

Chapter 23

Recommendations

Chapter 2

- [1] *Forests should be classified on the basis of their status, such as pristine, climax, managed and degraded forests. There is a need to undertake scientific research to assess the optimum forest/tree cover in a given area according to the forest type and topography to meet the intended objectives. The quality of the forest should also be classified as 'open forest', 'dense forests' and 'very dense forests' and the rest may be in the form of grassland, glacier, desert, etc. Extent of forest cover in recorded forest boundaries needs to be separated from tree cover due to plantations of species such as coffee, tea, apple, mango, palm, orange, etc, as well as to exotics like lantana.*
- [2] *The National Forest Commission endorses the recommendation of the Forest Policy of 1988 that one-third of the landmass of India should be under tree cover, with 60% in the Himalaya.*

Chapter 3

- [3] *The Commission is of the considered view that there is no need to amend the 1988 Forest Policy. The recommendations made by the National Forest Commission can be adopted within the broad framework of the existing Forest Policy of 1988.*
- [4] *Within the broad parameters of the National Forest Policy, each State should have its own forest policy statement, for the sustainable management of its forest and wildlife resources.*
- [5] *Making provisions in a National Forest Policy/State Forest Policy statement cannot achieve the desired results unless these are properly implemented. A mechanism needs to be put in place at the Ministry of Environment and Forests and State levels to monitor implementation of forest policy provisions and suggest rectifications.*

Chapter 4

- [6] *The Indian Forest Act, 1927, needs revamping, taking into account current requirements, inter alia:*
- (a) *The revised version must give emphasis to the conservation of forestlands and not only forest alone. It must address itself to the ecology, biodiversity and overall significance of forests including grasslands and wetlands and to forests as a biotic community and as a life-supporting factor to the local communities and to the populace downstream.*
 - (b) *The term 'forest' needs to be defined for the purpose of the Act*
 - (c) *Non-timber Forest Products need to be defined.*
 - (d) *Bamboo, including ringal and cane must be included in minor forest produce and excluded from 'tree', under Sec. 2 of the Indian Forest Act, 1927.*
 - (e) *There needs to be greater control over unsustainable biotic pressures - especially over grazing and tendu leaves, sal seed and fuelwood extraction.*
 - (f) *Powers of summary eviction of encroachment may be vested with the local Divisional Forest Officer.*

- (g) *Limits of penalties prescribed under the various sections of the Act be raised and there need to be more warrant cases.*
 - (h) *Responsibility of prevention and control of fire needs to be fixed upon those responsible for the management of the forest concerned and punishments for non-compliance, have to be provided for and should be stringent.*
 - (i) *Forest officers should be given the power of confiscation, including of vehicles used for illegal purposes under the Act.*
 - (j) *A Central Board for Forestry with adequate functions and powers be set up.*
 - (k) *Indigenous knowledge of the forest communities and their intellectual property rights in this regard need to be safeguarded.*
- [7] *Felling regulations on private lands may be restricted to 'Highly Restricted Tree Species', meaning such endangered and valuable tree species which are almost entirely found in forest areas. Some examples are sandalwood, red sanders, rosewood, khair, sal, deodar, bhojpatra, taxus, Quercus semicarpifolia.*
- [8] *Transit rules /regulations are preventive tools for forest protection and should continue on such highly restricted and endangered tree species only and there should be no restriction and regulation on the felling and removal of other trees planted on private holdings.*
- [9] *Under the Land Ceiling Act, no land ceiling shall be imposed on land under plantation of forest tree species. This will motivate the corporate sector and big farmers to invest in plantations.*
- [10] *As regards saw milling regulations / rules,*
- a) *The state government should assess the demand and supply of wood.*
 - b) *The working capacity of the sawmills should be assessed by the respective State Government.*
 - c) *The number of licenses should be based on the legal and ecologically sustainable timber supply and the working capacity of the sawmills.*
- [11] *In respect of the Biological Diversity Act, 2002, no agency has been identified for the implementation of this Act. The implementing agency may be the Forest Department (FD), in coordination with other agencies, in areas under the control of the FD.*
- [12] *With respect to the Environment Protection Act, 1986, no agency has been identified for the implementation of this Act at the field level. The Forest department may be considered as an implementing agency for this Act in areas under its control. It may coordinate its efforts with those of other agencies.*
- [13] *The Forest Conservation Act, 1980, serves its purpose only in its existing stringent form. It may not be diluted or made less effective.*
- [14] *In respect of the Wild Life (Protection) Amendment Act, 2002,*
- a) *List of endangered species in different schedules needs to be periodically reviewed*
 - b) *Species may be added or deleted to the list on the basis of review*
 - c) *Rules for community reserves and Conservation Reserves need to be framed.*

Chapter 5

- [15] *As a statewide application may not be feasible to implement, it is recommended that specific crucial grasslands be selected for effective conservation, as part of the protected area network, or as a part of watershed management under the Environment Protection Act. Grazing would have to be regulated and fires prevented. Each area must have prescribed management practices, the emphasis being on harvesting grass rather than grazing it, which would result in augmentation of both the generation of grass as well as its nutrition value.*
- [16] *A policy should be formulated to regulate inter-state movement of livestock to enable the States to control grazing pressure on eco-sensitive areas.*
- [17] *The animal husbandry departments should relate the number of goats and sheep to the availability of natural fodder especially in such areas where these animals could cause further degradation to natural ecosystems.*
- [18] *Efforts be enhanced to improve cattle quality, as it is proven that improved varieties tend to be stall-fed and sent less to free-graze on rangelands.*
- [19] *The provision of a sustainable supply of fuel be undertaken by a newly created Fuelwood Mission. Not only will this mitigate the drudgery of millions of women who have no option but to forage for every possible scrap of fuel, but also will reduce pressure on trees and shrubs whereby our remaining forest and trees will be well-protected. This can be started initially with a phased programme in and around forests and protected areas.*
- [20] *Alternative sources of fuel, especially liquid petroleum gas [LPG] connections, need to be provided to rural areas in and around forests. Solar energy also needs to be given a much greater impetus, especially in the mountainous and other areas where energy needs are greater and the sunshine available for a greater number of days in a year*
- [21] *The sale of fuelwood head loads from forests by individual sellers must stop. Head loads should only be permitted for bonafide personal use of the local communities, as earlier. The forest departments should bring out fuelwood to depots and supply wood to those who are the current head loader-seller and who derive their livelihood from such sale, at subsidized / no loss basis, rather than the head-loaders being allowed to go into the forest.*
- [22] *In the interest of the survival of the land, people, forests and the practice of shifting cultivation itself, jhum be regulated to a more sustainable level. This can only be achieved by the State Governments themselves, with active assistance of the Government of India.*
- [23] *Some young members of the present generation of tribals are not keen to continue with jhum in many areas, and jhuming itself is becoming less and less remunerative. People are looking for alternatives like settled agriculture, horticulture and animal husbandry, which must be extended to them forthwith.*
Recommendations made to wean away the 'jhumias' of the Northeastern states under Chapter 10, would also apply here as well.
- [24] *The main objective of forest management should be ecological security. For assessing the effectiveness of forests in contributing to ecological security on the basis of a number of parameters and paradigms such as volume of growing stock, biodiversity, health of forest soil, soil moisture, hydrology, carbon sequestration*

and crown density, the scope of work of the Forest Survey of India (FSI), Dehradun should be expanded and adequate infrastructure be provided for this purpose. Monitoring of ecological security should be done at five year's interval and a national level report should be published by the FSI. In addition, the FSI should undertake research required to conduct necessary forest surveys and assessments.

