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**TRIPARTITE MEMORANDUM OF AGREEMENT**  
**BETWEEN**  
**THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE, GOVERNMENT OF**  
**INDIA,**  
**GOVERNMENT OF RAJASTHAN**  
**AND WILDLIFE INSTITUTE OF INDIA**  
**FOR GREAT INDIAN BUSTARD CONSERVATION BREEDING AND RESEARCH PROGRAMME**

The Great Indian Bustard *Ardeotis nigriceps* has a global population of less than 200 birds with only one viable population presently occurring in Thar Desert, Rajasthan. Ministry of Environment, Forests, and Climate Change (MoEFCC), Government of India, in consultation with concerned State Forest Departments, Wildlife Institute of India (WII), Bombay Natural History Society (BNHS) and Worldwide Fund for Nature-India (WWF), has developed a Recovery Programme for this Critically Endangered species. An important component of this programme is to initiate Conservation Breeding as an insurance against total extinction and possible restocking of wild populations in the future. Alongside Great Indian Bustard, this Programme will be utilized to simultaneously secure a captive population of the Endangered Lesser Florican *Sypheotides indicus* before their numbers become critically small.

At the very onset it is acknowledged that for survival of the critically endangered species like GIB, the two conservation paradigms, in-situ and ex-situ are intricately inter-related; the ultimate goal of Conservation Breeding being reintroductions in safe restored habitats and supplementation of wild populations. Investments in the Conservation Breeding Programme should in no way result in complacency towards in-situ conservation efforts and investments. The urgency of implementing the Conservation Breeding Programme bestows on the Centre and State Governments great responsibilities, effective discharge of which is essential. This tripartite memorandum between the Ministry of Environment, Forests and Climate Change, Government of India, Rajasthan Forest Department, and Wildlife Institute of India formalizes the respective roles, responsibilities and reciprocal commitments along with the flow of funds and resources to ensure effective implementation of the Great Indian Bustard and Lesser Florican Conservation Breeding and Research Programme.

The Memorandum of Agreement is between the President of India through Inspector General of Forests (Wildlife), Ministry of Environment, Forests and Climate Change as the First Party and Governor of Rajasthan through Chief Wildlife Warden, Forest Department, Rajasthan as the Second Party and Wildlife Institute of India, Dehradun through the Director as the Third Party.

**ARTICLE I: Definitions**

It is hereby stated that, in this document,

- (a) "Project" refers to the Conservation Breeding and Research Programme for the Critically Endangered Great Indian Bustard and the endangered Lesser Florican; restoration of habitat, and creation of inviolate spaces for safe release of bustards;
- (b) "Facility" refers to Captive Breeding and Research Facility with functional incubation, hatchery, chick rearing and adult bird cages, food processing room, staff quarters and store room with

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appropriate infrastructure and instruments for breeding Great Indian Bustard and Lesser Florican;

(c) "Satellite Facility" refers to incubation and hatchery facility to be developed near egg collection site;

(d) "Action Plan" refers to Great Indian Bustard and Lesser Florican Conservation Breeding Protocol document to be prepared by the Third Party in consultation with national and international bustard breeding experts and approved by the Steering Committee of the Project; the site specific "strategic management action plan" for *in situ* conservation to be prepared by the second party.

#### ARTICLE IIa: Agreement

It is hereby acknowledged and understood that by signing this document the Parties are agreeing to implement this Project. The Parties shall hereby collaborate and cooperate closely at all stages of development and execution of all mutually agreed activities under this Project, and shall share all relevant information with each other and facilitate each other for unhindered execution of Project activities.

