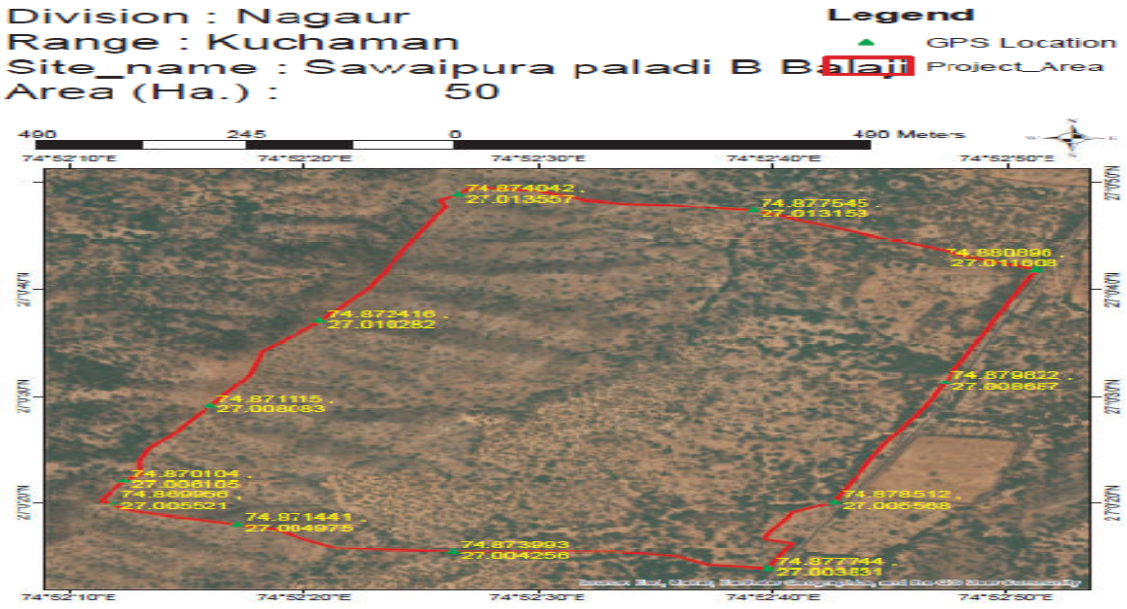
3.4.9. Soil and Water Conservation Measures: There are 4000 RMT (Width & depth -0.45 meter) Contour trenches, 1500 RMT SGT, 1000 RMT deep CCT, 5092 cu. meter PCT/ Nadi & 1165 cu. meter earthen check dam in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT, SGT, DCCT & earthen check dam &+3 cu.m excess in Nadi.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 46.8% at the site.**

Table 3.6: Status of Planted Seedlings at the site-Sawaipura Palri B Balaji Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	6000	600	380		97	22
Acacia nilotica (Desi babool)	1200	120	60		95	22
Prosopis juliflora (Khejri)	300	30	8		90	21
Acacia leucopholea (Ronj)	1000	100	8		92	21
Zizyphus mauritiana (Ber)	1000	100	12		90	21
Pongamia pinnata (Karanj)	300	30	0		0	0
Holoptelea integrifolia (Churel)	200	20	0		0	0
Total	10000	1000	468	46.8	93	21

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.4.12. Budget and expenditure

Table 3.7 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2066390
2021-22				511650				510384
2022-23				203250				202250
Total				2796100				2779024

3.5.1. Dhokaliya site in Parbatsar range -N 26.955425 and E 74.834245

The selected plantation was carried out on 50 hac. of land at Dhokaliya in Parbatsar range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy and clayey soil.



3.5.2. Treatment plan before sowing: The topography of the area was sand dunes & ravines. Hence, as per availability of soil digging of pit has been made for plantation. **3.5.3. Health & Damages of Plantation:** The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, rabbit and rats was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.5.4. Species Planted: The selected tree species under plantation were Acacia Tortilis (Totalis), *Acacia Nilotica* (desi babool), Pithecellobium dulce (Jangal Jalebi), *Holoptelea Integrifolia* (Churel), Terminalia Zizyphus mauritiana (Ber), *Bauhinia sp.* (Kachnar), Acacia leucopholea (Ronj) & Pongamia Pinata (Karanj).



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.5.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6. Natural Vegetation and Regeneration: Totalis, Kakeda, Dhonk & Jal were the plants found grown naturally in this area. The growth of the plants was good.

3.5.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Neem, Totalis & Khejri* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.5.8. Protection Work: The selected ANR model plantation had ditch fencing of 1660 RMT having width at the top-1.50 meters, width at the bottom-0.9 meter & height 1.2 meters. Also, 1645 RMT loose stone fencing was reported at the site.

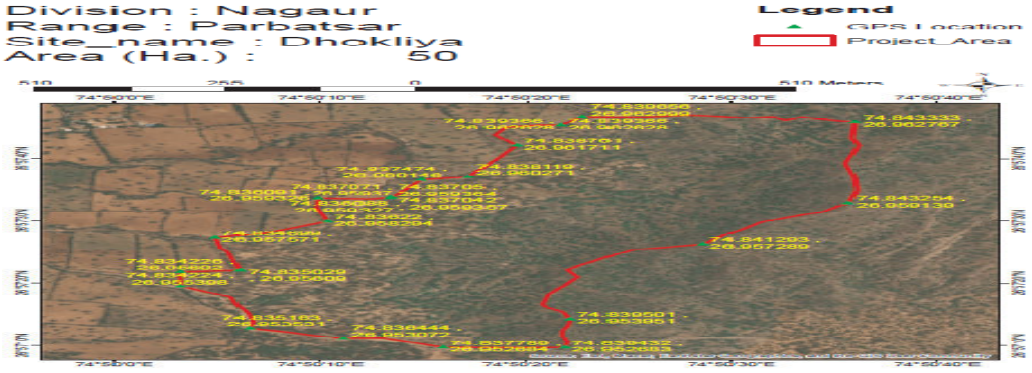
3.5.9. Soil and Water Conservation Measures: There are 2000 RMT (Width & depth -0.45 meter) Contour trenches, 1500 RMT SGT, 300 RMT deep CCT, 1192.46 cu. meter PCT/ Nadi, 75 loose stone check dam & 3130 cu. meter earthen check dam in the form of water harvesting structures present in the entire plantation area.

3.5.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 52.1% at the site.**

Table 3.8: Status of Planted Seedlings at the site-Dhokaliya Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	4000	2820	1180	70.5	93	22
Acacia nilotica (Desi babool)	2000	1380	620	69.0	93	21
Zizyphus mauritiana (Ber)	400	60	340	15.0	90	21
Acacia leucopholea (Ronj)	2000	520	1480	26.0	90	21
Pithecellobium dulce (Jangal Jalebi)	1100	320	780	29.1	90	21
Subabool	200	50	150	25.0	90	21
*Bauhinia sp. (*Kachnar*)*	100	0	100	0.0	0	0
Holoptelea integrifolia (Churel)	100	30	70	30.0	90	21
Pongamia pinnata (Karanj)	100	30	70	30.0	90	21
Total	10000	5210	4790	52.1	92	21

3.5.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.5.12. Budget and expenditure

Table 3.9 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2080467
2021-22				511650				508373
2022-23				203250				191729
Total				2796100				2780569

4. Overall assessment

Table 4: Quantitative assessment of plantation work created under CAMPA in Nagaur division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Chopra Ki Dhani	ANR	50	47.9	5
2.	Peelwa	DFL	20	52.2	6
3.	Chapri (Ist)	DFL	30	13.8	4
4.	Sawaipura Palri B Balaji	ANR	50	46.8	5
5.	Dhokaliya	ANR	50	52.1	6

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Pali

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Pali Forest Division. This Forest Division with 5 Forest Ranges namely Pali, Sumerpur, Sojat, Sendra& Marwar Junction has territorial jurisdiction over the entire Pali District.

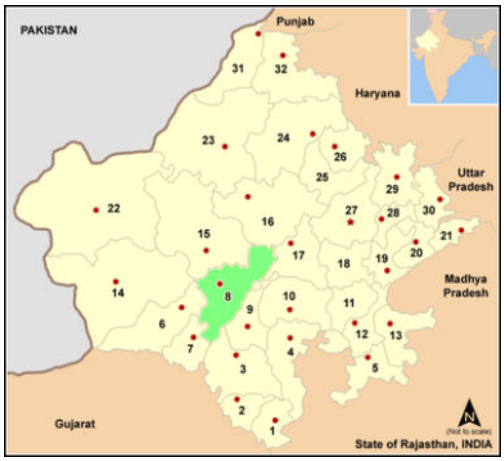


Figure : Location of Pali district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Pali Forest Division for evaluation were as given in table 1
Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Sendara	Jhala Ki Chowki	2020-21	50	ANR	100%
Marwad	Jadan Jod	2020-21	50	ANR	10%
Bali	Lundara A	2021-22	50	ANR	100%
Bali	Lundara B	2021-22	50	ANR	10%
Bali	Las Ka Guda	2021-22	50	Silvi Pastrol	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Pali Forest Division were as given in table 2.

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Marwar Jn.	Kheda Kalyanpura	2020-21	Pakki Diwar 4 ft
Sojat	Rundiya Vnkhand	2021-22	Boundary Pillars
Desuri	Guda Umsingh	2021-22	Boundary Pillars
Bali	Bali Jod	2021-22	Boundary Pillars
Bali	Beda Block	2021-22	Boundary Pillars

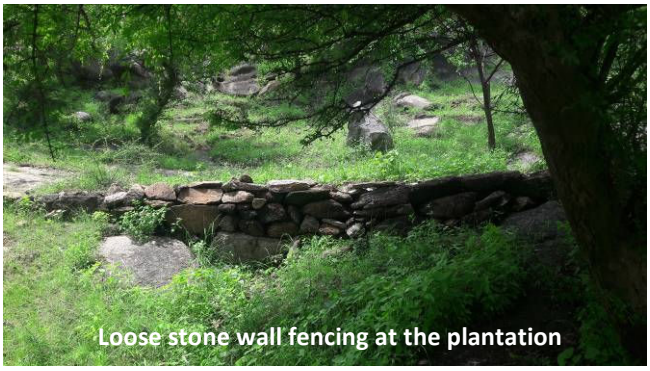
3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1-Jhala Ki Chowki site in Sendara range -N 26. 092923 and E 74·155675

The selected plantation was carried out on 50 hac. of land at Jhala Ki Chowki in Sendara range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was clayey domat & bolders with rocks.


Measuring the height of planted seedling at the site


Loose stone wall fencing at the plantation

3.1.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average


Growth of planted seedling at the plantation site

3.1.4. Species Planted: The selected tree species under plantation were Acacia *nilotica* (desi babool), *Acacia leucophoelea (*ronj), *Holoptelea integrifolia* (Churel), Zizyphus mauritiana (Ber) &Prosopis juliflora (Khejdi) were planted.In total 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was average.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Kumtha, Totalis, Juliflora, Dhok and Kakeda were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Desi Babool, Katkaranj &Ronj were* sown in as well as along the trenches and on the thanwlas. There was good growth on thanwalas & trenches of seed sowing. **Hence, the result of sowing was good**

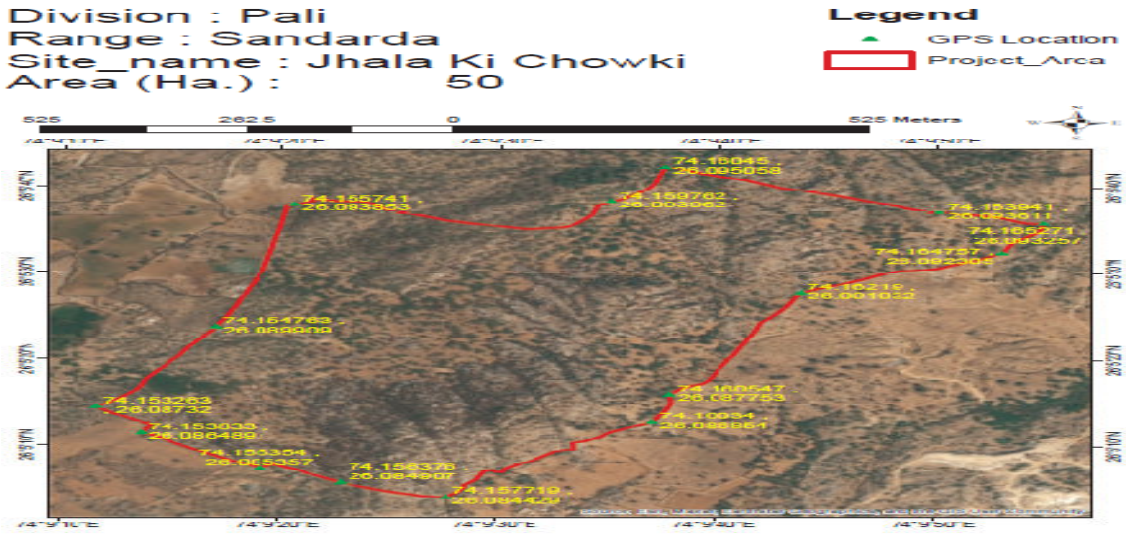
3.1.8 Protection Work: The selected ANR model plantation had loose stone fencing of 1700 RMT having width at the top-45 cm, & height 120 cm. Present condition of fencing was satisfactory. Loose stone fencing was partially effective in controlling biotic pressure. Also, ditch fencing of 120 rmt. was reported at the site. Present condition of fencing was satisfactory.

3.1.9. Soil and Water Conservation Measures: There are 19500 RMT (Width & depth -0.45 meter) Contour trenches, PCT/ Nadi (1296.05 cu.cm) & loose stone check dam (1323.82 cu.cm) in the form of water harvesting structures present in the entire plantation area.

3.1.10 Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 46.50% at the site.** Table 3: Status of Planted Seedlings at the site-Jhala Ki Chowki Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	6000	3350	2650	55.8	93	22
Acacia leucopholea (Ronj)	2000	680	1320	34.0	90	21
Prosopis juliflora (Khejri)	1000	370	630	37.0	92	21
Zizyphus mauritiana (Ber)	800	208	592	26.0	95	22
Holoptelea integrifolia (Churel)	100	42	58	42.0	90	21
Others	100	0	100	0.0	0	0
Total	10000	4650	5350	46.5	92	21

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				48620				457310

3.2.1. Site 2- Jadan Jod in Marwar range - N 25. 860417 and E 73. 539877

The selected plantation was carried out on 50 ha of land at Jadan Jod in Marwar range during the year 2020-21. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was sandy & muram.



3.2.2. Treatment plan before sowing: The topography of the area was steep plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle's and destruction by Neel gai, wild boars, rats and rabbit was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedling. The status of guarding/ fencing at the site was satisfactory .

3.2.4. Species Planted: The selected tree species under plantation were *Acacia nilotica* (desi babool), *Zizyphus mauritiana (*Ber), Prosopis juliflora (Khejri) and Acacia senegal (Kumtha) were planted.

A total of 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was satisfactory.



3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Khejri, Totalis, Kumtha and ronj have been found grown naturally.



3.2.7. Regeneration through seeds sowing: Seeds of species kumtha, Dhaman grass and Desi Babool were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was good. Plants from the seeds sown were widely seen in contour trenches.

3.2.8. Protection Work: The selected ANR model plantation had 2400 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meters & height 1.2 meters was reported at the site. Present condition of fencing was satisfactory.

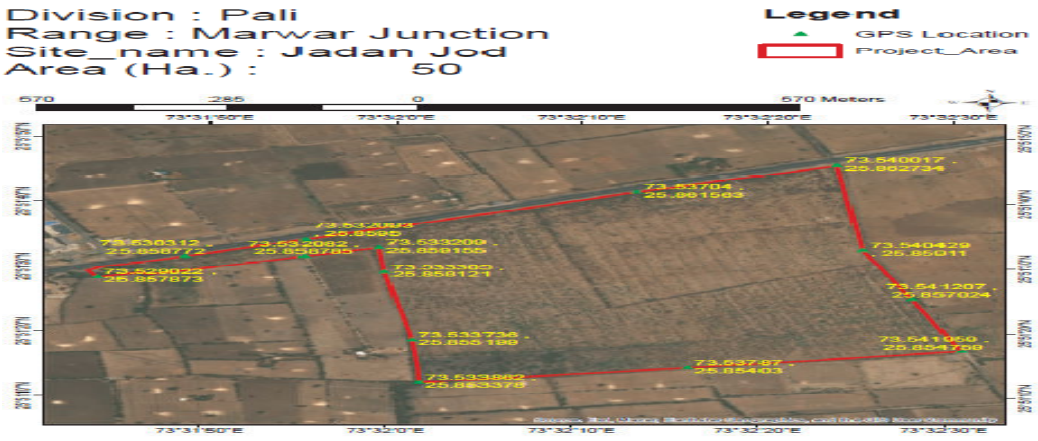
3.2.9. Soil and Water Conservation Measures: There are 11150 RMT (Width & depth -0.45 meter) Contour trenches & 02 PCT/ Nadi in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 48.2% at the site.**

Table 3.2: Status of Planted Seedlings at the site-Jadan Jod Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	7000	700	263		113.9	23
Acacia senegal (Kumtha)	500	50	12		90.0	21
Zizyphus mauritiana (Ber)	2000	200	198		94.5	21
Prosopis juliflora (Khejri)	500	50	9		90.0	21
Total	10000	1000	482	48.2	99.7	22

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hectare as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				434300
2021-22				182150				177942
2022-23				107950				106383
Total				776300				718625

3.3.1 Site 3-Lundara A in Bali range - N 25.282199 and E 73.328394

The selected plantation was carried out on 50 hec of land at Lundara A of Bali range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 100% evaluation. The soil was Sandy & plain.



3.3.2. Treatment plan before sowing: The topography of the area was hilly & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land**.** The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and rabbit was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.4. Species Planted: The selected tree species under plantation were *Acacia nilotica* (desi babool), *Acacia leucophoelea (*ronj), *Zizyphus mauritiana* (ber) & Acacia catechu (Khair).



A total of 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was satisfactory.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration*:* The area has been covered fully with vegetation due to this plantation. Plants like Juliflora, Ronj, Peelu and Desi babool have been found grown naturally. .

3.3.7. Regeneration through seeds sowing: The growth of seeds sowing plants was good. The result of seed sowing (viz. Kumtha, Ber, Desi Babool, Churel & Ronj) was good. Plants from the seeds sown were widely seen in lines on contour trenches.

3.3.8. Protection Work: The selected ANR model plantation was protected by ditch fencing of 2100 RMT having width at the top-1.50 meters, width at the bottom-0.9 meter & depth 1.02 meters, loose stone fencing of 750 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. Present condition of ditch fencing & loose stone fencing was satisfactory. Fencing has been partially effective in controlling the biotic pressures.

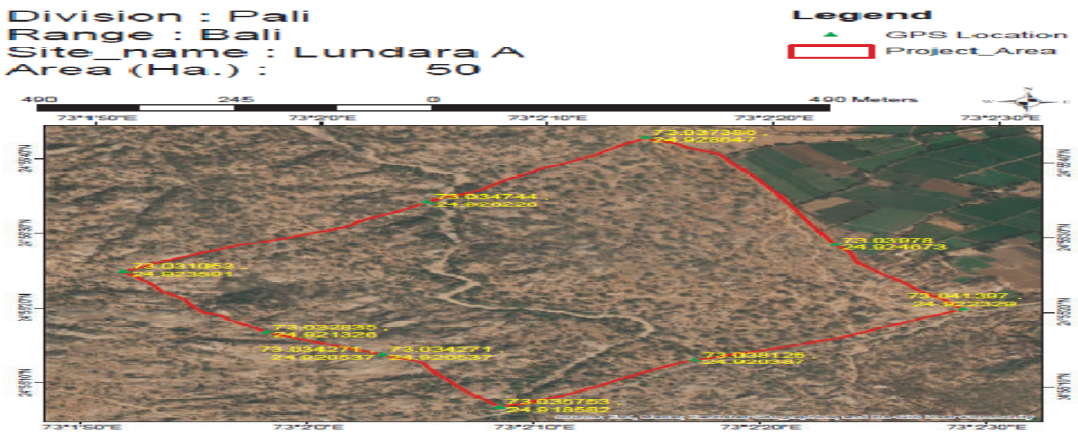
3.3.9. Soil and Water Conservation Measures: There are 10000 RMT (Width & depth - 0.45 meters) Contour trench & 05 PCT Nadi (2011.605 cu.m.) in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. Based on for as 100 percent counting, plants survival was 45.4 % at the site.

Table 3.4: Status of Planted Seedlings at the site- Lundara A Site.

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	3500	2245	1255	64.1	93	22
Acacia nilotica (Desi babool)	3000	1285	1715	42.8	95	22
Acacia leucopholea (Ronj)	2000	370	1630	18.5	92	21
Acacia catechu (Khair)	1500	640	860	42.7	90	21
Total	10000	4540	5460	45.4	93	22

3.3.11.GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hac as per kml map.



3.3.12. Budget and expenditure:

Table 3.5: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	Plantation	SMC works	Boundary wall/Fencing	Total	Plantation	SMC works	Boundary wall/Fencing	Total
2020-21	-	-	-	2081200	-	-	-	2081200
2021-22	-	-	-	511650	-	-	-	511637
Total	-	-	-	2592850				2592837

3.4.1 Site 4- Lundara B in Bali range - N 24.925948 and E 73.010278

The selected plantation was carried out on 50 ha of land at Lundara B in Bali range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was black & domat.

3.4.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle's and destruction by Neel gai, wild boars, rats and rabbit was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedling. The status of guarding/ fencing at the site was satisfactory .



3.4.4. Species Planted: The selected tree species under plantation were *Acacia nilotica* (desi babool), *Zizyphus mauritiana (*Ber), Acacia leucopholea (Ronj) and Pithecellobium dulce (Jangal Jalebi).

A total of 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was satisfactory.

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6 Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Palash, Juliflora, Ronj, Salar & Desi Babool have been found grown naturally.


Growth of planted seedling

3.4.7. Regeneration through seeds sowing: Seeds of species kumtha, Ber, Khejdi, Ronj, Churel, Dhaman grass and Desi Babool were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was good. Plants from the seeds sown were widely seen in contour trenches.

3.4.8. Protection Work: The selected ANR model plantation had 1188 RMT ditch fencing having width at the top-1.5 meters, width at the bottom-0.9 meters & height 1.2 meters was reported at the site. Also, loose stone wall fencing of 1341 rmt & pucca wall of 935 rmt was reported at the site. Present condition of fencing was satisfactory.

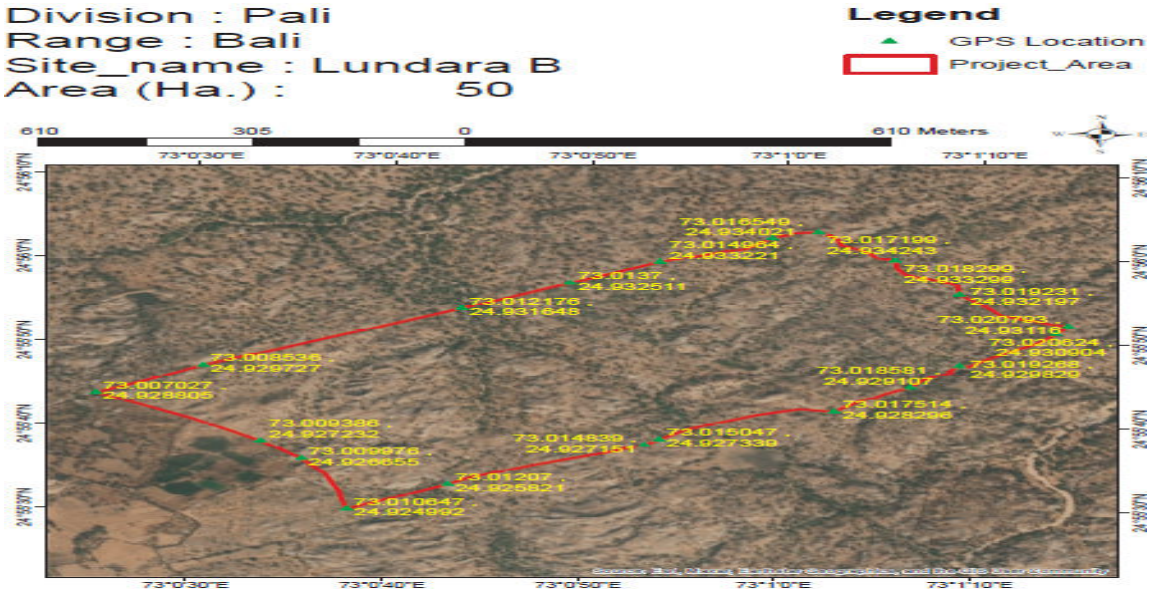
3.4.9. Soil and Water Conservation Measures: There are 10000 RMT (Width & depth -0.45 meter) Contour trenches & 03 PCT/ Nadi (1207 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 46.6% at the site.**

Table 3.6: Status of Planted Seedlings at the site-Lundara B Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	4000	400	187		98.0	21
Acacia leucopholea (Ronj)	3000	300	16		92.0	21
Acacia nilotica (Desi babool)	1000	100	237		109.0	22
Pithecellobium dulce (Jangal Jalebi)	2000	200	26		90.0	21
Total	10000	1000	466	46.6	97.3	21.2

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hectare as per kml map.



P. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200	-	-	-	2081198
2021-22				511650	-	-	-	511650
Total				2592850				2592848

3.5.1. Site 5- Las Ka Guda site in Bali range -N 25.282202 and E 73.328364

The selected plantation was carried out on 50 hac. of land at Las Ka Guda site in Bali range during the year 2021-22. The activities were done under the Silvi Pastoral model (SPP). The site was a forest land and selected for 100% evaluation. The soil was black & hard clayey.


Plantation Site Las Ka Guda


Availability of water in PCT/Nadi

3.5.2. Treatment plan before sowing: The topography of the area was plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during

monsoon, the plantation works carried out.

3.5.3.. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and rabit was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory .

3.5.4. Species Planted: The selected seedlings of Pongamia pinnata (Karanj), Pithecellobium dulce (Jangal Jalebi), Ziziphus jujuba (Ber), Holoptelea integrifolia (Churel), Acacia nilotica (Desi babool), Acacia leucopholea (Ronj) and Acacia tortilis (Totalis) were planted.


Growth of Planted seedling

In total 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6. Natural Vegetation and Regeneration: Hingot, Khejri, Ber, Ronj, Totalis & Juliflora were the plants found grown naturally in this area. The growth of the plants was good.

3.5.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Dhaman grass & Ronj* was sown in as well as along the trenches and on the thanwlas. **The result of sowing seeds was average.**

3.5.8. Protection Work: The selected Silvi Pastoral model plantation had ditch fencing of 3750 RMT having width at the top-1.50 meters, width at the bottom-0.9 meters & height 1.2 meters. Also, pucca wall of 299 rmt was reported at the site. Present condition of fencing was satisfactory.

3.5.9. Soil and Water Conservation Measures: There are Contour trenches (10000 rmt.) & 2 PCT/ Nadi in the form of water harvesting structures present in the entire plantation area.

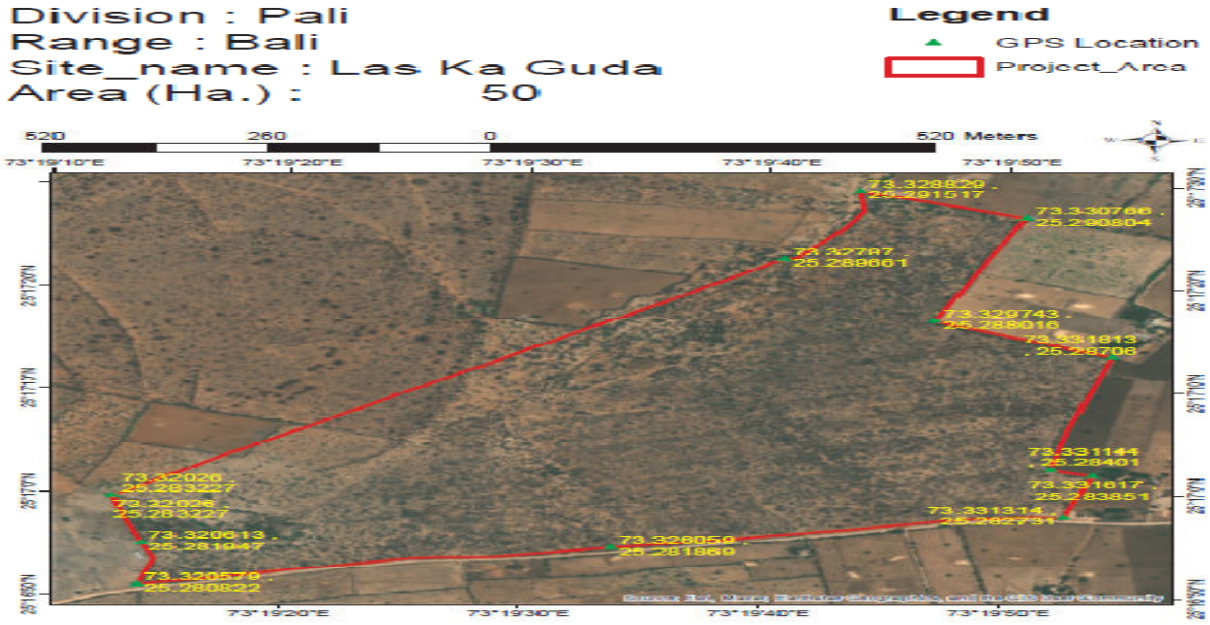
3.5.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 48.60% at the site.**

Table 3.8: Status of Planted Seedlings at the site-Las Ka Guda Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Pongamia pinnata (Karanj)	500	0	500	0.0	0	0
Holoptelea integrifolia (Churel)	500	185	315	37.0	90	21
Pithecellobium dulce (Jangal	500	185	315	37.0	90	21

Jalebi)						
Acacia nilotica (Desi babool)	1000	660	340	66.0	101	21
Acacia leucopholea (Ronj)	500	105	395	21.0	90	21
Acacia tortilis (Totalis)	500	305	195	61.0	90	21
Zizyphus mauritiana (Ber)	6500	3420	3080	52.6	91	21
Total	10000	4860	5140	48.6	92	21

3.5.11. GPS Location and KML file: The selected SPP model under CAMPA plantation site measured 50 Hac as per kml map.



3.5.12. Budget and expenditure

Table 3.9: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				874000				870000
2021-22				1529550				1529525
Total				2403550				2399525

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft at Kheda Kalyanpura, Marwar Jn. range

At Kheda Kalyanpura in Marwar Jn. range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. But 15 meter diwar was badly damaged by the local community. The width of the diwar was 0.45 meters & height was 1.20 meter. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment. GPS location


Pakki Diwar 4 ft. at Kheda Kalyanpura

of this area was 25.495234 N and 73.759328 E. The expenditure incurred for constructing this wall was Rs. 952062 (as per MB) against the estimated budget of Rs. 12 lac.

Site 2- Pillars at Rundiya Vankhand, Sojat range



The site visited under asset created under CAMPA was Pillars (25 Nos.) Rundiya Vankhand site at Sojat. At Rundiya Vankhand site Pillars (05 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars (25 Nos.) was Rs. 57559 (as per MB) against the estimated cost of Rs. 58750.

Site 3- Pillars at Guda Umsingh, Desuri range



The site visited under asset created under CAMPA was Pillars (25 Nos.) Guda Umsingh site at Desuri. At Guda Umsingh site Pillars (05 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be mentioned on the pillar. All the 05 pillars evaluated were of different size. It was not as per prescribed measurement & drawing. The quality of construction of pillars was poor.The expenditure incurred for constructing the Pillars (25 Nos.) was Rs. 11610 (as per MB) against the estimated cost of Rs. 17550.

Site 4- Pillars at Bali Jod, Bali range



The site visited under asset created under CAMPA was Pillars (80 Nos.) Bali Jod site at Bali. At Bali Jod site Pillars (16 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be mentioned on the pillar. The expenditure incurred for constructing the Pillars (80 Nos.) was Rs. 106188 (as per MB) against the estimated cost of Rs. 188000.

Record keeping: The documents such as plan and MB were shown to the study team.

4.1.5 Pillars at Beda Block, Bali range



The site visited under asset created under CAMPA was Pillars (70 Nos.) Beda Block site at Bali. At Beda Block site Pillars (14 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. GPS & number should be mentioned on the pillar. The expenditure incurred for constructing the Pillars (70 Nos.) was Rs. 93022 (as per MB) against the estimated cost of Rs. 164500.

5. Overall assessment

Table 5: Quantitative assessment of plantation work under CAMPA in Pali division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Jhala Ki Chowki	ANR	50	46.5	5
2.	Jadan Jod	ANR	50	48.2	5
3.	Lundara A	ANR	50	45.4	5
4.	Lundara B	ANR	50	46.6	5
5.	Las Ka Guda	SPP	50	48.6	5

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Kheda Kalyanpura	500	485	15 meter wall damaged by local community
2.	Boundary Pillars	Rundiya Vankhand	5	5	0
3.	Boundary Pillars	Guda Umsingh	5	5	0
4.	Boundary Pillars	Bali Jod	16	16	0
5.	Boundary Pillars	Beda Block	14	14	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 4 ft	Kheda Kalyanpura	Average	6
2	Boundary Pillars	Rundiya Vankhand	Average	6
3	Boundary Pillars	Guda Umsingh	Poor	5
4	Boundary Pillars	Bali Jod	Average	6
5	Boundary Pillars	Beda Block	Average	6

Chapter - 3

Pratapgarh

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Pratapgarh Forest Division. This Forest Division with 6 Forest Ranges namely Devgarh, Chhotosadri,Bansi, Pratapgarh, Pipalkhunt & Dhariyawad has territorial jurisdiction over the entire Pratapgarh District.



Figure 14 Location of Pratapgarh district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of Pratapgarh Forest Division were as given in table-1.

Table-1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	H a	Model	Percent of sample
Dhariyawad	Teemruwala Bhatda	2020-21	50	ANR	100%
Devgarh	Ramdevji	2021-22	50	ANR	10%
Bansi	Kabra Mangra	2021-22	50	ANR	100%
Bansi	Badliyanal	2021-22	50	PEO(Bamboo)	10%
Dhariyawad	Hedabawri	2021-22	50	PEO(Bamboo)	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Pratapgarh Forest Division were as given in table 2.

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Peepalkhoont	CHC Peepalkhoont to Pratapgarh Ch. 115.900 to 115.150	2020-21	Pakki Diwar 4 ft.

2.	Chhoti Sadri	Chanda Kui	2020-21	Anicut Type II
3.	Pratapgarh	Ambapani	2020-21	Anicut Type III
4.	Peepalkhoont	Haldu to Pratapgarh Ch. 112.800 to 111.650	2021-22	Pakki Diwar 4 ft.
5.	Peepalkhoont	Hudabawji CN 20 Surajpura	2021-22	Anicut Type II
6.	Dhariyawad	Anicut Bhamra wala Beda	2021-22	Anicut Type III
7.	Pratapgarh	Lalgarh, Badisakhthali	2021-22	Boundary Pillar
8.	Devgarh	Jhatla C	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Teemruwala Bhatda site in Dhariyawad range -N 24.212907 and E 74.432765

The selected plantation was carried out on 50 hac. of land at Teemruwala Bhatda in Dhariyawad range during the year 2020-21. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red black with stone.

3.1.2. Treatment plan before sowing: The topography of the area was plain & hilly &undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boars, rats and rabbits was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.





3.1.4. Species Planted: The selected tree species under plantation were 9. Seedlings of Acacia catechu (Khair), Emblica officinalis (Amla), Dendrocalamus strictus (Baans), Tectona grandis (Sagwan),Baheda and Mahuwa were planted.

In total 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**



3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Sagwan, Dhonk, Tendu, Amaltas & Salar were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Ardu, Katkaranj, Ratanjot, & Khair* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good on trenches.**

3.1.8. Protection Work: The selected ANR model plantation had loose stone wall fencing of 400 RMT & ditch fencing of 2600 RMT. Present condition of fencing was average.

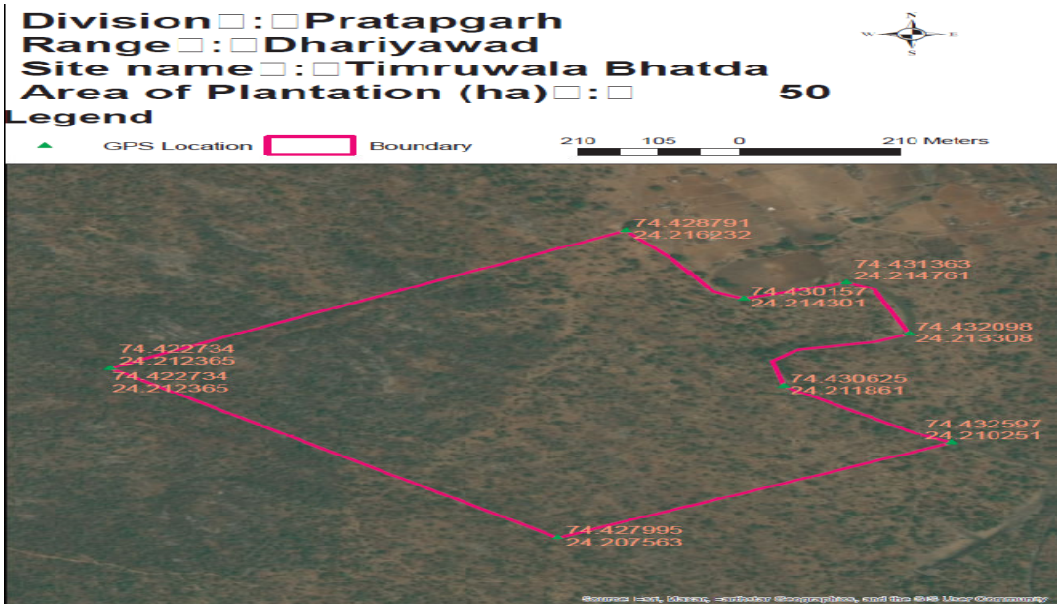
3.1.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches, 5000 RMT SGT & 1000RMT Deep CCT & 02 MPT (1072 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 50.2% at the site.**

Table 3: Status of Planted Seedlings at the site- Teemruwala Bhatda Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	1000	200	800	20.0	90	21
Emblica officinalis (Amla)	200	50	150	25.0	129	26
Dendrocalamus strictus (Baans)	6000	3500	2500	58.3	191	39
Tectona grandis (Sagwan)	2000	1200	800	60.0	129	30
Terminalia bellirica (Baheda)	200	20	180	10.0	90	21
Madhuka latifolia (Mahua)	200	50	150	25.0	117	28
Others	400	0	400	0.0	0	0
Total	10000	5020	4980	50.2	170	36

3.1.11 GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				486133
2021-22				182150				181998
2022-23				107950				107549
Total				776300				775680

3.2.1 Site 1- Ramdevji site in Devgarh range -N 24.194498 and E 74.758575

The selected plantation was carried out on 50 hac. of land at Ramdevji in Devgarh range during the year 2021-22. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was Red morar with stone.

3.2.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected tree species under plantation of Dendrocalamus strictus (Baans), Tectona grandis (Sagwan), Azadirachta indica (Neem), Emblica officinalis (Amla), Holoptelea integrifolia (Churel), Acacia catechu (Khair) and Pongamia pinnata (Karanj)were planted.



In total 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was average.**

3.2.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Sagwan, Palash, & Tendu were the plants found grown naturally in this area. The growth of the plants was good.



3.2.7. Regeneration through seeds sowing: Seeds of species *Neem, Katkaranj, Ratanjot, Khair, Bair & Kumtha* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good on trenches.**

3.2.8. Protection Work: The selected ANR model plantation had ditch fencing of 1400 RMT & 3000 RMT loose stone wall. Present condition of fencing was satisfactory.

3.2.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches, 5000 RMT SGT & 1000 RMT Deep CCT & 01 PCT/Nadi (610 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

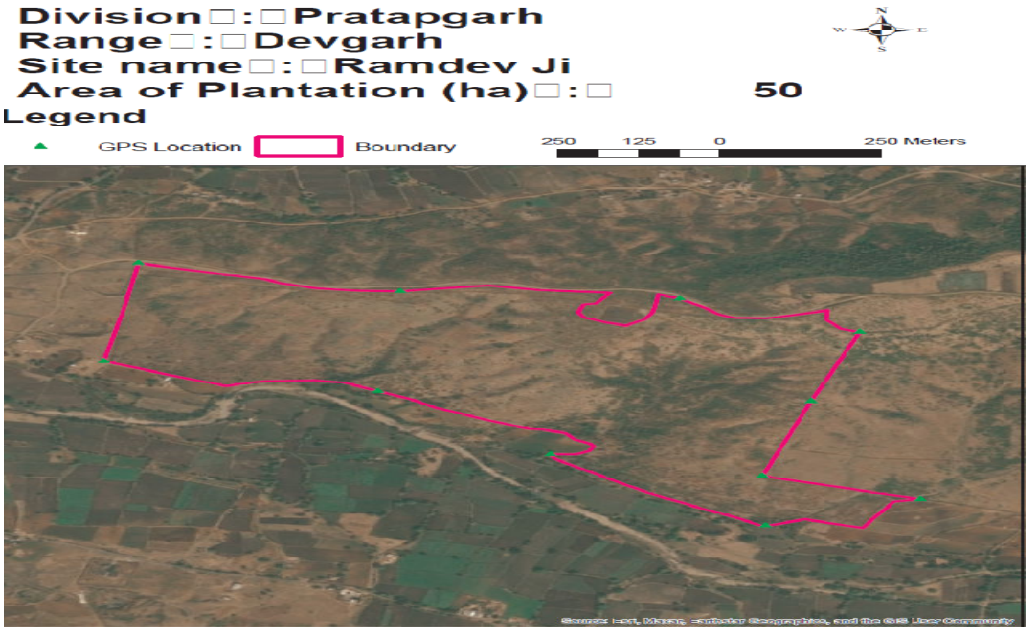
3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.5% at the site.**

Table 3.2: Status of Planted Seedlings at the site-Ramdevji Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Tectona grandis (Sagwan)	2500	250	200		131	33
Azadirachta indica (Neem)	800	80	5		90	21
Emblica officinalis (Amla)	1500	150	50		117	28

Holoptelea integrifolia (Churel)	1600	160	50		90	21
Pongamia pinnata (Karanj)	1000	100	0		0	0
Dendrocalamus strictus (Baans)	500	50	100		150	25
Ficus racemosa (Hawan)	500	50	50		90	21
Acacia catechu (Khair)	1000	100	0		0	0
Zizyphus mauritiana (Ber)	600	60	0		0	0
Total	10000	1000	455	45.5	123	30

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2081197
2021-22				511650				506928
2022-23				203250				196017
Total				2796100				2784142

3.3.1 Site 3- Kabra Mangra in Bansi range -N 24.256025 and E 74.345515

The selected plantation was carried out on 50 hac. of land at Kabra Mangra in Bansi range during the year 2021-22. The activities were done under the Assisted Natural **Regeneration** (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red with stone.



3.3.2. Treatment plan before sowing: The topography of the area was plain & hilly &undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits

of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boars, rats and rabbits was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.