Chapter 6

- [25] *In order to ensure that forests meet the emerging and increasing needs of society, their conservation and management on scientific principles to enhance their ecological contribution and to increase their productivity, is necessary. A well-conserved and managed forest is very efficient in ensuring ecological security. For intensively and sustainably conserving and managing forests and improving their productivity, required resources, both physical and financial, should be made available in accordance with the provisions of the approved Working Plans.*
- [26] *Perhaps the most important contributions that the Central and State Governments can make to achieve the above objective, is to give forest conservation unstinted political support, without which financial and infrastructural support, crucial though they are, will not achieve the objective.*
- [27] *The future challenge to the forestry sector in India is to create an enabling environment to facilitate assessment, monitoring and reporting on national level criteria and indicators. These should be assessed periodically, through a set of simple formats to assess changes. Sustainable forest management (SFM) and its threshold also need to be defined.*
- [28] *There should be appropriate rural development and animal husbandry policies and projects to address issues of grazing and fodder for cattle. The grazing requirements of livestock of villages located in and around forests (within five kilometers), should be addressed within the carrying capacity of forest areas. The practice of unregulated grazing should gradually be replaced by stall-feeding.*
- [29] *The medicinal plants growing in forest areas play a very important role in primary health care of neighboring communities who do not have access to hospitals or cannot afford to buy costly medicines. Besides, the knowledge of these medicinal plants is an intellectual property right of the forest dwellers, which must not be allowed to be lost. Special programmes should be undertaken by the State Forest Departments to conserve, manage, scientifically harvest and sustainably utilize medicinal plants found in forest areas. This endeavor, however, should not involve the removal of any forest cover, nor put at risk forests or forest ecology, either in propagation of medicinal plants or in their harvesting or removal.*
- [30] *Forests must play an important role in the sustenance of forest-dependent communities, especially the tribals, living in and around forests. While assessing the results of past systems of forest management in the Working Plans, the contribution of forests in sustenance of forest-dependent communities should also be assessed and recorded while revising the plans. The Working Plan prescriptions should clearly prescribe measures to enhance the contribution of forests in the sustenance of such communities.*

- [31] *For about two-third of the country's rural population living in areas where there are no forests, fuelwood demand should be met from agroforestry and farm forestry supplemented by agricultural 'wastes', biogas, liquid petroleum gas, solar energy, etc. There needs to be a very clear policy that each land owning family in rural areas should grow sufficient number of trees on its land to meet its fuelwood requirement. It can be dovetailed with the agriculture policy in India wherein emphasis should be given to raising fuelwood for domestic needs, on private, communal and wastelands.*
- [32] *Approximately 1.73 lakh forest fringe villages/habitations, which are within and on the forest fringe, should be given special attention to provide substitution to wean them away from dependence on fuelwood. In this context a special programme could be developed to provide alternate energy, such as liquid petroleum gas, solar energy, biogas, etc.*
- [33] *The sale of fuelwood by individuals must be stopped. Persons requiring the fuelwood could obtain their requirement as per the norms of Joint Forest Management (JFM) /Gram Van based on sustainable use, but only the Forest Department (FD) should be permitted to extract fuelwood from the forest for sale, which should be on no loss no profit basis. Wherever FD is unable to provide this facility, it could be entrusted to the concerned JFM institution / Gram Van.*
- [34] *Attainment of self-sufficiency in forest products should be an important goal at state and national levels. For assessing country's self-sufficiency in forest products, database of demand and supply should be created and regularly updated at the state and national levels. At the time of formulation of five-year plans, strategies to meet forest product demands should be critically analyzed and appropriate programmes prepared and implemented to achieve this goal.*
- [35] *Joint Forest Management / Gram Van, particularly that which concerns areas undergoing significant demographic impact, involves a special approach and mindset. This presages specializations and training where sociological issues would be as important as the technological requirement for tree propagation. Such specialization and training, therefore, needs to be adopted*
- [36] *The objectives of management for Joint Forest Management (JFM) /Gram Van need to be revised and clearly stated to broadly include restoration and development of degraded forest areas in order to meet demands for fuelwood, fodder and small timber and also to contribute towards poverty alleviation. It must also be clearly understood by all parties that JFM is a social contract and that benefits and rights would only accrue if the people fulfil their obligations and duties.*
- [37] *The assistance of appropriate non-government organisations and Gram Sabhas/ Panchayats, etc., should be taken in the afforestation activity.*
- [38] *Tree planting in open areas along railway lines, canals and roads, must be undertaken and adequate funds for both tree planting and their maintenance be provided for by the departments concerned. Assistance in tree planting may be acquired from the concerned State Forest Departments wherever required.*
- [39] *Urban population needs to have access to areas of nature and wilderness. Towns and cities may be encouraged to adopt suitable areas available near by, where forest exist or can be regenerated, so that city population could have access to*

- areas where they can have communion with nature and at the same time forest and wilderness in the proximity of urban habitation could be nurtured and preserved.*
- [40] *The concerned municipal authorities need to prepare master plans for parks and green belts, selecting site-specific plant species for propagation. Cooperation of the State Forest Departments may be required in this regard.*
- [41] *Appropriate flowering and shade tree seedlings should also be made available to private house owners.*
- [42] *Management plans need to be prepared for tracts holding substantial natural vegetation and vested with the military, paramilitary and police and the overall authority in charge of management assigned. The effort should be to both preserve as well as propagate natural vegetation and wildlife in so far as these do not affect the functions of the area.*
- [43] *If any forest / habitat linkages with other natural vegetation growth/forest area exist outside of these properties of the army, paramilitary and police, that continuity should be maintained by the authority in charge of that area.*
- [44] *If any harvesting of forest produce is to be done from the areas with the army, etc, any surplus should not be sold in the open market, but first offered to the neighboring people to cut and carry away, under the supervision of the officer in charge.*
- [45] *The State Forest Departments should cooperate with the officers in charge of these areas to both preserve and augment their natural resources.*
- [46] *A number of forest areas have been declared protected areas as wild life sanctuaries and national parks to conserve endangered wild animals, but not much thought has been given to identify and declare forest areas as protected areas, which are rich in plant diversity. Areas having populations of endemic and endangered plant species should also be declared as protected areas and all the forest sub-types of India should be covered in the network of such protected areas.*
- [47] *Water is one of the most important factors in increasing productivity and forests play an important role in maintaining sustained supply of water in the rivers and streams for irrigation, drinking, industrial and various other uses. Hence special emphasis should be given on water conservation and water harvesting, which can improve productivity substantially and will help in making more water available to mitigate the water crisis. Water conservation in forests, therefore, deserves special attention and should be an important objective of forest and grassland management and adequate financial resources should be provided and should form an integral part of every forest working / management plan.*
- [48] *The Ministry of Environment and Forests should evolve a detailed mechanism for multi-stakeholder partnership comprising communities, governments and private bodies for funding increase in forest cover.*

- [49] *There should be some code for management of areas under forest/tree cover not under the control of the State Forest Departments and incentives should be provided for retaining tree growth for ecological security. The Government has an obligation and must play an important role in extending technical advice to them for increasing both tree-cover and productivity.*
- [50] *Unclassed forests should be covered under working schemes/working plans which should incorporate recorded rights and concessions of the people, and portray the genuine bona fide personal and other needs of the local people.*