#### ARTICLE IIb: Steering Committee

(a) All parties agree to set up a Steering Committee for the Project with the following constitution:

|        |   |                    |
|--------|---|--------------------|
| (i)    | Additional Director General (Wildlife), Ministry of Environment, Forests & Climate Change (MoEF&CC), Government of India, Delhi             | Chair person       |
| (ii)   | Director, Wildlife Institute of India (WII), Dehradun   | Member             |
| (iii)  | Chief Wildlife Warden, Rajasthan Jaipur   | Member             |
| (iv)   | Inspector General of Forests (Wildlife), MoEF&CC, Government of India   | Member             |
| (v)    | Member Secretary Central Zoo Authority, Delhi   | Member             |
| (vi)   | Director, Desert National Park, Jaisalmer   | Member             |
| (vii)  | One/Two representatives from International Bustard Breeding Center (to be nominated by the Wildlife Institute of India, Dehradun)           | Member             |
| (viii) | Lead Project Scientist (Great Indian Bustard), WII (to be nominated by the Wildlife Institute of India, Dehradun)                           | Member             |
| (ix)   | Dr. Asad Rahmani, Ex-Member, Bombay Natural History Society (BNHS), Mumbai  | Member             |
| (x)    | Dr. Vibhu Prakash, Member, Bombay Natural History Society, Mumbai   | Member             |
| (xi)   | CEO, Worldwide Fund for Nature-India, Delhi   | Member             |
| (xii)  | Two representative from Indian Army, Western Command (to be nominated by the Commanding Officer Western Command)                            | Member             |
| (xiii) | Project Scientist (Great Indian Bustard) based at the project site Rajasthan (to be nominated by the Wildlife Institute of India, Dehradun) | Member             |
| (xiv)  | Deputy Inspector General of Forests (WL), Ministry of Environment, Forests & Climate Change (MoEF&CC), Government of India, Delhi           | Member<br>Convener |

The members in serial number vii) shall be identified by Steering Committee and nominated through mutual agreement between collaborating International Bustard Breeding Centers and Chair of

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Steering Committee. In addition to the above members, upto two scientists/conservation practitioners of repute with expertise of topical relevance can be identified and invited as special invitees to Steering Committee meetings.

(b) Steering Committee shall determine its overall responsibilities during its inaugural and ensuing meetings, but these shall include:

- (i) Overseeing the entire programme,
- (ii) Determining future objectives of the Project;
- (iii) Develop a detailed project proposal and approve it.
- (iv) Review the progress of Project implementation from time to time;
- (v) Issue suitable directions / advice to Project management;
- (vi) Facilitate funding for the Project;
- (vii) suggesting suitable sites for habitat restoration,
- (viii) Approve suitable research proposals under the project and
- (ix) Any other matter as required.

The Steering Committee shall meet at least once a year. The cost of travel and other expenses for attending the meeting will be charged from the fund of the Project if required.

(c) All parties agree to the setting up of a Project Management Committee for day to day management of the project with the following constitution:

- (i) Chief Wildlife Warden, Rajasthan as the Chairman of the Project Management Committee
- (ii) Director Desert National Park (Deputy Conservator of Forests, Jaisalmer DNP Member Secretary)
- (iii) One representative from International Bustard Breeding Centers ( to be nominated by the Chairperson of the Steering Committee)
- (iv) Lead Project Scientist (Great Indian Bustard), WII ( to be nominated by the Chairperson of the Steering Committee)
- (v) Deputy Conservator of Forests, Baran (Kota Circle)
- (vi) Project Scientist (GIB) at Project Site Rajasthan

This committee will meet at least three to four times a year. The committee will supervise the field execution and timely completion of the project. The committee will examine and accord the research proposals and in-situ conservation proposals to be forwarded to Steering committee.

#### ARTICLE IIIa: Finances and logistics

- (a) Financial support for developing and executing the Project shall be provided by the First Party for about 35 years, extendable as required and as decided by the Steering Committee. The First and Second Party will also explore sharing of costs and provide assistance especially for travel of International experts and training of wildlife managers and project staff abroad.
- (b) Funds for developing main Facility and Satellite Facility, outreach, habitat restoration, capacity building, securing inviolate spaces and addressing livelihood issues as estimated and mutually agreed between Parties shall be transferred to Second Party while funds for executing the