3.3.4. Species Planted: The selected tree species under plantation of Acacia catechu (Khair), Emblica officinalis (Amla), Dendrocalamus strictus (Baans), Tectona grandis (Sagwan), Tectona grandis (Sagwan), Azadirachta indica (Neem), Emblica officinalis (Amla), Holoptelea integrifolia (Churel), Mahuwa, Imli, Sitafal, Arjun and Pongamia pinnata (Karanj) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Sagwan, Khirni, Palash& Salar were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Ardu, Katkaranj, Ratanjot, Kumtha & Khair* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average on trenches.**

3.3.8. Protection Work: The selected ANR model plantation had loose stone wall fencing of 1953 RMT & ditch fencing of 1491 RMT. Present condition of fencing was average.

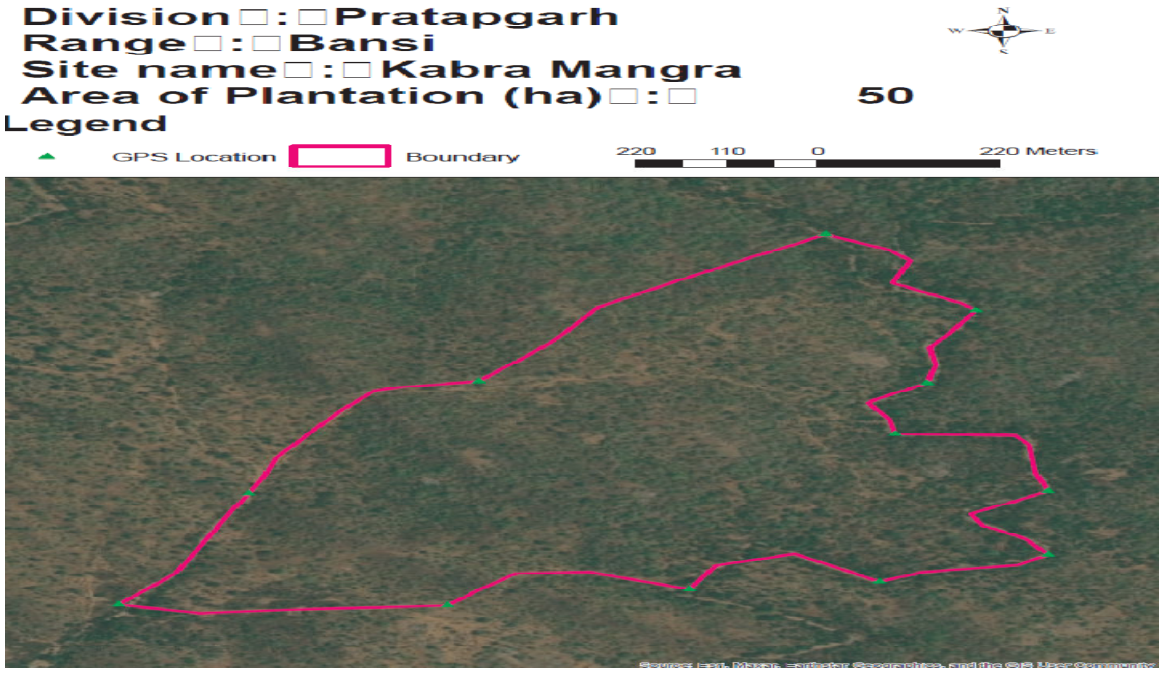
3.3.9. Soil and Water Conservation Measures: There are 6265 RMT Contour trenches, 2825 RMT SGT & 1000RMT Deep CCT & 01 MPT (17.43 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 46.3% at the site.**

Table 3.4: Status of Planted Seedlings at the site- Kabra Mangra Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Emblica officinalis (Amla)	500	380	120	76.0	65	18
Dendrocalamus strictus (Baans)	3000	1135	1865	37.8	110	17
Holoptelea integrifolia (Churel)	2000	895	1105	44.8	85	22
Azadirachta indica (Neem)	200	160	40	80.0	60	19
Pongamia pinnata (Karanj)	2000	890	1110	44.50	90	23
Terminalia arjuna (Arjun)	200	20	180	10.0	50	18
Annona squamosa (Sitafal)	1000	630	370	63.0	80	22
Tectona grandis (Sagwan)	200	105	95	52.5	75	25
Tamarindus indica (Imli)	500	230	270	46.0	40	19
Madhuka latifolia (Mahua)	200	65	135	32.5	65	21
Others	200	120	80	60.0	60	21
Total	10000	4630	5370	46.3	71	20

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22					511650			474507

3.4.1. Site 4-Badliyanal in Bansi range -N 24.214336 and E 74.397277

The selected plantation was carried out on 50 hac. of land at Badliyanal in Bansi range during the year 2021-22. The activities were done under the Productivity Enhancement Operation (PEO-Bamboo) model. The site was a forest land and selected for 10% evaluation. The soil was black brown with boulders & morar.

3.4.2 Treatment plan before sowing: The topography of the area was hilly. 20cmX 20 cm ring trenches were made for 7500 bamboo culture operation.



3.4.3. Health & Damages of Plantation: The growth of bamboo at the site was good. Damage to bamboo plants by human was reported at the site. The wide spread of termite was reported at the site. The status of uarding/ fencing at the site was good.

3.4.4. Species Planted: 7500 bamboo culture operation was reported at the site. **The growth of bamboo at the site was good.**



3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Sagwan, Godal, Palash, Tendu, Siras& Salar were the plants found grown naturally in this area. The growth of the plants was good.



3.4.7. Regeneration through seeds sowing: The seed sowing was not reported at the site **.**

3.4.8 Protection Work: The selected PEO model plantation had loose stone wall fencing of 2450 RMT & ditch fencing of 650 RMT. Present condition of fencing was average.

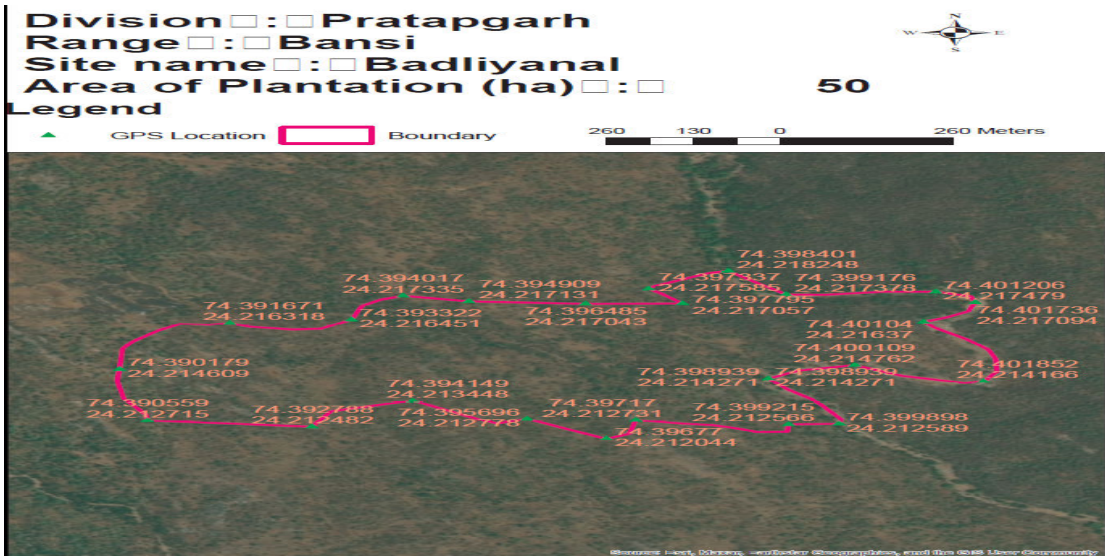
3.4.9. Soil and Water Conservation Measures: There are loose stone check dam (125 cu.m) & MPT (734 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under this model, 7500 bamboo culture operation was done in 50 hac.. **Based on for as 10 percent counting, bamboo plants survival was 82% at the site.** Bamboo Plant species collar girth & height was also measured. The growth of bamboo plant was good.

Table 3.6: Status of Bamboo plants at the site- Badliyanal Site

Species	Bamboo Culture operation	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	7500	750	615	82.00	210	24

3.4.11. GPS Location and KML file: The selected PEO model under CAMPA plantation site measured 50 hec as per kml map.



3.4.12. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22				1494100				1494097

3.5.1 Site 5- Henabawdi in Dhariyawad range -N 24.197708 and E 74.438081

The selected plantation was carried out on 50 hac. of land at Henabawdi in Dhariyawad range during the year 2021-22. The activities were done under the Productivity Enhancement Operation (PEO-Bamboo) model. The site was a forest land and selected for 100% evaluation. The soil was black brown with boulders & morar.



3.5.2. Treatment plan before sowing:

The topography of the area was hilly. 20cmX

20 cm ring trenches were made for 7500 bamboo culture operation.

3.5.3. Health & Damages of Plantation: The growth of bamboo at the site was good. Damage to bamboo plants by human was reported at the site. The status of guarding/ fencing at the site was satisfactory.

3.5.4 Species Planted: 7500 bamboo culture operation was reported at the site. **The growth of bamboo at the site was good.**



3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6.. Natural Vegetation and Regeneration: Sagwan, Aawla, Godal, Shisham, Palash, Tendu, Baheda & Salar were the plants found grown naturally in this area. The growth of the plants was good.

3.5.7. Regeneration through seeds sowing: The seed sowing was not reported at the site.



3.5.8. Protection Work: The selected PEO model plantation had loose stone wall fencing of 400 RMT & ditch fencing of 2000 RMT. Present condition of fencing was average.

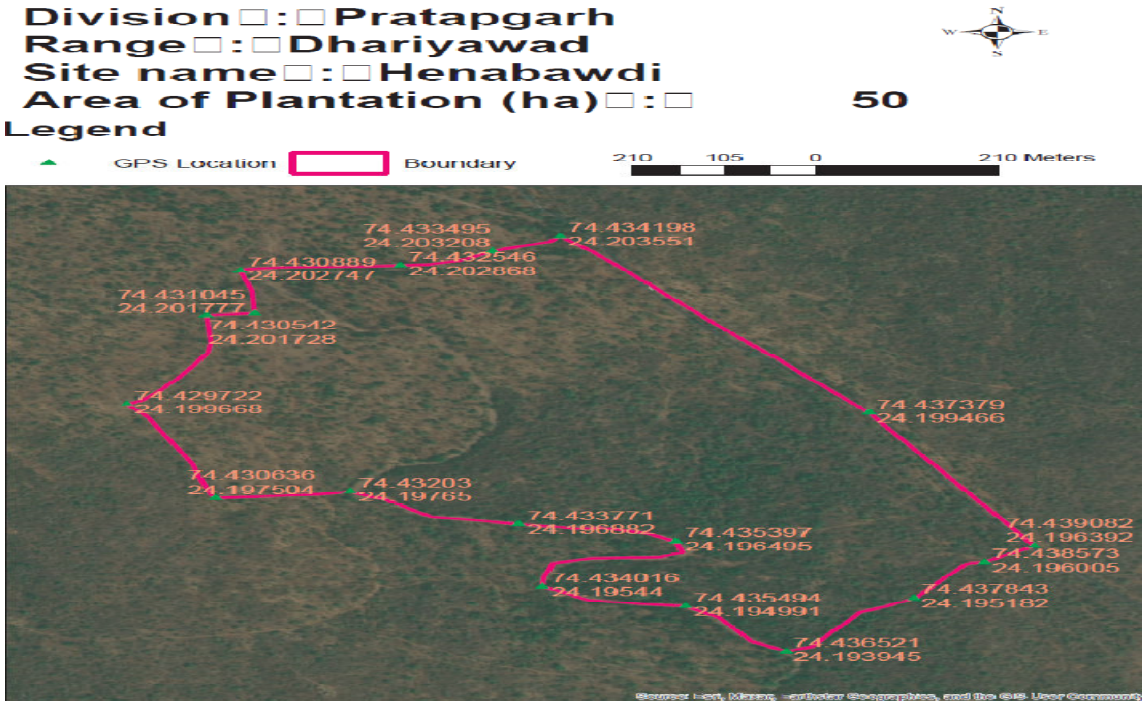
3.5.9. Soil and Water Conservation Measures: There are 23 loose stone check dam (489 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.5.10. Observations Recorded: Under this model, 7500 bamboo culture operation was done. **Based on for as 100 percent counting, plants survival was 83.3% at the site.** Bamboo Plant species collar girth & height was also measured. The growth of bamboo plant was good.

Table 3.8: Status of Bamboo plants at the site- Hena Bawdi Site

Species	Bamboo culture operation	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	7500	6250	1250	83.3	300	25

3.5.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.5.12. Budget and expenditure

Table 3.9: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22				1494100				1488521
2022-23				98100				97989
Total				1592200				1586510

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 ft. From CHC Peepalkhoont to Pratapgarh Ch. 115.900 to 115.150, Peepalkhoont range



At CHC Peepalkhoont to Pratapgarh Ch. 115.900 to 115.150 site in Peepalkhoont range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 750 m length as per MB. Also, in actual 750 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be good and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment, protect plantation site & wild life. GPS location of this area was 23.81965 N and 74.57566E. The expenditure incurred for constructing this wall was Rs. 934231(as per MB) against the estimated cost of Rs. 9.35 lac.

Site 2- Anicut II at Chanda kui, Chhoti Sadri Range

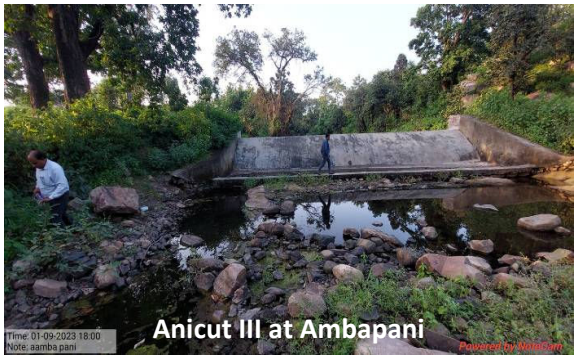
At Chanda Kui in Chhoti Sadri range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure was 8 meter, 2.2 meter & 1.5 meter respectively. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. The anicut is useful for wild animals. The GPS location of this area was 24.35444N and 74.662401E. The plaster work of headwall of the anicut was not proper & quality of construction was poor. The expenditure incurred for constructing the anicut was Rs.374968 (as per MB) against the estimated budget of Rs 375000 lac.



Evaluation team at the anicut site

Site 3- Anicut III at Ambapani , Pratapgarh Range

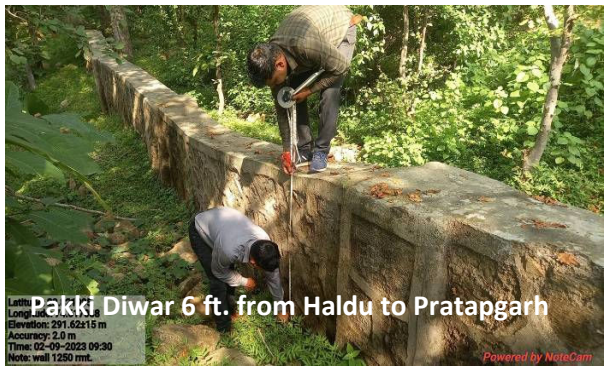
At Ambapani in Pratapgarh range, Anicut III has been evaluated. The Anicut III was constructed in the year 2020-21. The length, breadth & height of the structure was 14.80 meterX2.70 meterX1.40 as per MB. Construction work appeared to be good and useful. Water was available (0.2 meter) in the anicut at the time of visit. The anicut is useful for wild animals & human habitation residing in the nearby area. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was 23.952175 N and 74.58216E. There was some damage in toe wall & headwall of the anicut. The expenditure incurred for constructing the wall was Rs.599924 (as per MB) against the estimated budget of Rs 6.00 lac.



Anicut III at Ambapani

Site 4-Pakki Diwar 4 ft. From Haldu to Pratapgarh Ch. 112.80 to 111.650, Peepalkhoont range

At Haldu to Pratapgarh Ch. 112.800 to 111.650site in Peepalkhoont range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 1250 m length as per MB. But in actual 1150 m pakki diwar was constructed at the site. The reason cited for 100 meter less construction of the pakki diwar was due to gap of labour cost & cement cost. The width of the diwar was 0.45 meter & height was 1.20 meters. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment, protect plantation site & wild life. GPS location of this area was 23.821955 N and 74.617145E. The expenditure incurred for constructing this wall was Rs. 3274455(as per MB) against the estimated cost of Rs. 32.75 lac.



Pakki Diwar 6 ft. from Haldu to Pratapgarh

Site 5- Anicut II at Hudabawji CN 20 Surajpura, Peepalkhoont Range

At Hudabawji in Peepalkhoont range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure was 9.90 meter, 1.55 meter & 1.90 meter respectively. Construction work appeared to be good and useful. Water was available (full) in the anicut at the time of visit. The anicut is useful for wild animals& human habitation residing in the nearby area. The local community used water in anicut for irrigation purpose. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was 23.875262 N and 74.65034 E. The expenditure incurred for constructing the anicut was Rs.374998 (as per MB) against the estimated budget of Rs 375000 lac.



Site 6- Anicut III at Bhamrawala Beda, Dhariyawad Range

At Bhamrawala Beda in Dhariyawad range, Anicut III has been evaluated. The Anicut III was constructed in the year 2021-22. The length, breadth & height of the structure was 12.50 meterX2.70 meterX1.50 as per MB. Construction work appeared to be good and useful. Water was available (1 meter) in the anicut at the time of visit. The anicut is useful for wild animals & human habitation residing in the nearby area. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was 24.164926 N and 74.313554 E. The expenditure incurred for constructing the wall was Rs.649677 (as per MB) against the estimated budget of Rs 6.50 lac .



Site 7- Pillars at Lalgarh, Badisakhthali, Pratapgarh range



At Lalgarh, Badisakhthali in Pratapgarh range pillars (40 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The

expenditure incurred for constructing the Pillars was Rs. 432982 (as per MB) against the estimated cost of Rs 480000.

Site 8 - Pillars at Jhatla C, Devgarh range



At Jhatla C in Devgarh range pillars (40 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. Pillars were damaged by mining workers & require repair. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 433289 (as per MB) against the estimated cost of Rs 470000.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Pratapgarh division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Teemruwala Bhatda	ANR	50	50.2	6
2.	Ramdevji	ANR	50	45.5	5
3.	Kabra Mangra	ANR	50	46.3	5
4.	Badliyanal	PEO(Bamboo)	50	82.0	9
5.	Hedabawri	PEO(Bamboo)	50	83.3	9

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft.	CHC Peepalkhoont to Pratapgarh Ch. 115.900 to 115.150	750	750	0
2.	Anicut Type II	Chanda Kui	8mX2.20mX1.50	8mX2.20mX1.50	0
3.	Anicut Type III	Ambapani	14.80X2.70X1.40	14.80X2.70X1.40	0
4.	Pakki Diwar 4 ft.	Haldu to Pratapgarh Ch. 112.800 to 111.650	1250	1150	-100 Due to gap in cement cost & labour cost
5.	Anicut Type II	Hudabawji CN 20 Surajpura	9.90mX1.55mX1.90	9.90mX1.55mX1.90	0
6.	Anicut Type III	Anicut Bhamra wala Beda	12.50X2.70X1.50	12.50X2.70X1.50	0

7.	Boundary Pillar	Lalgarh, Badisakhthali	40	40	0
8.	Boundary Pillar	Jhatla C	40	40	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft.	CHC Peepalkhoont to Pratapgarh Ch. 115.900 to 115.150	Good	7
2.	Anicut Type II	Chanda Kui	Average	6
3.	Anicut Type III	Ambapani	Good	7
4.	Pakki Diwar 4 ft.	Haldu to Pratapgarh Ch. 112.800 to 111.650	Average	6
5.	Anicut Type II	Hudabawji CN 20 Surajpura	Good	7
6.	Anicut Type III	Anicut Bhamra wala Beda	Good	7
7.	Boundary Pillar	Lalgarh, Badisakhthali	Average	6
8.	Boundary Pillar	Jhatla C	Average	6

Rajsamand WL

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Rajsamand WL Forest Division. This Forest Division with 17 Forest Ranges namely Bhim, Kumbhalgarh, Desuri, Saran, Nathdwara, Ghanerao, Bhagoda, Bagadi, Todgarh, Jhilwara, Rajsamand, Sadri, Devgarh, Bokhada, Bijagudha, Jojawar & Ravli has territorial jurisdiction over the entire Rajsamand District.



Figure : Location of Rajsamand district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Rajsamand WL Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Jojawar	Band Ki Magri	2020-21	50	ANR	100
Rawli	Dalkhet Dabgabada	2021-22	50	ANR	10
Kumbhalgarh	Jaya	2021-22	50	ANR	100
Bokhada	Jawar Ka Wala	2021-22	50	ANR	10

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Rajsamand WL Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Devgarh	Chandlai Gwar	2020-21	Pakki Diwar 6 f
2.	Bokhada	Visma	2020-21	Anicut II
3.	Rawli	Hinglaj Mata Baghmal	2020-21	Anicut III
4.	Sadari	Ranakpur Naka Sadari	2021-22	Pakki Diwar 6 ft
5.	Rajsamand	Peeparda	2021-22	Pakki Diwar 4 ft
6.	Kumbhalgarh	Wali Ka Mathara C	2020-21	Boundary pillars

7.	Kumbhalgarh	Bagor Part B	2020-21	Boundary pillars
8.	Kumbhalgarh	Odar Ki Khadri	2020-21	Boundary pillars
9.	Kumbhalgarh	Jaitaran Ka Bada Mathara	2020-21	Boundary pillars
10.	Jheelwada	Thurawad Ka Mathara	2021-22	Boundary pillars
11.	Kumbhalgarh	Bagor Se Barwara Ki Nedi	2021-22	Boundary pillars
12.	Nathdwara	Kathar Ki Nedi	2021-22	Boundary pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1 Site 1- Band Ki Mangri site in Jojawar range -N 25.29914 and E 73.610136

The selected plantation was carried out on 50 hac. of land at Band Ki Mangri in Jojawar range during the year 2020-21 The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red & black with morar.


Plantation Site Band Ki Mangri

3.1.2. Treatment plan before sowing:

The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, rabbits, porcupine and wild boars was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water& low rainfall obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.


Loose stone check dam at the site

3.1.4. Species Planted: The selected tree species under plantation were of Zizyphus mauritiana (Ber), Acacia nilotica (Desi babool), Acacia catechu (Khair), *Azadirachta indica (Neem),* Dalbergia sissoo (Shisham),Holoptelea integrifolia (Churel), Emblica officinalis (Amla)& *Cassia fistula (*Amaltas).

In total, 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land.. **The growth of survived plants was satisfactory.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: *Dhonk, Khejri & Kumtha* were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species Khair, *Kumtha, Desi babool and Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3136 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. The condition of the fencing was satisfactorily. Lloose stone fencing was damaged at some places.

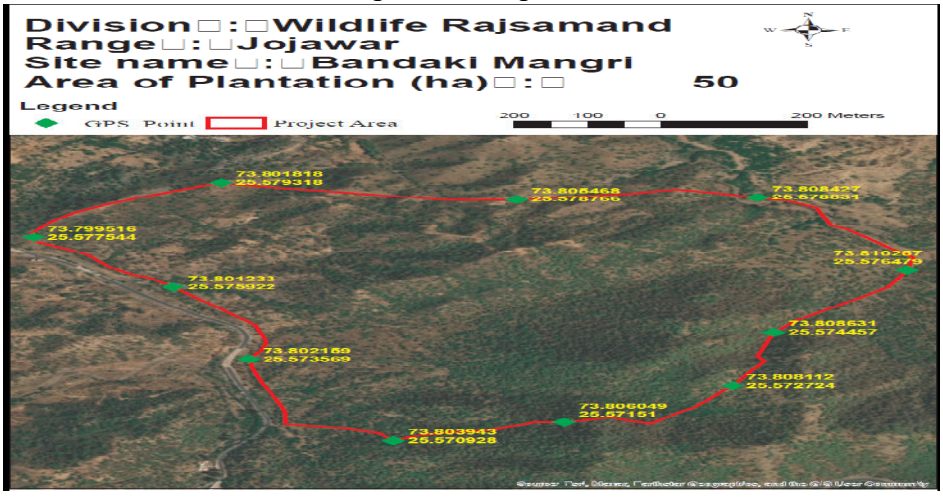
3.1.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trenches & loose stone check dam (330 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10 Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 47.5% at the site.**

Table 3: Status of Planted Seedlings at the site- Band Ki Magri Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	3500	1705	1795	48.7	94	21
Acacia nilotica (Desi babool)	3000	1670	1330	55.7	100	22
Acacia catechu (Khair)	1500	710	790	47.3	97	21
Cassia fistula (Amaltas)	150	40	110	26.7	101	21
Jhinjha	500	150	350	30.0	109	22
Dalbergia sissoo (Shisham)	100	15	85	15.0	113	27
Azadirachta indica (Neem)	1000	410	590	41.0	103	21
Emblica officinalis (Amla)	50	12	38	24.0	90	21
Wrightia tinctoria (Khirani)	100	15	85	15.0	90	21
Holoptelea integrifolia (Churel)	100	25	75	25.0	105	21
Total	10000	4752	5248	47.5	98	21

3.1.11 GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.1.12 Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				485235

3.2.1 Site 2- Dalakhet Dabgabara site in Rawli range -N 25.29914 and E 73.610136

The selected plantation was carried out on 50 hac. of land at Dalakhet Dabgabara in Rawlii range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was red brown & stony.


Plantation site Dalakhet Dabgabada

3.2.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.


Loose stone wall fencing at the site

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, rabbits, porcupine and wild boars was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water& low rainfall obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.


Loose Stone check dam at the site

3.2.4. Species Planted: The selected tree species under plantation were of Zizyphus mauritiana (Ber), Acacia nilotica (Desi babool), Acacia catechu (Khair), Dalbergia sissoo (Shisham),Holoptelea integrifolia (Churel), Sitafal, Pongamia pinnata (Karanj) & Syzygium cumini (Jamun).

In total, 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: *Salar, Dhonk, Godal & Bair* were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species Khair, *Kumtha, Katkaranj, Khakhra and Neem* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.2.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2410 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters & ditch fencing of 1065 RMT. The status of fencing was satisfactory.

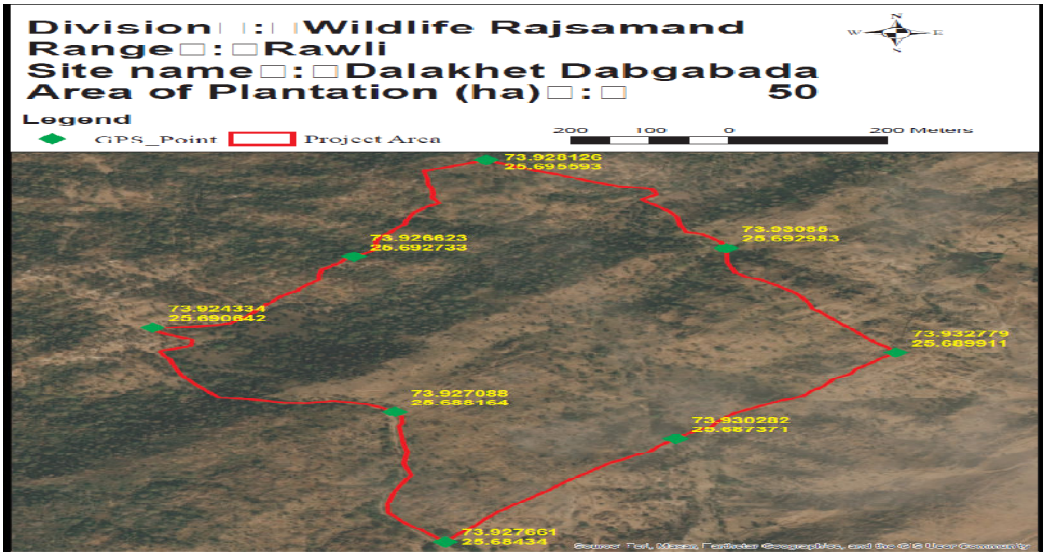
3.2.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trenches,01 Gabion and loose stone check dam (700 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 42.5% at the site.**

Table 3.2: Status of Planted Seedlings at the site- Dalakhet Dabgabara Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	2000	200	144		109	22
Dalbergia sissoo (Shisham)	1000	100	0		0	0
Acacia nilotica (Desi babool)	1500	150	79		111	22
Syzygium cumini (Jamun)	1000	100	34		90	21
Annona squamosa (Sitafal)	1000	100	0		0	0
Pongamia pinnata (Karanj)	500	50	44		99	21
Holoptelea integrifolia (Churel)	2000	200	0		0	0
Acacia catechu (Khair)	1000	100	124		100	23
Total	10000	1000	425	42.5	104	22

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.2 12.Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22				511650				511561

3.3.1 Site 3- Jaya site in Kumbhalgarh range -N 25.29914 and E 73.610136

The selected plantation was carried out on 50 hac. of land at Jaya in Kumbhalgarh range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was black.


Loose stone wall fencing at the site


Dalakhet Dabgabara plantation site

3.3.2 Treatment plan before sowing:

The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land. **3.3.3 Health & Damages of Plantation:** The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, rabbits, porcupine and wild boars was reported at the site. Also, widely growth

of termite, attack by pest and scarcity of water& low rainfall obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.

3.3.4. Species Planted: The selected tree species under plantation were of Zizyphus mauritiana (Ber), Syzygium cumini (Jamun), Mangifera indica (Mango), Tamarindus indica (Imli), Sitafal, Emblica officinalis (Amla), Dalbergia sissoo (Shisham) & Cassia fistula (Amaltas).

In total, 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**


CCT at the site

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: *Mahuwa, Salar, Aawla, Jamun & Dhonk* were the plants found grown naturally in this area. The growth of the plants was good.


Loose stone check dam at the site

3.3.7. Regeneration through seeds sowing: Seeds of species Khair, *Kkakhra, Mahuwa, Karanj, Jamun, Khejri and Neem* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.** The result of sowing was seen on contour trenches and thanwalas.

3.3.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2400 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. The status of fencing was average

3.3.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches and SGT (6000 RMT) and loose stone check dam (837 cu.m) in the form of water harvesting structures present in the entire plantation area.

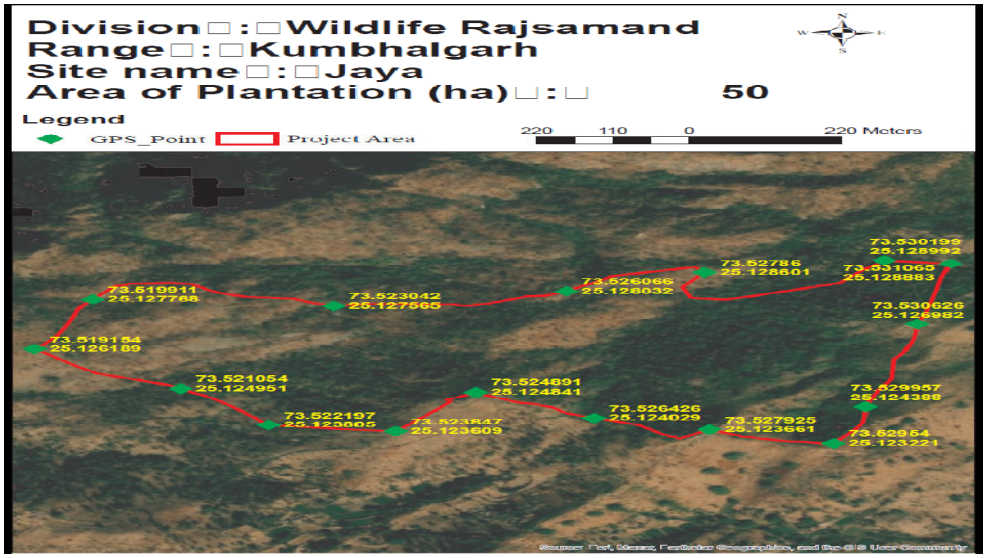
3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.5% at the site.**

Table 3.4: Status of Planted Seedlings at the site- Jaya Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Syzygium cumini (Jamun)	1000	302	698	30.2	103	21
*Mangifera indica (*Mango*)*	1000	281	719	28.1	95	21

*Cordia gharaf (*Gunda*)*	1200	602	598	50.2	99	21
Zizyphus mauritiana (Ber)	2500	1410	1090	56.4	94	21
Emblica officinalis (Amla)	2500	998	1502	39.9	94	21
Cassia fistula (Amaltas)	800	401	399	50.1	97	21
Tamarindus indica (Imli)	500	303	197	60.6	99	22
Annona squamosa (Sitafal)	500	252	248	50.4	108	23
Total	10000	4549	5451	45.5	97	21

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22				511650				511646

3.4.1 Jwar Ka Wala site in Bokhada range -N 25.29914 and E 73.610136

The selected plantation was carried out on 50 hac. of land at Jwar Ka Wala in Bokhada range during the year 2021-22 The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was rocky.

3.4.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.


Evaluation team at the site

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, rabbits, porcupine and wild boars was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water& low rainfall obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.



Natural Vegetation & growth of grass at the

3.4.4. Species Planted: The selected tree species under plantation were of Zizyphus mauritiana (Ber), Dendrocalamus strictus (Baans), Acacia catechu (Khair), Pongamia pinnata (Karanj), Syzygium cumini (Jamun), Dalbergia sissoo (Shisham), Cassia fistula (Amaltas), Emblica officinalis (Amla)and Tamarindus indica (Imli).


Growth of planted seedling at the site

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.4.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: *Salar, Godal, Bargad, Tendu & Khirni were* the plants found grown naturally in this area. The growth of the plants was good.

3.4.7. Regeneration through seeds sowing: Seeds of species Khair, *Kumtha, and Kumtha* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

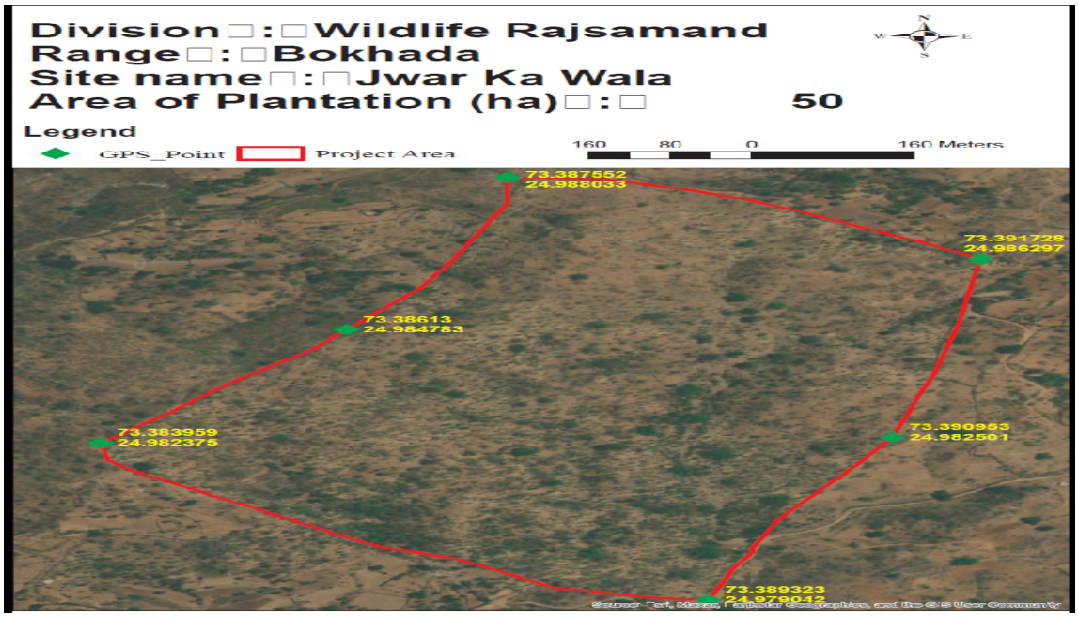
3.4.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2605 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. Also, pucca wall of 55 meter was reported at the site. The status of fencing was average.

3.4.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches and and loose stone check dam (1242 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT structures & +3 cu.m. excess in loose stone check dam.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 44.2% at the site.** Table 3.6: Status of Planted Seedlings at the site- Jwar Ka Wala Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	2000	200	20		113	27
Acacia catechu (Khair)	1000	100	140		103	21
Pongamia pinnata (Karanj)	3000	300	50		108	21
Cassia fistula (Amaltas)	200	20	10		90	21
Syzygium cumini (Jamun)	600	60	12		90	21
Aegle marmelos (Bilpatra)	60	6	0		0	0
Mangifera indica (Mango)	10	1	0		0	0
Wrightia tinctoria (Khirani)	200	20	40		90	21
Emblica officinalis (Amla)	350	35	35		90	21
Tamarindus indica (Imli)	175	18	5		90	21
Dalbergia sissoo (Shisham)	2405	241	10		90	21
Zizyphus mauritiana (Ber)			120		98	22
Total	10000	1000	442	44.2	99	21

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.4.12. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22					511650			511650

4. Results for asset sites

4.1 Site 1- Pakki Diwar 6 Ft at Chandlai Gwar, Devgarh Range

At Chandlai Gwar in Devgarh range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.8 meters. Construction work appeared to be average and the infrastructure was in use. The construction of pakki diwar prevents encroachment by local residents. GPS location of this area was $25^0$27'48" N and $73^0$49'56" E. The expenditure incurred for constructing this wall was Rs. 1449262 (as per MB) against the estimated budget of Rs.14.50 lac.



Site 2- Anicut II at Visma, Bokhada Range

At Visma in Bokhada range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. Construction work appeared to be good and useful. The length, breadth & height of the structure was 10 meter, 1.0 meter & 1.20 meter respectively. Water was available (up to 10 inches) in the anicut at the time of the visit. Due to availability of water in the anicut throughout the year, the water was used by Cattle &Wild animals for drinking purpose. It also helps in soil & moisture conservation in the nearby area. GPS location of this area was $24^0$55'13" N and $73^0$21'7" E. The expenditure incurred for constructing the anicut wall was Rs.374921 (as per MB) against the estimated budget of Rs 3.75 lac.



Site 3- Anicut III at Hinglaj Mata Baghmal, Rawli Range

At Hinglaj Mata Baghmal in Rawli range, Anicut III has been evaluated. The Anicut III was constructed in the year 2020-21. The length, breadth & height of the structure were 15 meterX1.0 meterX1.70 meter respectively. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. However, water was available in the anicut up to March. The water was used by wildlife for drinking. It also helps in soil & moisture conservation in the nearby area. Thus, construction of anicut improves ground water level in the nearby area. It GPS location of this area was $25^0$49'26" N and $73^0$59'0"E. The expenditure incurred for constructing the anicut was Rs.6.0 lac (as per MB) against the estimated budget of Rs 6.00 lac.



Site 4- Pakki Diwar 6 Ft at Ranakpur Naka Sadri, Sadri Range



At Ranakpur Naka Sadri in Sadri range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 6 ft and 900 m length as per MB. Also, in actual 900 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.8 meters. Construction work appeared to be average and the infrastructure was in use. The construction of pakki diwar prevents encroachment by local residents. GPS location of this area was $25^0$8'41" N and $73^0$28'24" E. The expenditure incurred for constructing this wall was Rs.3014797 (as per MB) against the estimated budget of Rs.30.15 lac.

Site 5- Pakki Diwar 4 Ft at Peeparda, Rajsamand Range



At Peeparda in Rajsamand range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 1000 m length as per MB. But in actual 1074 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meters & height was 1.20 meter. Construction work appeared to be good and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment & protecting plantation site. GPS location of this area was $25^0$0'55" N and $73^0$49'53" E E. The expenditure incurred for constructing this wall was Rs.2619880 (as per MB) against the estimated cost of Rs. 26.20 lac.

Site 6- Pillars at Wali Ka Mathara C, Kumbhalgarh range



The site visited under asset created under CAMPA was Pillars (24 nos.)at Wali Ka Mathara C site at Kumbhalgarh. t Wali Ka Mathara C site in Kumbhalgarh Pillars(05 nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number

should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 42804 (as per MB) against the estimated budget of Rs. 43200.

Site 7- Pillars at Bagor Part B, Kumbhalgarh range



The site visited under asset created under CAMPA was Pillars (45 Nos.) at Bagor Part B site at Kumbhalgarh. At Bagor Part B site in Kumbhalgarh Pillars (09 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 80896 (as per MB) against the estimated budget of Rs. 81000.

Site 8- Pillars at Odar Ki Khadri Se Rupan Ghati, Kumbhalgarh range



The site visited under asset created under CAMPA was Pillars (51 Nos.) at Odar Ki Khadri site at Kumbhalgarh. At Odar Ki Khadri site in Kumbhalgarh Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 91771 (as per MB) against the estimated budget of Rs. 91800.

Site 9 - Pillars at Jaitaran Ka Bada Mathara, Kumbhalgarh range

The site visited under asset created under CAMPA was Pillars (80 Nos.) at Jaitaran Ka Bada Mathara site at Kumbhalgarh. At Jaitaran Ka Bada Mathara site in Kumbhalgarh Pillars (16 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar should be painted properly with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 143852 (as per MB) against the estimated budget of Rs. 144000.



Site 10- Pillars at Thurawad Ka Mathara, Jheelwara range



The site visited under asset created under CAMPA was Pillars (43 Nos.) at Thurawad Ka Mathara site at Jheelwara. At Thurawad Ka Mathara site in Jheelwara Pillars (09 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 101022 (as per MB) against the estimated budget of Rs. 101050.

Site 11- Pillars at Bagor Se Barwara Ki Nedi, Kumbhalgarh range



The site visited under asset created under CAMPA was Pillars (46 Nos.) at Bagor se Barwara Ki Nadi site at Kumbhalgarh. At Bagor se Barwara Ki Nadi site in Kumbhalgarh Pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 108099 (as per MB) against the estimated budget of Rs. 108100.

Site 12- Pillars at Kathar Ki Nedi, Nathdwara range

The site visited under asset created under CAMPA was Pillars (111 Nos.) at Kathar Ki Nedi site at Nathdwara. At Kathar Ki Nedi site at Nathdwara. Pillars (23 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The construction of pillars helped in marking forest boundary. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of the pillar should be proper. The pillar was painted properly but number should written on the pillar. The expenditure incurred for constructing the Pillars was Rs. 260787 (as per MB) against the estimated budget of Rs. 260850.