Chapter 8

- [51] *Fires extending over 20 km² of forest and grasslands should be declared as a disaster by the concerned State Government.*
- [52] *Fire prevention and fire control deserve to be given a far greater importance than at present. Techniques need to evolve that are more appropriate and equipment provided, keeping in view the experience gained from a UNDP-assisted project of the Ministry of Environment and Forests in the 1980s. Entries in annual confidential reports of every field staff should reflect the work done or not done vis-à-vis fire control.*
- [53] *Since fire cases are underreported, in terms of number of occurrences, the qualitative damage caused and the area affected, by the field functionaries, a mechanism should be developed for higher authorities to crosscheck these reports.*
- [54] *Protection against insect pests and diseases is not given the attention it deserves. Consequently, the productive capacity of forests is reduced. The loss in nurseries and plantations is also sizeable. Strong research support is needed to provide protection against diseases and pests.*
- [55] *The use of pesticides, insecticides and rodenticides be regulated so that applications are done in consultation with the local wildlife departments in areas where threatened species occur and species-specific test be conducted before application.*
- [56] *Practices such as coating of seeds with pesticides be discontinued for less harmful measures or biological or organic pesticide methods be used.*
- [57] *The Agriculture and Forest Departments, Ministries concerned and Commissions set up by the Government of India coordinate, so that a holistic management of pesticides and their application are carried out, which would prevent the long-term damage to the land, air, water and species including man.*
- [58] *Environmental impact assessments that are mandated for every developmental project of a certain size must be carried out scientifically, in an un-biased manner and with enough autonomy. Such assessments must not only deal with pollution and deviation of forestland, but also with effects to water sources, species and local communities. Such clearances must necessarily be taken before the starting of any part of the project, so that a clearance is not redundant or a fait accompli.*
- [59] *Conditions made at the time of project clearance must be enforced. This would require periodic monitoring. If any significant condition is not fulfilled, the authority that has imposed the condition must have the power to bring the project*

to a halt till the deficiency or omission is rectified. There must not be any ex-post facto clearance or approval.

- [60] *Ecologists, environmental scientists and conservationists must be involved in developmental projects so that they may be conducted in as ecologically sound a manner as possible.*
- [61] *Greater integration must take place at local and regional levels between government departments involved in developmental projects and those involved in forest and nature conservation.*
- [62] *The Ministry of Environment and Forests, and State Forest Departments should create awareness and special cells to address the menace of invasive species. A policy document should be developed on the introduced and invasive species. Deliberate or misguided introduction of an invasive species should be considered as an offence.*
- [63] *A cell or nodal point needs to be established in the Ministry of Environment and Forests to monitor the status and control of exotics, perhaps in collaboration with the Forest Survey of India and the Indian Council of Forestry Research and Education, and to prepare and issue guidelines for restorative ecology to curb and remove exotics and regain indigenous biodiversity. The implementation of these guidelines and directives also needs to be monitored.*
- [64] *Research to find safe, biological or other applications for the control and eradication of weeds without the use of pesticides needs to be urgently started under the aegis of the Indian Council of Forestry Research and Education. Very little if at all has been done in this regard so far.*
- [65] *Attempts should be made to find commercial/consumptive use of exotic weeds so as to encourage their exploitation. The Indian Council of Forestry Research and Education and the Indian Institute of Forest Management should be involved in this expertise.*
- [66] *It is essential to start special schemes by the Ministry of Environment and Forests and State Forest Departments (especially of Rajasthan, Gujarat, Uttar Pradesh, Maharashtra, Tamil Nadu, Andhra Pradesh etc) to protect their grasslands.*
- [67] *A centrally sponsored long-term scheme called Project Marine Ecosystems is necessary to focus attention on this aspect. As millions of fishermen would be involved in protecting and sustainably harvesting biodiversity, it is necessary to involve the Fisheries Department, Navy, Coast Guards, etc.*
- [68] *Establishment of a central coordination unit within the National Institute of Oceanography that will oversee coordination and implementation of the above-mentioned policies and maintain a resource database, is necessary.*
- [69] *Review and assessment of the impact of priority lending in the fisheries sector (a five year action plan), is necessary.*
- [70] *Special plans for the dugong, giant clams, sea horses and finless porpoises and their respective habitats, should be prepared.*
- [71] *Corals are threatened everywhere for various reasons and would be more so with the impending climate change. A special conservation plan needs to be prepared,*

- both for the conservation of corals and of biodiversity, as well as for coastal conservation. Marine protected areas need to be established for this purpose.*
- [72] *Management plans for coastal and shelterbelt plantations, which include mapping of habitat utilization patterns including sea turtle and sea birds nesting beaches, should be prepared.*
- [73] *There is an urgent need to establish trans-boundary protected areas and monitoring mechanism, specially for corals, sea turtles, dugongs, whale sharks and whales.*
- [74] *Strengthening of the coastal regulation zone in the wake of the recent tsunami tragedy is vital.*
- [75] *Establishment of a dedicated IFS sub-cadre for conservation and a training centre for coastal and marine biodiversity conservation and management, are necessary.*
- [76] *An Institutional mechanism to empower Coast Guards to enforce the Wild Life (Protection) Act, 1972, must be considered.*
- [77] *Mangroves should be officially classified as forests and mangroves found anywhere should be placed under the control of State Forest Departments. The important mangrove areas need to be made Protected Areas if they are not so covered already.*
- [78] *A concerted effort needs to be made to undertake plantation of mangroves wherever possible along the creeks, estuaries, deltas and shores, and of appropriate species of trees as wind brakers along the coastline and the dunes that back them.*
- [79] *A National Wetland Conservation Act should be framed.*
- [80] *Inclusion of all types of wetlands (freshwater, coastal, marshes, swamps, mangroves, waterlogged areas) in the land use classification in the country should be done.*
- [81] *A National Wetland Biodiversity Register should be started.*
- [82] *An inventory of 'user groups' also should be prepared while collecting information for the biodiversity register. It should also list out the priorities of the communities on particular wetland resources.*
- [83] *To establish a National Wetland Inventory and Monitoring Programme and a National Wetland Information System and therefore, to develop a sustained and serious programme for monitoring wetlands*
- [84] *The economic evaluation of wetlands must be computed and it must be integrated with National Resource Accounting.*
- [85] *Wetland productivity studies on a long-term basis by identified organizations from different parts of the country need to be undertaken. This would bring out indisputable data on wetland productivity, which is many times more than that of other ecosystems. Moreover, it would be an excellent tool to check the wetland ecosystem health*

- [86] *International links and cooperation involving trans-boundary water issues and conservation of shared wetlands are important.*
- [87] *At the outset, the Government of India should take leadership and commission a state-wise survey of people-conserved areas which would be appropriate to be designated as community reserves, and have them notified by the respective State Governments and then have management plans prepared for them providing annual financial inputs for specific items in the manner that is given to national parks and sanctuaries. A special centrally sponsored scheme needs to be prepared by Ministry of Environment and Forests in this regard.*
- [88] *The people of the communities concerned must be encouraged and actually involved in conservation efforts. Their pride in respect of the Reserve must be acknowledged and enhanced. They must be made honorary wardens of the community reserve under the provisions of the Wild Life (Protection) Act.*
- [89] *Governments must exercise caution in theoretically accepting or advocating the involvement of local communities in the preservation of wild fauna, other than where the communities themselves are protecting fauna for religious sentiments. While it may not be difficult to involve communities in the protection of forests and grasslands whereby they can derive economic and personal benefit, it is a totally different matter to get local support for the protection of animals and birds, especially those that threaten human life or property.*
- [90] *Local communities living in and around forest areas be trained in eco-tourism activities, which will not only help ensure their livelihood security but could facilitate their involvement in forest conservation. The rickshaw pullers at Keoladeo National Park, Bharatpur, are an excellent example.*
- [91] *Urban communities need to be made aware of the impact of their consumption on forest resources. The awareness should mainly focus on scientific, ecological, aesthetic, economic, and spiritual and several other values associated with forests.*
- [92] *Decision makers should also be made aware about the important role of education, awareness and training as a management tool.*
- [93] *The existing textbooks should be revised to incorporate aspects of forest, wildlife and ecosystem conservation with local and real life examples. Although efforts have been made by agencies such as National Council of Education Research and Training and State Councils of Education Research and Training of certain states to introduce new textbooks on environment, a project-based approach and hands-on experience is the key to effective learning. The involvement of non-government organisations in formal education should be enhanced, which can play an important role in providing practical experience in nature conservation. The teacher is an important ally in education for forest and nature conservation. Capacity enhancement programmes through existing training institutes such as the State Council of Education Research and Training and DIET should be held on priority, with the help of institutes involved in conservation education such as the CEE, Uttarkhand Seva Nidhi, Eklavya, Bombay Natural History Society, BVEERI and several other institutes.*
- [94] *Efforts should be made to strengthen existing programmes such as Green Corps Programme initiated by the Ministry of Environment and Forests, by providing*