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- remaining activities of the project will be transferred to the Third Party. Additional funds (if required) for activities apart from the activities mentioned in the project proposal shall be provided by first party to second party.
- (c) Second Party shall provide unrestricted access and right to the third party to develop and use equal or more than two sqkm land at in Jaisalmer for establishing the egg collection and hatching Facility and in Sorsan, Kota for establishing the conservation breeding centre.
- (d) Second Party shall develop the Facility and egg hatching Satellite Facility at these sites following the design and quality recommendations by Steering Committee.
- (e) Second Party shall take responsibility of providing the Facility with adequate electricity, water, and metal road connectivity for unhindered transportation of Project personnel, equipment, eggs and birds as per the financial provision in the Project. Second party will also be responsible for developing the GIB & Lesser Florican release areas, with inviolate spaces. The first party will provide funds for habitat restoration in the landscape.
- (f) Upto two officials of the Rajasthan Forest Department not below the rank of Deputy Conservator of Forests shall be proposed by the Second Party for their training in India and/or abroad. These personnel shall be deputed to assist Project Scientist, in Project execution by the Second Party.
- (g) Funds for executing the Project shall be expended on following heads:
- (i) Salaries, statutory benefits, travel costs, per-diems etc. of Project personnel and consultants;
  - (ii) Appropriate training of Project personnel at National/International Institutions and Conservation Breeding Centers;
  - (iii) Proper care of infrastructure, equipment and activities at the Facilities including all egg/bird management, veterinary care and administration (communication, electricity and water supplies, professional service fees, etc.) costs;
  - (iv) Necessary construction and maintenance of Facility, including furnishing and provisioning of infrastructure, purchase and maintenance of research equipment and vehicles, etc;
  - (v) Search, collection and transport of founder eggs/birds, maintenance and monitoring of captive-bred birds prior to their release to other mutually agreed conservation breeding Facilities, and/or future release of captive-bred birds into the wild;
  - (vi) Research both at the Conservation Breeding Facility as well as on wild population that are related to species ecology and breeding biology (which includes tagging of wild and captive birds, reproductive physiology, population monitoring, and advocacy) as prescribed in Action Plan and agreed by Steering Committee, including acquisition of equipment and running costs for these activities; and
  - (vii) Dissemination of information through documentation, seminars, research workshops and publication to other parties and partner agencies.
- (h) The Third Party will assist the second party in identifying the suitable habitats for Great Indian Bustard & Lesser Florican and suggest restoration measures to be undertaken. These habitats

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have to be made viable for in-situ population and suitable for releasing captive-bred birds (having a mosaic of inviolate areas connected with bustard friendly habitat within a large landscape) in the future by mitigating all current threats that have resulted in bird declines. The first party will provide adequate funds for restoration of the habitat and the second party will be responsible for implementation.

Third party will provide institutional support for training the official/staff of second party for in-situ conservation measures. Third party will also provide technical support to second party in-situ conservation.

(i) First and Second Party shall take responsibility of identifying, & restoring bustard habitats and suggesting alternate habitats for release of birds within next 15-20 years as approved by Steering Committee. Second party will also implement outreach activities in collaboration with third party.

(j) First Party shall facilitate funding and encourage other Great Indian Bustard and Lesser Florican range states for maintaining and restoring suitable Great Indian Bustard and Lesser Florican habitats.

#### ARTICLE IIIb: Permissions

(a) The First and Second Party shall permit collection / capture of Great Indian Bustard and Lesser Florican eggs, and if advised by experts, juvenile / adult birds for the purpose of conservation breeding and research as per the provisions of the Wildlife (Protection) Act, 1972 and following appropriate protocols approved by the Steering Committee. In case, juvenile / adult birds are rescued anywhere from the species'-ranges, these may also be used for conservation breeding purpose as per the advice of the Steering committee. The First Party shall facilitate procurement of appropriate eggs / birds from other bustard range states.