5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Rajsamand WL division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Band Ki Magri	ANR	50	47.5	5
2	Dalkhet Dabgabada	ANR	50	42.5	5
3	Jaya	ANR	50	45.5	5
4	Jawar Ka Wala	ANR	50	44.2	5

* <4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 6 ft	Chandlai Gwar	500	500	0
2.	Anicut II	Visma	10.0mX1.0mX1.2m	10.0mX1.0mX 1.2m	0
3.	Anicut III	Hinglaj Mata Baghmal	15.0mX1.0mX1.7m	15.0mX1.0mX 1.7m	0
4.	Pakki Diwar 6 ft	Ranakpur Naka Sadari	900	900	0
5.	Pakki Diwar 4 ft	Peeparda	1000	1074	+74
6.	Boundary pillars	Wali Ka Mathara C	5	5	0
7.	Boundary pillars	Bagor Part B	9	9	0
8.	Boundary pillars	Odar Ki Khadri	10	10	0
9.	Boundary pillars	Jaitaran Ka Bada Mathara	16	16	0
10.	Boundary pillars	Thurawad Ka Mathara	9	9	0
11.	Boundary pillars	Bagor Se Barwara Ki Nedi	10	10	0
12.	Boundary pillars	Kathar Ki Nedi	23	23	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 6 ft	Chandlai Gwar	Average	6
2.	Anicut II	Visma	Good	7
3.	Anicut III	Hinglaj Mata Baghmal	Good	7
4.	Pakki Diwar 6 ft	Ranakpur Naka Sadari	Average	6
5.	Pakki Diwar 4 ft	Peeparda	Good	7
6.	Boundary pillars	Wali Ka Mathara C	Average	6
7.	Boundary pillars	Bagor Part B	Average	6
8.	Boundary pillars	Odar Ki Khadri	Average	6
9.	Boundary pillars	Jaitaran Ka Bada Mathara	Average	6
10.	Boundary pillars	Thurawad Ka Mathara	Average	6
11.	Boundary pillars	Bagor Se Barwara Ki Nedi	Average	6
12.	Boundary pillars	Kathar Ki Nedi	Average	6

RTR Sawai Madhopur

2.1. Introduction

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in RTR Sawai Madhopur Forest Division. This Forest Division with 9 Forest Ranges namely Phalodi, Alanpur Veterinary Centre, Taleda, Khandar, Indragarh(WL), Sawai Madhopur, Kundera, Indragarh & Baler has territorial jurisdiction over the entire Sawai Madhopur District.

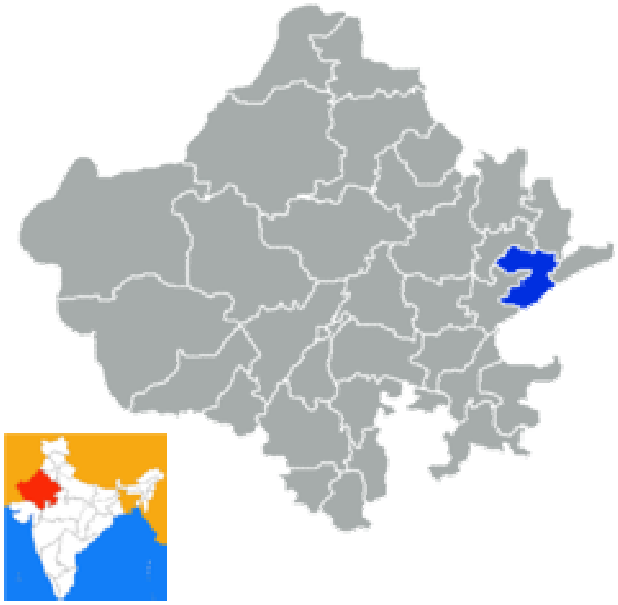


Figure 15 Location of Sawaimadhopurdistrict, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of RTR Sawai Madhopur Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Baler	Rodawda	2020-21	50	ANR	100%
Talara	Bai	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of RTR Sawai Madhopur Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Indragarh	Tol Ki Talai se Chiti wala Khal Tak	2020-21	Pakki Diwar 6 ft
Phalodi	Sitaram Gujar ke khet se Kalyan Gujar Ke Khet tak	2021-22	Pakki Diwar 6 ft

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Rodawada site in Baler range -N 25.975708 and E 76.767618

The selected plantation was carried out on 50 hac. of land at Rodawada site in Baler range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was clayey & domat.



3.1.2. Treatment plan before sowing: The topography of the area was ravines & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.





3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.1.4. Species Planted: The selected tree species under plantation were of Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj), Acacia tortilis (Totalis), Holoptelea integrifolia (Churel). Pongamia pinnata (Karanj), Shahjan &Azadirachta indica (Neem).

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **he growth of survived plants was satisfactory.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6.. Natural Vegetation and Regeneration: Juliflora, Desi babool & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species of Desi babool, Ronj, Churail, Khair & Kumtha were sown in as well as along the trenches and on the thanwlas. **The result of sowing was excellent. The plant out of seed sowing was better than the planted seedling.**

3.1.8. Protection Work: The selected ANR model plantation had ditch fencing of 4117 RMT (1.5+.90/2 X 1.2). Present condition of ditch fencing was average. Silting was reported in some parts of ditch fencing.

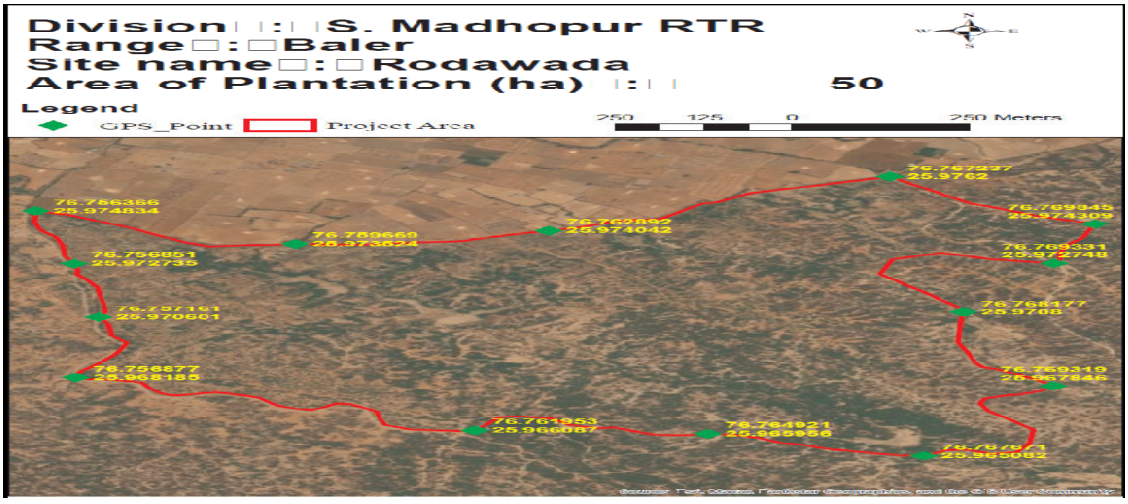
3.1.9. Soil and Water Conservation Measures: There are 20000 RMT Contour trenches &03 PCT/Nadi (1488.50 cu.m) & Earthen check dam (3033.01 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 49.4% at the site.**

Table 3: Status of Planted Seedlings at the site-Rodawad Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	5000	3458	1542	69.2	179	23
Acacia leucopholea (Ronj)	2000	476	1524	23.8	146	21
Acacia tortilis (Totalis)	2000	646	1354	32.3	117	22
Holoptelea integrifolia (Churel)	250	116	134	46.4	98	21
Pongamia pinnata (Karanj)	200	87	113	43.5	90	21
Azadirachta indica (Neem)	250	107	143	42.8	102	21
Sahjan	300	53	247	17.7	110	21
Total	10000	4943	5057	49.4	161	23

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.2.1. Site 2- Bai site in Talra range -N 26^{0}15'3" and E 76^{0}34'24"

The selected plantation was carried out on 50 hac. of land at Bai site in Talra range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was clayey & domat.



3.2.2. Treatment plan before sowing: The topography of the area plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land.The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.2.4. Species Planted: The selected tree species under plantation were of Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Acacia leucopholea (Ronj), Acacia tortilis (Totalis), Holoptelea integrifolia (Churel). Pongamia pinnata (Karanj), Dalbergia sissoo (Shisham) Shahjan & Azadirachta indica (Neem).

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Juliflora, Desi babool & Ronj were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species of Desi babool, Ronj, Churail, & Ardu were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.2.8. Protection Work: The selected ANR model plantation had ditch fencing of 3168 RMT (1.5+.90/2 X 1.2) & mud wall of 1620 RMT. Present condition of ditch fencing was average. Silting was reported in some parts of ditch fencing.

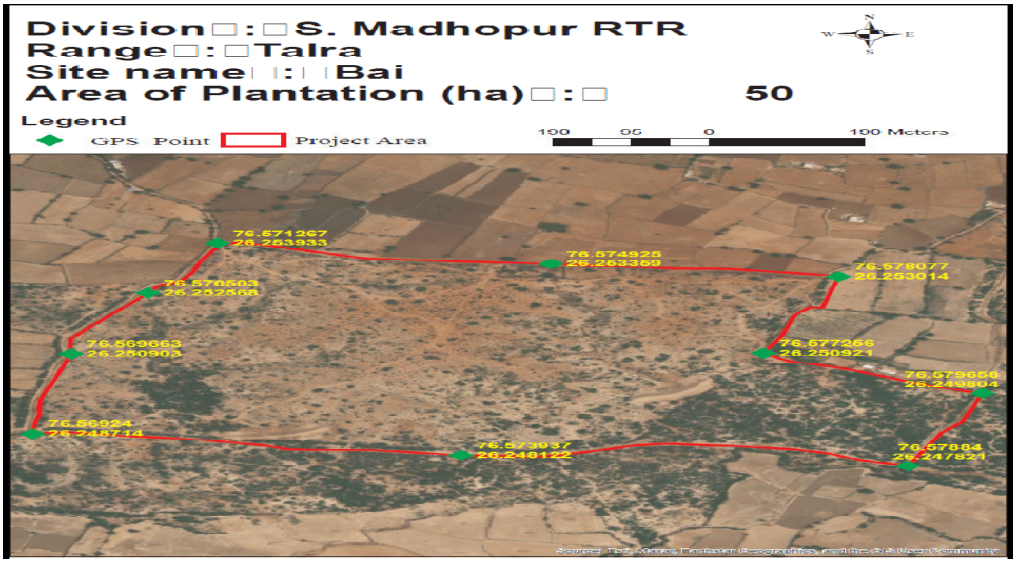
3.2.9. Soil and Water Conservation Measures: There are 20000 RMT Contour trenches & Earthen check dam (4850 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 46.2% at the site.**

Table 3.1: Status of Planted Seedlings at the site-Bai Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	600	60	21		90	
Acacia nilotica (Desi babool)	6200	620	155		132	
Dalbergia sissoo (Shisham)	300	30	0		0	0
Zizyphus mauritiana (Ber)	1000	100	62		109	
Azadirachta indica (Neem)	500	50	16		90	
Pongamia pinnata (Karanj)	500	50	32		90	
Holoptelea integrifolia (Churel)	500	50	80		90	
Acacia leucopholea (Ronj)	400	40	96		126	
Total	10000	1000	462	46.2	114	

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.2.12. Budget and expenditure

Table 3.2: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22				511650				511650

4. Results for asset sites

4.1 Site 1- Pakki Diwar 6 Ft at Tol ki Talai Se Chiti wala Khal tak , Indragarh Range



At Tol Ki Talai se Chiti wala Khal Tak in Indragarh. range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 500 m length as per MB. Also, in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 m & height was 1.80 meter. Construction work appeared to be average and the infrastructure was useful in protecting forest area..1.5 meter pakki diwar was damaged at one place. GPS location of this area was 25.740358 N and 76.168833E. The expenditure incurred for constructing this wall was Rs.1448199 (as per MB) against the estimated budget of 14.50 lacs.

Site 2- Pakki Diwar 6 Ft at Sitaram Gujar Ke Khet se Kalyan Gujar Ke Khet tak , Phalodi Range



At Sitaram Gujar ke khet se Kalyan Gujar Ke Khet tak in Phalodi range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 6 ft and 450 m length as per MB. Also, in actual 450 m pakki diwar was constructed at the site. The width of the diwar was 0.45 m & height was 1.80 meter. Construction work appeared to be good & and the infrastructure was useful in protecting forest area. The location of this area was $25^0$52'17" N and $76^0$22'24"E. The expenditure incurred for constructing this wall was Rs.1347664 (as per MB) against the estimated budget of 16.75 lacs.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in RTR Sawai Madhopur division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Rodawada	ANR	50	49.4	5
2	Bai	ANR	50	46.2	5

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1	Pakki Diwar 6 ft	Tol Ki Talai se Chiti wala Khal Tak	500	500	0
2	Pakki Diwar 6 ft	Sitaram Gujar ke khet se Kalyan Gujar Ke Khet tak	450	450	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 6 ft	Tol Ki Talai se Chiti wala Khal Tak	Average	6
2	Pakki Diwar 6 ft	Sitaram Gujar ke khet se Kalyan Gujar Ke Khet tak	Good	7

Sawai Madhopur

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Sawai Madhopur Forest Division. This Forest Division with 3 Forest Ranges namely Sawai Madhopur, Bonli & Gangapur City has territorial jurisdiction over the entire Sawai Madhopur District.

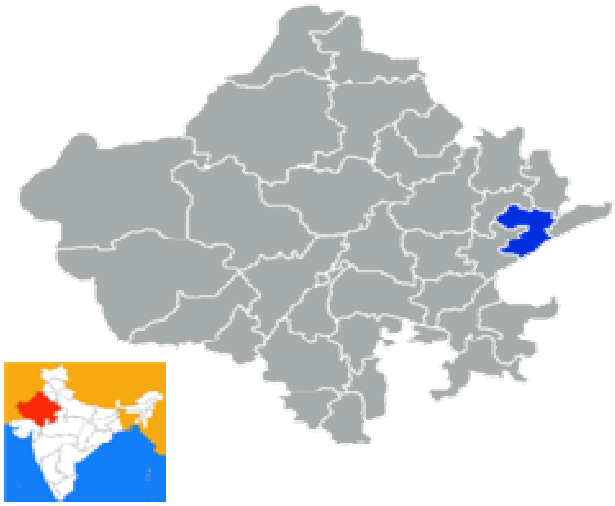


Figure 16 Location of Sawaimadhopurdistrict, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Sawai Madhopur Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Sl.no	Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
1.	Sawai Madhopur	Jhopadi II	2020-21	50	ANR	100%
2.	Gangapura	Murarada Chowki	2020-21	50	ANR	10%
3.	Gangapur City	Gurjar Koleta	2021-22	50	ANR	100%
4.	Bauli	Bhairuji Maidar	2021-22	35	ANR	10%
5.	Sawai Madhopur	Trilokpura	2021-22	17	DFL	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Sawai Madhopur Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Bonli	Bans Torda	2020-21	Anicut Type II
2.	Bonli	Gupteshwar Mahadeo	2021-22	Forest Chowki
3.	Sawai Madhopur	Surang	2021-22	MPT
4.	Bonli	Kushalpura	2021-22	MPT
5.	Bonli	Kheda	2021-22	MPT

6.	Sawai Madhopur	Bhagwatgarh 78 Main	2020-21	Boundary Pillars
7.	Bonli	Badgaon Jaitpura	2020-21	Boundary Pillars
8.	Sawai Madhopur	Lorwada	2021-22	Boundary Pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1 Site 1-Jhopadi II site in Sawai Madhopur range -N 26.16998 and E 76.187148

The selected plantation was carried out on 50 hac. of land at Jhopadi II in Sawai Madhopur range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy.



3.1.2. Treatment plan before sowing: The topography of the area was ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai,rats & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedling. The status of guarding/ fencing at the site was satisfactory.

3.1.4. Species Planted: The selected seedlings of *Holoptelea integrifolia* (Churel), Acacia tortilis (Totalis), Azadirachta indica (Neem), Pongamia pinnata (Karanj), Acacia nilotica (Desi babool), Dalbergia sissoo (Shisham), Dendrocalamus strictus (Baans), Ficus benghalensis (Vad), Cassia fistula (Amaltas), Syzygium cumini (Jamun), Emblica officinalis (Amla) and Zizyphus mauritiana (Ber) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was average.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Desi babool & Bair were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species Desi babool, Ronj, Totalis, Khair, Katkaranj & Ardu were sown in as well as along the trenches and on the thanwlas. There was good growth on thanwalas & trenches of seed sowing. **Hence, the result of sowing was good**



3.1.8. Protection Work: The selected ANR model plantation had ditch fencing of 2264 RMT having width at the top-1.5 m, bottom-0.9 m & height 1.2 cm. Present condition of fencing was satisfactory. Ditch fencing was partially effective in controlling biotic pressure. Also barbed wire fencing of 142 rmt was reported at the site.

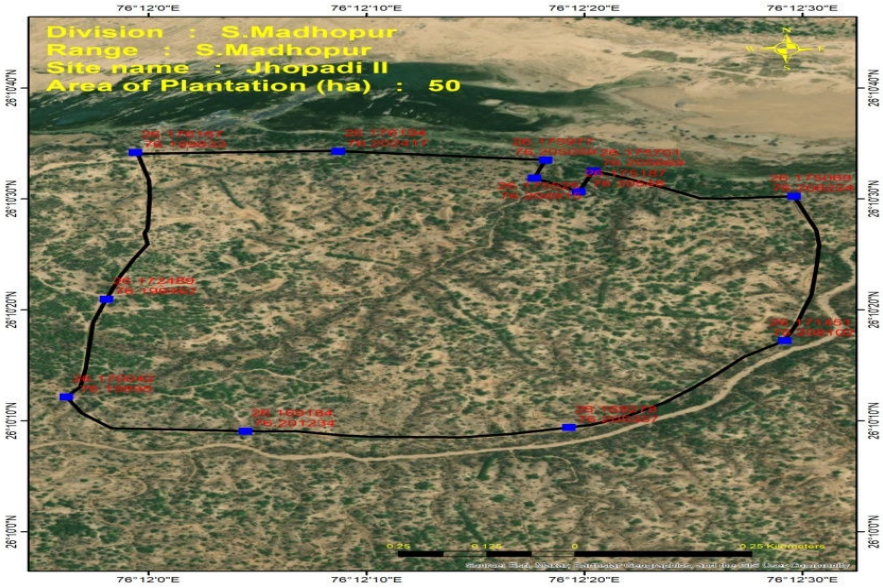
3.1.9. Soil and Water Conservation Measures: There are 5000 RMT CCT, 1000 rmt. SGT & 4000 rmt deep CCT &earthen check dams (4674 cu.cm) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.2% at the site.**

Table 3: Status of Planted Seedlings at the site-Jhopadi II Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
*Cassia fistula (*Amaltas)	200	70	130	35.00	90	21
Zizyphus mauritiana (Ber)	1000	528	472	52.80	105	21
Emblica officinalis (Amla)	200	95	105	47.50	90	21
Azadirachta indica (Neem)	1400	666	734	47.57	90	21
Pongamia pinnata (Karanj)	200	35	165	17.50	90	21
Ficus benghalensis (Vad)	50	0	50	0.00	0	0
Ficus religiosa (Pipal)	100	31	69	31.00	90	21
*Syzygium cumini (*Jamun)	340	154	186	45.29	90	21
Dalbergia sissoo (Shisham)	1650	542	1108	32.85	95	21
Acacia nilotica (Desi babool)	3500	1573	1927	44.94	118	26
Holoptelea integrifolia (Churel)	260	97	163	37.31	90	21
Dendrocalamus strictus (Baans)	50	37	13	74.00	90	21
Tendu	450	221	229	49.11	90	21
Acacia leucopholea (Ronj)	200	156	44	78.00	90	21
Acacia catechu (Khair)	400	316	84	79.00	90	21
Total	10000	4521	5479	45.2	102	23

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



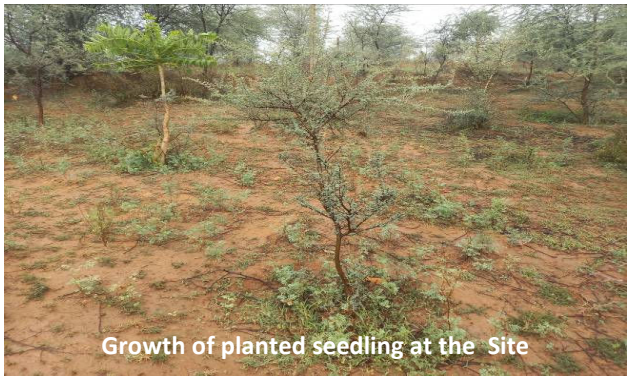
3.2.1. Site 2- Murada Chowki in Gangapur City range - N $26^0$21'14"and E $76^0$34'56"

The selected plantation was carried out on 50 ha of land at Murada Chowki in Gangapur City range during the year 2020-21. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was yellow clayey.



Plantation Site Murada Chowki

3.2.2. Treatment plan before sowing: The topography of the area was ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.


Growth of planted seedling at the Site

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars, rats and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.2.4. Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), Acacia tortilis (Totalis), Holoptelea integrifolia (Churel) and *Azadirachta indica (Neem),* Dalbergia sissoo (Shisham) & Zizyphus mauritiana (Ber) were planted.

A total of 10000 numbers of seedlings were planted at the site. The seedling selected for plantation was Totalis, Chudail, Ber & Desi babool which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. Hence, the site has species suitable to soil condition. The growth of survived plants was very good.

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.



3.2.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi Babool & Bair have been found grown naturally.

3.2.7.. Regeneration through seeds sowing: Seeds of species Desi babool, kumtha, Kat Karanj, Khair, Ardu and Churel were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was very good.

3.2.8. Protection Work: The selected ANR model plantation had ditch fencing of 3183 RMT having width at the top- 1.5 meters, width at the bottom-0.9 meters & height 1.2 meters. Present condition of fencing was satisfactory. Ditch fencing was partially effective in controlling the biotic pressure.

3.2.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trenches & earthen check dams (2642 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

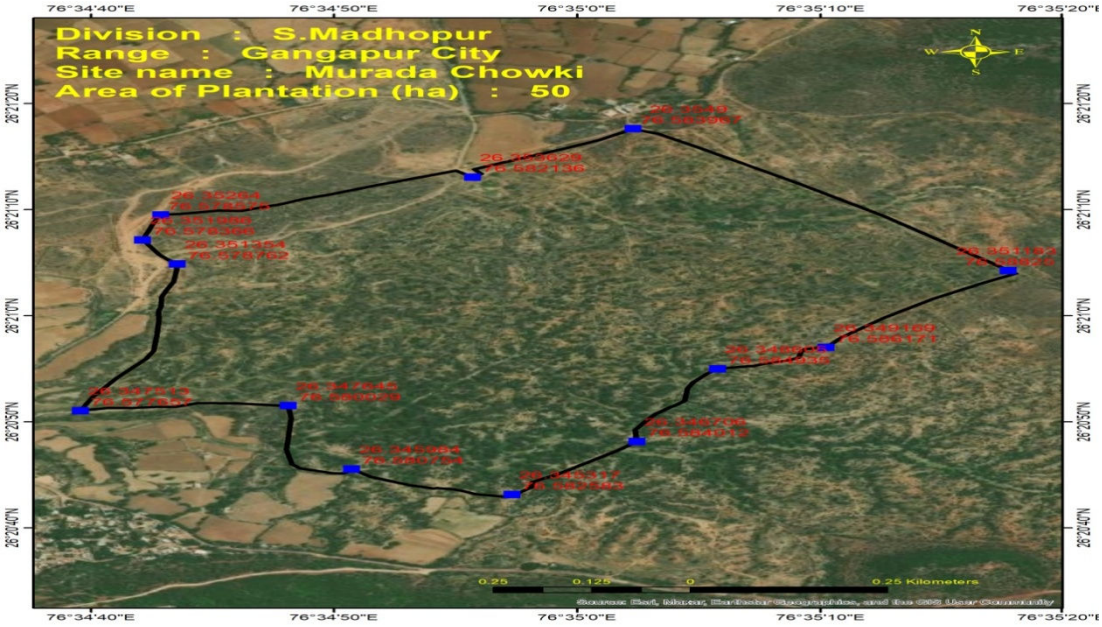
3.2.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 69.8% at the site.**

Table 3.1: Status of Planted Seedlings at the site-Murada Chowki Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)			269		141	27
Acacia tortilis (Totalis)			213		138	28
Holoptelea integrifolia (Churel)			83		90	21
Azadirachta indica (Neem)			27		90	21

Zizyphus mauritiana (Ber)			35		90	21
Dalbergia sissoo (Shisham)			27		90	21
Ailanthus excelsa (Ardu)			14		310	38
Gular			8		90	21
Acacia leucopholea (Ronj)			22		90	21
Total	10000	1000	698	69.8	129	26

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hectare as per kml map.



3.3.1 Site 3- Gurjar Koleta site in Gangapur City range -N N 26^{0}38’25”and E 76^{0}31’37”

The selected plantation was carried out on 50 hac. of land at Gurjar Koleta in Gangapur City range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was yellow clayey.



3.3.2. Treatment plan before sowing: The topography of the area was ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying



pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai, rabbit, rats & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedling. The status of guarding/ fencing at the site was satisfactory.

3.3.4. Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), Acacia tortilis (Totalis), Holoptelea integrifolia (Churel), *Azadirachta indica (Neem),* Acacia leucopholea (Ronj), Dalbergia sissoo (Shisham), Jamun & Zizyphus mauritiana (Ber) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was good.**

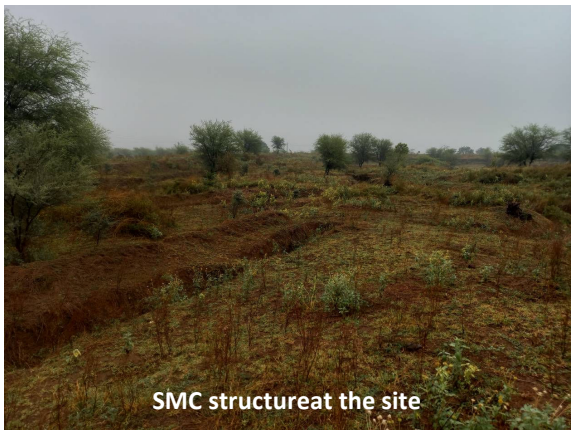
3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Totalis, Ronj & Desi babool were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species Desi babool, Kumtha, Kat Karanj, Khair, Ardu and Churel were sown in as well as along the trenches and on the thanwlas. There was good growth on thanwalas & trenches of seed sowing. **Hence, the result of sowing was good**

3.3.8. Protection Work: The selected ANR model plantation had ditch fencing of 1860 RMT having width at the top-1.5 m, bottom-0.9 m & height 1.2 cm. Present condition of fencing was satisfactory. Ditch fencing was partially effective in controlling biotic pressure. Also, barbed wire fencing of 1860 rmt & loose stone wall of 425 rmt reported at the site.

3.3.9. Soil and Water Conservation Measures: There are 10800 RMT CCT, earthen check dams (5604 cu.cm) & loose stone check dam (50 cu.m) in the form of water harvesting structures present in the entire plantation area.

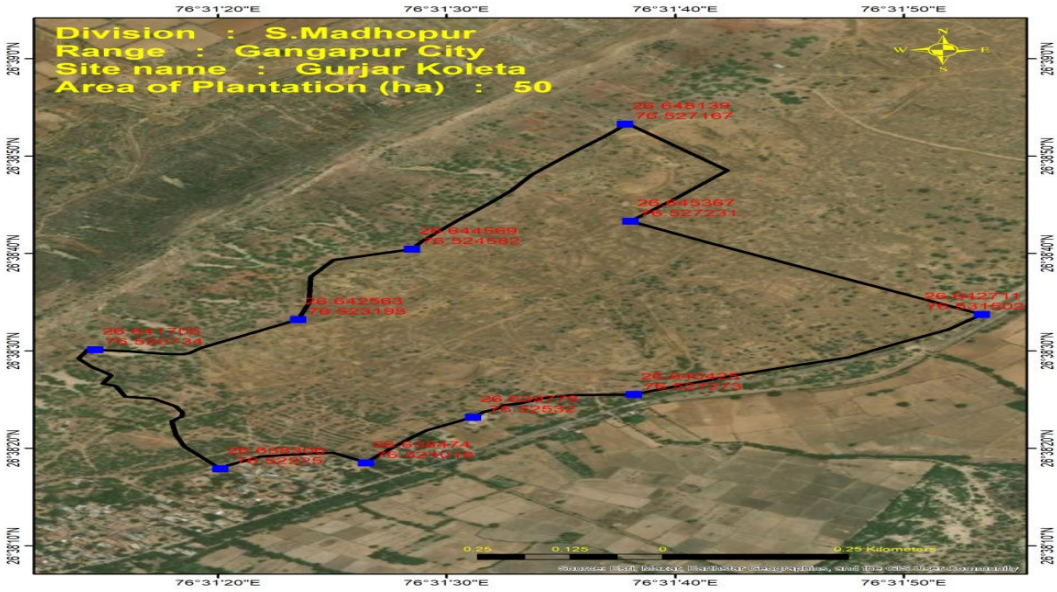

SMC structureat the site

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 58.7% at the site.**

Table 3.2: Status of Planted Seedlings at the site- Gurjar Koleta Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	2000	1438	562	71.9	157	26
Acacia tortilis (Totalis)	4000	2547	1453	63.7	164	30
Acacia leucopholea (Ronj)	500	292	208	58.4	99	21
Zizyphus mauritiana (Ber)	1500	844	656	56.3	108	24
Holoptelea integrifolia (Churel)	500	127	373	25.4	90	21
Azadirachta indica (Neem)	500	295	205	59.0	90	21
*Syzygium cumini (*Jamun)	300	82	218	27.3	90	21
Dalbergia sissoo (Shisham)	300	136	164	45.3	90	21
Albizzia lebbeck (Siras)	300	95	205	31.7	90	21
Bad, Pipal	50	8	42	16.0	90	21
Gular	50	8	42	16.0	90	21
Total	10000	5872	4128	58.7	141	26

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



P. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2081200
2021-22				511650				511650
Total				2592850				2592850

3.4.1. Bhairuji Maidar in Bonli range - N 26^{0}21.430'nd E 76^{0}13.388'

The selected plantation was carried out on 35 ha of land at Bhairuji Maidar in Bonli range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was sandy.


Plantation site Bhairuji Maidar

3.4.2. Treatment plan before sowing: The topography of the area was ravines. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 7000 pits were dug for plantation in total 35 ha of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.


CCT at the site

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boars, rats and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.4.4. Species Planted: The selected seedlings of *Acacia nilotica* (desi babool), Acacia tortilis (Totalis), Holoptelea integrifolia (Churel), Pongamia pinnata (Karanj), Acacia leucopholea (Ronj), *Ailanthus excelsa* (Ardu), Tecomella undulata (Rohida), *Azadirachta indica (Neem) &* Dalbergia sissoo (Shisham) were planted.


Growth of planted seedling at the site

A total of 7000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. The seedling selected for plantation was Totalis, Chudail & Desi babool which can survive in harsh & dry climate. The growth of survived plants was very good.

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: The area has been covered fully with vegetation due to this plantation. The growth of plants was good. Plants like Desi Babool, Ronj & Totalis have been found grown naturally.

3.4.7. Regeneration through seeds sowing: Seeds of species Desi babool, kumtha, Totalis, Khair, Ardu and Churel were sown in as well as along the trenches and on the thanwlas. The result of seed sowing was very good.

3.4.8. Protection Work: The selected ANR model plantation had ditch fencing of 2650 RMT having width at the top- 1.5 meters, width at the bottom-0.9 meters & height 1.2 meters. Present condition of fencing was satisfactory. Ditch fencing was partially effective in controlling the biotic pressure. Also, barbed wire fencing of 35 rmt was reported at the site

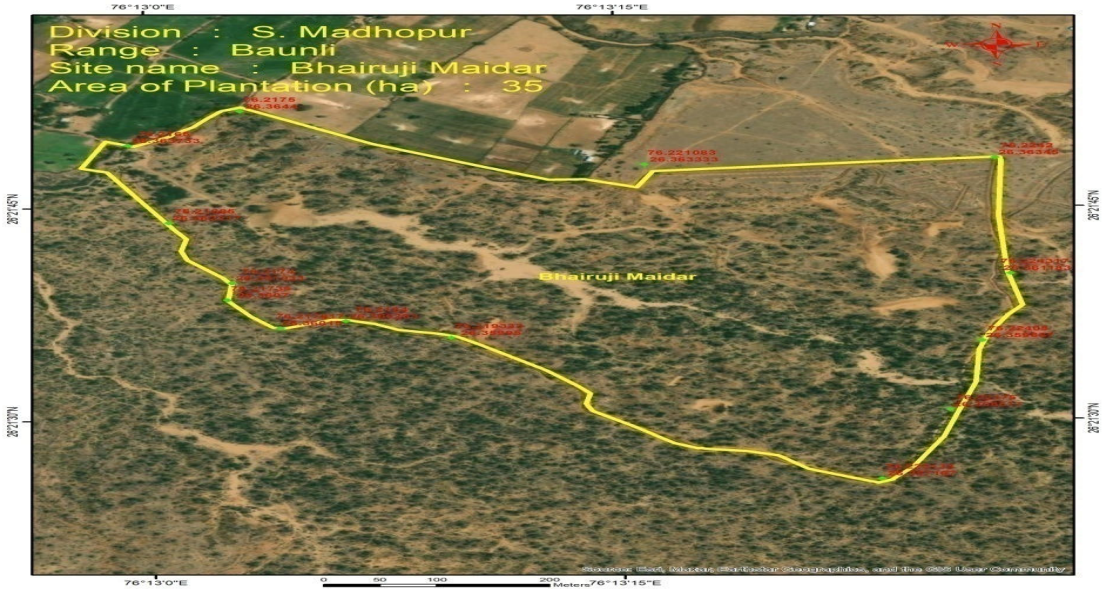
3.4.9. Soil and Water Conservation Measures: There are 4040 RMT Contour trenches & earthen check dams (5100 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & +4 cu.m excess in earthen check dams.

3.4.10. Observations Recorded: Under this model, 200 plants per ha were planted during plantation. **Based on for as 10 percent counting, plants survival was 52.28% at the site.**

Table 3.4: Status of Planted Seedlings at the site-Bhairuji Maidar Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	4000	400	291	72.8	133	28
Azadirachta indica (Neem)	350	35	8	22.9	90	21
Acacia nilotica (Desi babool)	1000	100	3	3.0	165	43
Holoptelea integrifolia (Churel)	100	10	10	100.0	90	21
Tecomella undulata (Rohida)	50	5	0	0.0	0	0
Sahjana	200	20	0	0.0	0	0
Acacia leucopholea (Ronj)	100	10	3	30.0	90	21
Ailanthus excelsa (Ardu)	500	50	10	20.0	195	43
Albizzia lebbeck (Siras)	200	20	5	25.0	90	21
Dalbergia sissoo (Shisham)	500	50	36	72.0	90	21
Total	7000	700	366	52.3	130	28

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 35 hectare as per kml map.



3.4.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1147954				1147954
2021-22				358155				302141
Total				1506109				1450095

3.5.1. Site 5-Trilokpura site in Sawai Madhopur range -N 26.181222 and E 76.254097

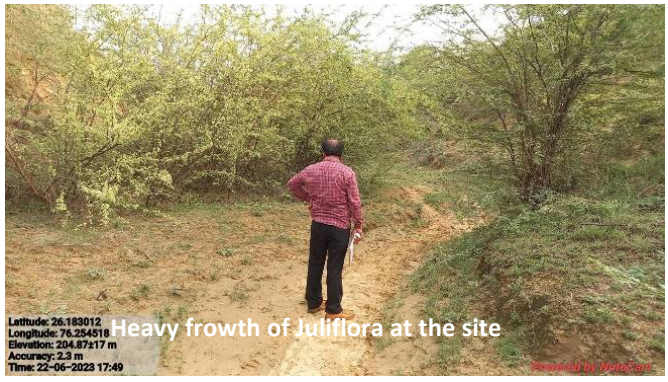
The selected plantation was carried out on 17 hac. of land at Trilokpura in Sawai Madhopur range during the year 2021-22. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 100% evaluation. The soil is sandy.



3.5.2. Treatment plan before sowing: The topography of the area was hilly & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 11900 pits were dug for plantation in total 17.0 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.5.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.5.4. Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Acacia tortilis (Totalis), Acacia leucopholea (Ronj), Pongamia pinnata (Karanj), Zizyphus mauritiana (Ber), Holoptelea integrifolia (Churel), Dalbergia sissoo (Shisham), *Syzygium cumini (*Jamun), Terminalia arjuna (Arjun) and Azadirachta indica (Neem) were planted.

In total 11900 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 700 plants per hectare have been planted. Thus, total number of plants planted was 11900 for 17 hectare of land. Map of planting site was prepared. As far **The growth of survived plants was satisfactory.**

3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6. Natural Vegetation and Regeneration: Desi babool, Hingot & Bair were the plants found grown naturally in this area. The growth of the plants was good. Heavy growth of Juliflora was reported at the site which hampered the growth of planted seedling.

3.5.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Desi babool, Neem & Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was poor due to ravine topography & sandy soil.**

3.5.8. Protection Work: The selected DFL model plantation had ditch fencing of 1850 RMT. Present condition of ditch fencing was satisfactory. Ditch fencing was filled with soil at many places.

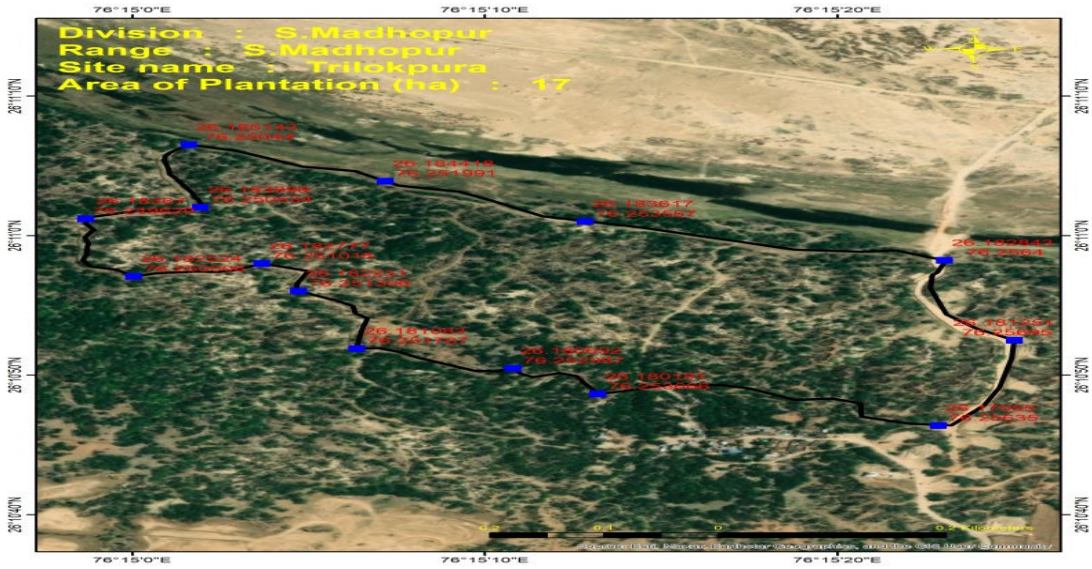
3.5.9. Soil and Water Conservation Measures: There are 2000 RMT Contour trenches, 600 rmt.SGT, 800 rmt Deep CCT & 600 cu.m earthen check dam in the form of water harvesting structures present in the entire plantation area.

3.5.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 42.31% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was satisfactory. A total of 11900 plants comprising of various species were planted in the 17.0 hectare plantation area.

Table 3.6: Status of Planted Seedlings at the site-Trilokpura

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	6000	3101	2899	51.7	103	24
Acacia tortilis (Totalis)	500	293	207	58.6	90	23
Acacia leucopholea (Ronj)	600	152	448	25.3	90	21
Zizyphus mauritiana (Ber)	500	126	374	25.2	90	21
Pongamia pinnata (Karanj)	500	77	423	15.4	90	21
Holoptelea integrifolia (Churel)	1000	483	517	48.3	94	21
Dalbergia sissoo (Shisham)	1500	467	1033	31.1	90	21
Terminalia arjuna (Arjun)	400	69	331	17.25	90	21
*Syzygium cumini (*Jamun)	250	53	197	21.2	90	21
Albizzia lebbeck (Siras)	300	122	178	40.7	90	21
Azadirachta indica (Neem)	200	69	131	34.5	90	21
Ficus benghalensis (Vad)	50	11	39	22.0	90	21
Ficus religiosa (Pipal))	50	13	37	26.0	90	21
Gular	50	0	50	0.0	0	0
Total	11900	5036	6864	42.3	98	23

3.5.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 17.0 hec as per kml map.



3.5.12. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				1147954				1147954
2021-22				358155				302141
Total				1506109				1450095

4. Results for asset sites

4.1 Site 1- Anicut II at Bans Torda, Bonli Range



At Bans Torda in Bonli range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth(6.5 m) & height (1.2 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. Heavy siltation was reported at the anicut site, due to which collected water did not stay for long period (only two month) in the anicut.The GPS location of this area was 26.2912 N and 76.19219 E.The anicut is useful for forest area & wild animals. The expenditure incurred for constructing the anicut was Rs.373924 (as per MB) against the estimated budget of 3.75 lac.

Site 2- Forest Chowki Gupteshwar Mahadeo, Bonli range


Forest Chowki in use by forest guard

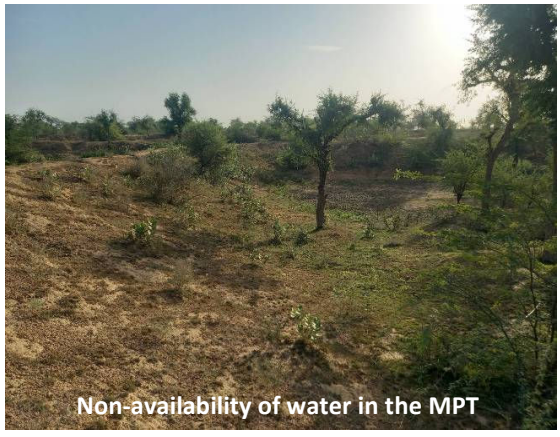
Forest Chowki at Gupteshwar Mahadeo in Bonli range has been evaluated. The Forest Chowki was constructed in the year 2021-22. Site selection for construction of Forest Chowki was adequate. Construction work appeared to be good and useful. The Forest Chowki created under CAMPA was in use and also properly maintained. The Forest Chowki is in good working condition. Plaster, flooring & other repair work is properly done. The building is in use by Forest Guard. GPS location of this area was 26.324377 N and 76.219792 E.The expenditure incurred for constructing the Forest Chowki was Rs. 549590 (as per MB) against the estimated budget of Rs. 550000.

Site 3- MPT at Surang, Sawai Madhopur Range


Availability of water in MPT

At Surang in Sawai Madhopur range, MPT has been evaluated. The MPT was constructed in the year 2021-22. The length (50m), breadth (3m) & height (10m) of the structure is as per MB. Construction work appeared to be average and useful. Water was available in the MPT at the time of visit. The GPS location of this area was 26.200189 N and 76.332017 E.The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. (as per MB) against the estimated budget of Rs. 70000.

Site 4- MPT at Kushalpura, Bonli Range


Non-availability of water in the MPT

At Kushalpura in Bonli range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (74m), breadth (2m) & height (11m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the time of visit. The water in the MPT did not stay for long period (only for two months) due to sandy area. The GPS location of this area was 26.392928 N and 76.238082 E.The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs.69928 (as per MB) against the estimated budget of Rs.70000.

Site 5- MPT at Kheda, Bonli Range



At Kheda in Bonli range, MPT been evaluated. The MPT was constructed in the year 2021-22. The (54m), breadth (2.6m) & height (6.8 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the time of visit. The GPS location of this area was 26.302307 N and 76.17026 E.The MPT is useful for forest area & wild animals. The greenery in the nearby area had improved. The expenditure incurred for constructing the MPT was Rs. 69928 (as per MB) against the estimated budget of Rs.70000.