- locale specific educational resources to the schools involved in this activity. Such programmes should involve local groups and non-government organizations in implementation and evaluation of the programmes.*
- [95] *It is recommended that formal training institutes where civil servants and armed forces are trained, need to incorporate forest and wildlife conservation as an important aspect of their induction training programme, as well as in-service training programmes.*
- [96] *State and Central Governments should convey the conservation message much more frequently and vigorously in state sponsored advertisements and Doordarshan-controlled channels.*
- [97] *Industries, which consume forest resources and affect forest areas adversely, should be identified and a comprehensive training programme should be evolved. Industries such as paper, pharmaceutical, mining and tourism could be the focus of such training. Environment-friendly practices adopted by certain industries should be documented and such information should be provided to other industries. The lending institutes, which provide financial support to large infrastructure development projects, should be made aware of potential damage to forest ecosystems. The professional auditors should also be oriented about forest conservation as an important part of auditing procedure.*
- [98] *The role media could play in spreading awareness is very crucial. Forest conservation should be a part of journalism curricula and practicing journalists should regularly be oriented towards issues of nature conservation through workshops, field visits and briefing papers.*
- [99] *Traditional communal hunts – Paradh in Bastar and Akhand Shikar in Simlipal, Orissa - are a bane of the two tiger reserves concerned. While preventing physically these extremely destructive practices, all efforts must be made for the awareness and education of the tribals concerned and by finding symbolic alternatives to these ritualistic hunts.*
- [100] *The forest service should have well defined visions and goals. It is, therefore, strongly recommended that a statement ‘Forestry Sector Vision 2020’ should be prepared on priority. The National Forestry Action Programme cannot serve this purpose.*
- [101] *Forests that lie outside the protected area network should be sustainably managed through clear working plan prescriptions rather than only having a complete moratorium on felling.*
- [102] *A Forest Conservation Fund should be created to ensure adequate financial resources for forest and wildlife management through levy of a cess on sale of forest produce. Revenue generated from lease of mines in forest areas should be credited to the Forest Conservation Fund. Contributions to be made to the Forest Conservation Fund by corporate companies or individuals should be exempt from income tax.*
- [103] *Corporate funding should be invited for revival of degraded forests. Mechanisms for the same may be worked out.*
- [104] *Joint forest management should be a social contract, a quid pro quo, wherein the exercise of rights and benefits are subject to the fulfillment of specified duties and*

- obligations, e.g. the yearlong protection of forest from fire, grazing, felling and degradation. If the beneficiaries do not fulfill their duties and obligations, they should not avail the benefits occurring from forests.*
- [105] *Currently, a major part of the fund made available to forests is utilized for joint forest management (JFM) activities and inadequate funds are available for proper management of non-degraded forests. More funds need to be provided for the management of non-degraded forests. Half of the forest revenue may be made available for management of non-degraded forests on the pattern of JFM.*
- [106] *For a meaningful partnership, both partners i.e. Forest Department and local communities should be equal partners in joint forest management (JFM). Villagers may provide inputs for protection and some forestry operations through their labour. This approach will lead to a low-cost model of JFM, which is necessary for sustainability of the programme and for improving the benefits from JFM to village communities. Timber obtained by Joint Forest Management Committee members as their share should generate income for them. Sale by individual members and the related problem of illicit cutting in the garb of such sales must stop and such JFM societies need to be suspended.*
- [107] *The objectives of management for joint forest management need to be revised and clearly stated to broadly include restoration and development of degraded forest areas in order to meet local village community (LVC)'s demands for fuelwood, fodder and small timber and also to contribute towards poverty reduction of LVC members.*
- [108] *To give expression to the changed priorities of forests as contained in the Forest Policy of 1988, the working plans and working schemes of forests must give priority to conservation and to the enhancement of biodiversity, and thereby change the focus from the current continuing emphasis on production forestry.*
- [109] *Each working plan should have one chapter on Biodiversity Conservation, selecting compartments, which should be managed to enhance biodiversity.*
- [110] *The nation's biodiversity needs to be assessed and inventoried in detail.*

Chapter 9

- [111] *A serious attempt must be made to rationalize protected area boundaries by implementing the recommendations of the committees appointed for this purpose earlier and taking up work in states where there may be no such reports. The leadership and funds must come from Ministry of Environment and Forests. In lieu of the areas that would be excised from the protected areas in pursuance of this effort, the states on their part would add other larger human settlement-free habitats to the protected areas concerned, or to others, within their states. There must be a quid pro quo, with the approval of the Supreme Court. By this exercise, a large number of human settlements on the periphery of the protected areas could be excluded, some huge protected areas which are only on paper like the Solapur Sanctuary in Maharashtra and the National Chambal Sanctuary between Rajasthan and Madhya Pradesh, could be made practical and effective, as smaller sized protected areas. In lieu, other larger trouble-free areas could be added to the protected area system, the caveat being that deservation of inhabited areas from protected areas to be only done after the areas chosen to be added to*

- the protected area system in lieu of those deservations, would be first notified as protected areas*
- [112] *In keeping with the Supreme Court directives, after undertaking a rationalization of park/sanctuary boundaries, those rights that need to be acquired should be acquired and those rights in sanctuaries that can be allowed to be exercised keeping the long-term conservation of that sanctuary in view, should be allowed to continue as per the provisions of the Wild Life (Protection) Act.*
- [113] *In keeping with the 2002 Amendment of the Wild Life (Protection) Act, parks and sanctuaries should be regarded as final and wherever legal action still remains in view of the said amendment, it should be completed in a time-bound programme.*
- [114] *Though it would not be feasible to relocate all the human settlements that would still remain in the protected areas, certain settlements that are particularly problematic because they are in the middle of the protected areas or occupying some crucial habitat, could be motivated to move out voluntarily. The best solution would be to give resident communities a choice of degraded forestland away from the protected area (if non-forest land is not available) and more land than they would surrender, grants for building houses and all facilities that would be available under the National Policy on Resettlement and Rehabilitation, 2003. Non-government organizations must be involved to monitor the requirements of the people and a generous package must be provided. The land must come from the state governments, the resettlement costs from the Government of India, and no 'Net Present Value' would be calculated for the forestland to be allocated. The cost of translocation of villages from protected areas would thus be far lower than that projected (e.g. 3200 crores for 273 villages cited by the Tiger Task Force, 2005) and not all villages are required to be relocated from the protected areas. This work of translocation must be accorded very high priority and the central government must provide the funds in a phased manner,*
- [115] *A clear reason for the establishment of a protected area be established from the outset, i.e. conservation of endangered species, representative wildlife habitat; tourism; catchment area protection of a dam, etc. Every protected area should be given a clear mandate and necessary conservation measures should be taken up with that mandate in mind. The protected area manager should be judged whether that mandate has been achieved, and not by taking easy conservation options. New protected areas should be established in consultation with local people.*
- [116] *Protected area managers do not have a clear mandate, vision and priorities vis-à-vis the protected area they are in charge of. Most protected areas do not still have management plans. This combined with the protected area manager's lack of knowledge and commitment leads them to undertake "development" of their protected area through construction activities like road building, constructions, watch towers, etc, which are often uncalled for and even detrimental to conservation.*
- [117] *Each protected area should have a comprehensive management plan, which needs to be followed and revised periodically*
- [118] *The State Governments must forthwith stop illegal activities banned under the Wild Life (Protection) Act, such as the continued exploitation of protected area*