(b) As per the concept of minimum viable population in conservation biology and population viability analysis of Great Indian Bustard (Dolman et al. 2015, Dutta et al. 2011) and international guidelines (IUCN, 2013), a founder population of about 20 adult birds (15 females) is necessary to minimize the probability of extirpation of captive population and capture the genetic variability of the source population. Hence, considering 50-60 % mortality from egg to adult stage, a total of 40-55 eggs are required to build this founder population. To optimize the requirement of Conservation Breeding Programme and minimize the impact on *in-situ* population recovery, minimum 5 to maximum 8 eggs need to be collected every year for the first ten years. Egg collection shall be done by trained Project personnel from wild Great Indian Bustard breeding sites primarily in Rajasthan (and other States). In the case of Lesser Florican where wild populations are not as much depressed as that of Great Indian Bustard and clutch sizes are larger (2-4 eggs), a founder population of 30-40 adult birds is to be achieved. This target could be achieved in about 5-10 years with 10-20 eggs collected each year from the species range states. Wild-collected eggs shall be treated as per Action Plan, but shall include:

(i) Retention and incubation of eggs and, if required, their hatching and subsequent management in appropriate Facility;

(ii) Transportation of eggs / birds to Facility for building founder population;

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- (c) First and Second Party, in accordance with legal provisions, will provide necessary permits and facilitate in the continued development of all mutually agreed management and research activities at Facilities and in-situ conservation areas. In particular, Second Party will:
- (i) Grant long-term permits for field research at sites under their jurisdiction (e.g., Protected Areas), use of facilities (e.g. guest houses) at concessional rates (as applicable to forest department officials) and other assistance at their disposal, to Project personnel on duty.
- (ii) Grant permit for capture, re-capture, marking and release of wild and / or captive-bred birds as may be required under the Wild Life (Protection) Act, 1972 for the purposes of conservation-breeding and research including satellite telemetry, monitoring studies, or translocation of eggs / birds as per the Action Plan approved by the Steering committee.

**Article- IIIC: Habitat restoration and bird release**

- (a) In due course of Project execution, as the captive-bred Great Indian Bustards and Lesser Floricans become ready for release into the wild, conservation areas in Rajasthan shall be prioritized for release, followed by conservation areas in Gujarat, Maharashtra, Andhra Pradesh, Karnataka and Madhya Pradesh.
- (b) However, for the best interest of the species' persistence, choice of sites for releasing these captive-bred birds will depend on the degree of *in-situ* management actions implemented by the State Forest Departments and the level of habitat restoration in these conservation areas.
- (c) The release sites must have cumulatively 200 km<sup>2</sup> of inviolate space within the Great Indian Bustard landscape comprising of secured habitat patches exceeding 20 km<sup>2</sup> each and the connecting habitats in between these patches should be devoid of all hostile infrastructure. All potential threats to Great Indian Bustard at the release sites should have been mitigated to the best possible. Steering Committee shall set up a Task Force to assess these release sites for meeting the above mentioned criteria prior to the release of captive-bred birds. All captive bred released birds would be monitored using the best available technology to assess the success of the program.
- (d) The first and second party will endeavor to carryout voluntary relocation of communities in the habitat to create inviolate spaces.
- (e) A detailed landscape level management plan should be prepared by Second Party in consultation with First and Third Parties to ensure effective implementation of *in-situ* measures. This management plan should include actions required for (a) securing breeding enclosures in wild, (b) reducing threats in landscapes adjoining these breeding enclosures and (c) addressing livelihood concerns, as per the recommendations of the Guidelines for Resident Bustards' Recovery Programme.
- (f) First and Second Parties and GIB range states shall collectively provide financial support for implementing *in-situ* measures as per the landscape management plan.
- (g) The signing parties shall co-opt any other range states to be partners in the project with specific terms of agreement with that state.

**ARTICLE IV: Project staff**

Third Party shall engage staff for running Project facilities that includes:

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- (i) Project Scientist and Veterinary officer for running the Conservation Breeding Center who shall be trained at International Conservation Breeding Centers;
- (ii) International bustard captive breeding expert(s) as Project Advisor (s);
- (iii) And appropriate staff for running the Facilities.

Third party of the Project shall provide all salaries and allowances to Project personnel including approved project allowances to the personnel deputed by Second Party in the Project

Third party of the Project shall also arrange for appropriate training of Project personnel, including educational visits to International Bustard Breeding Centers, in order to develop a highly skilled team for execution of Project, as mentioned in Article IIIa.