Site 6- Pillars at Bhagwatgarh 78 Main, Sawai Madhopur range



At Bhagwatgarh 78 Main in Sawai Madhopur (13 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs. (as per MB) against the estimated cost of Rs 235000.

Site 7- Pillars at Badagaon Jaitpura, Bonli range



At Badagaon Jaitpura in Bonli (08 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs. 65545(as per MB) against the estimated cost of Rs 68399.

Site 8-Pillars at Lorwara, Sawai Madhopur range



At Lorwara at Sawai Madhopur (20 Nos.) pillars have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Sawai Madhopur division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Jhopdi II	ANR	50	45.2	5
2	Murarada Chowki	ANR	50	69.8	7
3	Gurjar Koleta	ANR	50	58.7	6
4	Bhairuji Maidar	ANR	35	52.3	6
5	Trilokpura	DFL	17	42.3	5

* <4: very poor (below 40%), 5: poor (40%- 50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structures as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Anicut Type II	Bans Torda	6.5x0.80x1.2	6.5x0.80x1.2	0
2.	Forest Chowki	Gupteshwar Mahadeo	01	01	0
3.	MPT	Surang	50x03x10	50x03x10	0
4.	MPT	Kushalpura	74x02x11	74x02x11	0
5.	MPT	Kheda	54x2.6x6.8	54x2.6x6.8	0
6.	Boundary Pillars	Bhagwatgarh 78 Main	13	13	0
7.	Boundary Pillars	Badgaon Jaitpura	8	8	0
8.	Boundary Pillars	Lorwada	20	20	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Anicut Type II	Bans Torda	Average	6
2	Forest Chowki	Gupteshwar Mahadeo	Good	7
3	MPT	Surang	Average	6
4	MPT	Kushalpura	Average	6
5	MPT	Kheda	Average	6
6	Boundary Pillars	Bhawgatgarh 78 Main	Average	6
7	Boundary Pillars	Badgaon Jaitpura	Average	6
8	Boundary Pillars	Lorwada	Average	6

Chambal Wildlife Ghadiyal

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Chambal Wildlife Ghadiyal Division. This Forest Division with 4 Forest Ranges namely K. Patan, Madrayal, Van Vihar Dholpur, & Itawa has territorial jurisdiction over the entire Sawai Madhopur District.

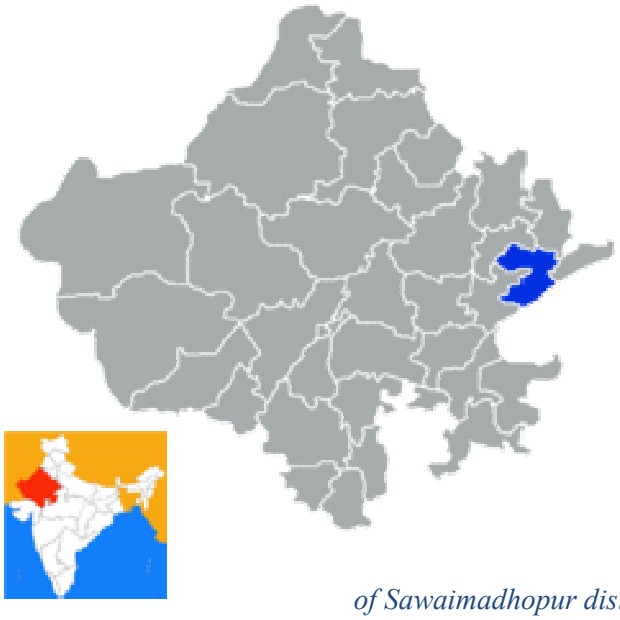


Figure 17 Location of Sawaimadhopur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Chambal Wildlife Ghadiyal Forest Division were as given per table for evaluation.

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Itawa	Amalda	2021-22	50	ANR	100%

2.2. Selected Asset Sites for Evaluation

The selected asset sites Chambal Wildlife Ghadiyal Forest Division were as given in table 2.

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Keshavraipatan	Takarwara	2020-21	Anicut Type II
Mandrayal	Maharajpura evam Devgirsot	2020-21	Anicut Type III
Itawa	Mandawara Jhotoli	2021-22	Anicut Type II
Palighat	Tapovan	2021-22	Anicut Type III

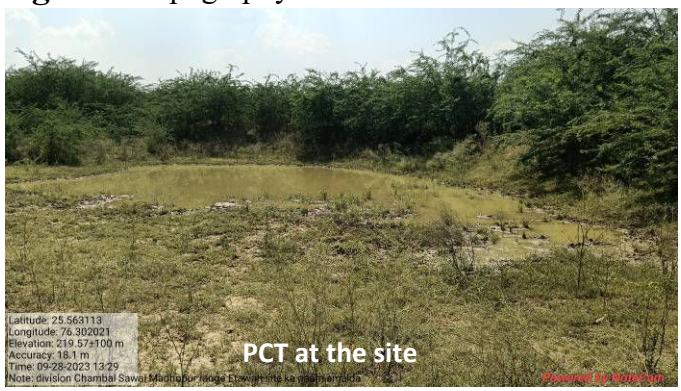
3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Aamlda site in Itawa range -N 25.564101 and E 76.300441

The selected plantation was carried out on 50 hac. of land at Aamlda site in Itawa range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was hard clayey & boulders.

3.1.2. Treatment plan before sowing: The topography of the area was ravines & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.1.4. Species Planted: The selected tree species under plantation were of Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Pithecellobium dulce (Jangal Jalebi), Pithecellobium dulce (Jangal Jalebi), Acacia leucopholea (Ronj) & Cassia fistula (Amaltas).

In total, 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land.



3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Juliflora, Hingot, Jaal & Bair were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species of Desi babool, Khair & Kumtha were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.1.8. Protection Work: The selected ANR model plantation had ditch fencing of 3121 RMT (1.5+.90/2 X 1.2). Present condition of ditch fencing was average. Silting was reported in some parts of ditch fencing.

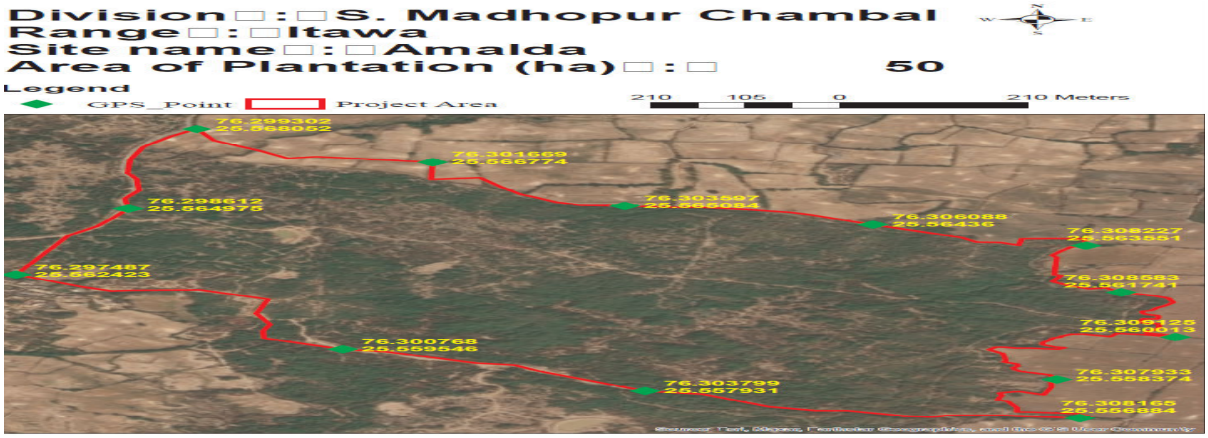
3.1.9. Soil and Water Conservation Measures: There are 10000 RMT Contour trenches &03 PCT/Nadi (1488.50 cu.m) & Earthen check dam (1499.31 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1 10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 41.7% at the site.**

Table 3: Status of Planted Seedlings at the site-Aamlda Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	7500	3497	4003	46.6	42	14
Zizyphus mauritiana (Ber)	750	157	593	20.9	36	12
Pithecellobium dulce (Jangal Jalebi)	500	79	421	15.8	30	16
Sahjan	250	17	233	6.8	28	16
Holoptelea integrifolia (Churel)	250	93	157	37.2	36	15
Acacia leucopholea (Ronj)	500	276	224	55.2	36	18
Cassia fistula (Amaltas)	250	49	201	19.6	30	17
Total	10000	4168	5832	41.7	34	15

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2074625

2021-22				501165				481420
2022-23				203240				177042
Total				2785605				2733087

4. Results for asset sites

4.1 Site 1- Anicut II at Takarwara, K.Patan Range



At Takarwara in K.Patan in Jaitpur range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length of Anicut II was 10.0 meters, breadth 0.90 meter, height 1.5 meters was constructed at the site. Construction work appeared to be good and useful. Water was available (up to 0.1 meters) in the anicut at the time of the visit. Wild animals used to drink water from the anicut. It also helps in soil & moisture conservation in the nearby area. GPS location of this area was $25^0$21'18" N and $76^0$41'5" E. The expenditure incurred for constructing the anicut wall was Rs.371805(as per MB) against the estimated budget of Rs 3.75 lac.

Site 2- Anicut III at Maharajpura evam Devgirsot, Mandrayal Range



At Maharajpura evam Devgirsot in Mandrayal range Anicut III has been evaluated. The Anicut III was constructed in the year 2020-21. The length of the structure was 18 meters, breadth 8.7 meter, height 1.08 meters as per MB. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. Wild animals used to drink water from the anicut. The GPS location of this area was $26^0$6'23" N and $76^0$54'19" E. The expenditure incurred for constructing the anicut was Rs. 587553(as per MB) against the estimated budget of Rs 6.00 lac.

Site 3- Anicut II at Mandawara Jhotoli, Itawa Range



At Mandawara Jhotoli in Itawa range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length of Anicut II was 10.0 meters, breadth 0.90 meter, height 1.2 meters was constructed at the site. Construction work appeared to be average and useful. The location of anicut should be in tuned with the main flow stream/nullah. Water was

available (up to 0.05 meters) in the anicut at the time of the visit. Wild animals used to drink water from the anicut. It also helps in soil & moisture conservation in the nearby area. GPS location of this area was $25^0$20'15" N and $76^0$9'24" E. The expenditure incurred for constructing the anicut wall was Rs.370402 (as per MB) against the estimated budget of Rs 3.75 lac.

Site 4- Anicut III at Tapovan, Palighat Range

At Tapovan in Palighat range Anicut III has been evaluated. The Anicut III was constructed in the year 2020-21. The length of the structure was 18 meters, breadth 1 meter, height 1.0 meters as per MB. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit. Wild animals used to drink water from the anicut. The GPS location of this area was $25^0$55'9" N and $76^0$44'17" E. The expenditure incurred for constructing the anicut was Rs. 649906(as per MB) against the estimated budget of Rs 6.50 lac.



5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Sawai Madhopur Chambal WL division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Aamlda	ANR	50	41.7	5

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Anicut Type II	Takarwara	10.0mX0.9mX1.5 m	10.0mX0.9mX1.5 m	0
2.	Anicut Type III	Maharajpura evam Devgirsot	18.0mX8.07mX1.08 m	18.0mX8.07mX1.08 m	0
3.	Anicut Type II	Mandawara Jhotoli	10.0mX0.9mX1.2 m	10.0mX0.9mX1.2 m	0
4.	Anicut Type III	Tapovan	18.0mX1.0mX1.0m	18.0mX1.0mX1.0 m	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Anicut Type II	Takarwara	Good	7
2.	Anicut Type III	Maharajpura evam Devgirsot	Average	6
3.	Anicut Type II	Mandawara Jhotoli	Average	6
4.	Anicut Type III	Tapovan	Average	6

Sikar

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Sikar Forest Division. This Forest Division with 6 Forest Ranges namely Srimadhopur, Danta, Sikar, Neem Ka Thana, Patan & Fatehpur has territorial jurisdiction over the entire Sikar District.

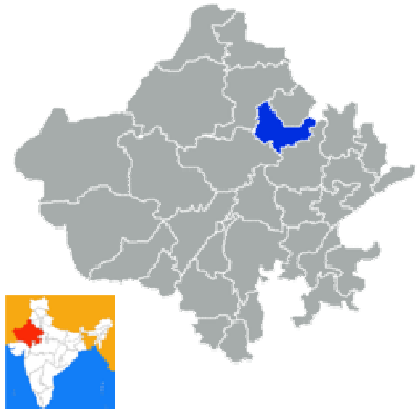


Figure : Location of Sikar district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Sikar Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Shri Madhopur	Paniharwas	2020-21	50	ANR	100
Danta	Ganoda	2020-21	50	ANR	10
Shri Madhopur	Kotdi	2021-22	50	ANR	100
Neemka thana	Aagri II	2021-22	50	ANR	10
Patan	Motuka	2021-22	50	ANR	100

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Sikar Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no.	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Neem Ka Thana	Bhudoli	2020-21	Pakki Diwar 4 ft
2.	Sikar	Shakambari Conservation Reservr, Sikar (Sakrai)	2020-21	Pakki Diwar 6 ft
3.	Shrimadhopur	Balvad II	2021-22	MPT

				Note: in the sample list it was AnicutType II
4.	Sikar	Malkeda	2020-21	Boundary pillars
5.	Sikar	Khori	2020-21	Boundary pillars
6.	Neem Ka Thana	Baleswar	2020-21	Boundary pillars
7.	Neem Ka Thana	Toda	2020-21	Boundary pillars
8.	Danta	Vankhand Dantla	2020-21	Boundary pillars
9.	Danta	Ganoda	2020-21	Boundary pillars
10.	Shrimadhopur	Khandela	2020-21	Boundary pillars
11.	Shrimadhopur	Paniharwas	2020-21	Boundary pillars
12.	Shrimadhopur	Mahroli	2020-21	Boundary pillars
13.	Sikar	Todi Madhopura	2021-22	Boundary pillars
14.	Neem Ka Thana	Van khand Govdi	2021-22	Boundary pillars
15.	Danta	Van khand Govti Ladhana	2021-22	Boundary pillars
16.	Shrimadhopur	Bhuranpura	2021-22	Boundary pillars
17.	Shrimadhopur	Khiroti	2021-22	Boundary pillars

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1-Paniharwas site in Shrimadhopur range -N 27.684681 and E 75.49526

The selected plantation was carried out on 50 hac. of land at Paniharwas in Shrimadhopur range during the year 2020-21 The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was kankrit & stony.





3.1.2. Treatment plan before sowing: The topography of the area was hilly & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, rabbit, porcupine and wild boars was reported at the site. Also, widely growth of termite, attack by pest and

scarcity of water& low rainfall obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.1.4. Species Planted: The selected tree species under plantation were Acacia leucopholea (Ronj), *Azadirachta indica (Neem) Holoptelea integrifolia* (Churel), Zizyphus mauritiana (Ber) and Acacia nilotica (Desi babool) were planted.

In total, 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: *Khejdi, Ronj, Bair &Neem* were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species Ronj, Desi babool,Neem & *Kumta were* sown in as well as along the trenches and on the thanwlas. **The result of sowing was excellent.** The plant grown out of seed sowing was far better than the planted seedling.

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 465 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. Also, 4177 RMT ditch fencing having width at the top-1.75 meters, width at the bottom-1.05 meters & height 1.08 meters reported at the site. The condition of the fencing was satisfactorily. Silting was reported in the ditch fencing in some parts.

3.1.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches, 5000 RMT SGT, 1000 RMT Deep CCT, earthen check dams (2086.63 cu.m) and PCT/Nadi (2239.15 cu.m) in the form of water harvesting structures present in the entire plantation area.

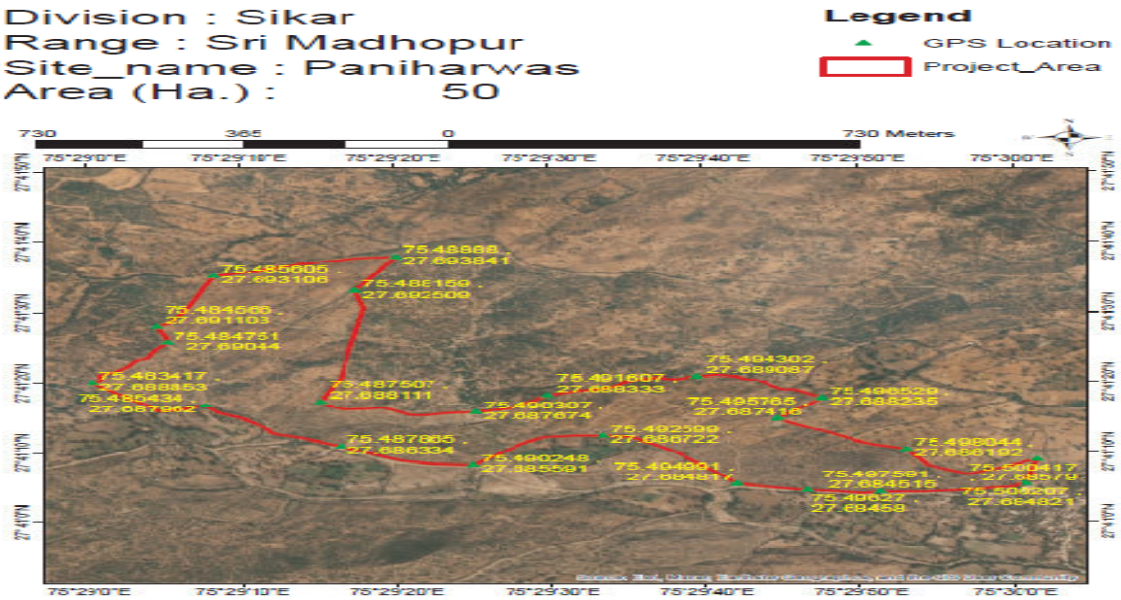
3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 49.9% at the site.**

Table 3: Status of Planted Seedlings at the site- Paniharwas Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	3000	2785	215	92.8	90	22
Acacia leucopholea (Ronj)	5000	1698	3302	34.0	90	21
Holoptelea integrifolia (Churel)	1000	238	762	23.8	90	22

Azadirachta indica (Neem)	400	0	400	0.0	0	0
Zizyphus mauritiana (Ber)	600	265	335	44.17	90	21
Total	10000	4986	5014	49.9	90	22

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.2.1. Site 2- Ganoda site in Danta range -N 27.385758 and E 75.260805

The selected plantation was carried out on 50 hac. of land at Ganoda in Danta range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.

3.2.2. Treatment plan before sowing: The topography of the area was hilly & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle's and destruction by Neel gai, rat and rabbit was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water& low rainfall obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.2.4. Species Planted: The selected tree species under plantation were *Holoptelea integrifolia* (Churel), Acacia tortilis (Totalis), Dalbergia sissoo (Shisham), Prosopis juliflora (Khejri), Acacia nilotica (Desi babool),

Zizyphus mauritiana (Ber), Tecomella undulata (Rohida) and Acacia leucopholea (Ronj) were planted.

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: *Desi babool, Totalis & Ber* were the plants found grown naturally in this area. The growth of the plant was good.



3.2.7. Regeneration through seeds sowing: Seeds of species *Kumtha & Ronj* was sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.** The result of sowing was seen on contour trenches and thanwalas.

3.2.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1700 RMT & 1317 RMT ditch fencing. The condition of the fencing was average. Ditch fencing was filled with soil



3.2.9. Soil and Water Conservation Measures: There are 5317 RMT Contour trenches, 183.71 cu.m loose stone check dams, 2605 cu.m PCT/Nadi & 7945 cu.m earthen check dams in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & PCT/Nadi, +2 cu.m excess in earthen check dams &+1 cu.m excess in loose stone check dams.

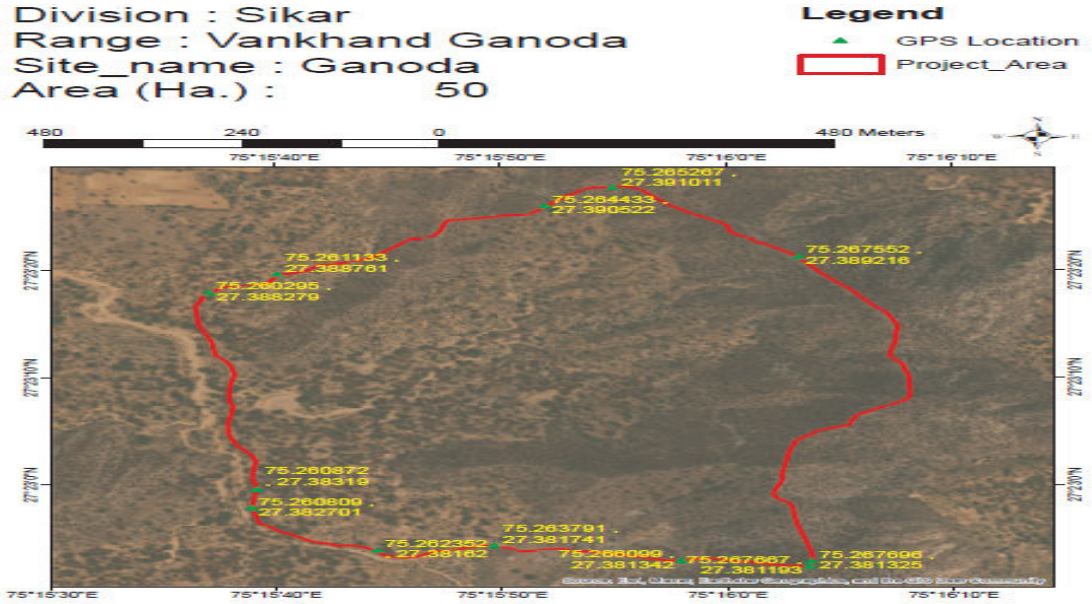
3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 59.5% at the site.**

Table 3.1: Status of Planted Seedlings at the site- Ganoda Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	7315	732	465	63.57	90	30
Dalbergia sissoo (Shisham)	850	85	32	37.65	100	20
Acacia leucopholea (Ronj)	500	50	34	68.00	25	20

Zizyphus mauritiana (Ber)	480	48	27	56.25	20	20
Acacia nilotica (Desi babool)	400	40	28	70.00	90	30
Holoptelea integrifolia (Churel)	300	30	4	13.33	30	20
Prosopis juliflora (Khejri)	100	10	5	50.00	30	20
Tecomella undulata (Rohida)	30	3	0	0.00	0	0
Lisoda	25	3	0	0.00	0	0
Total	10000	1000	595	59.5	55	23

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.2.12. Budget and expenditure

Table 3.2: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				485473
2021-22				182150				181875
2022-23				107950				107855
Total				776300				775203

3.3.1 Site 3- Kotri site in Shrimadhopur range -N 27.689111 and E 75.53695

The selected plantation was carried out on 50 hac. of land at Kotri in Shrimadhopur range during the year 2021-22 The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was kankrit stony & hard clayey.



3.3.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of

soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



Loose stone wall fencing at the site

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, rabbit, porcupine and rat was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water& low rainfall obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.

3.3.4. Species Planted: The selected tree species under plantation were Acacia leucopholea (Ronj), *Holoptelea integrifolia* (Churel), Acacia catechu (Khair), Zizyphus mauritiana (Ber) and Acacia nilotica (Desi babool) were planted.

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**


Site map & other details at the site

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: *Khair, Desi babool, Ronj, Bair, rohida & Amaltash* were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species Ronj, Desi babool,Neem, Ardu & *Kumta were* sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.3.8. Protection Work: The selected ANR model plantation had loose stone fencing of 495 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. Also, 1980 RMT ditch fencing having width at the top-1.75 meters, width at the bottom-1.05 meters & height 1.08 meters reported at the site. The condition of the fencing was satisfactorily. Silting was reported in the ditch fencing in some parts.

3.3.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches, 5000 RMT SGT, 1000 RMT Deep CCT, loose stone check dams (280 cu.m),

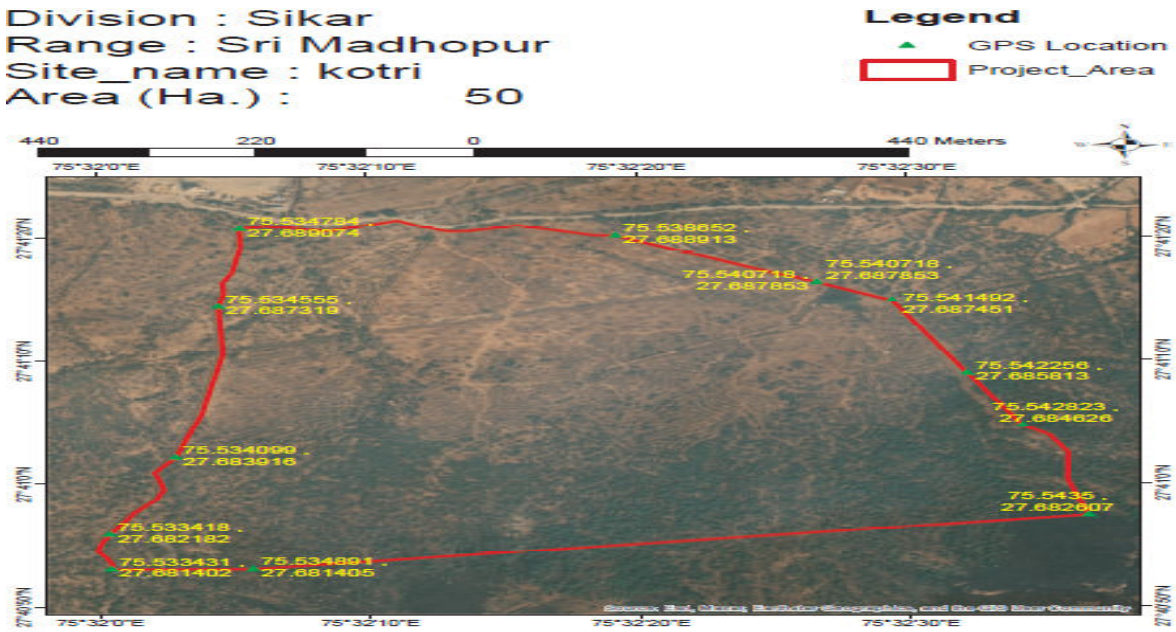
earthen check dams (2650 cu.m) and PCT/Nadi (718.78 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 53.3% at the site.**

Table 3.3: Status of Planted Seedlings at the site- Kotdi Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia leucopholea (Ronj)	6000	3226	2774	53.8	92	21
Acacia catechu (Khair)	500	221	279	44.2	90	21
Zizyphus mauritiana (Ber)	1500	775	725	51.67	90	21
Holoptelea integrifolia (Churel)	300	97	203	32.3	92	22
Acacia nilotica (Desi babool)	1700	1007	693	59.2	93	22
Total	10000	5326	4674	53.3	91	21

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.4.1. Site 4-Aagri II site in Neemkathana range -N 27.63 996 and E 75.8484

The selected plantation was carried out on 50 hac. of land at Aagri in Neemkathana range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was stony kankrit murar & clayey.

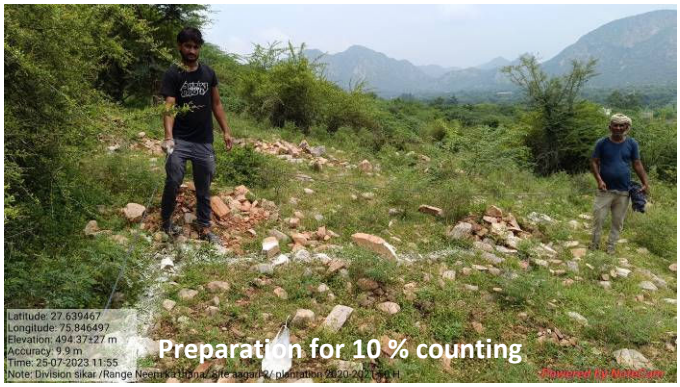

Heavy growth of Juliflora at the plantation site

3.4.2. Treatment plan before sowing: The topography of the area was hilly . Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle's and destruction by Neel gai, rat and rabbit was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water& low rainfall obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.4.4. Species Planted: The selected tree species under plantation were *Holoptelea integrifolia* (Churel), Acacia nilotica (Desi babool), Acacia senegal (Kumtha) and Acacia leucopholea (Ronj) were planted.



In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: *Desi babool, Ronj, Bair, Salar & Neem* were the plants found grown naturally in this area. The growth of the plant was good.

3.4.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Desi babool & Ronj* was sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.4.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1740 RMT & 1815 RMT ditch fencing. The condition of the fencing was average. Ditch fencing was filled with soil.

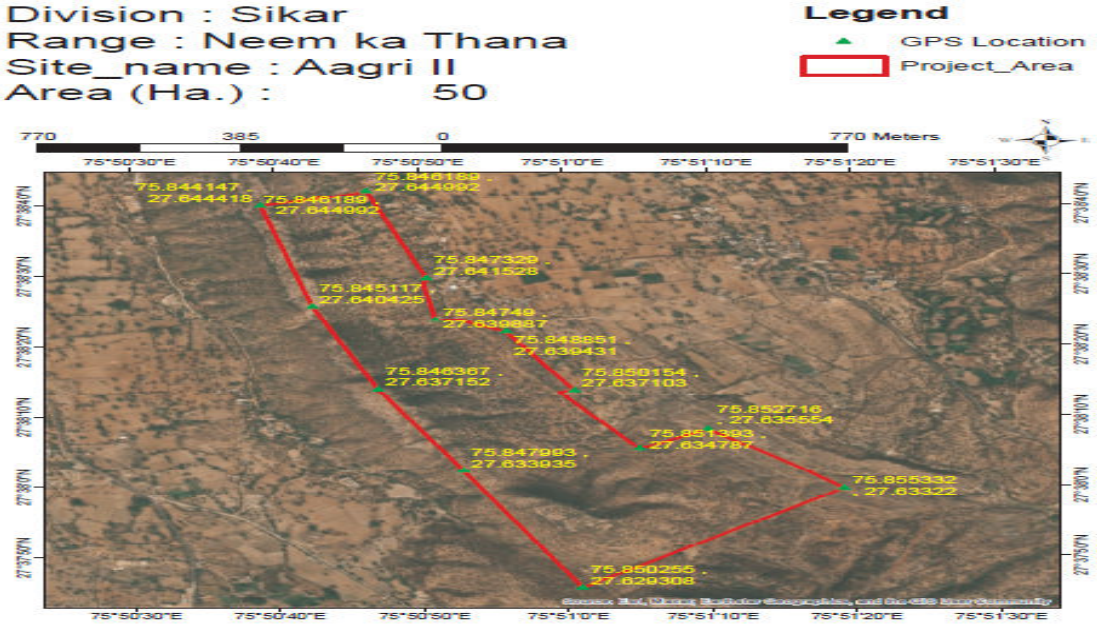
3.4.9. Soil and Water Conservation Measures: There are 2000 RMT Contour trenches, 7000 RMT SGT, 1000 RMT Deep CCT, 3995 RMT Contour Dykes, loose stone check dams (251 cu.m), and PCT/Nadi (4089 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is

done. The result shows no variation in CCT & loose stone check dams &+1 cu.m excess in PCT/Nadi.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 48.3% at the site.** Table 3.4: Status of Planted Seedlings at the site- Aagri II Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	3000	300	182		95	21
Acacia leucopholea (Ronj)	5000	500	83		85	20
Acacia nilotica (Desi babool)	1000	100	180		90	22
Acacia senegal (Kumtha)	1000	100	38		90	21
Total	10000	1000	483	48.3	90	21

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.4.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2081125
2021-22				511650				511645
2022-23				203250				203195
Total				2796100				2795965

3.5.1. Site 5- Mothuka site in Patan range -N 27.80951 and E 76.081224

The selected plantation was carried out on 50 hac. of land at Mothuka in Patan range during the year 2021-22 The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy & kankrit stony & clayey.



3.5.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.5.3. Health & Damages of Plantation: The growth of planted seedlings at the site was average. Grazing by stray animals & cattle and destruction by Neel gai, rabbit, porcupine and rat was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water& low rainfall obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.



3.5.4. Species Planted: The selected tree species under plantation were *Holoptelea integrifolia* (Churel), *Azadirachta indica (Neem)*, Dalbergia sissoo (Shisham), Zizyphus mauritiana (Ber) and Acacia nilotica (Desi babool) were planted.

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.



3.5.6. Natural Vegetation and Regeneration: *Kumtha, Ronj & Bair* were the plants found grown naturally in this area. The growth of the plants was good.

3.5.7. Regeneration through seeds sowing: Seeds of species Ronj, Desi babool & *Kumta were* sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.5.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3400 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. Also, 1250 RMT ditch fencing having width at the top-1.75 meters, width at the bottom-1.05 meters & height 1.08 meters reported at the site. The condition of the fencing was satisfactorily. Silting was reported in the ditch fencing in some parts.

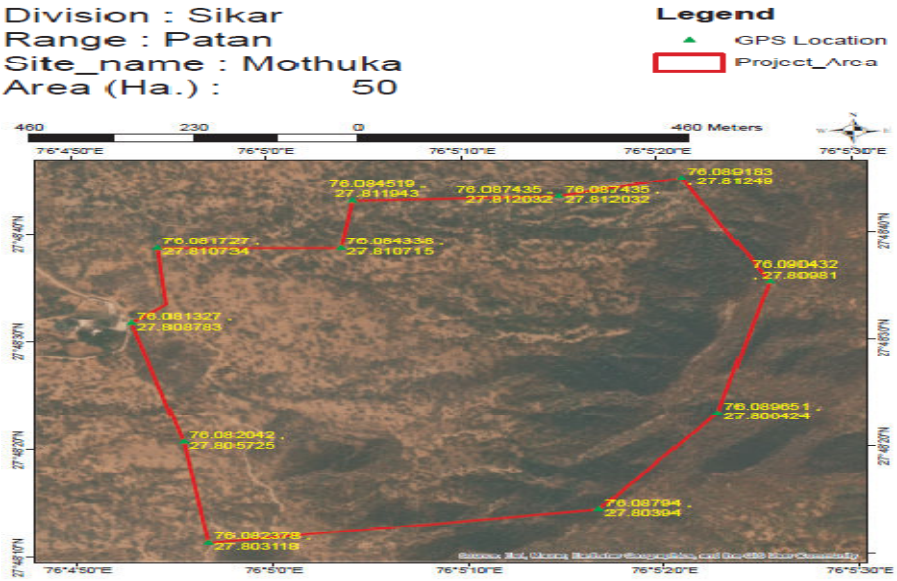
3.5.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches, 5000 RMT SGT, 1000 RMT Deep CCT, loose stone check dams (346.20 cu.m), earthen check dams (810 cu.m) and PCT/Nadi (3543 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.5.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.6% at the site.**

Table 3.6: Status of Planted Seedlings at the site- Mothuka Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	5000	2224	2776	44.5	93	22
Zizyphus mauritiana (Ber)	2200	876	1324	39.82	90	21
Holoptelea integrifolia (Churel)	1800	1358	442	75.4	92	22
Anogeissus pendula (Dhok)	500	0	500	0.0	90	21
Azadirachta indica (Neem)	400	82	318	20.5	90	22
Dalbergia sissoo (Shisham)	100	23	77	23.00	92	21
Total	10000	4563	5437	45.6	91	21

3.5.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.5.12. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2194550				2187608
2021-22				568850				567856
Total				2763400				2755464

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft at Bhudoli, Neem Ka thana Range



At Bhudoli in Neem Ka thana range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 600 m length as per MB. But in actual 602 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.20 meter. The construction of pakki diwar helped to prevent encroachment & protect forest boundaries. Construction work appeared to be good and useful. GPS location of this area was $27^0$41'7" N and $75^0$45'30"E. The expenditure incurred for constructing this wall was 14.40 lac(as per MB) against the estimated cost of 14.40 lac.

Site 2- Pakki Diwar 6 Ft at Sakambari Conservation Reserve Sakrai, Sikar Range



At Sakambari Conservation Reserve in AnadaraSikar range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 2882 rmt length as per MB. Also, in actual 2900 rmt pakki diwar was constructed at the site. The 6 ft wall has been constructed in 04 different parts. Construction work appeared to be average and the infrastructure was useful in protecting forest area. The wall was broken up to 2 meter by local community. The pointing & coping work has been done properly. GPS location of this area was $27^0$37'26" N and $75^0$26'18"E. The expenditure incurred for constructing this wall was Rs. 8357800 (as per MB) against the estimated budget of Rs. 90,00,000.

Site 3- MPT at Balwad II, Shrimadhopur Range



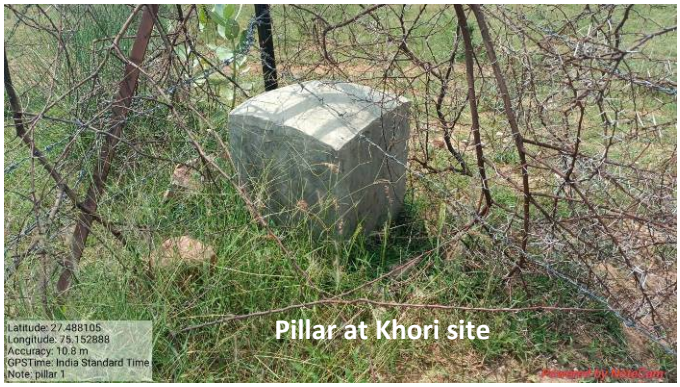
At Balwad II in Shrimadhopur range, MPT has been evaluated. The MPT was constructed in the year 2020-21. The length, breadth & height of the structure was 32 meter, 2.8 meter & 3.0 meter respectively. Construction work appeared to be good and useful. Water was available in the MPT (0.1 m) at the time of visit. The MPT is useful for wild animals. The GPS location of this area was $27^0$35' 27"N and $75^0$38'14"E. The expenditure incurred for constructing the MPT was Rs. (as per MB) against the estimated budget of Rs 375000 lac.

Site 4- Pillars at Malkeda, Sikar range



The site visited under asset created under CAMPA was Pillars (50 Nos.) at Malkeda site at Sikar. At Malkeda site in Sikar Pillars (07 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 88479 (as per MB) against the estimated cost of Rs. 90000.

Site 5- Pillars at Khodi, Sikar range



The site visited under asset created under CAMPA was Pillars (25 Nos.) at Khodi site at Sikar. At Khodi site in Sikar Pillars (04 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 56394 (as per MB) against the estimated cost of Rs. 90000.

Site 6- Pillars at Baleswar, Neem ka thana range



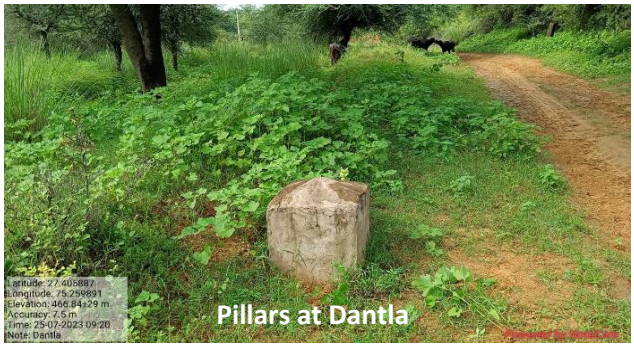
The site visited under asset created under CAMPA was Pillars (50 Nos.) at Baleswar site at Neem ka thana range . Baleswar site in Neem ka thana range Pillars (06 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. (as per MB) against the estimated cost of Rs.

Site 7- Pillars at Toda, Neem ka thana range



At Toda site in Neem ka thana range Pillars (05 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.

Site 8- Pillars at Vankhand Dantala, Danta range



At Vankhand Dantala site in Danta range Pillars (09 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 89895 (as per MB) against the estimated cost of Rs. 90000.

Site 9- Pillars at Ganoda, Danta range

At Vankhand Dantala site in Danta range Pillars (02 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 89895 (as per MB) against the estimated cost of Rs. 90000.

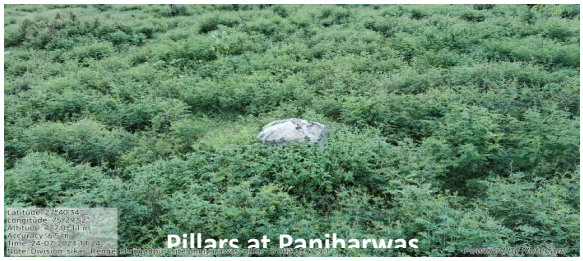


Site 10- Pillars at Khandela, Shrimadhopur range



At Khandela site in Shrimadhopur range Pillars (06 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.

Site 11- Pillars at Paniharwas, Shrimadhopur range



At Paniharwas site in Shrimadhopur range Pillars (03 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper & number should be written on the pillar.

Site 12- Pillars at Mahroli, Shrimadhopur range



At Mahroli site in Shrimadhopur range Pillars (02 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.

Site 13- Pillars at Todi Madhopura, Sikar range



At Todi Madhopura site in Sikar range Pillars (04 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.

Site 14- Pillars at Vankhand Govdi, Neem ka thana range

At Vankhand Govdi site in Neem ka thana range Pillars (07 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper & number should be written on the pillar.



Site 15- Pillars at Vankhand Gowati Ladhana , Danta range

At Vankhand Gowati Ladhana site in Danta range Pillars (05 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper & number should be written on the pillar.



Site 16 - Pillars at Bhuranpura, Shrimadhopur range

At Bhuranpura site in Shrimadhopur range Pillars (02 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper & number should be written on the pillar.



Site 17- Pillars at Khiroti, Shrimadhopur range



At Khiroti site in Shrimadhopur range Pillars (04 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Sikar division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Paniharwas	ANR	50	49.9	5
2	Ganoda	ANR	50	59.5	6
3	Kotdi	ANR	50	53.3	6
4	Aagri II	ANR	50	48.3	5
5	Mothuka	ANR	50	45.6	5

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 4 ft	Bhudoli	600	602	+2
2.	Pakki Diwar 6 ft	Shakambari Conservation Reservr, Sikar (Sakrai)	2882	2900	+8
3.	MPT	Balvad II	32 mx2.8 mx 3.0 m	32 mx2.8 mx 3.0 m	0
4.	Boundary pillars	Malkeda	7	7	0
5.	Boundary pillars	Khori	4	4	0
6.	Boundary pillars	Baleswar	6	6	0
7.	Boundary pillars	Toda	5	5	0
8.	Boundary pillars	Vankhand Dantla	9	9	0
9.	Boundary	Ganoda	2	2	0

	pillars				
10.	Boundary pillars	Khandela	6	6	0
11.	Boundary pillars	Paniharwas	3	3	0
12.	Boundary pillars	Mahroli	2	2	0
13.	Boundary pillars	Todi Madhopura	4	4	0
14.	Boundary pillars	Van khand Govdi	7	7	0
15.	Boundary pillars	Van khand Govti Ladhana	5	5	0
16.	Boundary pillars	Bhuranpura	2	2	0
17.	Boundary pillars	Khiroti	4	4	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 4 ft	Bhudoli	Good	7
2.	Pakki Diwar 6 ft	Shakambari Conservation Reservr, Sikar (Sakrai)	Average	6
3.	MPT	Balvad II	Good	7
4.	Boundary pillars	Malkeda	Average	6
5.	Boundary pillars	Khori	Average	6
6.	Boundary pillars	Baleswar	Average	6
7.	Boundary pillars	Toda	Average	6
8.	Boundary pillars	Vankhand Dantla	Average	6
9.	Boundary pillars	Ganoda	Average	6
10.	Boundary pillars	Khandela	Average	6
11.	Boundary pillars	Paniharwas	Average	6
12.	Boundary pillars	Mahroli	Average	6
13.	Boundary pillars	Todi Madhopura	Average	6
14.	Boundary pillars	Van khand Govdi	Average	6
15.	Boundary pillars	Van khand Govti Ladhana	Average	6
16.	Boundary pillars	Bhuranpura	Average	6
17.	Boundary pillars	Khiroti	Average	6

Mount Abu WL

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in WL Mount Abu Forest Division. This Forest Division with 4 Forest Ranges namely Anadara, Abutaleti, Abu Parwat & Taleti has territorial jurisdiction over the entire Sirohi District.