- areas for commercial or other purposes, including collection of tendu leaves, sal seed, harra and mahua fruit, etc.*
- [119] *The financial outlays given to protected areas, and to nature conservation and control of illegal wildlife trade, need to be substantially enhanced.*
- [120] *A system should be developed where important records are maintained for posterity in each district/state. Here, proper training to record accurately and scientifically becomes important. A protocol for data maintenance, storage and retrieval should be devised. Each protected area should also develop a library where research reports and papers are maintained.*
- [121] *A concerted effort be made to identify which sanctuary or portions thereof can be upgraded into a national park, where human habitations or rights do not exist or where they need to be acquired on a priority basis.*
- [122] *Whenever possible, protected areas should have linkages with other protected areas and habitats by extension of the protected areas over the corridors – either as national parks or sanctuaries and where that is not possible by establishing Conservation Reserves or Community Reserves. Tree cover over these identified linkages may also be achieved by encouraging and actively supporting van-vaniki and farm-/agroforestry on private lands. Such linkages be given adequate on-ground protection and ecologically harmful activities in these areas be restricted and regulated.*
- [123] *Linkages between management actions in protected areas falling in the same biogeographic region must be kept in mind at all times.*
- [124] *In all endeavors and decision making related to wildlife tourism, the axiom would be that tourism must be in consonance with and subservient to the long-term conservation interests of the protected area, habitat or species it relates to, and never the other way round.*
- [125] *Entry into the protected area must be regulated according to an assessment of the capacity of that protected area to absorb vehicles / tourists without impinging on the interest of wildlife and the habitat.*
- [126] *Besides the designated tourism zone, protected area authorities must choose alternate ranges to throw open to tourists on a one or two year rotational basis. In protected areas where there is a heavy rush of tourists, those visiting parks for longer periods may be refused re-admission to the designated tourism zone and first offered entry into the alternate range opened for tourism. In areas of low tourist pressure, the alternate zone may be offered as a choice.*
- [127] *No attempts to develop recreational facilities in the protected area or its buffer area should be permitted. Park managers must ensure that even private sector entrepreneurs do not do so.*
- [128] *Existing tourist complexes should be constructed in a way that they merge with the surrounding landscape and as far as possible use local material*
- [129] *Resorts set up for wildlife and ecotourism must undertake to ensure that at least 60% of their staff and 40% of their salary expenses go to local residents of the area. This must be rigorously enforced, especially in tribal areas.*
- [130] *A clear reason for the establishment of a protected area be established from the outset, i.e. conservation of endangered species, representative wildlife habitat;*

- tourism; catchment area protection of a dam, etc. Every protected area should be given a clear mandate and necessary conservation measures should be taken up with that mandate in mind. The protected area manager should be judged whether that mandate has been achieved, and not by taking easy conservation options. New protected areas should be established in consultation with local people.*
- [131] *Funds generated by tourism should not go to the public exchequer. Rather they should go for eco-development of the local communities, especially the tribals. A special fund should be created for this purpose, as has been attempted in some states. Donations made by visitors should also go into this fund, which could also cater to the welfare needs of the protected area staff. As funds given by Government of India are often kept back by the State Governments, such funds for individual protected areas could also provide an alternative source or routing financial assistance.*
- [132] *Besides being trained to serve as wildlife guides, local and tribal people should be involved in anti poaching activities. They should also be encouraged to develop and improve local handicrafts.*
- [133] *Protected area authorities must train and certify local wildlife guides to accompany tourists into the park. Any infringement of protected area rules by tourists must be punished by a suspension of the guide for a week in the first instance and for six months on subsequent occasions. A similar discipline should be enforced on vehicles for hire to visiting tourists or even those belonging to tourist resorts in the area.*
- [134] *Interpretation Centres should be developed to provide visitors with an opportunity to learn about the local flora and fauna and the role of the protected area in protecting and conserving the environment and wildlife. These centres can also be used for training the cadre of guides and motivating schoolchildren and youth.*
- [135] *Material in the form of user-friendly guidebooks on the protected area's, giving maps, flora and fauna and some information on the important rivers and other geographical features need to be published. They should also include information on the historical as well cultural importance of the area to make the visit informative and meaningful. as well as the "dos" and "don'ts" while visiting the protected areas.*
- [136] *A system should be developed where important records are maintained for posterity in each district/state. Here, proper training to record accurately and scientifically becomes important. A protocol for data maintenance, storage and retrieval should be devised. Each protected area should also develop a library where research reports and papers are maintained.*
- [137] *The Wildlife Wings and protected areas should be manned by personnel with interest and aptitude. A sub-cadre needs to be developed for this. This would ensure the four prerequisites – selection of the appropriate personnel, longevity of tenure, training and prevention of posting of unsuitable persons. If personnel of such requirements are not available from the IFS or SFS, they should be recruited from the open field.*
- [138] *An ecologist must be available on the staff or as an advisor to the managers of important protected areas.*

- [139] *The protected area managers, and not the territorial authorities of the Forest Department, should have full and effective control over their protected areas, and also of their buffers and corridors to the extent possible. Linkages with the local people should be built up in the buffers.*
- [140] *The Chief Wildlife Warden should have full and effective control, including financial control, over the protected areas and buffers and over the officers and staff, which man them.*
- [141] *The Chief Wildlife Warden needs to make entries in the annual confidential reports (ACRs) of territorial Conservator of Forests, DCFs and ACFs as to the work done by them vis-à-vis nature conservation.*
- [142] *The duties enjoined upon protected area managers and the Chief Wildlife Warden under the Wild Life (Protection) Act, needs to be conscientiously carried out in both letter and spirit.*
- [143] *Training and motivation must be provided to the protected area personnel, including promotional avenues and cadre management.*
- [144] *The forest service as a whole be mandated to combat wildlife crime and undergo basic level training in this regard. For combating specific wildlife crime (poaching, trading and smuggling), training be imparted to field wildlife staff, taking the assistance of specialized technical agencies, governmental or non-governmental, in doing so*
- [145] *Intelligence gathering be given adequate resources as contingency funds allocated to the Chief Wildlife Warden and managers of important protected areas, and special groups of personnel be trained in it and this be budgeted as a regular part of anti-poaching operations. Wherever possible, special “cells” to deal with organized illicit trade in wildlife be set up and suitable persons from the police or other departments be taken on deputation.*
- [146] *To assist the ‘cells’ to curb illicit trade in wildlife products, expertise in wildlife forensics should be developed in each state, preferably in an established institution or laboratory equipped with the requisite tools, in collaboration with the Wildlife Institute of India.*
- [147] *Each State and Regional Deputy Directors of Wildlife Preservation under the Government of India, should set up computerized database on illegal wildlife trade and the ongoing cases in court. These would feed a national level database in the Ministry of Environment and Forests.*
- [148] *The role of non-wildlife agencies in curbing wildlife crime is to be underscored and they be given adequate mandate, training and incentive to help Government curb wildlife trade.*
- [149] *All forest protection staff must have group insurance against death, disease and disability by the state to increase their morale and as a staff welfare measure.*
- [150] *The broad recommendations of the Subramaniam Committee report of 1994, especially the formation of the wildlife crime unit and the provision of legal training and support to wildlife law enforcement agencies, be implemented.*
- [151] *Government should enforce CITES more stringently and cooperate more with other nations in doing so, especially our neighbouring nations, as ultimately this would be in the country’s interest in preventing illegal trade. Recently, the*

Association of South East Asian Nations (ASEAN) has decided to set up a ASEAN Wildlife Enforcement Network (ASEAN-WEN). Government of India must join the process and both provide and seek cooperation from this set-up, and endeavor to establish a similar set-up for South-Asia or South Asian Association of Regional Cooperation.