#### ARTICLE V: Project staff responsibilities

Project Scientist(s), in consultation with the Lead Project Scientist, Advisors and team members, and in understanding with the Project Head, shall:

- (i) Assist in drafting Action Plan for Project and seeking approval from the Steering Committee;
- (ii) Supervise the construction of Facilities;
- (iii) Identify and procure infrastructure and equipment for running the Facilities as per Third Party rules;
- (iv) Assume responsibility for routine management and development of the Project;
- (v) In consultation with Project management committee to Identify Conduct relevant studies on species' biology, behavior, reproduction, genetics, ecology and management, both in captivity and in wild along with studies on socio-economy and other relevant topics on local community in liaison with other mutually agreed research institutions if required.
- (vi) Regularly report Project activities to Steering Committee, Project management committee and other relevant states (Gujrat, Maharashtra, Madhya Pradesh, Karnataka and Andhra Pradesh) authorities and interest groups. This will include preparation of annual and final reports, and supply of prompt response to any query concerning current status and activities of the Project;
- (vii) And facilitate training of Project personnel in conservation breeding techniques as well as *in-situ* management.

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#### ARTICLE VI: Addition of parties and dispute resolution

- (a) All Parties shall facilitate the involvement or contribution of representatives from relevant national and international institutions in this Project, provided such involvement does not in any manner compromise with the primary objectives of the Project.
- (b) Any dispute between Parties in respect of matters governed by this Memorandum of Agreement shall first be placed before the Steering Committee for amicable resolution. However, failing such resolution, the decision of Director General of Forests and Special Secretary to the Government of India, Ministry of Environment, Forests and Climate Change shall be final.

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**ARTICLE VII: Validity of MoA**

This Memorandum of agreement shall be effective from the date of signing of the agreement and remain valid for a period of five years from the date of signing and may be extended after review of progress every five years by all three parties for necessary adaptive management. Any of the Parties may give to others a written notice six months in advance of its intention to terminate the Memorandum of Agreement before the date of expiry. This Memorandum of Agreement may be modified or amended by mutual written consent of all Parties.

**ARTICLE VIII: Projected financial obligations and commitments**

The parties will commit funds (Rs. lakh) as under for the first four years of project implementation.

| Year    | Total fund requirement ( In lakhs) | Commitment  |              |
|---------|------------------------------------|-------------|--------------|
|         |                                    | First Party | Second Party |
| 2017-18 | 803.00                             | 773.00      | 30.00        |
| 2018-19 | 623.00                             | 593.00      | 30.00        |
| 2019-20 | 532.00                             | 512.00      | 20.00        |
| 2020-21 | 532.00                             | 512.00      | 20.00        |

The financial commitment of first party includes construction of Conservation Breeding Center (CBC), running and maintenance of CBC, in situ pilot management and out reach. The commitment from Second party includes International Travel and training, and infrastructure for Conservation Breeding Center. Implementation of Conservation Breeding Programme Will be done by Third party. Detailed break-up of fund commitment by First Party is provided in annexure 1 and total fund requirements for executing the Conservation Breeding Programme for 40 years is provided in annexure 2.

IN WITNESS WHEREOF, the parties hereto have caused their representative duly authorized for that purpose to sign and execute this Memorandum of Agreement and affix hereto their seals on the dates and in the year herein above written.

Signatures of:

First Party

Inspector General of Forests (Wildlife) / SOUMITRA DASGUPTA  
वन महानिरीक्षक  
(On behalf of the President, Inspector General of Forests  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
Ministry of Environment, Forest and Climate Change  
भारत सरकार, नई दिल्ली  
Govt. of India, New Delhi

Second Party

Chief Wildlife Warden  
(On behalf of the Governor of Rajasthan)

डा. वि.बि. माथुर/Dr. V.B. Mathur  
निदेशक/Director  
भारतीय वन्यजीव संस्थान  
WILDLIFE INSTITUTE OF INDIA  
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Third Party

Director, Wildlife Institute of India

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Annexure 1 - Budget break-up of fund commitment by First Party for initial years of project implementation