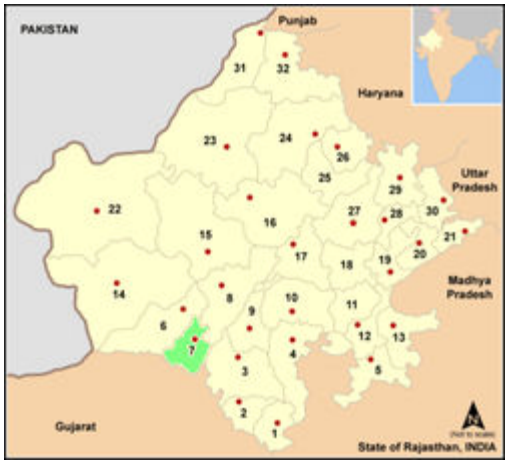


Figure : Location of Sirohi district, Rajasthan

2.1. Selected Asset Sites for Evaluation

The selected asset sites of WL Mount Abu Forest Division were as given in table 1.

Table 1: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Anadara	Buda Mamaji se up to Umwah nala(1km)	2020-21	Pakki Diwar 6 ft
Anadara	Nana ka Khada Anicut II	2020-21	Anicut Type II
Anadara	Kala Putra Shri Mansha Ke Ghar	2020-21	Anicut Type III
Anadara	Khapariya	2021-22	Anicut Type II

3. Results for asset sites

3.1 Site 1-Pakki Diwar 6 Ft at Buda Mamaji se up to Umwah Nala (1km), Anadara Range



At Buda Mamaji se up to Umwah nala in Anadara range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 1000 rmt length as per MB. Also, in actual 1000 rmt pakki diwar was constructed at the site. Construction work appeared to be average and the infrastructure was useful in protecting forest area. GPS location of this

area was 24.61563 N and 72.679857 E. The expenditure incurred for constructing this wall was Rs.2828614 (as per MB) against the estimated budget of Rs. 29,00,000.

Site 2- Anicut II at Nana Ka Khada, Anadara Range


Water availability at Anicut Type II at Nana Ka Kheda

At Nana Ka Khada in Anadara range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure was 9 meter, 0.3 meter & 1.4 meter respectively. Construction work appeared to be good and useful. Water was available in the anicut at the time of visit. The anicut is useful for wild animals. The GPS location of this area was 24.710041 N and 72.789414 E. The expenditure incurred for constructing the anicut wall was Rs.363050 (as per MB) against the estimated budget of Rs 375000 lac.

Site 3- Anicut III at Kala Putra Mansha Ke Ghar , Anadara Range


Anicut III at Kala Putra Mansha Ke Ghar

At Kala Putra Shri Mansha Ke Ghar, Anadara range, Anicut III has been evaluated. The Anicut III was constructed in the year 2020-21. The length, breadth & height of the structure was 15 meterX3.7 meterX1.50 as per MB. Construction work appeared to be good and useful. Water was available in the anicut at the time of visit. The anicut is useful for wild animals & human habitation residing in the near by area. Water used to stay in anicut for whole year. The local community uses the water for agriculture purpose. It also helps in soil moisture retention, decrease in soil erosion & also change in water level.The GPS location of this area was 24.53724 N and 72.633198 E. The expenditure incurred for constructing the anicut wall was Rs. 598338 (as per MB) against the estimated budget of Rs 6.0 lac.

Site 4- Anicut II at Khapariya, Anadara Range


Water availability in the anicut

At Khapariya in Anadara range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure was 8 meter, 0.7 meter & 1.5 meter respectively. Construction work appeared to be good and useful. Water was available in the appron of anicut at the time of visit. The anicut is useful for wild animals. The GPS location of this area was $24^0$42’ 1”N and $72^0$45’15”E. The expenditure incurred for

constructing the anicut wall was Rs.369478 (as per MB) against the estimated budget of Rs 375000 lac.

4. Overall assessment

Table 4: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 6 ft	Buda Mamaji se up to Umwah nala(1km)	1000	1000	0
2.	Anicut Type II	Nana ka Khada Anicut II	9X0.3X1.4	9X0.3X1.4	0
3.	Anicut Type III	Kala Putra Shri Mansha Ke Ghar	15X3.60X1.5	15X3.60X1.2	Due to silting
4.	Anicut Type II	Khapariya	8X0.7X1.5	8X0.7X1.5	0

Table 4.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Pakki Diwar 6 ft	Buda Mamaji se up to Umwah nala(1km)	Average	6
2	Anicut Type II	Nana ka Khada Anicut II	Good	7
3	Anicut Type III	Kala Putra Shri Mansha Ke Ghar	Good	7
4	Anicut Type II	Khapariya	Good	7

Sirohi

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Sirohi Forest Division. This Forest Division with 4 Forest Ranges namely Pindwara, Sirohi, Abu road & Sirodi has territorial jurisdiction over the entire Sirohi District.

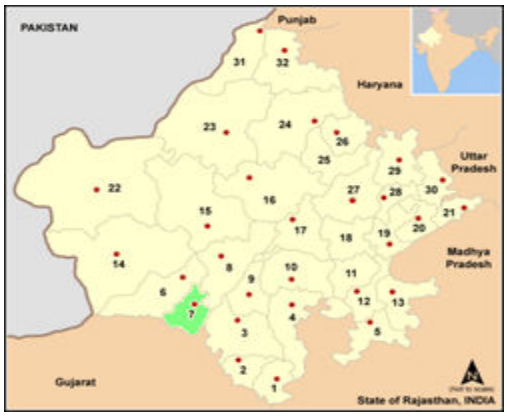


Figure: Location of Sirohi district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Sirohi Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Pindwara	Arduwa Compartment No.7 Hura Magra	2020-21	50	ANR	100%
Sirohi	Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev	2020-21	50	ANR	10%
Sirohi	Matarmata Vankhand Vriksharopan	2020-21	24.7	DFL	100%
Sirohi	Mal Pahadiya Compartment No.1,2 Banvda Mahadev	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Sirohi Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Forest Range	Name of Site	Year	Physical Target Achieved (100%)
Sirohi	Vankhand Atalkheda(Ranela) Bhawani Mata Ka Mandir	2020-21	Anicut Type II
Pindwara	Putli Nala Anicut B	2021-22	Anicut Type II
Sirohi	Nimbaj Jeerawal Vankhand Near to Kesuwa Chowli	2021-22	Anicut Type III

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Arduwa Compartment no.7 Hura Magra site in Pindwara range -N 24.662657 and E 73.067877

The selected plantation was carried out on 50 hac. of land at Arduwa Compartment No.7 Hura Magra in Pindwara range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was black & stony.


Growth of planted seedling

3.1.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Total 10000 pits were dug for plantation in total 50 hac of land.

3.1.3 Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.


Loose stone check dam at the site

3.1.4. Species Planted: The selected tree species under plantation were Acacia catechu (Khair), Dendrocalamus strictus (Baans), Zizyphus mauritiana (Ber), Pongamia pinnata (Karanj), Wrightia tinctoria (Khirni), Terminalia bellirica (Baheda) and Emblica officinalis (Amla) were planted.

In total 10000 numbers of seedlings were planted at the site. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.**The growth of survived plants was average.**

3.1.5 Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Palash, Bamboo, Tendu, Sitafal, Gular & Salar were the plants found grown naturally in this area. The growth of the plant was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Ber and Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2443 RMT. Present condition of fencing was satisfactory. Loose stone fencing was partially effective in controlling biotic pressure.

3.1.9. Soil and Water Conservation Measures: There are 1000 RMT Contour trenches, 1500 RMT SGT & 1000 RMT Deep CCT, 02 PCT/Nadi & loose stone check dam (1100 cu.cm) in the form of water harvesting structures present in the entire plantation area.


Loose stone wall at the plantation site

3.1.10 Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 47.52% at the site.**

Table 3: Status of Planted Seedlings at the site- Arduwa Compartment No.7 Hura Magra Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Emblica officinalis (Amla)	1956	1360	596	69.5	90.3	21
Acacia catechu (Khair)	1982	1332	650	67.2	90.0	21
Zizyphus mauritiana (Ber)	1887	882	1005	46.7	90.0	21
Wrightia tinctoria (Khirani)	1749	401	1348	22.9	90.0	21
Dendrocalamus strictus (Baans)	1861	470	1391	25.3	90.0	21
Pongamia pinnata (Karanj)	451	307	144	68.1	90.0	21
Terminalia bellarica (Baheda)	114	0	114	0.0	0.0	0
Total	10000	4752	5248	47.5	90.1	21

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21	486200			486200	412353			412353
2021-22	175831.50		6318.50	182150	163800		4950	168750
2022-23	90087.05		17862.95	107950.0	83412		17640	101052
Total	752118.55		24181.45	776300	659565		22590	682155

3.2.1 Site 2- Las Jhadoli Compartment no.1 Vad Vaidyanath Mahadeo site in Sirohi range -N 25.071678 and E 72.87662

The selected plantation was carried out on 50 hac. of land at Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev in Sirohi range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was red & stony.



3.2.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation. Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.



3.2.4. Species Planted: The selected tree species under plantation were Acacia catechu

(Khair), Zizyphus mauritiana (Ber), Holoptelea integrifolia (Churel), Azadirachta indica (Neem), Acacia senegal (Kumtha), Commiphora sp. (Guggal), Acacia tortilis (Totalis) and Pongamia pinnata (Karanj) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was average.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Palash, Dhonk, Kumtha, Ber, Ronj & Khejri were the plants found grown naturally in this area. The growth of the plant was good.

3.2.7. Regeneration through seeds sowing: Seeds of species *Kumatha and Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.2.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1000 RMT. Also, 2450 rmt.ditch fencing was reported at the site. Present condition of fencing was satisfactory. Loose stone fencing & dtch was partially effective in controlling biotic pressure.

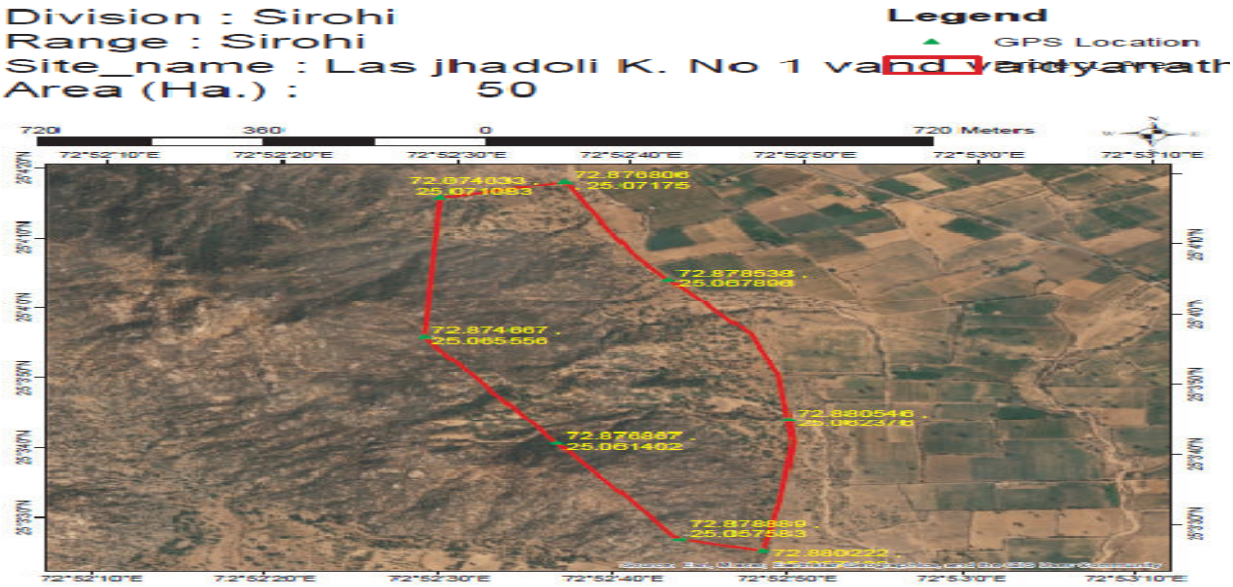
3.2.9. Soil and Water Conservation Measures: There are 6000 RMT Contour trenches, loose stone check dam of 400 cu.m in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 45.7% at the site.**

Table 3.2: Status of Planted Seedlings at the site- Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Azadirachta indica (Neem)	3000	300			103.5	21
Zizyphus mauritiana (Ber)	4000	400			90.0	21
Holoptelea integrifolia (Churel)	500	50			90.0	21
Acacia catechu (Khair)	250	25			90.0	21
Commiphora sp. (Guggal)	500	50			90.0	21
Acacia senegal (Kumtha)	1000	100			90.0	21
Acacia tortilis (Totalis)	250	25			108.3	21
Pongamia pinnata (Karanj)	500	50			90.0	21
Total	10000	1000	457	45.70	96.1	21

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21	463464.1		17186	480650.1	436028		17186	453214
2021-22	174384.2		7765.8	182150	165044.2		7765.8	172180
2022-23	84689.17		23260.83	107950	81133.17		23260.83	104394
Total	722537.47		48212.63	770750.1	682205.37		48212.63	729788

3.3.1. Site 3- Matarmata Vankhand Vriksharopan in Sirohi range -N 24.88754 and E 72.873148

The selected plantation was carried out on 24.7 hac. of land at Matarmata Vankhand Vriksharopan in Sirohi range during the year 2020-21. The activities were done under the Degraded Forest Land (DFL) model. The site was a forest land and selected for 100% evaluation. The soil is clayey domat with boulders.


Plantation Board at the site

3.3.2. Treatment plan before sowing: The topography of the area was hilly & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 24.7 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was poor. Grazing by stray animals & cattle and destruction by Neel gai, rat and porcupine was reported at the site. Also, widely growth of termite, scarcity of water and attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was average.


CCT at the site

3.3.4. Species Planted: The selected seedlings of Acacia nilotica (Desi babool), Zizyphus mauritiana (Ber), Holoptelea integrifolia (Churel), Dendrocalamus strictus (Baans), Pongamia pinnata (Karanj), Emblica officinalis (Amla), Terminalia bellirica (Baheda), Acacia senegal (Kumtha)and Azadirachta indica (Neem) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 400 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 24.7 hectare of land. **The growth of survived plants was poor.**


Loose Stone Check dam at the site

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Dhonk, Totalis, Kumtha, Ber & Juliflora were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Kumtha, Ber, Khait & Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was poor.** Plants out of seed sowing were rarely seen on trenches.

3.3.8. Protection Work: The selected DFL model plantation had loose stone fencing of 772 RMT, barbed wire fencing of 200 RMT & ditch fencing of 1557 RMT. Present condition of loose stone fencing & ditch fencing was poor.

3.3.9. Soil and Water Conservation Measures: There are 4600 RMT Contour trenches, 01 PCT/Nadi & 233.43 cu.m loose stone checkdams in the form of water harvesting structures present in the entire plantation area.

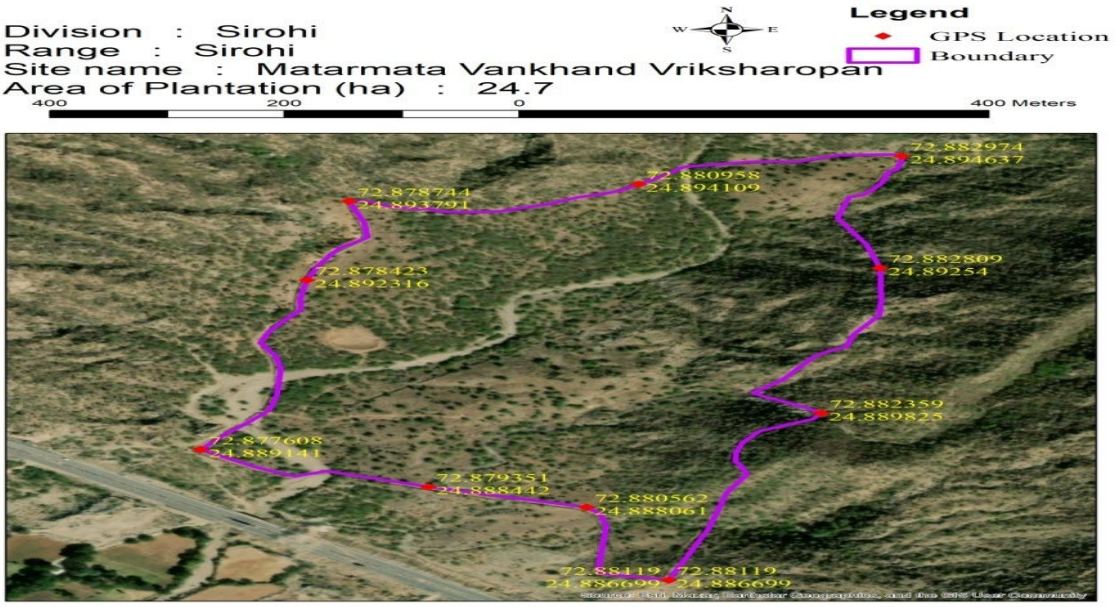
3.3.10. Observations Recorded: Under this model, 700 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 25.3% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was

poor. A total of 10000 plants comprising of various species were planted in the 24.7 hectare plantation area.

Table 3.4: Status of Planted Seedlings at the site- Matarmata Vankhand Vriksharopan

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	3670	522	3148	14.2	90.0	21
Acacia catechu (Khair)	1128	214	914	19.0	90.0	21
Acacia nilotica (Desi babool)	440	317	123	72.0	90.0	21
Holoptelea integrifolia (Churel)	700	218	482	31.1	90.0	21
Dendrocalamus strictus (Baans)	809	19	790	2.3	90.0	21
Pongamia pinnata (Karanj)	1500	299	1201	19.9	90.0	21
Azadirachta indica (Neem)	750	210	540	28.0	90.0	21
Acacia senegal (Kumtha)	600	615	-15	102.5	90.0	21
Emblica officinalis (Amla)	280	117	163	41.8	90.0	21
Terminalia bellarica (Baheda)	55	0	55	0.0	90.0	21
Bauhinia sp. (Kachnar)	68	0	68	0.0	90.0	21
Total	10000	2531	7469	25.3	90.0	21

3.3.11. GPS Location and KML file: The selected DFL model under CAMPA plantation site measured 24.7 hec as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2019-20				748349				748349
2020-21				597186				597186
Total				1345535				1345535

3.4.1 Site 4- Mal Pahaediya Compartment no.1,2 Bewra Mahadeo site in Sirohi range -N 25.071523 and E 72.909625

The selected plantation was carried out on 50 hac. of land at Mal Pahadiya Compartment No.1,2 Bewra Mahadeo in Sirohi range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was sandy.

3.4.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation. Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



Plantation board at the site

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. It is reported excellent having fair amount of soil. The growth of planted seedlings is less than normal in the area having less soil coverage. Grazing by stray animals & cattle and destruction by Neel gai & porcupine was reported at the site. Also, widely growth of termite, soil quality, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was poor.

3.4.4 Species Planted: The selected tree species under plantation were Zizyphus mauritiana (Ber), Pongamia pinnata (Karanj), Holoptelea integrifolia (Churel), Acacia senegal (Kumtha), Tecomella undulata (Rohida) and Azadirachta indica (Neem) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was average.**



Growth of planted seedling

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Ber, Kumtha, Dhonk & Juliflora were the plants found grown naturally in this area. The growth of the plant was good.

3.4.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Khejri and Ronj* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**



3.4.8. Protection Work: The selected ANR model plantation had loose stone fencing of 942 RMT & ditch fencing of 2404 rmt. Present condition of fencing was satisfactory. Loose stone fencing & ditch fencing was partially effective in controlling biotic pressure.

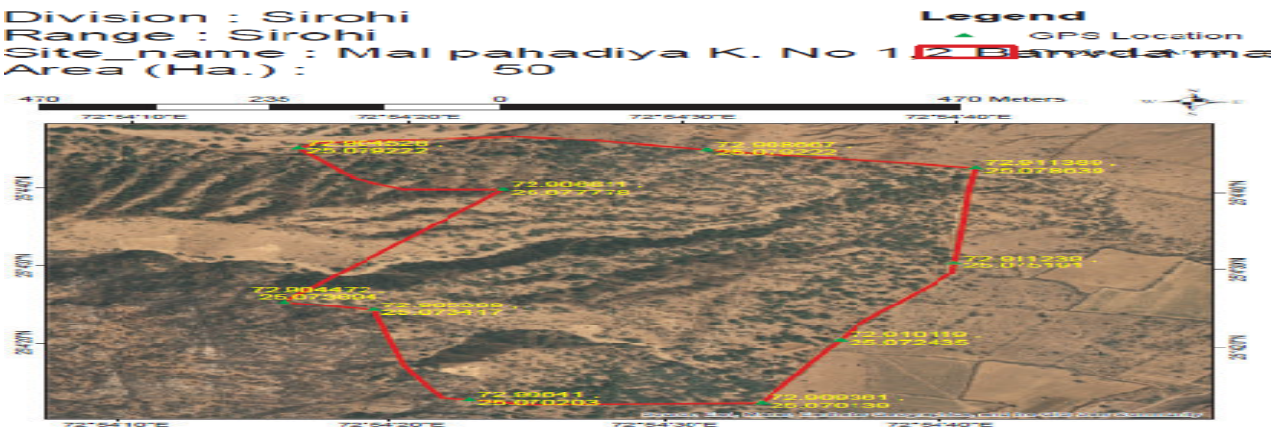
3.4.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches, 4000 RMT SGT & 1000 RMT Deep CCT, 02 PCT/Nadi & loose stone check dam (205 cu.cm) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 46.3% at the site.**

Table 3.6: Status of Planted Seedlings at the site- Mal Pahadiya Compartment No.1,2 Bewra Mahadeo

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Zizyphus mauritiana (Ber)	3000	300			97.9	23
Acacia senegal (Kumtha)	3100	310			90.0	21
Holoptelea integrifolia (Churel)	700	70			90.0	21
Tecomella undulata (Rohida)	1100	110			90.0	21
Azadirachta indica (Neem)	1000	100			120.0	25
Pongamia pinnata (Karanj)	1100	110			90.0	21
Total	10000	1000	463	46.3	99.3	22

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 hec as per kml map.



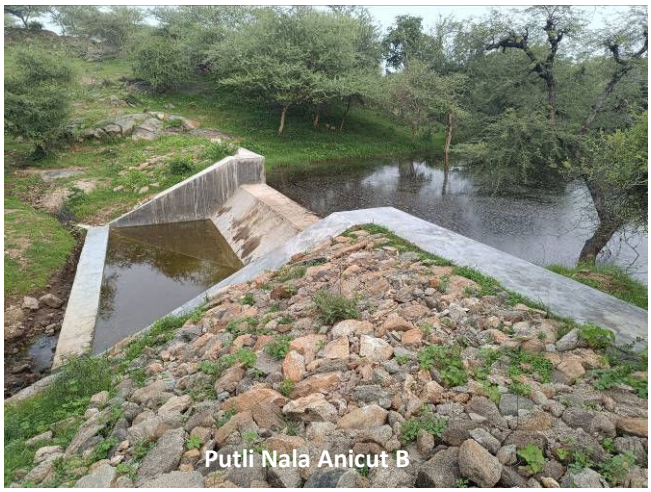
4. Results for asset sites

4.1 Site 1- Anicut II at Vankhand Atalkheda(Ranela) Bhawani Mata Ka Mandir, Sirohi Range



At Nana Ka Khada in Anadara range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure was 9 meter, 0.8 meter & 1.2 meter respectively. Construction work appeared to be average and useful. Water was not available in the anicut at the time of visit due to seepage & poor construction. The anicut (apron) was badly damage due to leakage of water from foundation of head wall. Also, quality of construction was poor. The GPS location of this area was 24.710041 N and 72.789414 E. The expenditure incurred for constructing the anicut wall was Rs. (as per MB) against the estimated budget of Rs 375000 lac.

Site 2- Anicut II Putli Nala Anicut B, Pindwara Range



At Nana Ka Khada in Anadara range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure was 9 meter, 0.9 meter & 1.6 meter respectively. Construction work appeared to be good and useful. Water was available in the anicut at the time of visit. The anicut is useful for wild animals. The water used to stay in the anicut up to November. The vegetation improved in the near by area. The GPS location of this area was 24.710041 N and 72.789414 E. The expenditure incurred for constructing the anicut wall was Rs. (as per MB) against the estimated budget of Rs 375000 lac.

Site 3- Anicut III at Neembaj Jeerawal Vankhand Near Kesuwa Chowki, Sirohi Range



At Kala Putra Shri Mansha Ke Ghar, Anadara range, Anicut III has been evaluated. The Anicut III was constructed in the year 2020-21. The length & breadth & height of the structure was 11.90 meter & 1.20X 1.5 meterrespectively. However, the height of the structure can not be measured due to heavy silting. Construction work appeared to be

average and useful. Water was not available in the anicut at the time of visit. The anicut apron was badly damaged due to Biparjoy. During the cyclone the stone from the hill damaged the apron. The GPS location of this area was 24.53724 N and 72.633198 E. The expenditure incurred for constructing the anicut wall was Rs.643393 (as per MB) against the estimated budget of Rs 6.5 lac.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Sirohi division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Arduwa Compartment No.7 Hura Magra	ANR	50	47.5	5
2	Las Jhadoli Compartment No.1 Vad Vaidnath Mahadev	ANR	50	45.7	5
3	Matarmata Vankhand Vriksharopan	DFL	24.7	25.3	4
4	Mal Pahadiya Compartment No.1,2 Banvda Mahadev	ANR	50	46.3	5

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Anicut Type II	Vankhand Atalkheda(Ranela) Bhawani Mata Ka Mandir	9X0.8X1.2	9X0.8X1.2	0
2.	Anicut Type II	Putli Nala Anicut B	9X0.9X1.6	9X0.9X1.6	0
3.	Anicut Type III	Nimbaj Jeerawal Vankhand Near to Kesuwa Chowli	11.90X1.2X1.5	11.90X1.2	due to heavy silting depth cannot be measured

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1	Anicut Type II	Vankhand Atalkheda(Ranela) Bhawani Mata Ka Mandir	Average	6
2	Anicut Type II	Putli Nala Anicut B	Good	7
3	Anicut Type III	Nimbaj Jeerawal Vankhand Near to Kesuwa Chowli	Average	6

Tonk

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Tonk Forest Division. This Forest Division with 5 Forest Ranges namely Deoli, Malpura, Newai, Tonk, & Uniyara has territorial jurisdiction over the entire Tonk District.



Figure : Location of Tonk district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Tonk Forest Division for evaluation were as given in table 1

Table1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha.	Model	**Percent of sample**
Newai	Ganga Mataji	2020-21	50	ANR	100%
Deoli	Kali Deori-IV	2020-21	50	ANR	10%
Newai	Kasba Newai	2020-21	35	NFL	100%
Deoli	KalaBhata	2021-22	50	ANR	10%

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Tonk Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no.	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Newai	Vankhand Nohta	2020-21	Pakki Diwar, 4ft.
2.	Tonk	Kuccha Bandha	2021-22	Pakki Diwar, 4ft.
3.	Tonk	Andheriya Bag MPT II	2021-22	MPT
4.	Uniyara	Bhojraj MPT II	2021-22	MPT
5.	Deoli	Gawdi MPT I	2021-22	MPT
6.	Deoli	Gawdi MPT V	2021-22	MPT
7.	Bisalpur	Near to Surnada MPT V	2021-22	MPT
8.	Bisalpur	Karmala MPT I	2021-22	MPT

9.	Deoli	Sawantgarh Toda ka Gotda A. B.	2020-21	Boundary Pillar
10.	Tonk	Sohela	2020-21	Boundary Pillar
11.	Tonk	Todaraisingh	2020-21	Boundary Pillar
12.	Uniyara	Kakod Banetha Main	2020-21	Boundary Pillar
13.	Deoli	Sitapura	2021-22	Boundary Pillar
14.	Deoli	Sitapura No.1	2021-22	Boundary Pillar
15.	Deoli	Ghad	2021-22	Boundary Pillar
16.	Deoli	Sitapura No.2	2021-22	Boundary Pillar
17.	Deoli	Devdawas	2021-22	Boundary Pillar
18.	Deoli	Aawa Dehru	2021-22	Boundary Pillar
19.	Tonk	Kuccha Bandha	2021-22	Boundary Pillar
20.	Tonk	Todaraisingh	2021-22	Boundary Pillar
21.	Newai	90 Siras	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1- Ganga Mataji site in Newai range - N 26^0 17'45"and E 76^0 37'45"

The selected plantation was carried out on 50 ha of land at at Ganga Mataji in Newai range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was sandy domat & clayey domat.





3.1.2. Treatment plan before sowing: The topography of the area was sand dunes & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3 Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel ga & other wild animalsi was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.1.4. Species Planted: The selected tree species under plantation were Acacia Tortilis (Totalis), *Acacia nilotica* (desi babool), *Holoptelea integrifolia* (Churel), Dalbergia sissoo

(Shisham), *Zizyphus mauritiana (*Ber), Azadirachta indica, (neem) and Ailanthus excelso (Ardu) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was average.



Earthen Check dam at the plantation site

3.1.5. Watering of plants: The provision of watering to plants was not reported at the 3ite. One The plantation works carried out here are totally based on rain water.

3.1.6 Natural Vegetation and Regeneration: Ronj, Desi Babool & Totalis plants were found grown naturally in this area. The growth of the plant was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Ronj, Totalis, Khair, Khejri, Desi babool and Ardu* were sown in as well as along the trenches and on the thanwlas. The result of sowing was average.

3.1.8. Protection Work: The selected ANR model plantation had ditch fencing of 3850 RMT having depth of 1.2 meters. Silting of ditch fencing was reported at the site. Fencing was partially effective in controlling the biotic pressure.

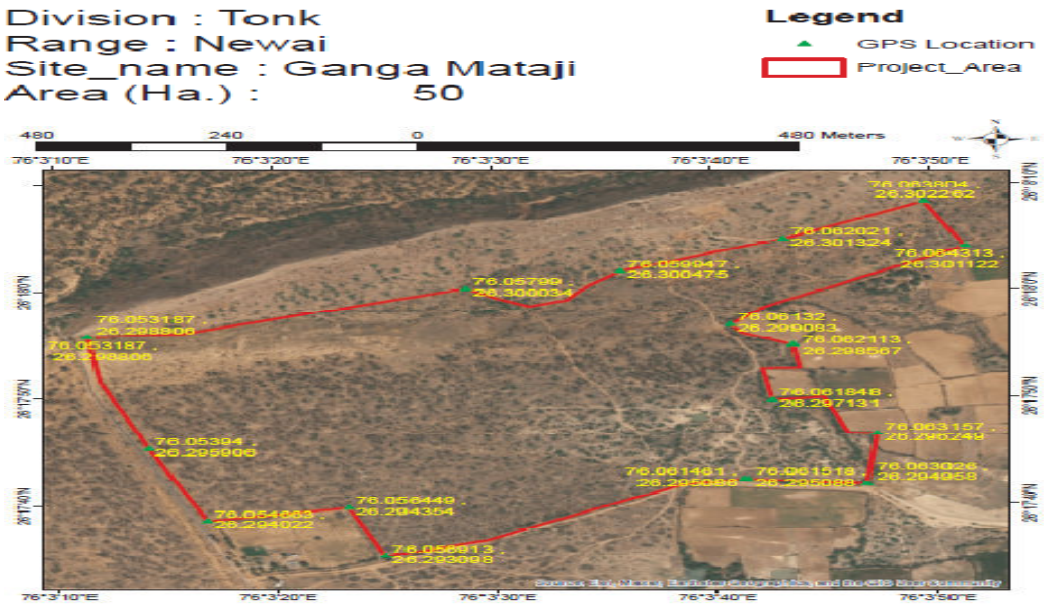
3.1.9. Soil and Water Conservation Measures: There are 10000 RMT (Width & depth -0.45 meters) Contour trenches in the form of water harvesting structures present in the entire plantation area. PCT/ Nadi (7746 cu.m) & loose stone check dam were reported at the site.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 46.9% at the site.**

Table 3: Status of Planted Seedling at the site-Ganga Mataji Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	5300	2365	2935	44.6	108.0	22
Acacia nilotica (Desi babool)	1150	948	202	82.4	99.0	22
Holoptelea integrifolia (Churel)	1000	495	505	49.5	90.0	21
Pongamia pinnata (Karanj)	50	0	50	0.0	0.0	0
Sahjan	50	0	50	0.0	0.0	0
Azadirachta indica (Neem)	50	0	50	0.0	0.0	0
Ailanthus excelsa (Ardu)	800	265	535	33.1	90.0	21
Zizyphus mauritiana (Ber)	800	245	555	30.6	102.0	21
Dalbergia sissoo (Shisham)	800	375	425	46.9	92.0	21
Total	10000	4693	5307	46.9	96.8	21

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 ha as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**
2021-22	408383.64	1000500.87	785665.490	2194550	182634.7	1209378.81	785665.490	2177679
2022-23				568850	53294			53294
Total				2763400				2230973

3.2.1. Site 2- Kali Deori IV site in Deoli range- N 25^{0}46'18" and E 75^{0}33'50"

The selected plantation was carried out on 50 hac. of land at Kali Deori IV in Deoli range during the year 2020-21. The activities were done under the ANR model. The site was a forest land and and selected for 10% evaluation. The soil was clayey hard soil with bolders.



3.2.2 Treatment plan before sowing: The topography of the area was plain & sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedling at the site was good. Grazing by stray animals, rabbit & cattles and destruction by Neel gai was reported at the site. Also, widely growths of termite, scarcity of water obstruct the growth of planted seedling. The status of guarding/ fencing at the site was good.



3.2.4. Species Planted: The selected tree species under plantation were *Acacia nilotica* (desi babool), *Holoptelea integrifolia* (Churel), *Zizyphus mauritiana (*Ber), Azadirachta indica, (Neem), Acacia leucopholea (Ronj), *Prosopis juliflora (Khejdi)* and Ailanthus excelso (Ardu) were planted.

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was very good.



3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Plants like Khair, Totalis, Hingot and Jaal have been found grown naturally. The growth of the plant was satisfactory

3.2.7. Regeneration through seed sowing: Seed of species Neem, Ardu, Ronj, Baheda, Jamun, Khejdi & desi babool were sown on trenches & thanwalas. The result of seed sowing was good. Plants from the seed sown were widely seen on contour trenches.

3.2.8. Protection Work: The selected ANR model plantation had ditch fencing of 3050 RMT having width at the top-1.50 meters, width at the bottom-0.9 meters & depth 1.2 meters. Present condition of fencing was average.

3.2.9. Soil and Water Conservation Measures: There are 5000 RMT Contour trenches, 5000 RMT SGT and 2350 cu. m PCT/ Nadi in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

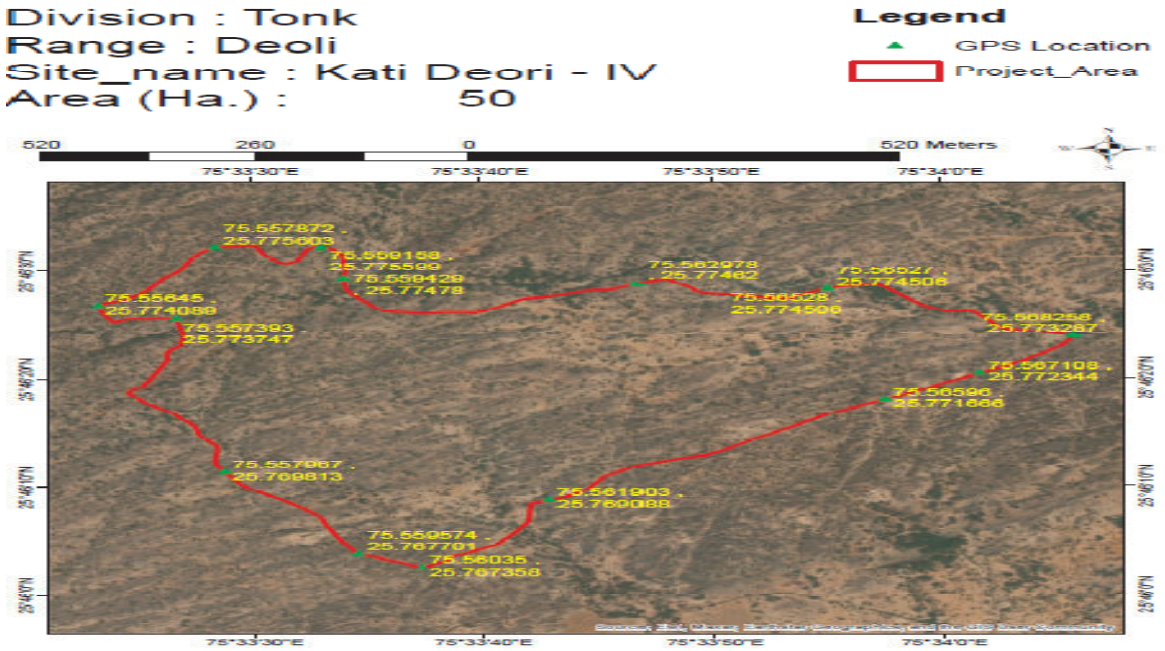
J. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 62% at the site.**

Table 3.2: Status of Planted Seedling at the site-Kari Deori IV Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	6000	600	425		111.4	24

Zizyphus mauritiana (Ber)	1000	100	55		90.0	21
Ailanthus excelsa (Ardu)	1000	100	0		0	0
Holoptelea integrifolia (Churel)	500	50	60		90.0	21
Prosopis juliflora (Khejri)	300	30	45		90.0	21
Acacia leucopholea (Ronj)	1000	100	35		90.0	21
Azadirachta indica (Neem)	200	20	0		0.0	0
Total	10000	1000	620	62.0	104.5	23

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 ha as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**
2021-22	781533	685222	727795	2194550	764440	685222	727795	2177457
Total	781533	685222	727795	2194550	764440	685222	727795	2177457

3.3.1. Site 3- Kasba Newai site in Newai range - N 26^0 21'48"and E 75^0 54'14"

The selected plantation was carried out on 35 ha of land at Kasba Newai in Newai range during the year 2020-21. The activities were done under the Non- Forest Land (NFL) model. The site was a forest land and selected for 100% evaluation. The soil was clayey hard domat & sandy.

3.3.2. Treatment plan before sowing: The topography of the area was sand dunes. Hence, as per availability of soil digging of pit has been made for plantation. Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 17500 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying



pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai & other wild animals was reported at the site. Also, widely growth of termite, soil quality and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.3.4. Species Planted: The selected tree species under plantation were Acacia Tortilis (Totalis), *Acacia nilotica* (desi babool), Dalbergia sissoo (Shisham), *Zizyphus mauritiana (*Ber), Azadirachta indica, (Neem) and Pongamia pinata (Karanj), Syzygium cumini (Jamun) were planted.

In total 17500 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 500 plants per hectare have been planted. Thus, total number of plants planted was 17500 for 35 hectare of land. Map of planting site was prepared.**As far as choice of seedlings for plantation is concerned, it was proper**. The seedlings selected for plantation were Totalis, Karanj & desi babool which can survive in harsh & dry climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. The growth of survived plants was average.

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: Desi Babool & Totalis plants were found grown naturally in this area. The growth of the plant was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Kumatha, Ronj, Churel, Khair and Ardu* were sown in as well as along the trenches and on the thanwlas. The result of sowing was good.

3.3.8. Protection Work: The selected NFL model plantation had ditch fencing of 3216 RMT having depth of 1.2 meters. Silting of ditch fencing was reported at the site. Fencing was partially effective in controlling the biotic pressure.

3.3.9. Soil and Water Conservation Measures: There are 14000 RMT (Width & depth -0.45 meters) Contour trenches in the form of water harvesting structures present in the

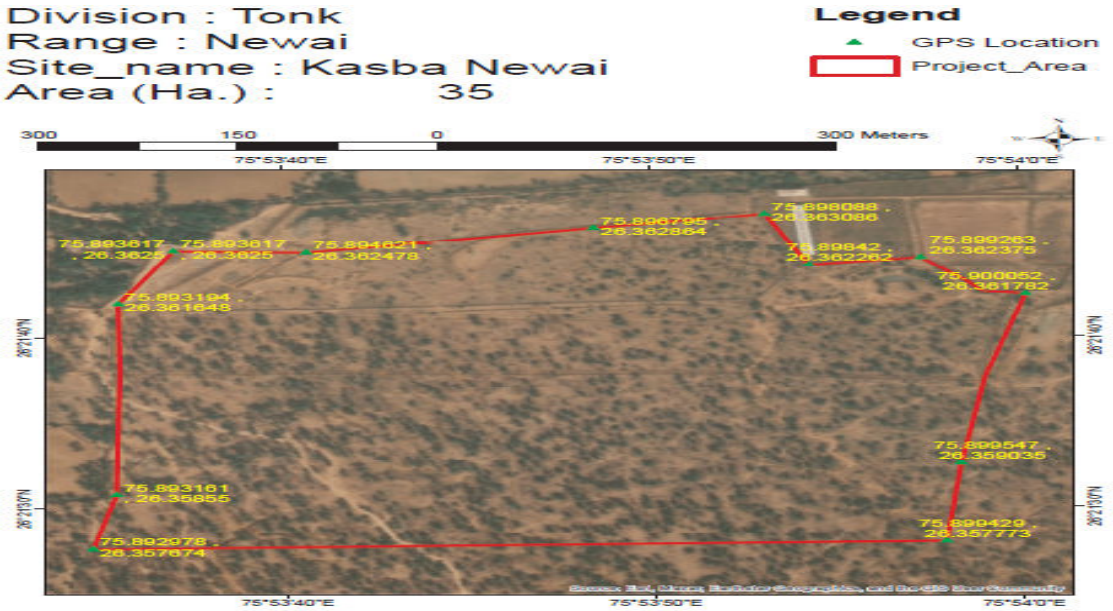
entire plantation area. PCT/ Nadi (3500 cu.m) & earthen check check dam(1500 cu.m) were reported at the site.