- [152] *There have been numerous instances of wild animals being deliberately electrocuted by cutting overhead wires, amongst them elephants, rhinos and tigers. Livestock and humans have also perished. As far as possible, no electric lines be laid over national parks and sanctuaries and those that exist should be safeguarded against such vandalism and misuse.*
- [153] *Though two new categories of protected areas have now been recognized under the amended Wild Life (Protection) Act, namely, Conservation Reserves and Community Reserves, hardly any new protected area under these two categories have been established. As demographic restrictions envisaged under these two categories are far less than in the case of national parks or sanctuaries, a definitive effort needs to be undertaken by each state to identify and designate protected areas under these two new categories. The Ministry of Environment and Forests needs to undertake a survey to identify areas, which have potential under these two categories of protected areas and need to persuade the States to establish them, providing financial and other support for the same.*
- [154] *Situations in which biosphere reserves can be set up be delineated and it be ensured that they follow the principles as laid down in the Man and Biosphere programme in so far as it is not inconsistent with domestic legislation relating to conservation and management of natural resources. It would also be useful to include biosphere reserves within the legal framework, either through a separate legislation or through its inclusion in the Biological Diversity Act, 2002 or similar legislation.*
- [155] *Biosphere reserves should not be established in lieu of national parks or sanctuaries but when due to demographic factors the establishment of a national park, sanctuary, Conservation Reserve or Community Reserve is not feasible. It would also be improper to impose a Biosphere Reserve over an existing park or sanctuary, as that causes a dichotomy and confusion in approach and management.*
- [156] *Significant wildlife habitats including biological corridors where immediate declaration as protected area is not possible, be designated as ecologically sensitive areas (ESAs) under the Environment (Protection) Act, 1986, (EPA) with a view to restrict certain identified hazardous activities as also change in land-use pattern. Ecologically sensitive areas should also include areas such as elephant corridors, important bird areas, etc.*
- [157] *Specified areas, including buffer zones of protected areas be designated as ecologically sensitive areas (ESA) with a view to restrict identified hazardous activities. This process should be based on a comprehensive and realistic assessment of the current threat perception in the area surrounding a protected area. An ad hoc and arbitrary fixation of ESA, such as a blanket restriction, is likely to be counterproductive and can create hurdles in the creation of new protected areas (PAs). Control of effluents and emission levels must be enforced and PA managers must be involved in this control activity.*

- [158] *Since the power to declare protected areas largely vests with the State Government, similarly, the concurrent power to declare ecologically sensitive areas should also vest with the state government.*
- [159] *Mitigation measures for man-animal conflict must be both long-term and short-term. Short-term measures may include barriers after considering whether they act as barriers to wildlife movement or not, scaring and repelling techniques etc. Long-term measures must include establishment of animal corridors, elephants being a priority, attempting alternate cropping patterns around forests and areas seriously impacted by wild ungulates and having wildlife clearances as a mandatory part of broader environmental clearances of development projects.*
- [160] *Catching and translocating animals should not be seen as the easiest and most politically-expedient solution to conflict, although it could be advisable in some cases) and must be done only after the troublesome animals have been identified, and when the biology of the species and its needs are taken into account and monitoring measures are in place. Capture of social beings such as elephants in particular is counterproductive to conflict resolution, unless whole herds as social units are translocated. It must be borne in mind that according to the Wild Life (Protection) Act as recently amended, the capture of Schedule I animals should only be done after its release area has been identified and the release must be done in the prescribed time-frame.*
- [161] *Compensation mechanisms must be reviewed and schemes put under way in areas of man-animal conflict. Compensation must be paid immediately and without hindrance, and it must be commensurate with the damage caused and there must be transparency in the whole operation. Attempt should be made to have crop insurance against damage by wild animals around major protected areas.*
- [162] *A very important field of applied research and its extension to field application, which would greatly assist in reducing man-animal conflict, is identification of crops, which could be planted around protected areas and elsewhere to reduce the quantum of crop-raiding by species such as nilgai, blackbuck, wild pigs and elephants. Needless to say, such crops should be suitable for the area and be remunerative.*
- [163] *Except perhaps for the tiger, elephant and rhino, there is no long-term monitoring of most of our endangered species. As birds are easy to monitor and are a good indicator of habitat quality, long-term monitoring protocols should be developed for all our protected areas. Universities and non-government organizations should also take up regular monitoring of birds and other wildlife outside protected areas. The Government of India should encourage and fund animal and bird monitoring and migration.*
- [164] *Prioritizations such as that of Rodgers and Panwar (1988) and others brought out by the Wildlife Institute of India, be seriously considered and gaps in the protection of habitats of endangered species, unique or threatened ecotypes, deficiency in coverage of biome and biographic representation, or some other factor, be rectified by adding on such critical areas to the protected area network. Wherever possible, this should be by establishment of a National Park or Sanctuary. If it is not feasible to establish any of these two categories of protected*

- area, then Conservation Reserves or where land is privately owned, Community Reserves could be established. The help of non-government organizations may be taken in this wherever considered appropriate.
- [165] *Ex-situ conservation should start complementing in-situ conservation, both from the captive propagation and educational standpoints.*
- [166] *It is essential to store genetic material of gravely endangered species in gene banks, as a safeguard against extinction in the wild, and both the Zoological Survey of India and the Botanical Survey of India should ensure this. At an opportune time, not only can the species be regenerated in captive conditions, but if adequate measures have been taken, can also be introduced into the wild. A very significant development has been the establishment of the Laboratory for Culture of Endangered Species (LaCONES) by the Centre for Cellular and Molecular Biology (CCMB) at Hyderabad, to undertake this important task. All support needs to be given to LaCONES in this regard to save the genes of endangered species and to help recover species from genetic 'degeneration'.*
- [167] *As a very valuable experiment both to restore a locally extinct mega-species and to conserve its endangered prey-base and habitat, as well as to inculcate national pride and interest, a serious effort be made to re-introduce the cheetah into the wild in India.*
- [168] *If any captive reared population of any species is sought to be introduced into the wild, it must be carefully and clinically assessed to ascertain that they do not carry pathogens, which could be conveyed to the wild population.*
- [169] *Scientific re-assessment of the status of each species/taxon should be done by experts and thereafter they be reassigned under the Schedules of the Wild Life (Protection) Act. Such reassessment should be done every five years*
- [170] *All those species that are in Schedule I, the Government of India, with the help of State Forest Department and experts, should start Species Recovery Plans. Sufficient funds and expertise should be provided for Species Recovery Plans. The aims should be that once these Species Recovery Plans are successfully executed, and the status of the species is improved, it could be down listed to Schedule II or Schedule III. It should be considered a credit to the Ministry of Environment and Forests and the concerned state Forest Department that a species has recovered and is no longer under threat of extinction. For some species it may take 15-20 years to recover, but it should be seen that systems are in place that help the species to recover. Periodic monitoring of the status of each species would be very essential. At the same time, if status of a particular species deteriorates, it should be upgraded to a higher Schedule and a Species Recovery Plan is started. Even for so-called common species, whose populations are on the decline, there should be targeted recovery plans, mainly by saving their habitats. An indicative list of species for whom recovery plans need are a top priority, are: Malabar civet, hangul, , wild buffalo, Nicobar megapod, Andaman teal, white-winged wood duck, pygmy hog, greater adjutant stork, Ladakh urial, Gangetic dolphin, Jerdon's courser, vultures, and greater one-horned rhinoceros*
- [171] *Project Elephant and Project Tiger have shown that by targeting rare and flagship species, many habitats and associated species can be saved. However, there are many species/habitats that are not covered by these two Central*

government schemes, e.g. grasslands, wetlands, high altitude mountain, riverine and marine environment. Certain species and their habitats need urgent attention of the Ministry of Environment and Forests and state governments to formulate projects in the fashion of Project Tiger. The snow leopard, the great Indian bustard, the Gangetic dolphin and the dugong are prominent examples for this purpose.