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| Head  | Particulars  | Yr-1          | Yr-2          | Yr-3          | Yr-4          | Yr-5           | Total         |
|---|--|---------------|---------------|---------------|---------------|----------------|---------------|
| Staff engagement  | 1 Project Scientists (1 CBC + 1 wt + 1 field)  | 20.16         | 22.18         | 24.39         | 26.83         | 29.82          | 133.08        |
|   | 2 Project Associates (field)   | 10.85         | 11.93         | 13.13         | 14.44         | 15.88          | 66.23         |
|   | 4 Project Assistant grade 2 (2 CBC + 2 field)  | 9.60          | 10.56         | 11.62         | 12.78         | 14.06          | 58.61         |
|   | 4 Project Assistant grade 1 (1 CBC + 3 field)  | 7.30          | 8.03          | 8.83          | 9.71          | 10.68          | 44.54         |
|   | 8 Field assistant grade 2 (5 CBC + 3 field)  | 10.08         | 11.09         | 12.20         | 13.42         | 14.76          | 61.54         |
|   | 3 Field assistant grade 1 (field)  | 2.88          | 3.17          | 3.48          | 3.83          | 4.22           | 17.58         |
|   | Daily labour in field & CRC  | 3.66          | 3.77          | 3.70          | 3.83          | 4.07           | 18.68         |
|   | Project Management Unit (part cost)  | 15.36         | 13.65         | 14.80         | 16.08         | 17.43          | 77.29         |
|   | <b>Total costs of staff engagement</b>   | <b>79.28</b>  | <b>83.96</b>  | <b>92.15</b>  | <b>101.14</b> | <b>111.02</b>  | <b>467.55</b> |
|   | Center establishment cost  | 414.00        | 270.00        | 225.00        | 90.00         | 90.00          | 1080.00       |
|   | Center running costs   | 14.85         | 39.85         | 41.84         | 41.84         | 43.84          | 182.22        |
|   | Center maintenance cost  | 0.00          | 0.00          | 4.50          | 22.50         | 22.50          | 49.50         |
| Miscellaneous costs (training, collaborative & contingency)   | 47.44  | 36.49         | 18.82         | 15.07         | 15.52         | 133.34         |               |
| <b>Total costs of conservation breeding</b>   | <b>476.29</b>  | <b>346.34</b> | <b>290.16</b> | <b>169.41</b> | <b>171.85</b> | <b>1454.06</b> |               |
| Applied research  | Satellite telemetry costs (FTT & trapping costs)   | 31.34         | 52.09         | 16.05         | 14.85         | 15.53          | 131.86        |
|   | Threat assessment surveys (vehicle charges)  | 13.50         | 13.50         | 14.85         | 14.85         | 15.53          | 72.23         |
|   | Population/habitat surveys (demography, vehicle, accommodation & tools, GPS & binocs)                                      | 18.43         | 3.00          | 0.00          | 0.00          | 24.64          | 46.06         |
|   | Surveys for land acquisition/rationalization, social aspects & other species status  | 0.00          | 5.40          | 5.94          | 5.94          | 0.00           | 17.28         |
|   | General field equipment (camera traps, laptops, cameras, accessories & stationary)   | 17.70         | 2.02          | 2.28          | 2.28          | 2.38           | 26.70         |
|   | Accommodation & travel   | 7.92          | 7.92          | 8.53          | 8.72          | 9.14           | 42.23         |
|   | Research/conservation laboratory (genetics & pesticides) equipment (part cost) & analysis charges                          | 48.35         | 13.35         | 14.69         | 14.69         | 34.82          | 135.89        |
|   | Contingency (collaborative service charges & miscellaneous)  | 10.46         | 7.87          | 6.42          | 6.57          | 8.55           | 39.66         |
|   | <b>Total costs of applied research</b>   | <b>159.70</b> | <b>105.20</b> | <b>68.75</b>  | <b>67.69</b>  | <b>110.58</b>  | <b>511.92</b> |
|   | Training of Forest Conservation Staff (wildlife specialization & other trainings)  | 0.00          | 20.00         | 21.00         | 21.00         | 21.00          | 85.00         |
|   | Technology aided patrolling (developing tools, conducting training workshops for implementation & equipments)              | 13.14         | 17.14         | 13.35         | 4.40          | 4.60           | 52.63         |
|   | Workshops to sensitize non-forest officers (materials, travel & accommodation) - 3 workshops/yr & 15 participants/workshop | 8.94          | 8.94          | 9.83          | 9.83          | 10.28          | 47.83         |
| Mobile workshops to sensitize local people (equipment, material, travel & laptops) - 15 villages/yr & 500 people/yr | 4.00   | 3.60          | 3.96          | 3.96          | 4.14          | 19.66          |               |
| Awareness materials (posters, boards & documentary film)  | 0.40   | 7.40          | 8.14          | 2.20          | 0.00          | 18.14          |               |
| Contingency (collaborative services & miscellaneous)  | 6.52   | 7.85          | 8.11          | 7.57          | 7.85          | 37.91          |               |
| <b>Total costs of capacity-building &amp; awareness</b>   | <b>32.80</b>   | <b>64.93</b>  | <b>64.60</b>  | <b>48.96</b>  | <b>49.87</b>  | <b>261.18</b>  |               |
| Proctor-proof/fencing in critical enclosures  | 108.00   | 144.00        | 0.00          | 0.00          | 0.00          | 252.00         |               |