3.3.10. Observations Recorded: Under this model, 500 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 53.4% at the site.**

Table 3.4: Status of Planted Seedling at the site-Kasba Newai Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia tortilis (Totalis)	15000	8110	6890	54.07	90.6	22
Acacia nilotica (Desi babool)	1000	780	220	78.00	90.0	22
Azadirachta indica (Neem)	300	75	225	25.00	90.0	21
Dalbergia sissoo (Shisham)	300	165	135	55.00	90.0	21
Ficus bengalensis (bargad)	50	0	50	0.00	0.0	0
Ficus religiosa (Pipal))	50	0	50	0.00	0.0	0
*Syzygium cumini (*Jamun)	100	0	100	0.00	0.0	0
Pongamia pinnata (Karanj)	200	0	200	0.00	0.0	0
Others(Ber)	500	220	280	44.00	100.2	22
Total	17500	9350	8150	53.4	90.7	22

3.3.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 35 ha as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**
2020-21				1180000				1129739
2022-23				459643				451656
Total				1639643				1581395

3.4.1. Site 4- Kala Bhata site in Deoli range- N 25^{0}44'20" and E 75^{0}33'42"

he selected plantation was carried out on 50 hac. of land at Kali Deori IV in Deoli range during the year 2021-22. The activities were done under the ANR model. The site was a forest land and selected for 10% evaluation. The soil was soft & rocky & hard muram with kankad.

3.4.2. Treatment plan before sowing: The topography of the area was plain & sand dunes. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3. Health & Damages of Plantation: The growth of planted seedling at the site was good. Grazing by stray animals, rabbit & cattles and destruction by Neel gai was reported at the site. Also, widely growths of termite, scarcity of water obstruct the growth of planted seedling. The status of guarding/ fencing at the site was satisfactory.



3.4.4. Species Planted: The selected tree species under plantation were *Acacia nilotica* (desi babool), *Holoptelea integrifolia* (Churel), *Zizyphus mauritiana (*Ber), Azadirachta indica, (Neem), Acacia leucopholea (Ronj), Dalbergia sissoo (Shisham), *Prosopis juliflora (Khejdi)* and Ailanthus excelso (Ardu) were planted.



In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. The growth of survived plants was very poor.

3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: Plants like Desi Babool, Ronj, Ber & Hingot have been found grown naturally. The growth of the plant was satisfactory



3.4.7. Regeneration through seed sowing: Seed of species Churel, Ardu, Ronj, Kumtha & desi babool were sown on

trenches & thanwalas. The result of seed sowing was good. Plants from the seed sown were widely seen on contour trenches.

3.4.8. Protection Work: The selected ANR model plantation had ditch fencing of 3577 RMT having width at the top-1.50 meters, width at the bottom-0.9 meters & depth 1.2 meters. Present condition of fencing was average.

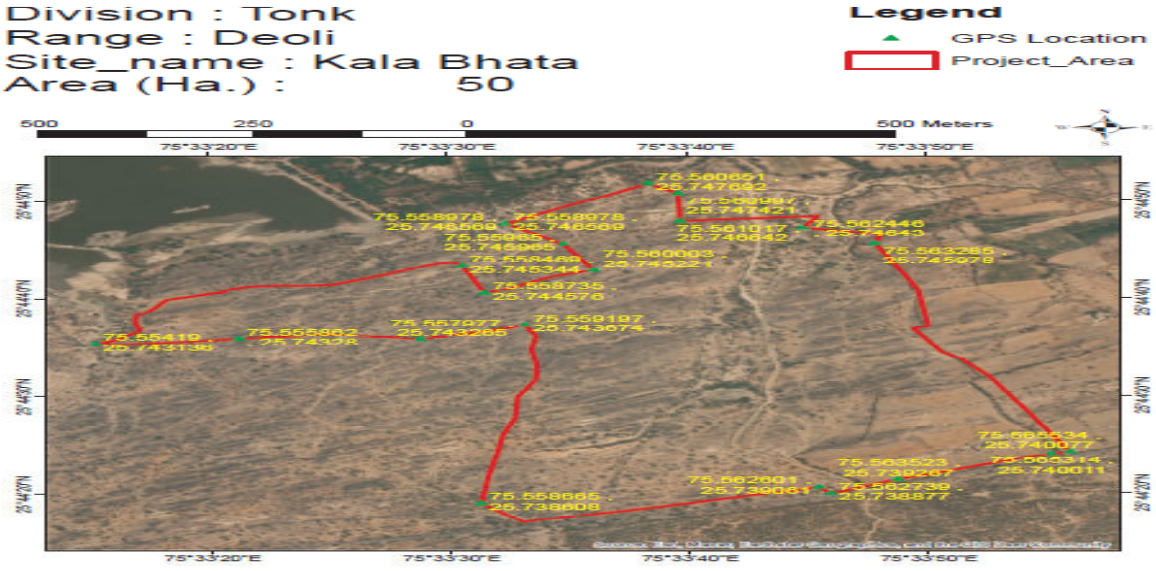
3.4.9. Soil and Water Conservation Measures There are 10000 RMT Contour trenches & 02 loose stone check dam in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 66% at the site.**

Table 3.6: Status of Planted Seedling at the site-Kala Bhata Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia nilotica (Desi babool)	5600	560	523		100.4	21
Acacia leucopholea (Ronj)	700	70	27		90.0	21
Prosopis juliflora (Khejri)	400	40	0		0.0	0
Zizyphus mauritiana (Ber)	600	60	45		90.0	21
Ailanthus excelsa (Ardu)	650	65	0		0.0	0
Holoptelea integrifolia (Churel)	1000	100	65		90.0	21
Azadirachta indica (Neem)	800	80	0		0.0	0
Dalbergia sissoo (Shisham)	100	10	0		0.0	0
Gulmohar	50	5	0		0.0	0
Sahajana	50	5	0		0.0	0
Bad, Pipal	50	5	0		90.0	21
Total	10000	1000	660	66.00	98.1	21

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 ha as per kml map.



3.4.12. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

	Cost estimate (Rs.)				Expenditure (Rs.)			
Year	**Plantation**	**SMC works**	**Boundary wall/Fenci ng**	**Total**	**Plantation**	**SMC works**	**Boundary wall/Fencing**	**Total**
2020-21	298623	1021053	761524	2081200	299448	1021053	753628	2074129
2021-22	5116501			511650	508513			508513
Total	5415124	1021053	761524	2592850	807961	1021053	753628	2582642

4. Results for asset sites

4.1 Site 1- Pakki Diwar 4 Ft. at Vankhand Nohta, Newai range



At Vankhand Nohta in Newai range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 4 ft and 400 m length as per MB. In actual 400 m pakki diwar was constructed at the site. The width of the diwar was 0.38 meter & height was 1.20 meter. Construction work appeared to be average and useful. The construction of Pakki Diwar 4 ft helped in preventing encroachment. GPS location of this area was $26^0$19’16” N and $76^0$5’44”E. The expenditure incurred for constructing this wall was Rs. 943312 (as per MB) against the estimated budget of Rs. 960000

Site 2- Pakki Diwar 4 Ft at Kuccha Bandha Tonk range



Kuccha Bandha site in the Tonk range, the pakki diwar 4 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 4 ft and 1000 m length as per MB. In actual 1000 m pakki diwar was constructed at the site. The width of the diwar was 0.38 meter & height was 1.20 meters. Construction work appeared to be average and useful. GPS location of this area was $26^0$10’59” N and $75^0$48’8”E. .The expenditure incurred for constructing this wall was Rs. 2620000 (as per MB) against the estimated budget of Rs. 2618391.

Site 3- MPT at Andheriya Bagh MPT II, Tonk Range



At Andheriya Bagh MPT II in Tonk range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (88m), breadth (2.0m) & height (6.0 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the

time of visit. The GPS location of this area was $26^0$11'3" N and $75^0$48'46"E .The MPT is useful for forest area & wild animals.. The expenditure incurred for constructing the MPT was Rs. 69033 (as per MB) against the estimated budget of Rs.70000.

Site 4- MPT at Bhojraj MPT II, Uniyara Range



At Bhojraj MPT II in Uniyara range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (75m), breadth (3.5m) & height (3.6 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the time of visit. The GPS location of this area was $26^0$2'25" N and $75^0$55'32"E .The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 70000 (as per MB) against the estimated budget of Rs.70000.

Site 5- MPT at Gawdi MPT I, Deoli Range

At Gawdi MPT I in Deoli range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (73m), breadth (2.7m) & height (3.6 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the time of visit. However water marks was observed. The MPT is built at the foot of the mountain. The structure is useful for collection of rain water. The GPS location of this area was 25.836045 N and 75.427469 E. The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 70000 (as per MB) against the estimated budget of Rs.70000.

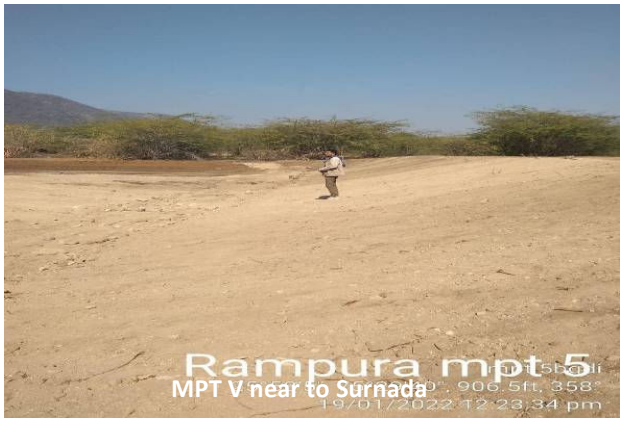


Site 6- MPT at Gawdi MPT V, Deoli Range

At Gawdi MPT V in Deoli range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (75m), breadth (3.0m) & height (3.6 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the time of visit. The structure is useful for collection of rain water. This helps in soil moisture retention in the nearby area. The GPS location of this area was 25.833835 N and 75.421272 E. The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 70000 (as per MB) against the estimated budget of Rs.70000.



Site 7- MPT near to Surnada MPT V, Bisalpur Range



Near to Surnada MPT V in Bisalpur range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (75m), breadth (3.5m) & height (3.6 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the time of visit. The structure is useful for collection of rain water. This helps in soil moisture retention in the near by area. The structure is environment friendly & low cost. The GPS location of this area was $25^0$58'5" N and $75^0$29'40"E.The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 70000 (as per MB) against the estimated budget of Rs.70000.

Site 8- MPT at Karmala MPT I, Bisalpur Range



At Karmala MPT I in Bisalpur range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (75m), breadth (3.5m) & height (3.6 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the time of visit. The GPS location of this area was 25.96546 N and 75.495029 E. The MPT is useful for forest area & wild animals. The structure is useful for collection of rain water. This helps in soil moisture retention in the nearby area. The structure is environment friendly & low cost. Sufficient catchment area is available to support the MPT. The expenditure incurred for constructing the MPT was Rs. 70000 (as per MB) against the estimated budget of Rs.70000.

Site 9- Pillars at Sawantgarh Toda Ka Gotda A B, Deoli range



At Sawantgarh Toda Ka Gotda A B in Deoli range (12 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.34200 (as per MB) against the estimated cost of Rs 34200.

Site 10- Pillars at Sohela, Tonk range

At Sohela in Tonk range (04 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary.The expenditure incurred for constructing the Pillars was Rs. 35620 (as per MB) against the estimated cost of Rs. 36000.



Site 11- Pillars at Todaraisingh, Tonk range

At Todaraisingh in Tonk range (03 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing work of pillar should be proper. Number & GPS should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs.36000 (as per MB) against the estimated cost of Rs 36000.



Site 12- Pillars at Kakod Banetha Main, Uniyara range

At Kakod Banetha Main in Uniyara range (08 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing work of pillar should be proper. Number & GPS should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 56415 (as per MB) against the estimated cost of Rs 10800.



Site 13- Pillars at Sitapura, Deoli range

At Sitapura in Deoli range (03 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.30379 (as per MB) against the estimated cost of Rs 30550.



Site 14- Pillars at Sitapura no.1, Deoli range

At Sitapura no.1 in Deoli range (13 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. GPS & number should be written on the pillar. Few pillars were found either partially damaged or totally damaged at the time of visit.The expenditure incurred for constructing the Pillars was Rs.145459 (as per MB) against the estimated cost of Rs 145700.



Evaluation team at the Sitapura no.1 pillar site

Site 15- Pillars at Ghad, Deoli range

At Ghad in Deoli range (02 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars was Rs.20969 (as per MB) against the estimated cost of Rs 21150.



Evaluation team at the Ghad pillar site

Site 16- Pillars at Sitapura no.2, Deoli range

At Sitapura no.2 in Deoli range (02 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. GPS & number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs.4389 (as per MB) against the estimated cost of Rs 14100.



Evaluation team at the Sitapura no. 2 pillar site

Site 17- Pillars at Devdawas, Deoli range

At Devdawas in Deoli range (08 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The GPS & number should be written on the



Pillar at Devdawas

pillar. The expenditure incurred for constructing the Pillars was Rs.63937 (as per MB) against the estimated cost of Rs 173900.

Site 18- Pillars at Aanwa Dehru, Deoli range

At Aanwa Dehru in Deoli range (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The GPS & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. 117500 (as per MB) against the estimated cost of Rs 117500.



Site 19- Pillars at Kuccha Bandha, Tonk range

At Kuccha Bandha in Tonk range (04 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The expenditure incurred for constructing the Pillars was Rs. 35559 (as per MB) against the estimated cost of Rs 37600.



Site 20 -Pillars at Todaraisingh, Tonk range

At Todaraisingh in Tonk range (04 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing work of pillar should be proper. Number & GPS should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.48893 (as per MB) against the estimated cost of Rs 51700.



Site 21- Pillars at 90 Siras, Newai range

At 90 Siras in Newai range (06 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing work of pillar should be proper.



Number & GPS should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.44716 (as per MB) against the estimated cost of Rs 235500.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Tonk division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Ganga Mataji	ANR	50	46.9	5
2.	Kali Deori-IV	ANR	50	62.0	7
3.	Kasba Newai	NFL	35	53.4	6
4.	Kala Bhata	ANR	50	66.0	7

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation	Remark
1.	Pakki Diwar, 4ft.	Vankhand Nohta	400	400	0	
2.	Pakki Diwar, 4ft.	Kuccha Bandha	1000	1000	0	
3.	MPT	Andheriya Bag MPT II	88X2X6	88X2X6	0	
4.	MPT	Bhojraj MPT II	753.5X3.6	1	0	
5.	MPT	Gawdi MPT I	1	1	0	
6.	MPT	Gawdi MPT V	1	1	0	
7.	MPT	Near to Surnada MPT V	1	1	0	
8.	MPT	Karmala MPT I	1	1	0	
9.	Boundary Pillar	Sawantgarh Toda ka Gotda A. B.	12	12	0	
10.	Boundary Pillar	Sohela	4	4	0	
11.	Boundary Pillar	Todaraisingh	3	3	0	
12.	Boundary Pillar	Kakod Banetha Main	8	8	0	
13.	Boundary Pillar	Sitapura	3	3	0	
14.	Boundary Pillar	Sitapura No.1	13	12	1	Removed by the local community
15.	Boundary Pillar	Ghad	2	2	0	
16.	Boundary Pillar	Sitapura No.2	2	2	0	
17.	Boundary Pillar	Devdawas	8	8	0	

18.	Boundary Pillar	Aawa Dehru	10	10	0	
19.	Boundary Pillar	Kuccha Bandha	4	4	0	
20.	Boundary Pillar	Todaraisingh	4	4	0	
21.	Boundary Pillar	90 Siras	6	6	0	

Table 5.1: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar, 4ft.	Vankhand Nohta	Average	6
2.	Pakki Diwar, 4ft.	Kuccha Bandha	Average	6
3.	MPT	Andheriya Bag MPT II	Average	6
4.	MPT	Bhojraj MPT II	Average	6
5.	MPT	Gawdi MPT I	Average	6
6.	MPT	Gawdi MPT V	Average	6
7.	MPT	Near to Surnada MPT V	Average	6
8.	MPT	Karmala MPT I	Average	6
9.	Boundary Pillar	Sawantgarh Toda ka Gotda A. B.	Average	6
10.	Boundary Pillar	Sohela	Average	6
11.	Boundary Pillar	Todaraisingh	Average	6
12.	Boundary Pillar	Kakod Banetha Main	Average	6
13.	Boundary Pillar	Sitapura	Average	6
14.	Boundary Pillar	Sitapura No.1	Average	6
15.	Boundary Pillar	Ghad	Average	6
16.	Boundary Pillar	Sitapura No.2	Average	6
17.	Boundary Pillar	Devdawas	Average	6
18.	Boundary Pillar	Aawa Dehru	Average	6
19.	Boundary Pillar	Kuccha Bandha	Average	6
20.	Boundary Pillar	Todaraisingh	Average	6
21.	Boundary Pillar	90 Siras	Average	6

Udaipur DOD

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Udaipur DOD Forest Division.

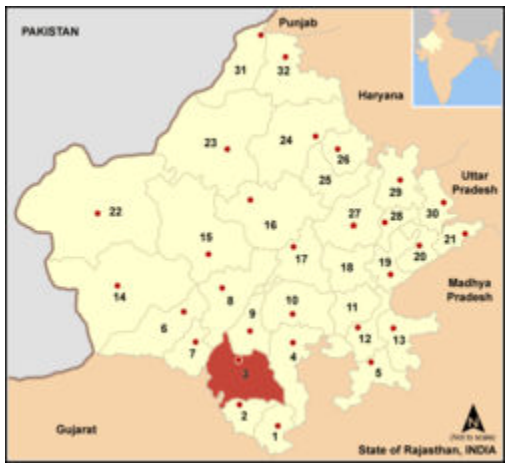


Figure : Location of Udaipur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Udaipur DOD Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
DOD Dewla	Toran I Compartment no. 18	2021-22	150	PEO-Bamboo	100%

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1 Site 1- Toran I Compartment no. 18 in DOD Dewla range -N $24^0$36’45” and E $73^0$18’9”

The selected plantation was carried out on 150 hac. of land at Toran I Compartment no. 18 in DOD Dewla range during the year 2021-22. The activities were done under the Productivity Enhancement Operation (PEO-Bamboo) model. The site was a forest land and selected for 100% evaluation. The soil was black & laterite.



3.1.2. Treatment plan before sowing: The topography of the area was hilly. Two types of bamboo culture operation were done at the plantation site. First is 65000 open bamboo culture operation & second is 4500 bamboo culture operation on stone constructed thuras. In total, 69500 bamboo culture operation was done at the site.



3.1.3. Health & Damages of Plantation: The growth of bamboo at the site was good. Damage to bamboo plants by human was reported at the site. The status of guarding/ fencing at the site was satisfactory.

3.1.4. Species Planted: 69500 bamboo culture operation was reported at the site. **The growth of bamboo at the site was good.**



3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Khirni, Baheda Godal, Shisham, Tendu, Khair, Shisham & Salar were the plants found grown naturally in this area. The growth of the plants was good.



3.1.7. Regeneration through seeds sowing: The seed sowing was not reported at the site.

3.1.8. Protection Work: The selected PEO model plantation had loose stone wall fencing of 4970 RMT. Present condition of fencing was average.



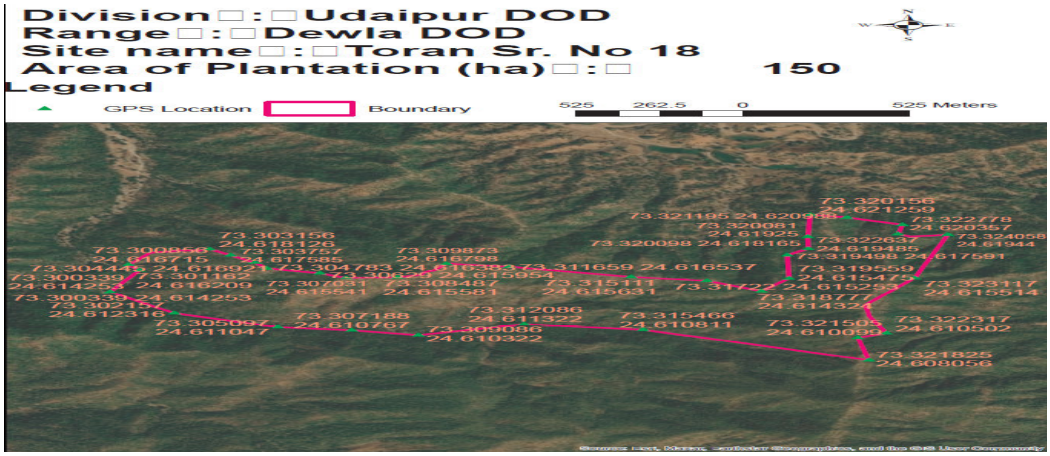
3.1.9. Soil and Water Conservation Measures: There are 110 loose stone check dam (1325 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 69500 bamboo culture operation was done in 150 hac. **Based on for as 100 percent counting, plants survival was 79.1% at the site.** Bamboo Plant species collar girth & height was also measured. The growth of bamboo plant was good.

Table 3: Status of Bamboo plants at the site- Toran I Compartment no.18 Site

Species	Bamboo culture operation	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	69500	55000	14500	79.1	315	30

3.1.11. GPS Location and KML file: The selected PEO model under CAMPA plantation site measured 150 hac as per KML map.



3.1.12. Budget and expenditure

Table 3.2: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21								
2021-22				1494100				1488521
2022-23				98100				97989
Total				1592200				1586510

4. Overall assessment

Table 4: Quantitative assessment of plantation work created under CAMPA in Udaipur DOD division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Toran I Compartment no.18	PEO	150	79.1	8

4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Udaipur North

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Udaipur North Forest Division. This Forest Division with 4 Forest Ranges namely Bhindar, Gogunda, Sayra & Udaipur has territorial jurisdiction over the entire Udaipur District.



Figure : Location of Udaipur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Udaipur North Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Sl.no	Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
1.	Devla	Kyari 1	2020-21	50	ANR	100%
2.	Sayra	Levo Ka Mathana C	2020-21	50	ANR	10
3.	Gogunda	Nathiyathal A	2021-22	50	ANR	100%
4.	Kotra	Junapadar A	2021-22	50	ANR	10
5.	Udaipur	Karget B	2021-22	59	NFL	100
6.	Devla	Taurana 12	2021-22	50	PEO-Bamboo	10
7.	Udaipur	Lakhavali	2021-22	50	PEO-Bamboo	100

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Udaipur North Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Si.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Dewla	Mairpur-6	2021-22	Anicut Type II
2.	Kukawas	Rohini	2021-22	MPT
3.	Bhinder	Aakola	2021-22	MPT
4.	Gogunda	Bhadwiguda	2020-21	Boundary Pillar
5.	Gogunda	Aaramangra	2020-21	Boundary Pillar

6.	Gogunda	Majam	2020-21	Boundary Pillar
7.	Gogunda	Khuman Mangra	2020-21	Boundary Pillar
8.	Sayra	Vankhand Bagar Ka Khula Jungle	2020-21	Boundary Pillar
9.	Sayra	Vankhand Ladiyo ki Ghati	2020-21	Boundary Pillar
10.	Sayra	Vankhand Thana wali nedi	2020-21	Boundary Pillar
11.	Sayra	Vankhand Rupar ka Mathara	2020-21	Boundary Pillar
12.	Sayra	Rawach	2021-22	Boundary Pillar
13.	Sayra	Kamba Ka Khula Jungle	2021-22	Boundary Pillar
14.	Sayra	Baguni	2021-22	Boundary Pillar
15.	Sayra	Aadiwali Barwari A	2021-22	Boundary Pillar
16.	Udaipur	Gamdhar	2021-22	Boundary Pillar
17.	Udaipur	Kamlodiya	2021-22	Boundary Pillar
18.	Udaipur	Hinglasiya	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.3 Report of Evaluation of Plantation Site

3.1.1. Site 1- Kyari I site in Dewla range -N 24.680968 and E 73.147046

The selected plantation was carried out on 50 hac. of land at Kyari I site in Dewla range during the year 2020-21. The activities were done under the Assissted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil is domat & clayey.

3.1.2 Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals &cattle and destruction by Neel gai was reported at the site. Also, widely growth of termite & attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.1.4. Species Planted: The selected tree species under plantation were of Emblica officinalis (Amla), Acacia catechu (Khair), Ficus racemosa (Hawan), Syzygium cumini (Jamun), Dendrocalamus strictus (Baans), Tamarindus indica (Imli), Terminalia bellirica (Baheda), Terminalia arjuna (Arjun), Shahjan and Pongamia pinnata (Karanj).

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Seedlings were planted block-wise according to the availability of space in the plantation area. Technique of planting at the site was pit.

As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. Map of planting site was prepared.As far as choice of seedlings for plantation is concerned, it was proper. The seedlings selected for plantation were Khair, Bamboo, Arjun & Anwla which can survive in the climate. The choice of plants was made as per climatic condition so that the plants can grow well and survive for longer period. **The growth of survived plants was average.**



3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.



3.1.6. Natural Vegetation and Regeneration: Salar, Palash, Hawan, Tendu and Godal were the plants found grown naturally in this area. The growth of the plant was good.

3.1.7. Regeneration through seeds sowing: Seeds of species *Khair, Ratanjot, Katkaranj and Bair* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**



3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3500 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters.

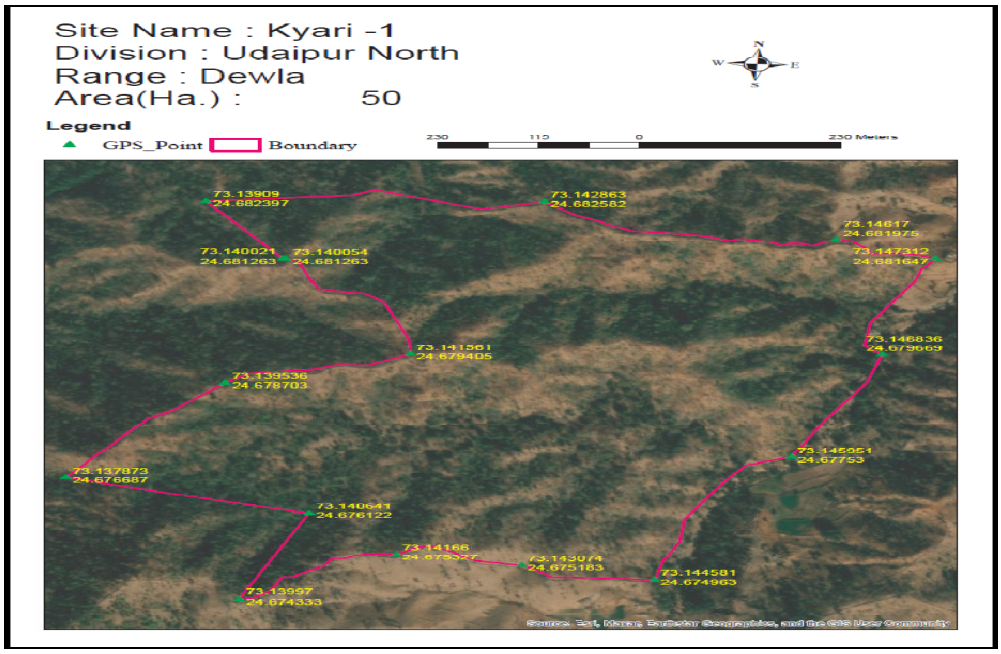
3.1.9. Soil and Water Conservation Measures: There are 20000 RMT Contour trenches & 1627 cu. meter loose stone check dam in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 42.5% at the site.** Plant species collar girth & height was also measured. The growth of planted plants was average. A total of 10000 plants comprising of various species were planted in the 40 hectare plantation area.

Table 3: Status of Planted Seedlings at the site-Kyari I Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gab (mm)
Emblica officinalis (Amla)	1000	480	520	48.0	114	21
Ficus racemosa (Hawan)	500	215	285	43.0	101	21
Acacia catechu (Khair)	1200	460	740	38.3	101	21
Dendrocalamus strictus (Baans)	5550	2670	2880	48.1	142	21
Shahjan	200	0	200	0.0	0	0
Tamarindus indica (Imli)	300	41	259	13.7	101	21
Terminalia bellirica (Baheda)	300	79	221	26.3	107	22
Terminalia arjuna (Arjun)	350	0	350	0.0	0	0
Syzygium cumini (Jamun)	200	80	120	40.0	118	24
Pongamia pinnata (Karanj)	400	225	175	56.3	108	21
Total	10000	4250	5750	42.5	129	21

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.2.1. Site 2- Levo Ka Mathana C site in Sayra range -N 24053'30" and E 73^{0}22'5"

The selected plantation was carried out on 50 hac. of land at Levo Ka Mathana C site in Sayra range during the year 2020-21. The activities were done under the Assissted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was brown & black.



3.2.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals &cattle and destruction by Neel gai was reported at the site. Also, widely growth of termite & attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.





3.2.4. Species Planted: The selected tree species under plantation were of Emblica officinalis (Amla), Acacia catechu (Khair), Ficus racemosa (Hawan), Cassia fistula (Amaltas), Syzygium cumini (Jamun), Dendrocalamus strictus (Baans), Albizia lebbeck (Kala Siras), Holoptelea integrifolia (Churel), Wrightia tinctoria (Khirani), Ficus bengalensis (bargad), Terminalia bellirica (Baheda), Terminalia arjuna (Arjun) and Pongamia pinnata (Karanj).

In total 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. Thus, total number of plants planted was 10000 for 50 hectare of land.. **The growth of survived plants was average.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Tendu, Khakhra, Mahuwa, Khair and Godal were the plants found grown naturally in this area. The growth of the plant was good.

3.2.7. Regeneration through seeds sowing: Seeds of species *Khair, Ratanjot, Katkaran, Baheda and Hawan were* sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.2.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1260 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters, 1200 RMT ditch fencing & 300 RMT barbed wire fencing.

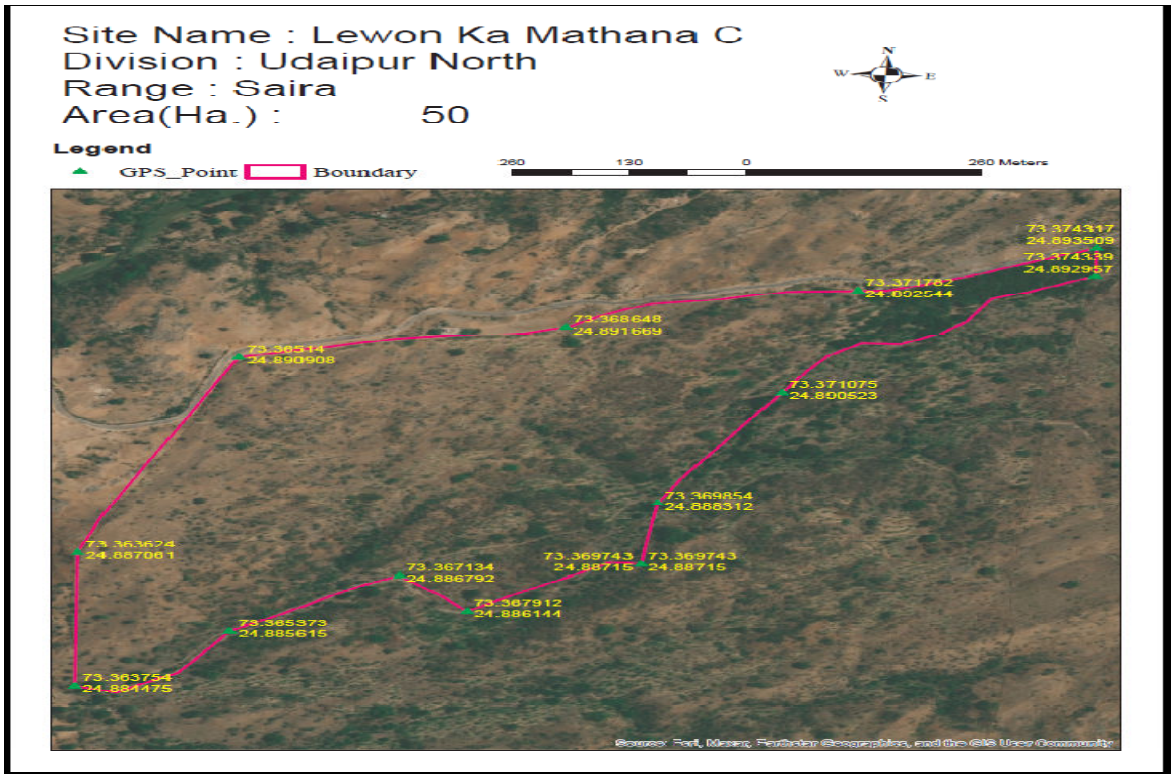
3.2.9. Soil and Water Conservation Measures: There are 20000 RMT Contour trenches & 1404 cu. meter loose stone check dam in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.0% at the site.**

Table 3.1: Status of Planted Seedlings at the site-Levo Ka Mathana C Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	2500	250	165		199	21
Acacia catechu (Khair)	1550	155	90		113	21
Pongamia pinnata (Karanj)	500	50	0		0	0
Syzygium cumini (Jamun)	200	20	0		0	0
Albizia lebbeck (Kala Siras)	400	40	0		0	0
Ficus bengalensis (bargad)	50	5	0		0	0
Ficus religiosa (Pipal))	100	10	0		0	0
Wrightia tinctoria (Khirani)	550	55	40		113	21
Holoptelea integrifolia (Churel)	550	55	0		0	0
Terminalia arjuna (Arjun)	100	10	37		124	21
Gular	250	25	0		0	0
Ficus racemosa (Hawan)	350	35	0		0	0
*Bauhinia sp. (*Kachnar*)*	200	20	0		0	0
Emblica officinalis (Amla)	2200	220	108		125	21
Terminalia bellirica (Baheda)	100	10	0		0	0
Cassia fistula (Amaltas)	400	40	0		0	0
Total	10000	1000	440	44.0	149	21

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.2.12. Budget and expenditure

Table 3.2: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				486172
2021-22				182150				182149
2022-23				107950				107866
Total				776300				776187

3.3.1 Site 3- Nathiyathal A site in Gogunda range -N $24^0$37.803 and E $73^0$27.144

The selected plantation was carried out on 50 hac. of land at Nathiyathal A site in Gogunda range during the year 2021-22. The activities were done under the Assissted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil is brown.



Nathiyathal A plantation site

3.3.2. Treatment plan before sowing: The topography of the area was hilly & plain. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals &cattle and destruction by Neel gai was reported at the site. Also, widely growth of termite & attack by pest obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.3.4. Species Planted: The selected tree species under plantation were of Emblica officinalis (Amla), Acacia catechu (Khair), Mangifera indica (Mango), Ficus racemosa (Hawan), Dendrocalamus strictus (Baans), Terminalia bellirica (Baheda), Terminalia arjuna (Arjun), Madhuka latifolia (Mahua) and Pongamia pinnata (Karanj).


SMC structure at the site

In total 10000 numbers of seedlings

were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was average.**



Loose stone wall fencing at the site

3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6.. Natural Vegetation and Regeneration: Salar, Khirni, Khakhra and Godal were the plants found grown naturally in this area. The growth of the plant was good.

3.3.7. Regeneration through seeds sowing: Seeds of species *Khair, Ratanjot, Katkaranj, Hawan, Mahuwa and Bair* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.3.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2370 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters.

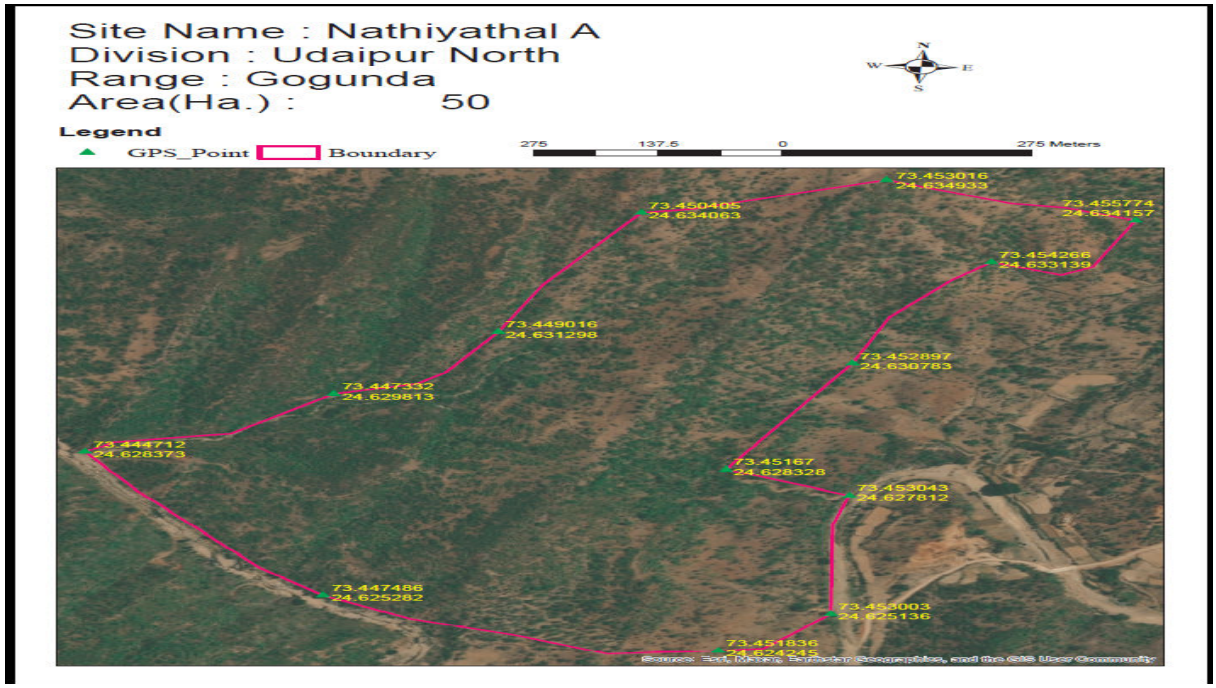
3.3.9. Soil and Water Conservation Measures: There are 20000 RMT Contour trenches, gabion (116cu.m) & loose stone check dam(807.5 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 48.1% at the site.**

Table 3.3: Status of Planted Seedlings at the site-Nathiyathal A Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	6000	3480	2520	58.0	172	22
Acacia catechu (Khair)	1000	390	610	39.0	90	21
Ficus racemosa (Hawan)	500	261	239	52.2	99	21
Terminalia bellirica (Baheda)	500	0	500	0.0	0	0
Emblica officinalis (Amla)	1000	490	510	49.0	98	22
Terminalia arjuna (Arjun)	200	0	200	0.0	0	0
*Mangifera indica (*Mango*)*	200	69	131	34.5	109	21
Madhuka latifolia (Mahua)	100	61	39	61.0	113	21
Shivnag	100	58	42	58.0	133	21
Others	400	0	400	0.0	0	0
Total	10000	4809	5191	48.1	152	21

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



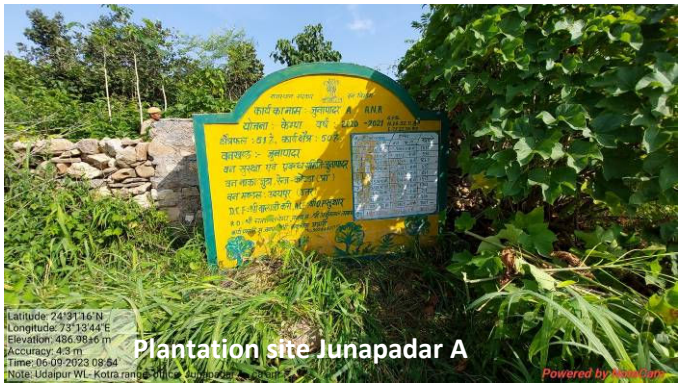
3.3.11. Budget and expenditure

Table 3.4: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2075487
2021-22				511650				511561
2022-23				203500				195199
Total				2796350				2782247

3.4.1. Site 4- Junapadar A site in Kotra range -N 24°31'18" and E 73°13'43"

The selected plantation was carried out on 50 hac. of land at Junapadar A in Kotra range during the year 2021-22. The activities were done under the Assissted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was rocky black & red soil.



3.4.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar, rabbits and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.

3.4.4 Species Planted: The selected tree species under plantation were fourteen. Seedlings of Dendrocalamus strictus (Baans), Pongamia pinnata (Karanj), Holoptelea integrifolia (Churel), Wrightia tinctoria (Khirani), Cassia fistula (Amaltas), Emblica officinalis (Amla), Acacia catechu (Khair), Bombax ceiba (Semal), Holoptelea integrifolia (Churel), Terminalia arjuna (Arjun), Ficus racemosa (Hawan), Madhuka latifolia (Mahua), Mangifera indica (Mango), Zizyphus mauritiana (Ber) and Tectona grandis (Sagwan)were planted.



In total, 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was good.**



3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: *Salar, Godal, Khirni, Churail & Baheda were* the plants found grown naturally in this area. The growth of the plant was good.

3.4.7. Regeneration through seeds sowing: Seeds of species Khair*, Mango, Sitafal, Sahjan, Khirni, Mahuwa and Ratanjot* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good. Plants grown out of seed sowing were widely seen on trenches & thanwala.**

3.4.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3530 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters. The status of fencing was average. 300-400 rmt fencing was reported damaged.

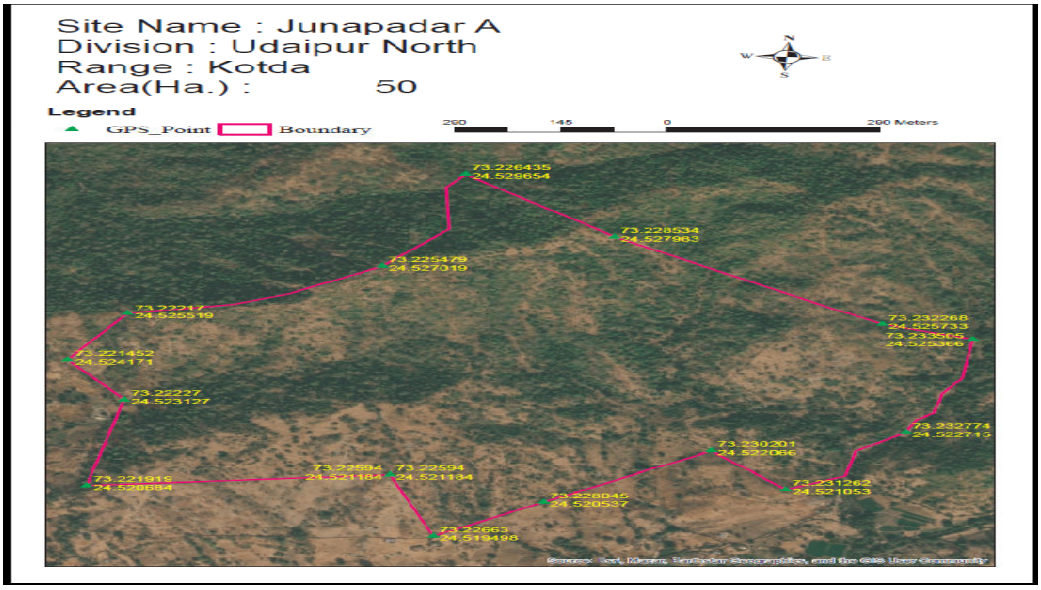
3.4.9 Soil and Water Conservation Measures: There are 20000 RMT Contour trenches & 1153 cu.m loose stone checkdams in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT & +2 cu.m excess in loose stone checkdams.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 53.0% at the site.**

Table 3.5: Status of Planted Seedlings at the site-Junapadar A Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dalbergia sissoo (Shisham)	250	25	20		95	22
Bombax ceiba (Semal)	310	31	60		158	20
Terminalia arjuna (Arjun)	1050	105	95		102	22
Holoptelea integrifolia (Churel)	2100	210	35		126	21
Dendrocalamus strictus (Baans)	3550	355	100		62	6
Ficus racemosa (Hawan)	570	57	95		108	23
Madhuka latifolia (Mahua)	355	36	25		102	24
Wrightia tinctoria (Khirani)	1500	150	5		98	22
*Mangifera indica (*Mango*)*	90	9	0		0	0
Zizyphus mauritiana (Ber)	100	10	45		102	22
Tectona grandis (Sagwan)	45	5	40		145	24
Cassia fistula (Amaltas)	80	8	10		105	23
Total	10000	1000	530	53.0	109	21

3.4.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 50 Hac as per kml map.