- [172] To protect the highly endangered great Indian bustard (less than 500 left in the whole world), lesser florican, Bengal florican and other grassland associated flora and fauna, Project Bustard should be initiated. As protection of grasslands would greatly benefit livestock, the Ministry of Agriculture and Animal Husbandry should also be involved. These bustards are found in at least ten states of India and therefore, it is vital to develop a centrally coordinated and funded scheme.
- [173] The snow leopard of the Himalaya is one of the most famous flagship species of the ecosystem where it lives. This ecosystem is also very fragile and coming under increasing human impact. Most of the rivers of north India originate from snow leopard habitats, so it is in the national interest to protect and nurture such habitats. As the snow leopard is found in five states (Jammu and Kashmir, Himachal Pradesh, Uttaranchal, Sikkim and Arunachal Pradesh), it is necessary to develop a centrally funded and coordinated scheme called Project Snow Leopard. An attempt had been made in this direction in the 1980s, but Ministry of Environment and Forests later merged the scheme with the on-going C.S.S on development of national parks
- [174] The lion has established permanent habitats in the Girnar, along the Saurashtra coast, Hipavadli in Amreli district and elsewhere. The Government of Gujarat should declare Girnar as a sanctuary and bring the outlying lion population in Saurashtra within an overall lion conservation programme, and approach the entire lion populations on a zonal or landscape basis.
- [175] India has five species of sea turtles and the world's largest known turtle breeding beaches for the Olive Ridley sea turtle (Gahrimatha, Devi and Rushikulya river mouths in Orissa). Mechanized fishing trawlers have created new problems for these sea creatures, as they have to come to the beach to lay eggs, sometimes twice a year. As the turtles found near the coasts of West Bengal, Orissa, Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Maharashtra, Goa, Gujarat and Andaman and Nicobar Islands face various problems, some general and some site-specific, a centrally-sponsored scheme is necessary to save them. Moreover, the State Forest Departments are not geared to protect turtle habitats. Only a long-term central scheme would be effective.
- [176] The terrestrial tortoises are today one of the most threatened group of animals in the country. The commonest species, the star tortoise, is affected by illegal trade. The Travancore tortoise and the Assam tortoise are gravely endangered due to habitat destruction and other factors. Recovery Plans are needed for these species.
- [177] The Wildlife Institute of India, in collaboration with countries/organizations which have the requisite expertise, must evolve techniques suitable for group capture of species like the nilgai, blackbuck and wild pig. After due testing, the

techniques should be transferred to the states, who should set up special 'cells' for such capture and translocation.

- [178] *Thereafter, locally excess animals and those that are proving to be intractably harmful to crops and other property, need to be captured, relocated and rehabilitated where they could be accommodated without causing the same problems to the local people. In this endeavor, the Government of India should render financial support, at least in the initial phase.*
- [179] *In this operation, every effort must be made to reduce the trauma and injury and the chances of contraction of pathogens during captivity. The period of captivity must be very short.*
- [180] *After careful analysis and overcoming or mitigating the factors leading to local extinction or reduction, certain species need to be re-introduced in some protected areas. For this again, special techniques for capture and translocation need to be evolved. Some examples of this category are the reintroduction of rhinoceros and the eastern swamp deer in Manas; the gharial in the Brahmaputra and Beki in Assam; the gaur in Bandhavgarh; the blackbuck in Kanha; the tiger in Sariska; the wild buffalo from Indravati to Barnawapara in Chhattisgarh or Kanha in Madhya Pradesh; the hog deer in Corbett National Park; the pygmy hog in Nameri National Park and elsewhere in Assam and, of course, the lion in Kuno-Palpur in Madhya Pradesh. Besides, the possibility of introducing the brow-antlered deer from the captive populations, in Pobitora in Assam, needs to be explored. This would be a special case of introduction into a new habitat, as its previous habitats in Manipur are now not viable any more and the total world population of this taxon is now confined to the Keibul Lamjao National Park in Manipur. All endeavours must be made to bring back the Siberian crane to Bharatpur, if necessary, from the more numerous eastern population now migrating between China and Russia. The need to undertake a re-introduction of the cheetah in India, after careful study and prior preparation, has been mentioned elsewhere.*
- [181] *The re-introduction of the lion in the designated protected area of Kuno-Palpur be expedited on a priority basis. The Chairman of the National Board of Wildlife could request the Chief Minister of Gujarat for the translocation of lions that have strayed out of the Gir, to the project site of Kuno-Palpur.*
- [182] *Studies be undertaken by the Centre for Cellular and Molecular Biology of Hyderabad to identify the extent of genetic 'swamping' occurring in the current populations of wild buffalo and in sample areas in the case of the red jungle fowl and wild pig. The studies also need to identify the surviving populations that can be termed as truly wild and parameters to judge the wild specimens of these species.*
- [183] *The same studies should recommend corrective/administrative action to curb the threat and to retrieve the situation to the extent possible, with special recovery plans for the wild buffalo and for wild pig in the Andamans.*
- [184] *Investigations leading to practical recommendations, be carried out to prevent future inbreeding between domestic and wild jungle fowl, pig and wild buffalo, specially around protected areas*

- [185] *In the interim period, a special effort and plan needs to be undertaken to save the surviving wild buffalo populations that are apparently least genetically “swamped” and at the same time the most threatened, in Chhattisgarh.*
- [186] *The Ministry of Environment and Forests and State Forest Departments develop centres of restoration ecology and to remove exotic species, even from a national park, after thorough investigation. The Ministry of Environment and Forests should develop a nodal agency that should look in to this problem and involve ecologists, conservation non-government organizations and media.*
- [187] *Strict guidelines should be developed for the removal of exotic trees and restoration of natural habitats. No commercial interest should be involved to remove exotic trees and they could be supplied first to the local people as per the provisions of the Wild Life (Protection) Act. However, the money generated from the sale of such timber should go back to the protected area.*
- [188] *The following species are candidates for priority intervention by the Indian Armed Forces, Border Security Force Indo-Tibetan Border Police and coast guards. It is recommended that species programmes be initiated in conjunction with them for these species:*
- [189] *Northern Command - Ladhak: black-necked crane, snow leopard, Tibetan argali, ibex, Ladakh urial, Tibetan antelope and Tibetan gazelle; Jammu and Kashmir: markhor, hangul, western tragopan*
Eastern Command: clouded leopard, snow leopard, Tibetan gazelle, Tibetan argali, and takin; Orissa: Oliver Ridley turtle
Southern Command - Gulf of Mannar: Dugong, corals; Lakshadweep: Leatherback turtle, hawksbill turtle, giant clams and corals; Andaman and Nicobar Islands: Leatherback turtle, hawksbill turtle, dugong, whales, sharks, giant clams, Nicobar megapod
Western Command – Gujarat: Dugong and whale shark
Central Command - Musk deer, western tragopan, Himalayan tahr and serow
- [190] *The Indian Armed Forces can arrange environmental training programmes for officers and jawans through their Green Governance initiative. Army training manual on environment can be developed in a structured format, which will then form an integral part of Army training.*
- [191] *Army, Navy, Indo-Tibetan Border Police, Border Security Force and coast guards should also contribute in prevention of smuggling of wildlife products along the borders.*

Chapter 10

The traditional rights of the North-eastern people’s forest and land must be honoured. They should have the right to conserve, manage and utilize their forest.