30.2019-2020 Financial Year Budget for 2019-2020 (105).docx

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**Annexure 2 Proposed long-term (40 years) budget for Bustard Conservation Breeding Programme**

|  | 965,008        | 773,341        | 592,666        | 512,145        | 511,577        | 3388,530        |
|--|----------------|----------------|----------------|----------------|----------------|-----------------|
| management   |                |                |                |                |                |                 |
| Predator population management (traps, drugs, darting, guns & neutering costs) | 43,000         | 24,000         | 24,000         | 4,100          | 0,000          | 95,100          |
| Marking power-lines with Bird Diverters  | 91,000         | 0,000          | 0,000          | 68,250         | 68,250         | 227,500         |
| Agro-environmental incentives & food provisioning in enclosures                | 5,000          | 5,000          | 51,000         | 57,000         | 0,000          | 118,000         |
| Total costs of pilot implementation of bustard management                      | 247,000        | 173,000        | 77,000         | 125,250        | 68,250         | 699,500         |
| Identification of suitable species   |                |                |                |                |                |                 |
| Operational protocols & database for existing suitable species                 |                |                |                |                |                |                 |
| Research establishment   |                |                |                |                |                |                 |
| <b>TOTAL</b>   | <b>965,008</b> | <b>773,341</b> | <b>592,666</b> | <b>512,145</b> | <b>511,577</b> | <b>3388,530</b> |