3.4.12. Budget and expenditure

Table 3.6: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2080449
2021-22				511650				510407
2022-23				203500				203229
Total				2796350				2794085

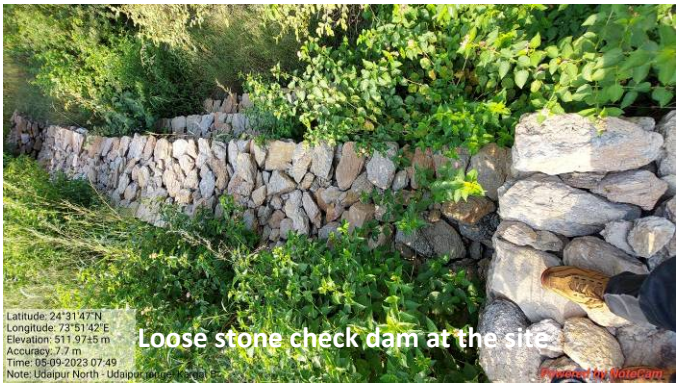
3.5.1. Site 5- Karget B site in Udaipur range -N 24°31'44" and E 73°51'39"

The selected plantation was carried out on 59 hac. of land at Karget B in Udaipur range during the year 2021-22. The activities were done under the Non Forest Land (NFL) model. The site was a forest land and selected for 100% evaluation. The soil was rocky.



3.5.2. Treatment plan before sowing: The topography of the area was hilly & undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 11830 pits were dug for plantation in total 59 hac of land.The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.5.3. Health & Damages of Plantation: The growth of planted seedlings at the site was good. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.



3.5.4. Species Planted: The selected tree species under plantation were fourteen. Seedlings of Dendrocalamus strictus (Baans), Pongamia pinnata (Karanj), Holoptelea integrifolia (Churel), Wrightia tinctoria (Khirani), Emblica officinalis (Amla), Acacia catechu (Khair),Terminalia bellirica (Baheda), Albizia lebbeck (Kala Siras),Holoptelea integrifolia (Churel), Terminalia arjuna (Arjun), Ficus racemosa (Hawan), Madhuka latifolia (Mahua), Mangifera indica (Mango), Zizyphus mauritiana (Ber) and Syzygium cumini (Jamun)were planted.

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 11830 for 59 hectare of land. **The growth of survived plants was good.**



3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6 Natural Vegetation and Regeneration: *Bair Kumtha,Ronj &Khakhra* were the plants found grown naturally in this area. The growth of the plant was good.

3.5.7. Regeneration through seeds sowing: Seeds of species Khair, *Baheda,Neem, Kakhra, Katkaranj and Ratanjot* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good. Plants grown out of seed sowing were widely seen on trenches & thanwala.**

3.5.8. Protection Work: The selected NFL model plantation had loose stone fencing of 2129 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters, ditch fencing of 618 RMT & hedge fencing of 532 RMT. The status of fencing was average.

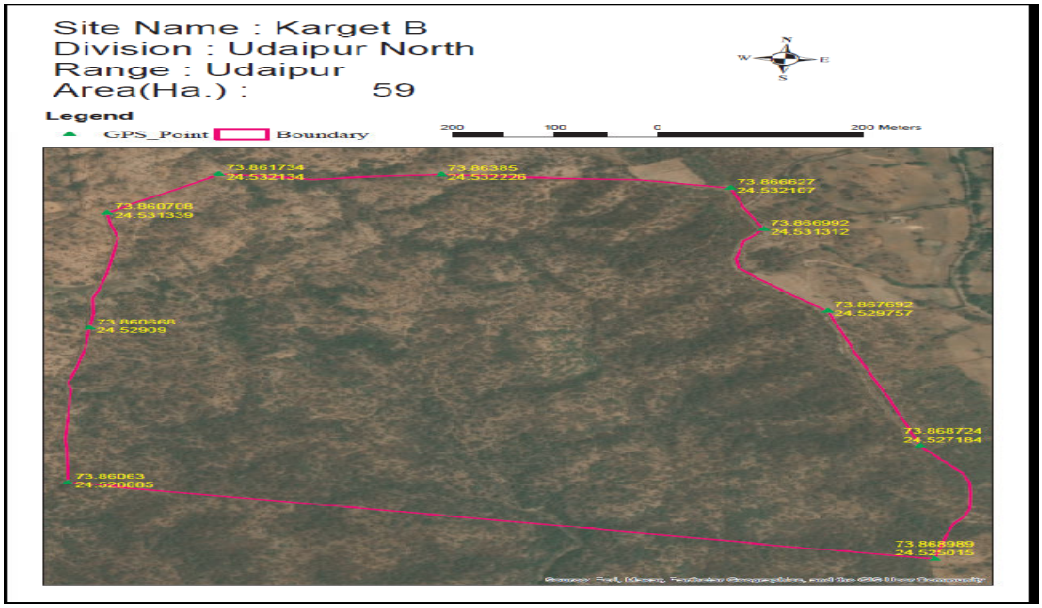
3.5.9. Soil and Water Conservation Measures: There are 23696 RMT Contour trenches, 887 RMT Dykes & 485 cu.m loose stone check dams in the form of water harvesting structures present in the entire plantation area.

3.5.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 67.6% at the site.**

Table 3.7: Status of Planted Seedlings at the site-Karget B Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Holoptelea integrifolia (Churel)	2000	1427	573	71.4	115	22
Albizia lebbeck (Kala Siras)	300	189	111	63.0	96	21
Syzygium cumini (Jamun)	200	131	69	65.5	98	22
Dendrocalamus strictus (Baans)	2600	1353	1247	52.0	180	20
Terminalia bellirica (Baheda)	400	287	113	71.8	95	20
Terminalia arjuna (Arjun)	50	41	9	82.0	100	14
Azadirachta indica (Neem)	100	42	58	42.0	92	18
Pongamia pinnata (Karanj)	1300	817	483	62.8	122	11
Acacia catechu (Khair)	4000	3315	685	82.9	75	9
Kesar Adusa	520	218	302	41.9	94	19
Wrightia tinctoria (Khirani)	100	62	38	62.0	95	20
Ficus religiosa (Pipal))	50	20	30	40.0	94	19
Ficus racemosa (Hawan)	100	82	18	82.0	140	20
Gular	60	10	50	16.7	96	18
*Mangifera indica (*Mango*)*	50	0	50	0.0	0	0
Total	11830	7994	3836	67.6	107	18

3.5.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 59 Hac as per kml map.



3.6.1. Site 6- Tourna 12 site in Dewla range -N 24˚610952 and E 73.261046

The selected plantation was carried out on 50 hac. of land at Tourna 12 in Dewla range during the year 2021-22. The activities were done under the Productivity Enhancement Operation (PEO-Bamboo) model. The site was a forest land and selected for 10% evaluation. The soil was red brown with morar.

3.6.2. Treatment plan before sowing: The topography of the area was hilly. Bamboo culture operation was done at the plantation site. 6500 bamboo culture operation on stone constructed thuras was done at the site.



3.6.3. Health & Damages of Plantation: The growth of bamboo at the site was good. Damage to bamboo plants by human was reported at the site as human habitation was close to the site. The status of guarding/ fencing at the site was satisfactory.



3.6.4. Species Planted: 6500 bamboo culture operation was reported at the site. **The growth of bamboo at the site was good.**

3.6.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.6.6. Natural Vegetation and Regeneration: Churai, Godal, Teebru, Dhonk & Salar were the plant found grown naturally in this area. The growth of the plants was good.

3.6.7. Regeneration through seeds sowing: Seeds of species Bair, *Baheda, Khair, Khair, Katkaranj and Ratanjot* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**



3.6.8. Protection Work: The selected PEO model plantation had loose stone wall fencing of 3100 RMT. Present condition of fencing was average.

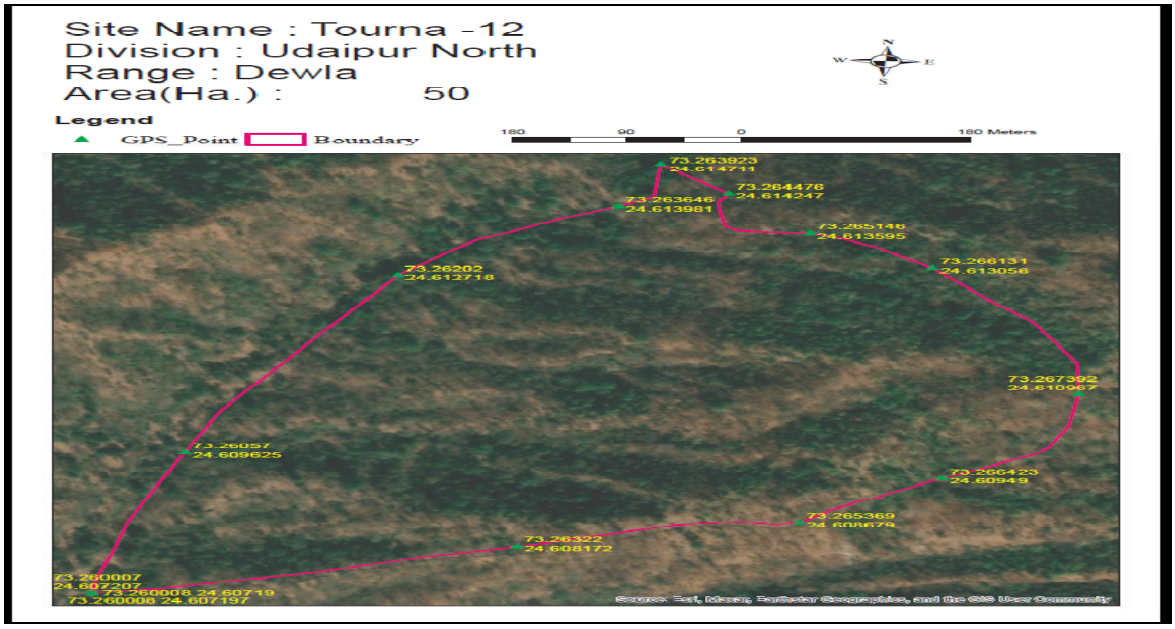
3.6.9. Soil and Water Conservation Measures: There are loose stone check dams & Contour trenches in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in loose stone checkdams.

3.6.10. Observations Recorded: Under this model, 6500 bamboo culture operation was done in 50 hac. **Based on for as 10 percent counting, plants survival was 76.3% at the site.**

Table 3.8: Status of Bamboo plants at the site- Torana 12 site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	6500	650	496	76.3	230	22

3.7.11 GPS Location and KML file: The selected PEO model under CAMPA plantation site measured 50 hec as per kml map.



3.7.1 Site 7- Lakhawali site in Udaipur range -N 24^{0}42'2" and E 73^{0}41'17

The selected plantation was carried out on 50 hac. of land at Lakhawali in Udaipur range during the year 2021-22. The activities were done under the Productivity Enhancement Operation (PEO-Bamboo) model. The site was a forest land and selected for 100% evaluation. The soil was rocky.



3.7.2. Treatment plan before sowing: The topography of the area was hilly. Bamboo culture operation was done at the plantation site. 5000 bamboo culture operation on stone constructed thuras was done at the site.



3.7.3. Health & Damages of Plantation: The growth of bamboo at the site was good. Damage to bamboo plants by human was reported at the site as human habitation was close to the site. The status of guarding/ fencing at the site was satisfactory.

3.7.4. Species Planted: 5000 bamboo culture operation was reported at the site. **The growth of bamboo at the site was good.**

3.7.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.7.6. Natural Vegetation and Regeneration: Bamboo, Godal, Teebru, Tendu, Aawla, Ronj, Kala Siras & Salar were the plant found grown naturally in this area. The growth of the plants was good.



3.7.7. Regeneration through seeds sowing: The seed sowing was not reported at the site.

3.7.8. Protection Work: The selected PEO model plantation had loose stone wall fencing of 3480 RMT. Present condition of fencing was average.

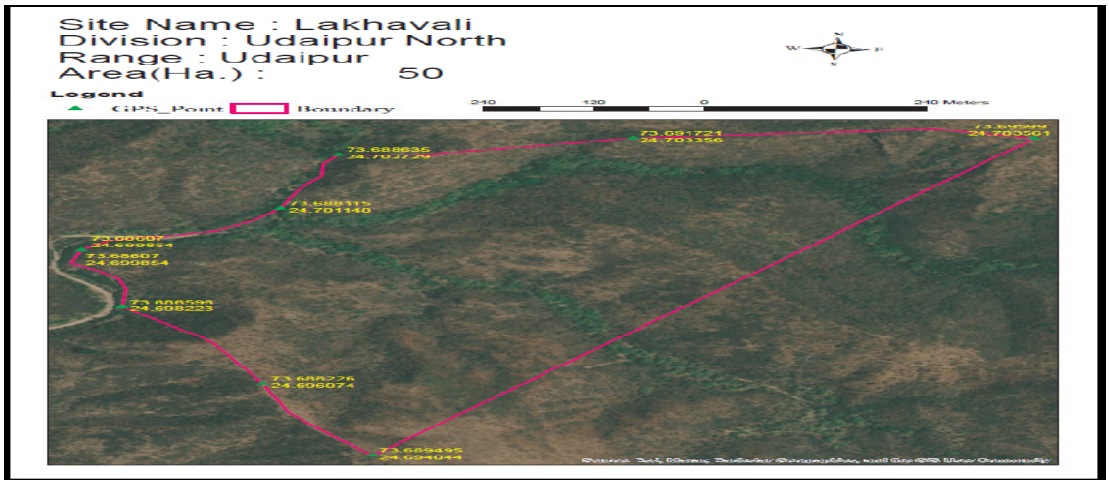
3.7.9. Soil and Water Conservation Measures: There are loose stone check dams (571 cu.m) & ring trench (1000 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.7.10. Observations Recorded: Under this model, 5000 bamboo culture operation was done in 50 hac. **Based on for as 100 percent counting, plants survival was 82.5% at the site.** Bamboo Plant species collar girth & height was also measured. The growth of bamboo plant was good.

Table 3.9: Status of Bamboo plants at the site- Lakhawali site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	5000	4125	875	82.5	600	50

3.7.11. GPS Location and KML file: The selected PEO model under CAMPA plantation site measured 50 hec as per kml map.



3.7.12. Budget and expenditure

Table 3.2: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs.)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22				1494100				1492569
2022-23				98100				97206
Total				1592200				1589775

4. Results for asset sites

4.1 Site 1- Anicut II at Mairpur-6, Dewla Range

At Mairpur-6 in Dewla range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure was 10 meter, 1.0 meter & 1.2 meter respectively. Construction work appeared to be good and useful. Water was available (full) in the anicut at the time of visit. The anicut is useful for wild animals. It also helps in soil moisture retention, decrease



in soil erosion & also change in water level. The GPS location of this area was 24.658566 N and 73.234087 E. The expenditure incurred for constructing the anicut was Rs.372855 (as per MB) against the estimated budget of Rs 375000 lac.

Site 2- MPT at Rohini, Kukawas Range

At Rohini in Kukawas range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (25m), breadth (3.0m) & height (1.3 m) of the structure is as per MB. Construction work appeared to be good and useful. The Bye wash is constructed properly & catchment area of MPT is good. Water was available (0.1 m) in the MPT at the time of visit. The structure is useful for collection of rain water. This helps in soil moisture retention in the nearby area. Also, vegetation growth in the nearby area has improved. The structure is environment friendly & low cost. The GPS location of this area was $24^0$33.091 N and $73^0$4.531 E. The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 69048 (as per MB) against the estimated budget of Rs.70000.



Site 3- MPT at Aakola, Bhindar Range

At Aakola in Bhinder range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (49.5m), breadth (3.0m) & height (1.6 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available in the MPT at the time of visit. The structure is useful for collection of rain water. This helps in soil moisture retention in the nearby area. The structure is environment friendly & low cost. The GPS location of this area was $24^0$23'38" N and $74^0$11'17" E. The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 67238 (as per MB) against the estimated budget of Rs.70000.



Site 4- Pillars at Bhadviguda, Bhindar range

At Bhadviguda in Bhindar range pillars (07 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted &number should be written on the pillar.



Record keeping: The documents such as plan and

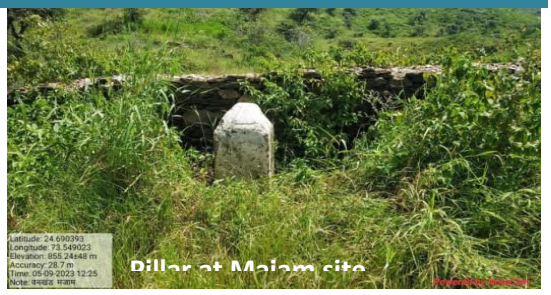
MB were shown to the study team.

Site 5- Pillars at Aadhamangra , Gogunda range



At Aadhamangra in Gogunda range pillars (04 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted &number should be written on the pillar.The expenditure incurred for constructing the Pillars (100) was Rs. (as per MB) against the estimated cost of Rs 142320.

Site 6- Pillars at Majam , Gogunda range



At Majam in Gogunda range pillars (02 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar was painted but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs. (as per MB) against the estimated cost of 1.86 lac.

Site 7- Pillars at Khuman Mangra , Gogunda range



At Khuman Mangra in Gogunda range pillars (08 Nos.) have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar was painted but number should be written on the pillar.

Site 8- Pillars at Vankhand Bangad Ka Khula Jungle, Sayra range



At Vankhand Bangad Ka Khula Jungle in Sayra range (05 Nos.) pillars have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar was proper. Pillar was painted with GPS & number written on the pillar.

Site 9- Pillars at Vankhand Ladiyon Ki Ghati, Sayra range



At Vankhand Ladiyon Ki Ghati, in Sayra range (14 Nos.) pillars have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar was proper. Pillar was painted with GPS & number written on the pillar.The expenditure incurred for constructing the Pillars was Rs (as per MB) against the estimated cost of Rs 124200.

Site 10- Pillars at Vankhand Thanawali Nadi, Sayra range



At Vankhand Thanawali Nadi, in Sayra range (18 Nos.) pillars have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar was painted but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs (as per MB) against the estimated cost of Rs 156600.

Site 11- Pillars at Vankhand Rupan Ka Mathara , Sayra range



At Vankhand Rupan Ka Mathara, in Sayra range (05 Nos.) pillars have been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar was painted but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs (as per MB) against the estimated cost of Rs 39600.

Site 12- Pillars at Ravach, Sayra range



At Ravach in Sayra range (08 Nos.) pillars have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar was painted but number should be written on

the pillar.The expenditure incurred for constructing the Pillars was Rs 84630 (as per MB) against the estimated cost of Rs 98550.

Site 13- Pillars at Kamba Ka Khula Jungle, Sayra range



At Kamba Ka Khula Jungle in Sayra range (08 Nos.) pillars have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted &number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs (as per MB) against the estimated cost of Rs 112800.

Site 14- Pillars at Baguni, Sayra range



At Baguni in Sayra range (04 Nos.) pillars have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted &number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs (as per MB) against the estimated cost of Rs 44650.

Site 15- Pillars at Aadiwali Barwadi A, Sayra range



At Aadiwali Barwadi A in Sayra range (21 Nos.) pillars have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar was proper. Pillar was painted with GPS & number written on the pillar. The expenditure incurred for constructing the Pillars was Rs (as per MB) against the estimated cost of Rs 230300.

Site 16- Pillars at Gamdhar, Udaipur range

At Gamdhar in Udaipur range (05 Nos.) pillars have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The pillar was painted but number should be written on the pillar.



Site 17- Pillars at Kamlodiya, Udaipur range

At Kamlodiya in Udaipur range (08 Nos.) pillars have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted &number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs 21796 (as per MB) against the estimated cost of Rs.



Site 18- Pillars at Hinglasiya, Udaipur range

At Hinglasiya in Udaipur range (08 Nos.) pillars have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted &number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs 64347 (as per MB) against the estimated cost of Rs 94000.



5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Udaipur North division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Kyari 1	ANR	50	42.5	5
2.	Levo Ka	ANR	50	44.0	5

	Mathana C				
3.	Nathiyathal A	ANR	50	48.1	5
4.	Junapadar A	ANR	50	53.0	6
5.	Karget B	NFL	59	67.6	7
6.	Taurana 12	PEO-Bamboo	50	76.3	8
7.	Lakhavali	PEO-Bamboo	50	82.5	9

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Anicut Type II	Mairpur-6	10.0mX1.0mX1.2m	10.0mX1.0mX1.2m	0
2.	MPT	Rohini	25mX3.0mX1.3m	25mX3.0mX1.3m	0
3.	MPT	Aakola	49.5mX3.0mX1.6m	49.5mX3.0mX1.6m	0
4.	Boundary Pillar	Bhadwiguda	7	7	0
5.	Boundary Pillar	Aaramangra	4	4	0
6.	Boundary Pillar	Majam	2	2	0
7.	Boundary Pillar	Khuman Mangra	8	8	0
8.	Boundary Pillar	Vankhand Bagar Ka Khula Jungle	5	5	0
9.	Boundary Pillar	Vankhand Ladiyo ki Ghati	14	14	0
10.	Boundary Pillar	Vankhand Thana wali nedi	18	18	0
11.	Boundary Pillar	Vankhand Rupar ka Mathara	5	5	0
12.	Boundary Pillar	Rawach	8	8	0
13.	Boundary Pillar	Kamba Ka Khula Jungle	8	8	0
14.	Boundary Pillar	Baguni	4	4	0
15.	Boundary Pillar	Aadiwali Barwari A	21	21	0
16.	Boundary Pillar	Gamdhar	5	5	0
17.	Boundary Pillar	Kamlodiya	8	8	0
18.	Boundary Pillar	Hinglasiya	8	8	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Anicut Type II	Mairpur-6	Good	7
2.	MPT	Rohini	Good	7
3.	MPT	Aakola	Average	6
4.	Boundary Pillar	Bhadwiguda	Average	6

5.	Boundary Pillar	Aaramangra	Average	6
6.	Boundary Pillar	Majam	Average	6
7.	Boundary Pillar	Khuman Mangra	Average	6
8.	Boundary Pillar	Vankhand Bagar Ka Khula Jungle	Average	6
9.	Boundary Pillar	Vankhand Ladiyo ki Ghati	Average	6
10.	Boundary Pillar	Vankhand Thana wali nedi	Average	6
11.	Boundary Pillar	Vankhand Rupar ka Mathara	Average	6
12.	Boundary Pillar	Rawach	Average	6
13.	Boundary Pillar	Kamba Ka Khula Jungle	Average	6
14.	Boundary Pillar	Baguni	Average	6
15.	Boundary Pillar	Aadiwali Barwari A	Average	6
16.	Boundary Pillar	Gamdhar	Average	6
17.	Boundary Pillar	Kamlodiya	Average	6
18.	Boundary Pillar	Hinglasiya	Average	6

Udaipur

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Udaipur Forest Division. This Forest Division with 9 Forest Ranges namely Udaipur West, Udaipur, Salumbar, Parsad, Phalasiya, Ogana, Sarada, Kherwara & Kurabad has territorial jurisdiction over the entire Udaipur District.

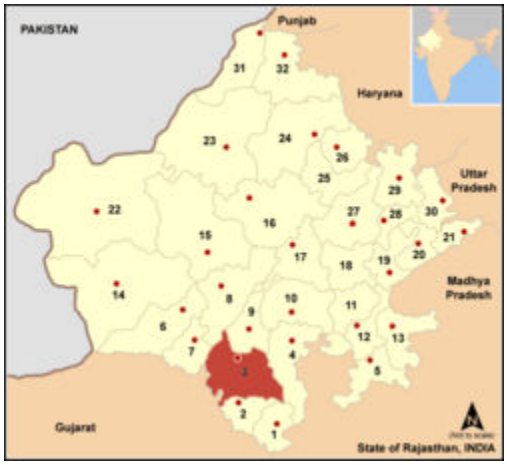


Figure : Location of Udaipur district, Rajasthan

2.1. Selected Plantation Sites for Evaluation

The selected plantation sites of Udaipur Forest Division for evaluation were as given in table 1

Table 1: Plantation sites for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Salumber	Tikhi Pahadi (Bra)	2020-21	50	ANR	100%
Kuravad	KumtiyaKutapara	2020-21	50	ANR	10
Udaipur	Undari Poplty	2021-22	50	ANR	100%
Sarada	Rajol II	2021-22	65	ANR	10
Jhadol	Saldari	2021-22	50	ANR	100
Flasiya	Thandiberi	2021-22	20.375	NFL	10

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Udaipur Forest Division were as given in table 2

Table 2: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Sarada	Bandali Nal	2021-22	Anicut Type II
2.	Ogra	Aadiwas	2020-21	Boundary Pillar
3.	Phalsiya	Som Part II	2020-21	Boundary Pillar
4.	Jhadol	Vankhand Nandwel	2020-21	Boundary Pillar
5.	Udaipur West	Undari Poplty	2020-21	Boundary Pillar
6.	Khairwara	Vankhand Bawlavada	2021-22	Boundary Pillar

7.	Salumber	Bamaniya, Khorav	2021-22	Boundary Pillar
8.	Jhadol	Nalsandol & Chapra	2021-22	Boundary Pillar
9.	Jhadol	Sera	2021-22	Boundary Pillar
10.	Sarada	Plodara	2021-22	Boundary Pillar

3. Results and Evaluation

3.1 Plantations Evaluation

3.1.1. Site 1-Tikhi Pahadi (Bara) site in Salumber range -N 24.159348 and E 74.144094

The selected plantation was carried out on 50 hac. of land at Tikhi Pahadi (Bara) site in Salumber range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red & stony.

3.1.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land.The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was excellent. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.1.4. Species Planted: The selected tree species under plantation were of Dalbergia sissoo (Shisham), Emblica officinalis (Amla), Acacia catechu (Khair), Dendrocalamus strictus (Baans), *Azadirachta indica (Neem),* Zizyphus mauritiana (Ber), *Holoptelea integrifolia* (Churel), & Syzygium cumini (Jamun), were planted.

In total, 10000 numbers of seedlings were planted at the site. Thus, total number of



plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Sagwan*, Palash, Tendu, Salar & Godal* were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species of Ratanjot, Khair& Kumtha were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.**

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2480 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters & pucca wall of 65 meters. Present condition of fencing was average.

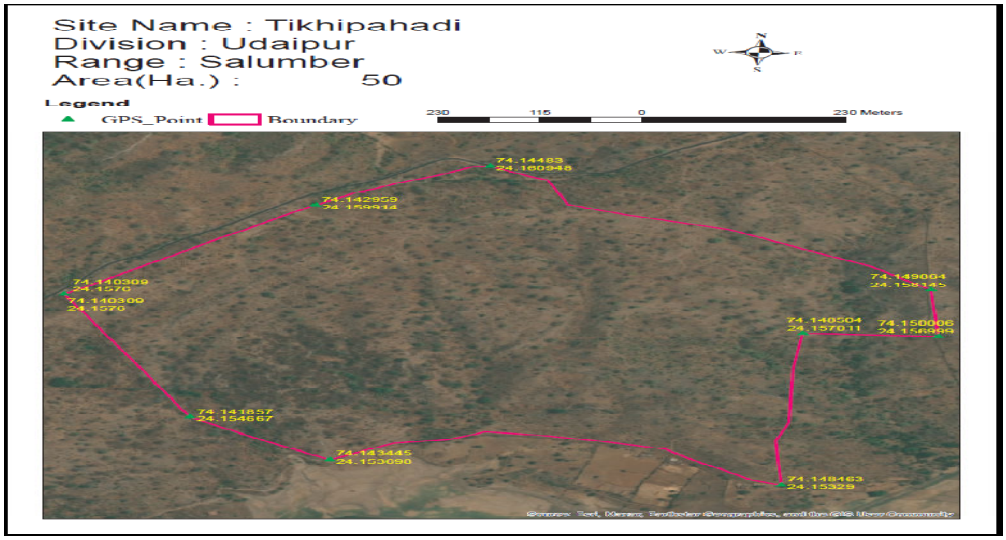
3.1.9. Soil and Water Conservation Measures: There are 9930 RMT Contour trenches, 01 MPT, 03 Gabion & Loose stone check dam (300 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10 Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 50.7% at the site.**

Table 3: Status of Planted Seedlings at the site-Tikhi Pahadi (Bara) Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Emblica officinalis (Amla)	1000	520	480	52.0	118	29
Dendrocalamus strictus (Baans)	6000	3700	2300	61.7	163	32
Acacia catechu (Khair)	1300	450	850	34.6	90	21
Azadirachta indica (Neem)	400	50	350	12.5	90	21
Sapindus sp. (Aritha)	160	50	110	31.3	90	21
Ficus bengalensis (bargad)	15	0	15	0.0	0	0
Holoptelea integrifolia (Churel)	325	150	175	46.2	120	29
Zizyphus mauritiana (Ber)	400	150	250	37.5	120	29
Others	400	0	400	0.0	0	0
Total	10000	5070	4930	50.7	149	30

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				486197
2021-22				182150				181821
2022-23				107950				95380
Total				776300				763398

3.2.1. Site 2-Kumtiya Kutapara site in Kurabad range -N $24^0$23'16"and E $73^0$51'7"

The selected plantation was carried out on 50 hac. of land at Kumtiya Kutapara in Kurabad range during the year 2020-21. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land andselected for 10% evaluation. The soil was red stony & morar.


Plantation Site Kumatiya Kutapara

3.2.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land.The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.


Marking & counting at the site

3.2.3.. Health & Damages of Plantation: The growth of planted seedlings at the site was excellent. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.


Loose stone check dam at the site

3.2.4. Species Planted: The selected tree species under plantation were of Dendrocalamus strictus (Baans), Emblica officinalis (Amla), *Holoptelea integrifolia* (Churel), Acacia catechu (Khair), Syzygium cumini (Jamun), Madhuca longifolia (Mahuwa), Zizyphus mauritiana (Ber), Aegle marmelos (Bilpatra), Azadirachta indica (Neem),Terminalia bellirica (Baheda), Albizia lebbeck (Kala Siras), and Pongamia pinnata (Karanj).

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50hectare of land. **The growth of survived plants was good.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: *Dhok, Ronj, Salar, Godal, Khirni, Kumtha & Palash were* the plants found grown naturally in this area. The growth of the plants was good.


PCT/Nadi at the site

3.2.7. Regeneration through seeds sowing: Seeds of species *Khair, Bair, Churail, Neem, Katkaranj and Ratanjot* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.** The result of sowing was seen on contour trenches and thanwalas.

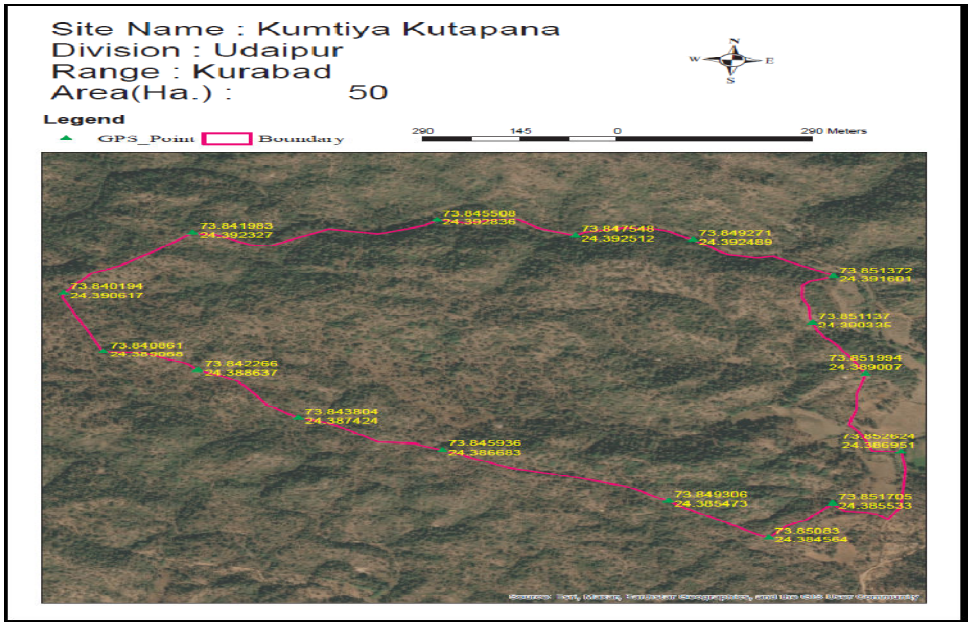
3.2.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1340 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters & ditch fencing of 1150 RMT.

3.2.9. Soil and Water Conservation Measures: There are 4000 RMT Contour trenches, 5000 RMT SGT, 1000 RMT Deep CCT, 01 MPT and loose stone checkdams (764 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in CCT, SG, MPT & DCCT & +3 cu.m excess in loose stone checkdams.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 51.0% at the site.** Table 3.2: Status of Planted Seedlings at the site-Kumtiya Kutapara Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	3000	300	250		159	41
Acacia catechu (Khair)	1650	165	50		108	28
Zizyphus mauritiana (Ber)	500	50	20		90	21
Albizia lebbeck (Kala Siras)	500	50	0		0	0
Aegle marmelos (Bilpatra)	200	20	0		0	0
Madhuka latifolia (Mahua)	200	20	50		117	28
Pongamia pinnata (Karanj)	500	50	50		90	21
Terminalia bellirica (Baheda)	300	30	0		0	0
Wrightia tinctoria (Khirani)	500	50	0		0	0
Bombax ceiba (Semal)	150	15	0		0	0
Sapindus sp. (Aritha)	200	20	0		0	0
Syzygium cumini (Jamun)	300	30	0		0	0
Terminalia arjuna (Arjun)	300	30	40		90	21
Tecomella undulata (Rohida)	200	20	0		0	0
Annona squamosa (Sitafal)	300	30	0		0	0
Ficus religiosa (Pipal))	50	5	0		0	0
Holoptelea integrifolia (Churel)	400	40	0		0	0
Adusa	200	20	0		0	0
Emblica officinalis (Amla)	300	30	50		117	28
Azadirachta indica (Neem)	100	10	0		0	0
Butea monosperma (Palash)	50	5	0		0	0
Ficus racemosa (Hawan)	50	5	0		0	0
Ficus bengalensis (bargad)	50	5	0		0	0
Total	10000	1000	510	51.0	131	33

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.2.12. Budget and expenditure

Table 3.3: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				486200				486200
2021-22				182150				180624
				107950				107032
Total				776300				773856

3.3.1 Site 3-Undari Poplty site in Udaipur West range -N 24^{0}30'50" and E 73^{0}35'33"

The selected plantation was carried out on 50 hac. of land at Undari Poplty site in Udaipur West range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was red & stony.



3.3.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10050 pits were dug for plantation in total 50 hac of land.The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.3.3. Health & Damages of Plantation: The growth of planted seedlings at the site was excellent. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.3.4. Species Planted: The selected tree species under plantation were of Dendrocalamus strictus (Baans), Emblica officinalis (Amla), *Holoptelea integrifolia* (Churel), Acacia catechu (Khair), Syzygium cumini (Jamun),Hawan, Khirni, Sitafal Zizyphus mauritiana (Ber), Aegle marmelos (Bilpatra), Azadirachta indica (Neem),Terminalia bellirica (Baheda), Albizia lebbeck (Kala Siras), and Pongamia pinnata (Karanj).

In total, 10000 numbers of seedlings were planted at the site. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10050 for 50 hectare of land.. **The growth of survived plants was satisfactory.**



3.3.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.3.6. Natural Vegetation and Regeneration: *Salar, Ronj Kumtha, Neem, Khair, Bair & Churail* were the plants found grown naturally in this area. The growth of the plants was good.

3.3.7. Regeneration through seeds sowing: Seeds of species of Katkaranj, Ratanjot, Khair, Mahuwa,Neem & Hawan were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.3.8 Protection Work: The selected ANR model plantation had loose stone fencing of 3503 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters. Present condition of fencing was average.

3.3.9. Soil and Water Conservation Measures: There are 15000 RMT Contour trenches, 5000 RMT Contour Dykes & 36 Loose stone check dam (650 cu.m) in the form of water harvesting structures present in the entire plantation area.

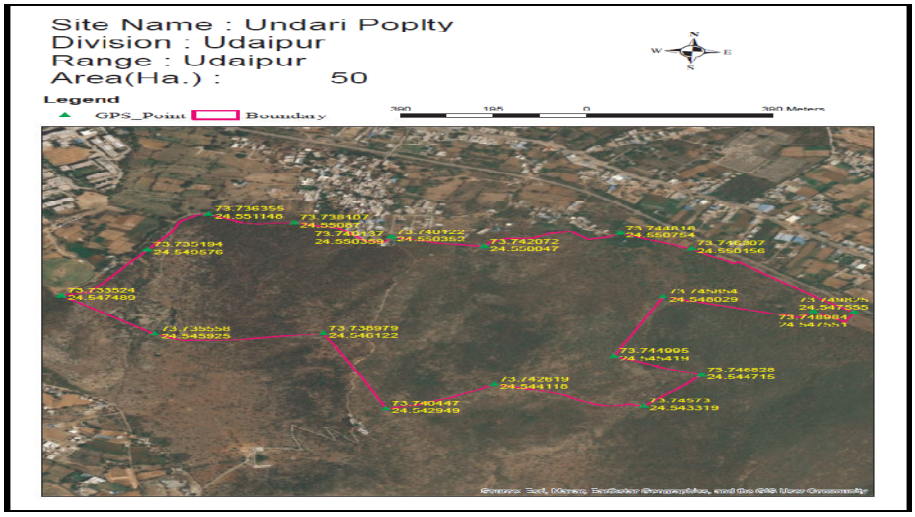
3.3.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 45.1% at the site.**

Table 3.4: Status of Planted Seedlings at the site- Undari Poplty Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Emblica officinalis (Amla)	1500	800	700	53.3	124	24
Dendrocalamus strictus (Baans)	2000	1500	500	75.0	120	29
Pongamia pinnata (Karanj)	500	150	350	30.0	90	21
Wrightia tinctoria (Khirani)	500	200	300	40.0	90	21
Terminalia bellirica (Baheda)	350	150	200	42.9	90	21
Ficus racemosa (Hawan)	1200	650	550	54.2	100	23
Albizia lebbeck (Kala Siras)	400	0	400	0.0	0	0
Acacia catechu (Khair)	1300	600	700	46.2	90	21
Ficus religiosa (Pipal))	20	0	20	0.0	0	0
Zizyphus mauritiana (Ber)	500	0	500	0.0	0	0
Aegle marmelos (Bilpatra)	350	0	350	0.0	0	0
Kotbadi	400	0	400	0.0	0	0
Annona squamosa (Sitafal)	350	110	240	31.4	90	21
Holoptelea integrifolia (Churel)	500	350	150	70.0	96	23

Azadirachta indica (Neem)	180	20	160	11.1	90	21
Total	10050	4530	5520	45.1	108	24

3.3.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.3.12. Budget and expenditure

Table 3.5: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21								
2021-22				511650				502156
2022-23				203250				195226
Total				714900				697382

3.4.1. Site 4- Rajol II site in Sarada range -N 23.999713 and E 73.805753

The selected plantation was carried out on 65 hac. of land at Rajol II in Sarada range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was red clayey & morar.



3.4.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 13000 pits were dug for plantation in total 65 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.4.3. Health & Damages of Plantation: The growth of planted seedlings at the site was excellent. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was good.



3.4.4. Species Planted: The selected tree species under plantation were of Dendrocalamus strictus (Baans), Emblica officinalis (Amla), *Holoptelea integrifolia* (Churel), Acacia catechu (Khair) & Tectona grandis (Sagwan).

In total, 13000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 13000 for 65 hectare of land. **The growth of survived plants was good.**



3.4.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.4.6. Natural Vegetation and Regeneration: *Sagwan, Ronj, Salar, Godal & Khirni were* the plants found grown naturally in this area. The growth of the plants was good.

3.4.7. Regeneration through seeds sowing: Seeds of species *Khair, Kumtha, Neem, Ronj and Khirni* were sown in as well as along the trenches and on the thanwlas. **The result of sowing was good.** The result of sowing was seen on contour trenches and thanwalas.

3.4.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3135 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters.

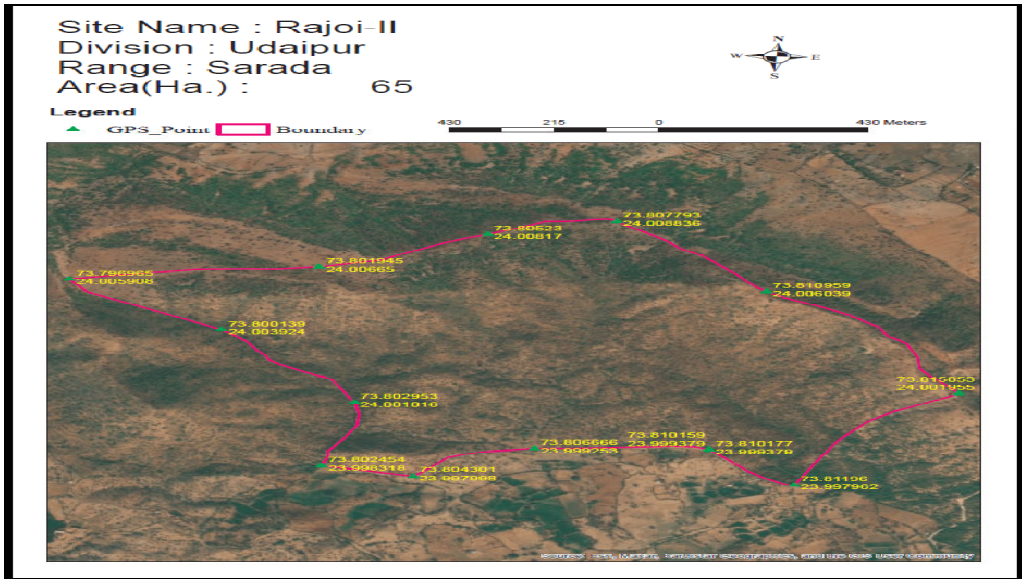
3.4.9. Soil and Water Conservation Measures: There are 25000 RMT Contour trenches, 01 MPT and loose stone checkdams (1002 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.4.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 54.9% at the site.**

Table 3.6: Status of Planted Seedlings at the site-Rajol II Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Emblica officinalis (Amla)	1000	100	28		105	21
Dendrocalamus strictus (Baans)	4000	400	376		184	21
Tectona grandis (Sagwan)	7000	700	228		96	21
Acacia catechu (Khair)	1000	100	82		90	21
Total	13000	1300	714	54.9	142	21

3.4.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 65 Hac as per kml map.