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| Head  | Specifications   | Yr-1-5 | Yr-6  | Yr-11 | Yr-16 | Yr-21 | Yr-26 | Yr-31 | Yr-36 | Program |      |
|---|--|--------|-------|-------|-------|-------|-------|-------|-------|---------|------|
|   |  | total  | total | total | total | total | total | total | total | total   |      |
| Center establishment costs                      | Enclosures (open predator-proof fence)   | 300    | 0     | 60    | 0     | 90    | 0     | 0     | 0     | 450     |      |
|   | Buildings (reception, office, staff quarters, store, shower, egg-, food- & chick chambers) with furnitures       | 225    | 0     | 45    | 0     | 68    | 0     | 0     | 0     | 338     |      |
|   | Juvenile, adult & quarantine pens (cages)  | 140    | 0     | 42    | 0     | 63    | 0     | 0     | 0     | 245     |      |
|   | Enclosure & building modification costs  | 120    | 0     | 12    | 0     | 18    | 0     | 0     | 0     | 150     |      |
|   | Incubation, hatchery & food-processing facilities (furniture, equipment, partition, electrical appliances, etc.) | 40     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 40      |      |
|   | Water facility   | 40     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 40      |      |
|   | Security system  | 40     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 40      |      |
|   | Power provision (incl generator)   | 40     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 40      |      |
|   | Infrastructure (water, security, power) modification costs   | 40     | 0     | 12    | 0     | 18    | 0     | 0     | 0     | 40      |      |
|   | Subtotal center establishment costs  | 1089   | 0     | 171   | 0     | 257   | 0     | 0     | 0     | 70      | 1517 |
|   | Labware & consumables  | 42     | 97    | 142   | 209   | 307   | 451   | 663   | 0     | 1517    | 1911 |
|   | Vehicle (with driver) & PPL  | 21     | 48    | 71    | 104   | 154   | 226   | 331   | 293   | 1911    | 1911 |
| Travel expenses for project personnel           | 66   | 52     | 77    | 113   | 166   | 244   | 358   | 293   | 1249  | 1249    |      |
| Subtotal center running costs                   | 11   | 16     | 24    | 35    | 52    | 76    | 111   | 164   | 241   | 1602    |      |
| Center running costs                            | 140  | 214    | 314   | 461   | 678   | 996   | 1464  | 2177  | 3177  | 5250    |      |
| Incubation, hatchery & food-processing facility | 22   | 70     | 103   | 152   | 223   | 328   | 482   | 0     | 1381  | 1381    |      |
| Water facility                                  | 11   | 35     | 52    | 76    | 112   | 164   | 241   | 0     | 691   | 691     |      |
| Security system                                 | 6  | 18     | 26    | 38    | 56    | 82    | 121   | 0     | 523   | 523     |      |
| Power provision                                 | 6  | 18     | 26    | 38    | 56    | 82    | 121   | 0     | 523   | 523     |      |
| Subtotal center maintenance costs               | 6  | 18     | 26    | 38    | 56    | 82    | 121   | 0     | 523   | 523     |      |
| Center maintenance costs                        | 50   | 158    | 233   | 342   | 502   | 738   | 1085  | 531   | 3440  | 3440    |      |
| Capacity building                               | 32   | 10     | 0     | 0     | 14    | 0     | 0     | 0     | 0     | 56      |      |
| Visiting expert expenses                        | 43   | 18     | 26    | 38    | 56    | 82    | 121   | 177   | 560   | 560     |      |
| Publication                                     | 2  | 8      | 11    | 17    | 25    | 36    | 36    | 53    | 230   | 230     |      |
|   | 2  | 8      | 11    | 17    | 25    | 36    | 36    | 53    | 230   | 230     |      |

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| Reference & research | 40 PFTs & satellite team   | 0    | 0   | 0    | 0    | 520  | 0    | 0    | 0    | 520   |
|----------------------|--|------|-----|------|------|------|------|------|------|-------|
| Contingency          | Transportation facility & logistics for bird release & release site preparation  | 0    | 0   | 0    | 23   | 52   | 114  | 111  | 247  | 577   |
|                      | Miscellaneous expenses & overhead charges  | 64   | 19  | 36   | 40   | 72   | 87   | 127  | 76   | 520   |
|                      | Subtotal training, collection, documentation, release & contingency costs  | 143  | 61  | 85   | 485  | 243  | 355  | 465  | 655  | 2492  |
| Staff engagement     | 2 Project Scientist, 1 Project Associate (Conservation officer), 1 Project Assistant Grade 2 (Family superintendent), 6 Project Assistant Grade 1 (security, husbandry, cleaning, food processing) & 3 Casual Labour | 135  | 198 | 291  | 428  | 629  | 924  | 1358 | 1995 | 5824  |
| Budget requirement   | TOTAL COSTS  | 1558 | 632 | 1094 | 1716 | 2309 | 3014 | 4372 | 4165 | 18723 |
|                      | Average annual cost  | 312  | 126 | 219  | 343  | 462  | 603  | 874  | 833  | 468   |

Signatures of:

First Party

Inspector General of Forests  
 (On behalf of the Pre-Inspector General of Forests  
 and Forest Officer, Govt. of India, New Delhi)

Second Party

Chief Wildlife Warden  
 (On behalf of the Governor of Rajasthan)

श. वि. वि. मथुरा/Dr. V.B. Mathur  
 निदेशक/Director  
 भारतीय वन्यजीव संरक्षण  
 WILDLIFE INSTITUTE OF INDIA  
 देहरादून/Dehradun

Third Party

Director, Wildlife Institute of India