3.4.12. Budget and expenditure

Table 3.7: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21								
2021-22			665145					641814
2022-23			264225					264112
Total			929370					905926

3.5.1. Site 5- Saldari site in Jhadol range -N 24.357724 and E 73.547495

The selected plantation was carried out on 50 hac. of land at Saldari site in Jhadol range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was stony hard clayey with boulders.



3.5.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land.The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.5.3. Health & Damages of Plantation: The growth of planted seedlings at the site was excellent. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.5.4. Species Planted: The selected tree species under plantation were of Dendrocalamus strictus (Baans), Emblica officinalis (Amla), *Holoptelea integrifolia* (Churel), Acacia catechu (Khair), Syzygium cumini (Jamun),Hawan, Khirni, Madhuka latifolia (Mahua) Zizyphus mauritiana (Ber), Aegle marmelos (Bilpatra), Azadirachta indica (Neem),Terminalia bellirica (Baheda), Albizia lebbeck (Kala Siras), and Pongamia pinnata (Karanj).

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**



3.5.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.5.6. Natural Vegetation and Regeneration: *Salar, Khirni,Tendu, Ronj, Amaltas, Palash& Godal* were the plants found grown naturally in this area. The growth of the plants was good.

3.5.7. Regeneration through seeds sowing: Seeds of species of Katkaranj, Ratanjot, Khair, Kumtha, Sitafal & Hawan were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.5.8. Protection Work: The selected ANR model plantation had loose stone fencing of 3000 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters. Present condition of fencing was average.

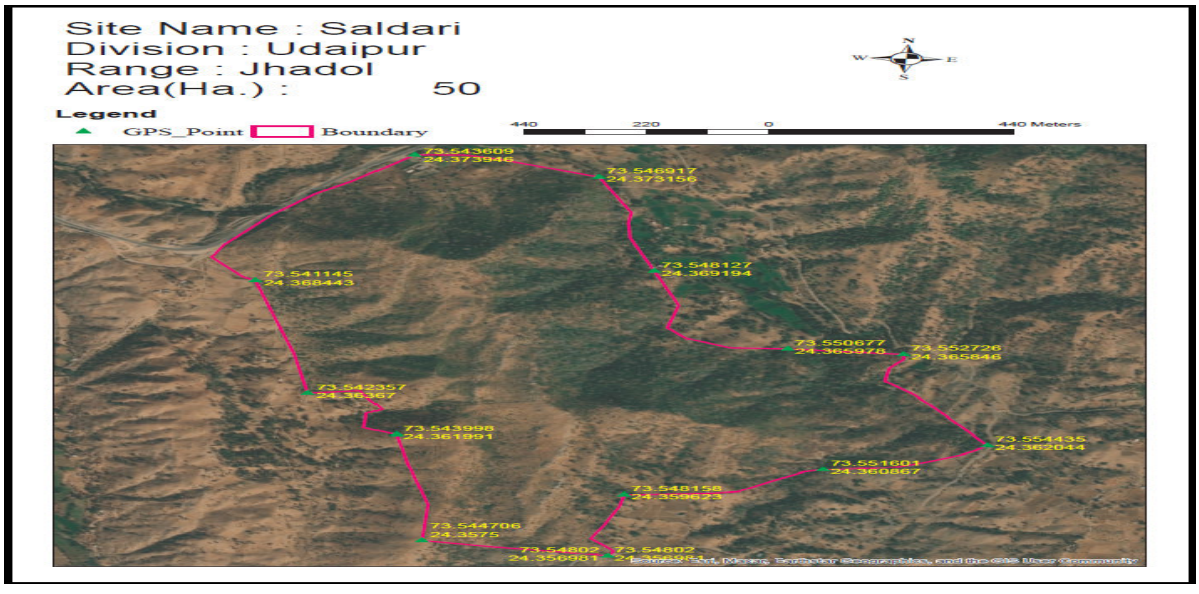
3.5.9. Soil and Water Conservation Measures: There are 20000 RMT Contour trenches & 43 Loose stone check dam (750 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.5.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 44.4% at the site.**

Table 3.8: Status of Planted Seedlings at the site- Saldari Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Acacia catechu (Khair)	1000	50	950	5.0	90	21
Emblica officinalis (Amla)	600	320	280	53.3	100	25
Dendrocalamus strictus (Baans)	7000	3800	3200	54.3	129	30
Holoptelea integrifolia (Churel)	100	30	70	30.0	90	21
Wrightia tinctoria (Khirani)	200	20	180	10.0	90	21
Pongamia pinnata (Karanj)	200	20	180	10.0	90	21
Ficus racemosa (Hawan)	200	20	180	10.0	90	21
Terminalia bellirica (Baheda)	100	30	70	30.0	90	21
Aegle marmelos (Bilpatra)	100	0	100	0.0	0	0
Madhuka latifolia (Mahua)	500	150	350	30.0	90	21
Total	10000	4440	5560	44.4	124	29

3.5.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.5.12. Budget and expenditure

Table 3.9: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				2081200				2081200
2021-22				511650				511650

2022-23				203250				200401
Total				2796100				2793251

3.6.1 Site 6- Thandiberi site in Phalasiya range -N 24.296522 and E 73.409522

The selected plantation was carried out on 20.375 hac. of land at Thandiberi in Phalasiya range during the year 2021-22. The activities were done under the Non Forest Land (NFL) model. The site was a forest land and selected for 10% evaluation. The soil was black clayey & stony in colour.



Measuring height of planted seedling at the site

3.6.2. Treatment plan before sowing: The topography of the area was undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 22610 pits were dug for plantation in total 20.375 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.

3.6.3. Health & Damages of Plantation: The growth of planted seedlings at the site was satisfactory. Grazing by stray animals & cattle and destruction by Neel gai, wild boar and rabbits, rats was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



Loose stone wall fencing at the site

3.6.4. Species Planted: The selected tree species under plantation were of Dendrocalamus strictus (Baans), Emblica officinalis (Amla), *Holoptelea integrifolia* (Churel), Acacia catechu (Khair) & Tectona grandis (Sagwan), Syzygium cumini (Jamun),Hawan, Khirni, Madhuka latifolia (Mahua) Zizyphus mauritiana (Ber), Aegle marmelos (Bilpatra), Azadirachta indica (Neem),Terminalia bellirica (Baheda), Albizia lebbeck (Kala Siras), and Pongamia pinnata (Karanj).



CCT at the site

In total 35000 numbers of seedlings were planted at the site. As per the model, 1100 plants per hectare have been planted. Thus, total number of plants planted was 22610 for 20.375

hectare of land. **The growth of survived plants was satisfactory.**

3.6.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.6.6. Natural Vegetation and Regeneration: *Godal, Siras, Kachnar, Sagwan & Khirni* were the plants found grown naturally in this area. The growth of the plants was good.

3.6.7. Regeneration through seeds sowing: Seeds of species of Ratanjot, Khair, Kumtha, Neem & Hawan were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average. However, Ratanjot plant out of seed sowing was good.**

3.6.8. Protection Work: The selected NFL model plantation had loose stone fencing of 2230 RMT having width at the top-0.6 meter, width at the bottom-0.8 meter & height 1.2 meters. The status of the fencing was good.

3.6.9. Soil and Water Conservation Measures: There are 5000 RMT Contour trenches, 1066 RMT Dykes & Loose stone check dam (160 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

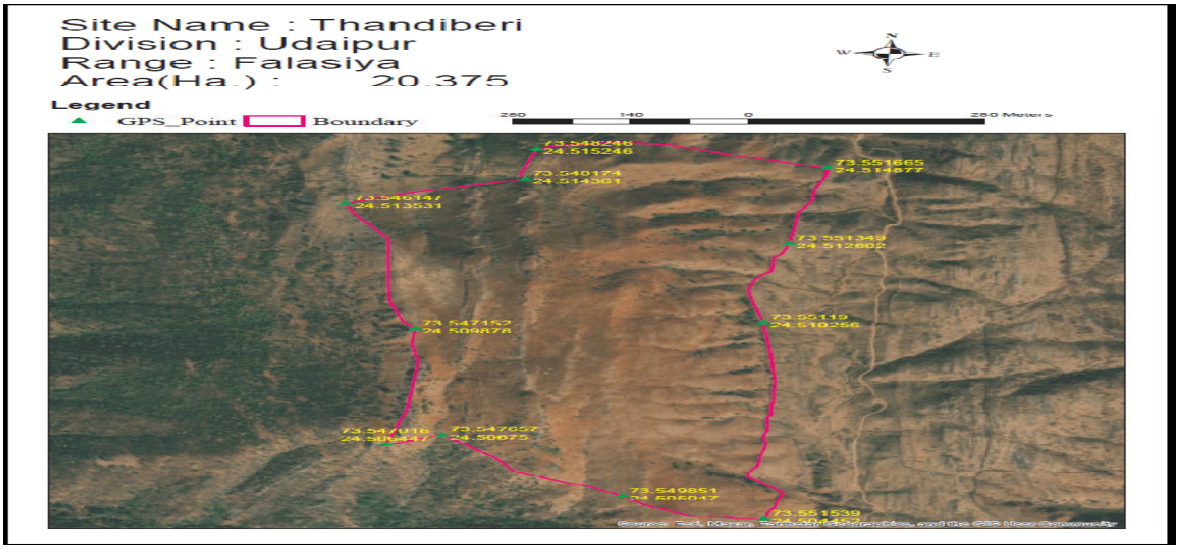
3.6.10. Observations Recorded: Under this model, 1100 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 46.8% at the site.**

Table 3.10: Status of Planted Seedlings at the site-Thandiberi Site

Species	Total Plants planted	Sample 10% area observed (2 ha)	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Dendrocalamus strictus (Baans)	11350	1114	238		150	19
Tectona grandis (Sagwan)	1125	110	20		115	26
Terminalia arjuna (Arjun)	130	13	26		60	18
Terminalia bellirica (Baheda)	520	51	105		45	14
Madhuka latifolia (Mahua)	610	60	89		80	20
*Bauhinia sp. (*Kachnar*)*	50	5	30		46	14
Holoptelea integrifolia (Churel)	360	35	39		58	18
Syzygium cumini (Jamun)	755	74	98		56	16
Cassia fistula (Amaltas)	240	24	0		0	0
Annona squamosa (Sitafal)	435	43	48		72	24
Ficus racemosa (Hawan)	380	37	16		52	18
Dalbergia sissoo (Shisham)	268	26	25		54	16
Ficus bengalensis (bargad)	45	4	6		56	18
Ficus religiosa (Pipal))	38	4	8		52	14
Acacia catechu (Khair)	900	88	38		44	13
Bombax ceiba (Semal)	469	46	35		46	14
Emblica officinalis (Amla)	610	60	38		42	14
Wrightia tinctoria (Khirani)	870	85	87		48	14
Azadirachta indica (Neem)	1160	114	37		52	15
Pongamia pinnata (Karanj)	455	45	33		62	18

Albizia lebbeck (Kala Siras)	265	26	22		58	16
Tamarindus indica (Imli)	390	38	0		0	0
Acacia tortilis (Totalis)	30	3	0		0	0
Sapindus sp. (Aritha)	300	29	0		0	0
Sejana	470	46	0		0	0
*Mangifera indica (*Mango*)*	200	20	0		0	0
Kari	155	15	0		0	0
Gular	30	3	0		0	0
Total	22610	2219	1038	46.8	62	17

3.6.11. GPS Location and KML file: The selected NFL model under CAMPA plantation site measured 20.375 hec as per kml map.



3.6.12. Budget and expenditure

Table 3.11 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (Rs. In Lac)				Expenditure (Rs. In Lac)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21								
2021-22					1162842			1162842
2022-23					374146			372204
Total					1536988			1535046

4. Results for asset sites

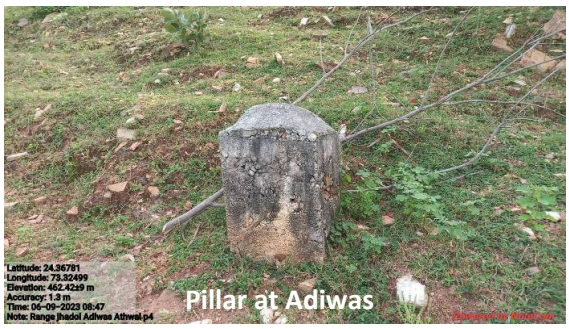
4.1 Site 1- Anicut II at Bandali Nal, Sarada Range

At Bandali Nal in Sarada range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure were 10 meter, 1.0 meter &4 0.85 meter respectively. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. Silting was reported in the



anicut due to which collection of water is not reported in the anicut. The anicut is useful for wild animals. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was 24.426543 N and 73.773987 E. The expenditure incurred for constructing the anicut was Rs. (as per MB) against the estimated budget of Rs 375000 lac.

Site 2- Pillars at Aadiwas, Ogra range



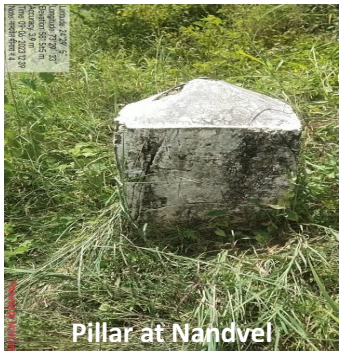
At Aadiwas in Ogra range (05 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported good and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.42319 (as per MB) against the estimated cost of Rs. 45000.

Site 3- Pillars at Som Part II, Phalasiya range



At Som Part II in Phalasiya range (05 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported good and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar was painted but number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs.44435 (as per MB) against the estimated cost of Rs. 45000.

Site 4 -Pillars at Vankhand Nandvel, Jhadol range



At Vankhand Nandvel in Jhadol range (05 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs.45000 (as per MB) against the estimated cost of Rs. 45000.

Site 5- Pillars at Undari Poplty, Udaipur West range



At Undari Poplty in Udaipur West range (06 Nos.) has been evaluated. The pillars were constructed in the year 2020-21. The pillars constructed were reported good and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar

should be proper. The pillar was painted but number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.53850 (as per MB) against the estimated cost of Rs. 54000.

4.1.6 Pillars at Vankhand Bavlawada, Kherwara range



At Vankhand Bavlawada in Kherwara range (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar was proper. Pillar was painted with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs.110823 (as per MB) against the estimated cost of Rs. 117500.

Site 7- Pillars at Bamaniya Khorav, Salumbar range



At Bamaniya Khorav in Salumbar range (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs.102174 (as per MB) against the estimated cost of Rs. 117500.

Site 8 - Pillars at Nalsandol & Chapra, Jhadol range



At Nalsandol & Chapra in Jhadol range (06 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs.67908 (as per MB) against the estimated cost of Rs. 70500.

Site 9- Pillars at Sera, Jhadol range



At Sera in Jhadol range (14 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. Pillar should be painted & number should be written on the pillar.The expenditure incurred for constructing the Pillars was Rs.158452 (as per MB) against the estimated cost of Rs. 164500.

Site 10- Pillars at Palodara, Sarada range



At Palodara in Sarada range (10 Nos.) has been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported average and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar was painted but number should be written on the pillar. The expenditure incurred for constructing the Pillars was Rs.102776 (as per MB) against the estimated cost of Rs. 117500.

5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Udaipur division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1.	Tikhi Pahadi (Bra)	ANR	50	50.7	6
2.	KumtiyaKutapara	ANR	50	51.0	6
3.	Undari Poplty	ANR	50	45.1	5
4.	Rajol II	ANR	50	54.9	6
5.	Saldari	ANR	50	44.4	5
6.	Thandiberi	NFL	20.375	46.8	5

* 4- very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Anicut Type II	Bandali Nal	10.0mX1.0mX0.85m	10.0mX1.0mX0.85m	0
2.	Boundary Pillar	Aadiwas	5	5	0
3.	Boundary	Som Part II	5	5	0

	Pillar				
4.	Boundary Pillar	Vankhand Nandwel	5	5	0
5.	Boundary Pillar	Undari Poplty	6	6	0
6.	Boundary Pillar	Vankhand Bawlavada	10	10	0
7.	Boundary Pillar	Bamaniya, Khorav	10	10	0
8.	Boundary Pillar	Nalsandol & Chapra	6	6	0
9.	Boundary Pillar	Sera	14	14	0
10	Boundary Pillar	Plodara	10	10	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Anicut Type II	Bandali Nal	Good	7
2.	Boundary Pillar	Aadiwas	Average	6
3.	Boundary Pillar	Som Part II	Average	6
4.	Boundary Pillar	Vankhand Nandwel	Average	6
5.	Boundary Pillar	Undari Poplty	Average	6
6.	Boundary Pillar	Vankhand Bawlavada	Average	6
7.	Boundary Pillar	Bamaniya, Khorav	Average	6
8.	Boundary Pillar	Nalsandol & Chapra	Average	6
9.	Boundary Pillar	Sera	Average	6
10.	Boundary Pillar	Plodara	Average	6

Udaipur WL

1. Present Third Party Evaluation/ Study

Present Third Party Evaluation/ Study pertains to works carried out under Rajasthan State CAMPA Project during the years 2020-21 & 2021-22 in Udaipur WL Forest Division. This Forest Division with 5 Forest Ranges namely Sajjangarh, Mamer, Panarwa, Kotda & Jaisamand has territorial jurisdiction over the entire Udaipur District.

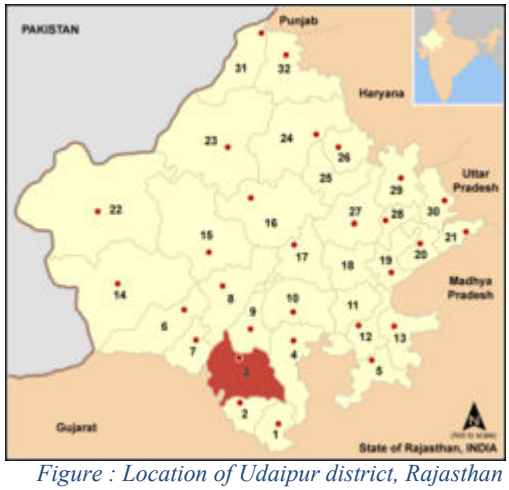


Figure : Location of Udaipur district, Rajasthan

2.1 Selected Plantation Sites for Evaluation

The selected plantation sites of Udaipur WL Forest Division were as given in table-1.

Table-1: Selected plantation site for evaluation

Forest Range	Name of Site	Year of Plantation	Ha	Model	Percent of sample
Mamer	Ghoramari	2021-22	50	ANR	100%
Jaisamand	Surawala nala Jamura	2021-22	50	ANR	10

2.2. Selected Asset Sites for Evaluation

The selected asset sites of Udaipur WL Forest Division were as given in table 2

Table 1: Asset sample sites for evaluation

Sl.no	Forest Range	Name of Site	Year	Physical Target Achieved (100%)
1.	Jaisamand	Dheemra Phatak se Mahudi	2020-21	Pakki Diwar 6 ft
2.	Jaisamand	Taka Ghati Nandvi	2020-21	Anicut Type II
3.	Panarwa	Bujha	2021-22	Pakki Diwar 6 ft
4.	Panarwa	Ambasa	2021-22	Forest Chowki
5.	Panarwa	Ambasa II	2021-22	Anicut Type II
6.	Jaisamand	Jamuda	2021-22	Anicut Type III
7.	Panarwa	Tindori	2021-22	MPT
8.	Kotda	Maldar	2021-22	MPT
9.	Jaisamand	Dhimrbag	2021-22	MPT
10.	Panarwa	Dharavar	2021-22	Boundary Pillar
11.	Mamer	Ashawada/Aadahaldu	2021-22	Boundary Pillar
12.	Kotda	Vankhand Phulwari	2021-22	Boundary Pillar

3. Results and Evaluation

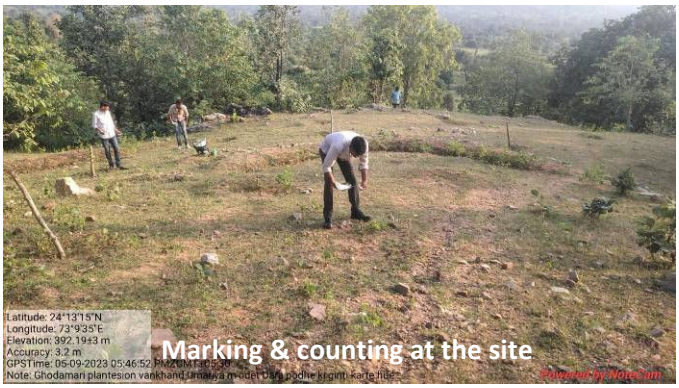
3.1 Plantations Evaluation

3.1.1.Site 1- Ghoramari site in Mamer range -N $24^0$13’12” and E $73^0$9’34”

The selected plantation was carried out on 50 hac. of land at Ghoramari site in Mamer range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 100% evaluation. The soil was rocky.



3.1.2. Treatment plan before sowing: The topography of the area was hilly& undulating. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10000 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.1.3. Health & Damages of Plantation: The growth of planted seedlings at the site was excellent. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.

3.1.4. Species Planted: The selected tree species under plantation were of Dalbergia sissoo (Shisham), Emblica officinalis (Amla),Badraksh, Gular, Hawan,Peepal, Siras Gonda, *Azadirachta indica (Neem),* Pongamia pinnata (Karanj) *Holoptelea integrifolia* (Churel), & Syzygium cumini (Jamun), were planted.

In total, 10000 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was satisfactory.**

3.1.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.1.6. Natural Vegetation and Regeneration: Khirni, *Churail, Tendu, Salar & Godal* were the plants found grown naturally in this area. The growth of the plants was good.

3.1.7. Regeneration through seeds sowing: Seeds of species of Sitafal, Hawan, Mahuwa, Khair, Imli & Baheda were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.1.8. Protection Work: The selected ANR model plantation had loose stone fencing of 2828 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters & 430 rmt ditch fencing. Present condition of fencing was average. Silting was reported in ditch fencing



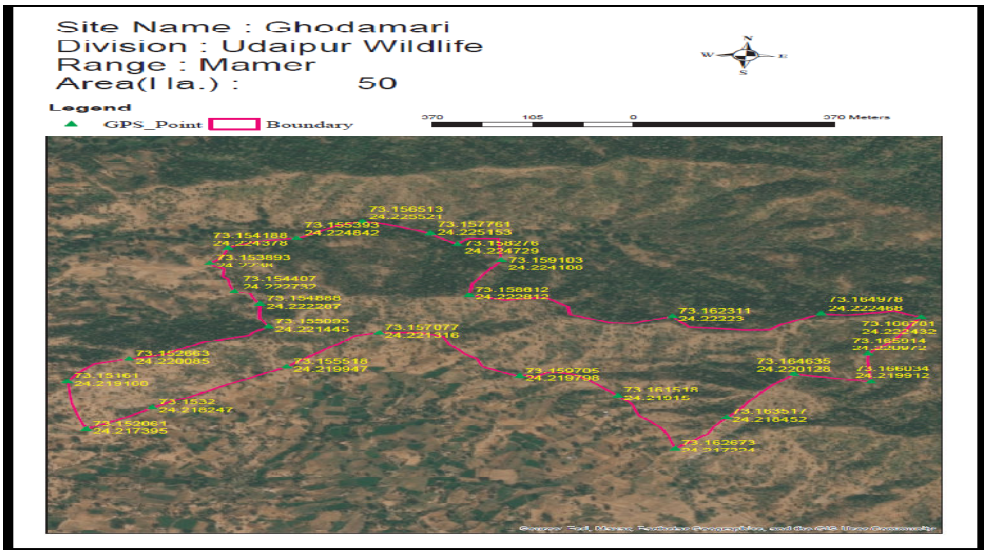
3.1.9. Soil and Water Conservation Measures: There are 13200 RMT Contour trenches & 1800 RMT Dykes & Loose stone check dam (1060 cu.m) in the form of water harvesting structures present in the entire plantation area.

3.1.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 100 percent counting, plants survival was 41.1% at the site.**

Table 3: Status of Planted Seedlings at the site-Ghoramari Site

Species	Total Plants planted	Live Plants	Dead Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Terminalia bellirica (Baheda)	700	395	305	56.4	78	8
Emblica officinalis (Amla)	265	132	133	49.8	82	8
Holoptelea integrifolia (Churel)	900	432	468	48.0	81	7
Gular	85	26	59	30.6	75	7
*Cordia gharaf (*Gunda*)*	1400	575	825	41.1	70	7
Ficus racemosa (Hawan)	1900	860	1040	45.3	78	8
Syzygium cumini (Jamun)	575	0	575	0.0	0	0
Pongamia pinnata (Karanj)	2000	893	1107	44.7	70	7
Azadirachta indica (Neem)	1000	415	585	41.5	65	6
Ficus religiosa (Pipal))	50	5	45	10.0	68	7
Dalbergia sissoo (Shisham)	1015	375	640	36.9	70	7
Albizia lebbeck (Siras)	110	0	110	0.0	0	0
Total	10000	4108	5892	41.1	74	7

3.1.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.1.12. Budget and expenditure

Table 3.1: Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2020-21				20.812				19.892
2021-22				5.1165				5.081
2022-23				2.0325				1.977
Total				27.961				26.95

3.2.1. Site 2- Surawala Nala Jambua site in Jaisamand range -N $25^0$15’48” and E $73^0$54’38”

The selected plantation was carried out on 50 hac. of land at Surawala nala Jambua site in Jaisamand range during the year 2021-22. The activities were done under the Assisted Natural Regeneration (ANR) model. The site was a forest land and selected for 10% evaluation. The soil was rocky.

3.2.2. Treatment plan before sowing: The topography of the area was hilly. Hence, as per availability of soil digging of pit has been made for plantation**.** Pits of size 0.45*0.45*0.45 cm^3 have been made. Total 10200 pits were dug for plantation in total 50 hac of land. The seedlings were planted after applying pesticides and manure in the pit. First year the pits were made and second year during monsoon, the plantation works carried out.



3.2.3. Health & Damages of Plantation: The growth of planted seedlings at the site was excellent. Grazing by stray animals & cattle and destruction by Neel gai and porcupine was reported at the site. Also, widely growth of termite, attack by pest and scarcity of water obstruct the growth of planted seedlings. The status of guarding/ fencing at the site was satisfactory.



3.2.4. Species Planted: The selected tree species under plantation were of Dalbergia sissoo (Shisham), Emblica officinalis (Amla), Acacia catechu (Khair), Zizyphus mauritiana (Ber), Dendrocalamus strictus (Baans),*Azadirachta indica (Neem), Annona squamosa (Sitafal), Pithecellobium dulce (Jangal Jalebi), Holoptelea integrifolia* (Churel) & Syzygium cumini (Jamun) were planted.



In total, 10200 numbers of seedlings were planted at the site. Seedlings of above plants were planted. As per the model, 200 plants per hectare have been planted. Thus, total number of plants planted was 10000 for 50 hectare of land. **The growth of survived plants was good.**

3.2.5. Watering of plants: The provision of watering to plants was not reported at the site. The plantation works carried out here are totally based on rain water.

3.2.6. Natural Vegetation and Regeneration: Khirni*, Churail, Tendu, Salar & Godal* were the plants found grown naturally in this area. The growth of the plants was good.

3.2.7. Regeneration through seeds sowing: Seeds of species of Bair, Mahuwa, Neem & Khair were sown in as well as along the trenches and on the thanwlas. **The result of sowing was average.**

3.2.8. Protection Work: The selected ANR model plantation had loose stone fencing of 1500 RMT having width at the top-0.6 meters, width at the bottom-0.6 meters & height 1.2 meters. Present condition of fencing was average. Also,Pucca masonry wall of 670 RMT was reported at the site

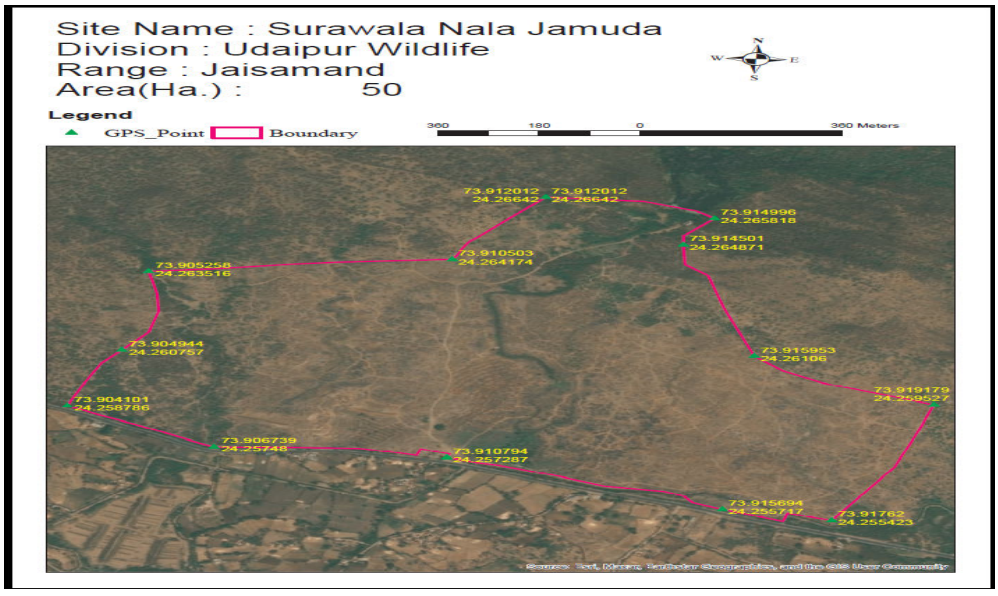
3.2.9. Soil and Water Conservation Measures: There are 15000 RMT Contour trenches & 02 MPT & Loose stone check dam (150 cu.m) in the form of water harvesting structures present in the entire plantation area. The sample checking of about 10% SMC structures is done. The result shows no variation in SMC structures.

3.2.10. Observations Recorded: Under this model, 200 plants per hectare were planted during plantation. **Based on for as 10 percent counting, plants survival was 60.5% at the site.**

Table 3.2: Status of Planted Seedlings at the site- Surawala nala Jambua Site

Species	Total Plants planted	Sample 10% area observed	Live Plants	Survival (%)	Average height of plants (cm)	Average gbh (mm)
Emblica officinalis (Amla)	500	50			160	22
Azadirachta indica (Neem)	2000	200			145	21
Acacia catechu (Khair)	500	50			135	22
Zizyphus mauritiana (Ber)	500	50			190	22
Dendrocalamus strictus (Baans)	2000	200			225	23
Tectona grandis (Sagwan)	500	50			205	24
Lasoda	100	10			0	0
Syzygium cumini (Jamun)	500	50			170	23
Karonda	250	25			0	0
Annona squamosa (Sitafal)	500	50			0	0
Pithecellobium dulce (Jangal Jalebi)	500	50			185	21
*Bauhinia sp. (*Kachnar*)*	250	25			165	21
Tamarindus indica (Imli)	500	50			0	0
Terminalia bellirica (Baheda)	100	10			160	21
Madhuka latifolia (Mahua)	50	5			0	0
*Mangifera indica (*Mango*)*	50	5			0	0
Pongamia pinnata (Karanj)	500	50			145	22
Cassia fistula (Amaltas)	100	10			0	0
Holoptelea integrifolia (Churel)	500	50			168	22
Sapindus sp. (Aritha)	100	10			0	0
Butea monosperma (Palash)	200	20			0	0
Total	10200	1020	617	60.5	171	22

3.2.11. GPS Location and KML file: The selected ANR model under CAMPA plantation site measured 50 Hac as per kml map.



3.2.12. Budget and expenditure

Table 3.3 Cost-estimate & expenditure (Year-wise)

Year	Cost estimate (lacs)				Expenditure (Rs.)			
	Plantation	SMC works	Boundary wall/ Fencing	Total	Plantation	SMC works	Boundary wall/ Fencing	Total
2021-22				511650				511305
Total				511650				511305

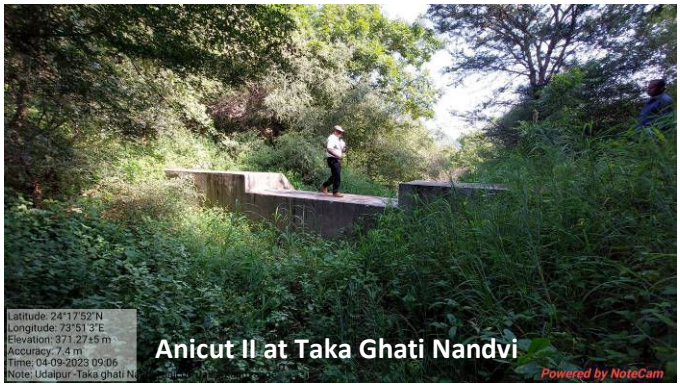
4. Results for asset sites

4.1 Site1- Pakki Diwar 6 Ft at Dhimda Phatak Se Mahuri, Jaisamand Range



At Dhimda Phatak se Mahuri in Jaisamand range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2020-21. The wall dimensions were 6 ft and 1900 m length as per MB. Also in actual 1900 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.8 meters. Construction work appeared to be average and the infrastructure was in use. The 1900 m pakki diwar was constructed in seven parts (Ist- 540m, IInd-140m, IIIrd-200m, IVth- 600m, Vth-109m, VIth-210m & VIIth-110m). The construction of pakki diwar prevents encroachment by local residents. GPS location of this area was $24^0$13'28" N and $73^0$58'3" E. The expenditure incurred for constructing this wall was Rs. 5510000 (as per MB) against the estimated budget of Rs.5258900.

Site 2- Anicut II at Taka Ghati Nandvi, Jaisamand Range



At Taka ghati Nandvi in Jaisamand range, Anicut II has been evaluated. The Anicut II was constructed in the year 2020-21. The length, breadth & height of the structure was 13.50 meter, 1.55 meter & 1.3 meter respectively. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. The anicut is useful for wild animals. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was $24^0$17'5" N and $73^0$51'4" E. The expenditure incurred for constructing the anicut wall was Rs.369100 (as per MB) against the estimated budget of Rs 375000 lac.

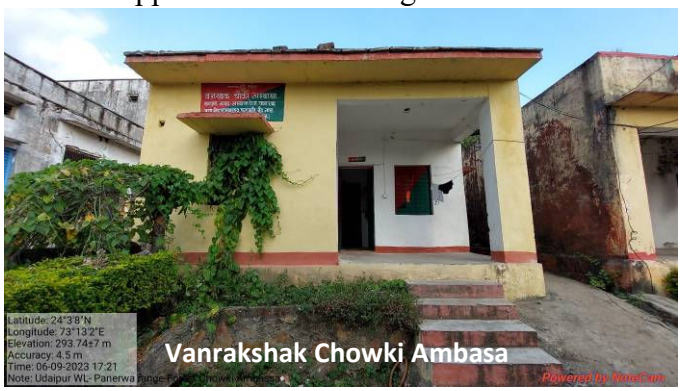
Site 3- Pakki Diwar 6 Ft at Bujja, Panarva Range



At Bujja in Panarva range, the pakki diwar 6 ft. has been evaluated. The wall was constructed in the year 2021-22. The wall dimensions were 6 ft and 500 m length as per MB. Also in actual 500 m pakki diwar was constructed at the site. The width of the diwar was 0.45 meter & height was 1.8 meters. Construction work appeared to be average and the infrastructure was in use. The construction of pakki diwar prevents encroachment by local residents. GPS location of this area was $24^0$1'29" N and $73^0$14'25"E. The expenditure incurred for constructing this wall was Rs. 1674500 (as per MB) against the estimated budget of Rs.1675000.

Site 4- Forest Chowki Ambasa, Panarva range

Forest Chowki at Ambasa site in Panarva range has been evaluated. The Forest Chowki was constructed in the year 2021-22. Site selection for construction of Forest Chowki was adequate and useful for the staff. Construction work appeared to be average and useful. The Forest Chowki was constructed in campus of Naka. The Chowki is useful for forest Guard. It was properly maintained. GPS location of this area was $24^0$3'8" N and $73^0$13'3"E. The expenditure incurred for constructing the Forest Chowki was Rs. 439300 (as per MB) against the estimated budget of Rs. 550000.



Site 5- Anicut II at Ambasa II, Panarva Range



At Ambasa II at Panarva range, Anicut II has been evaluated. The Anicut II was constructed in the year 2021-22. The length, breadth & height of the structure was 10.0 meter, 1.0 meter & 1.2 meter respectively. Construction work appeared to be good and useful. Water was available (0.6 m) in the anicut at the time of visit. The anicut is useful for wild animals. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location

of this area was $23^0$2’3” N and $73^0$14’2” E. The expenditure incurred for constructing the anicut wall was Rs.374640 (as per MB) against the estimated budget of Rs 375000 lac.

Site 6- Anicut III at Jamura, Jaisamand Range



At Jamura, Jaisamand range, Anicut III has been evaluated. The Anicut III was constructed in the year 2020-21. The length, breadth & height of the structure were 5 meterX1.2 meterX1.20 as per MB. Construction work appeared to be good and useful. Water was not available in the anicut at the time of visit. The anicut is useful for wild animals. It also helps in soil moisture retention, decrease in soil erosion & also change in water level. The GPS location of this area was $24^0$15’56” N and $73^0$54’32” E. The expenditure incurred for constructing the anicut wall was Rs. 627000 (as per MB) against the estimated budget of Rs.

Site 7- MPT at Tindori, Panarva Range



At Tindori in Panarva range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (35m), breadth (1.5m) & height (1.8 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was available (0.2 m) in the MPT at the time of visit. The structure is useful for collection of rain water. This helps in soil moisture retention in the nearby area. The structure is environment friendly & low cost. The GPS location of this area was $24^0$6’33” N and $73^0$17’25”E.The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 69640 (as per MB) against the estimated budget of Rs.70000.

Site 8- MPT at Maldar, Kotra Range

At Maldar in Kotra range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (30m), breadth (3.0m) & height (1.8 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was available (0.2 m) in the MPT at the time of visit. The structure is useful for collection of rain water. This helps in soil moisture retention in the nearby area. The structure is environment friendly & low cost. The GPS location of this area was $24^0$25’51” N and $73^0$15’12”E.The MPT



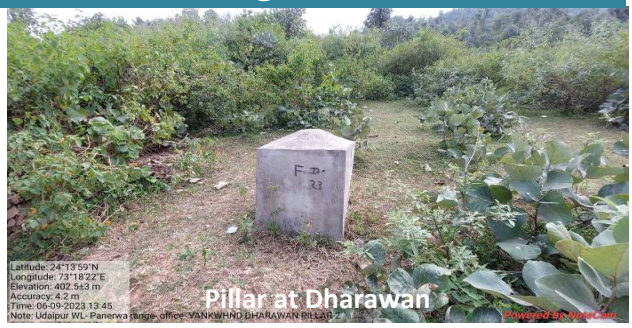
is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 65910 (as per MB) against the estimated budget of Rs.70000.

Site 9- MPT at Deemarbagh, Jaisamand Range



At Deemarbagh in Jaisamand range, MPT been evaluated. The MPT was constructed in the year 2021-22. The length (35m), breadth (2.0m) & height (1.8 m) of the structure is as per MB. Construction work appeared to be average and useful. Water was not available (0.2 m) in the MPT at the time of visit. The structure is useful for collection of rain water. This helps in soil moisture retention in the nearby area. The structure is environment friendly & low cost. The GPS location of this area was $24^0$15'21" N and $73^0$55'47"E.The MPT is useful for forest area & wild animals. The expenditure incurred for constructing the MPT was Rs. 69420 (as per MB) against the estimated budget of Rs.70000.

Site 10- Pillars at Vankhand Dharawan, Panarva range



At Vankhand Dharawan in Panarva range pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported good and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs.103700 (as per MB) against the estimated cost of Rs 117500.

Site 11-Pillars at Vankhand Ashawara & Adahaldu, Mamer range



At Ashawara & Adahaldu in Mamer range pillars (20 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported good and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar. The expenditure incurred for constructing the Pillars was Rs.202700 (as per MB) against the estimated cost of 2.35 lacs.

Site 12- Pillars at Vankhand Phulwari, Kotra range

The site visited under asset created under CAMPA was Pillars (50 nos.) at Vankhand Phulwari, Kotra range. At Phulwari in Kotra range pillars (10 Nos.) have been evaluated. The pillars were constructed in the year 2021-22. The pillars constructed were reported good and useful. The construction of pillars helped in marking forest boundary. The finishing of pillar should be proper. The pillar should be painted with number written on the pillar.The expenditure incurred for constructing the Pillars was Rs.103900 (as per MB) against the estimated cost of Rs.117500.



5. Overall assessment

Table 5: Quantitative assessment of plantation work created under CAMPA in Udaipur WL division

Sl. No.	Site	Model	Area in Ha	Survival percentage	Rank of Site (Between 0 to 10)*
1	Ghoramari	ANR	50	41.1	5
2.	Surawala nala Jamura	ANR	50	60.5	7

* 4: very poor (below 40%), 5: poor (40-50%), 6: average (50-60%), 7-good (60-70%), 8: very good (70-80%), 9: excellent (80-90%),

Table 5.1: Status of Structure as per record & actual

Sl. No.	Items	Name of the site	As per record (meters/ numbers/ LXBXH)	As per actual	Variation
1.	Pakki Diwar 6 ft	Dheemra Phatak se Mahudi	1900	1900	0
2.	Anicut Type II	Taka Ghati Nandvi	13.55mX1.55mX1.3 m	13.55mX1.55mX1.3 m	0
3.	Pakki Diwar 6 ft	Bujha	500	500	0
4.	Forest Chowki	Ambasa	01	01	0
5.	Anicut Type II	Ambasa II	10.0mX1.0mX1.2m	10.0mX1.0mX1.2m	0
6.	Anicut Type III	Jamuda	5.0mX1.2mX1.2m	5.0mX1.2mX1.2m	0
7.	MPT	Tindori	35.0mX1.5mX1.8m	35.0mX1.5mX1.8m	0

8.	MPT	Maldar	30.0Mx3.0mX1.8m	30.0Mx3.0mX1.8m	0
9.	MPT	Dhimrbag	30.0Mx3.0mX1.8m	30.0Mx3.0mX1.8m	0
10.	Boundary Pillar	Dharavar	10	10	0
11.	Boundary Pillar	Ashawada/Aadahaldu	20	20	0
12.	Boundary Pillar	Vankhand Phulwari	10	10	0

Table 5.2: Quantitative assessment of asset work created under CAMPA

Sl. No.	Items	Name of the site	Quality of Construction	Rank of item between 0 to 10
1.	Pakki Diwar 6 ft	Dheemra Phatak se Mahudi	Average	6
2.	Anicut Type II	Taka Ghati Nandvi	Good	7
3.	Pakki Diwar 6 ft	Bujha	Average	6
4.	Forest Chowki	Ambasa	Average	6
5.	Anicut Type II	Ambasa II	Good	7
6.	Anicut Type III	Jamuda	Good	7
7.	MPT	Tindori	Average	6
8.	MPT	Maldar	Average	6
9.	MPT	Dhimrbag	Average	6
10.	Boundary Pillar	Dharavar	Average	6
11.	Boundary Pillar	Ashawada/Aadahaldu	Average	6
12.	Boundary Pillar	Vankhand Phulwari	Average	6



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