- [192] *Weaning away of the jhumias from shifting cultivation by improved animal husbandry, horticulture, settled agriculture, apiculture and other appropriate agricultural and pastoral practices and occupations. In this context, it is pertinent to note that the Administrative Staff College of India, Hyderabad has reported (1989) that approximately 4.5 lakh families of this region were practicing shifting cultivation and that the total cost of weaning one family away*

from shifting cultivation was Rs.50,000. This would have made the total outlay worth Rs. 2,250 crores, which was not too high a requirement if phased over some 10 or 15 years. The situation may have changed, but a detailed assessment of the acceptable alternatives and the financial requirements thereof need to be carried out and given the highest priority in administrative attention and allocation.

[193] While the process of weaning away people from shifting cultivation must be encouraged, in the meantime;

- a) Increase security of land tenure for shifting cultivators for both the agricultural and fallow phases by reconsidering the classification of shifting cultivation areas and categorizing them as agricultural land with adaptive forest management in the fallow period.*
- b) Strengthen and capacitate customary institutions for improved local level governance, management of tribal, community-based natural resources, and tenurial access and control.*
- c) Reorient existing credit policies to be sensitive and proactive to situations where common property regimes apply.*
- d) Encourage coordination among different government agencies that have responsibilities for aspects of shifting cultivation especially forestry, agriculture, rural development.*

[194] Propagation and sale of medicinal plants in the North-East would be a very promising proposition to provide to the land-owner in the region an alternative to jhuming. A special ecologically sustainable programme needs to be undertaken in this regard.

[195] Bamboo is the most versatile crop of the North-East and its management and protection can be best served if the propagation, cultivation, management, harvesting, value addition and marketing is done through a "mission mode" and the mandate is with the Ministry of Environment and Forests, Government of India. Bamboo is a fire-succession plant and grows profusely in the North-East. There must be facilities for its commercial usage.

[196] Agroforestry is another very viable alternative. But to ensure its success there should be no hindrance to the harvest, transportation and sale of the produce. Mizoram has taken up teak plantation on a large scale. But the farmers must be enabled to extract this tree without waiting for government clearances.

[197] ICAR Centre at Barapani has developed many models for agro-climatic zone settled agriculture, with horticulture / poultry etc. to make livelihood self-sustaining and remunerative. This activity needs to be encouraged and supported.

[198] The Central Government and the North-Eastern Council must play a much more proactive role in forest conservation and in the phasing out of shifting cultivation. This would include greater financial allocations, more schemes for afforestation, regeneration, eco-development, agriculture, animal husbandry and development of local arts and crafts.

[199] Village Councils and individuals have donated land for the setting up of parks and sanctuaries, and in some instances have sold forestlands as well. Murlam and Dampa in Mizoram, Mehow in Arunachal Pradesh and Nokrek in Meghalaya are

some examples. This trend must be encouraged and the local people should be associated with the protected areas and must derive economic benefit from them through tourism, etc. The people of Murlem are prepared to add another 50 sq km to the Murlem National Park if an alternative road to the village was developed for them and some eco-development activity was initiated.

[200] *Wherever possible, Community Reserves under the Wild Life (Protection) Act be set up on community lands and sacred groves called Lyngdohs in Meghalaya and the concerned tribal community should be involved in its conservation and management and a sense of pride in these protected areas should be inculcated. In this respect;*

A complete inventory of sacred forests in the region should be undertaken. These should be registered either with the Autonomous District Councils or with the State Forest Department under the existing Acts and Rules.

The survey for different components of biodiversity in each sacred forest should be completed on an urgent basis.

The sacred forests should be brought under the protected area network, including Community Reserves, without altering the land ownership status. The interventions, if at all required, as in case of degraded ones, may be designed by the government agencies jointly with the communities. Due approval must be taken from the traditional institutions administering the sacred forests, before initiating such interventions.

There should be an umbrella scheme of the government for conserving the community forest areas including the sacred forests. Development of adjoining community forests areas is essential to meet the biomass needs of the community, thereby reducing the pressure on the sacred forests. Such schemes should be implemented jointly by the Forest Department and the concerned traditional institution. Under the scheme, provision should be made for incentives to the tribal people, who are conserving/preserving the sacred forest

The sacred forests can no more be protected based only on religious beliefs. Therefore, it is essential to educate the people about the scientific value of such forests and the conservation ethos should be blended with the religious beliefs.

The diversity of ecosystem services derived from the sacred forests must be recognized and valuation of such services must be done. The policy for adopting the 'user pay' principle in respect of these services must be developed and the benefits must be given to the people who are protecting the sacred forests.

[201] *In forests, prone to organized or large scale violations or insurgency, special protection staff or para-military forces need to be deployed to prevent illicit felling, encroachment, infiltrations, smuggling and poaching, especially on the international borders and in insurgency affected areas.*

[202] *The Forest Survey of India needs to be assigned the task of periodically undertaking detailed remote-sensing of the forest areas and tree cover to assess qualitative and quantitative changes, including extent of invasion of exotics and changes in the type of tree cover.*

[203] *The forest of the various communities, individuals and of the Forest Department itself needs to be cadastrally surveyed and physically marked and mapped.*

[204] *Disputed boundaries between the North-eastern States has created problems of lack of control, resulting in encroachment and illicit felling. Boundary disputes must be settled as urgently as possible, under the aegis of Government of India*

[205] *There is illegal traffic of wood, wildlife and forest products between the North-eastern States and Myanmar on one side and Bangladesh on the other. This must be stopped by the paramilitary forces on the borders.*

Chapter 11

[206] *Establish the institutional infrastructure for democratic decentralization by creating clear and secure tenure over the forest resource to be decentralized. The respective governments should designate suitable lands in the villages or in urban areas as Village Forests. Chapter III of the Indian Forest Act, 1927 already has provisions for the constitution of village forests on lands recorded as Reserve Forests . Amendments may be made in the section 28 to accommodate all types of lands, not Reserve Forests only, for being eligible to be declared as Village Forests. In such villages or urban areas where Reserve Forests are not available, any other category of forests, or any common land which may or may not have forests but has the potential to be developed as forests, may be notified as Village Forests, or in urban areas, Smriti Van (Memorial Forest), municipal forests, avenue plantations, or green reserves. For the purpose of constitution of VF, a village or an urban area shall be a habitation in which people live as a unit. This unit may not necessarily overlap with the existing revenue village boundary, but has the defining features as enumerated in the Panchayati Raj (Extension into Schedule Areas) Act, 1996.*

[207] *The Government should develop the framework for creating democratic forestry institutions (DFIs) at primary, secondary and tertiary levels across the whole country with an aim to increasing the efficiency of the ongoing decentralisation. The DFIs at above levels may respectively correspond to Van Panchayat at the village or urban habitation, e.g., ward level, Van Samiti at the block or equivalent level in the urban areas level, and Van Parishad at the district level. A Van Panchayat should have jurisdiction over the respective Village Forest, and should be constituted of all resident adult members of the village, and the membership should be suo moto abrogated once one becomes non-resident of that village.*

[208] *Government and other organizations should foster local accountability by choosing to work with and build-on on only such democratic forestry institutions, which are constituted by due process of election, or consensus of the cross-section of the participating community. Further, the DFIs should be accountable to weaker sections of the village or urban community (e.g. Scheduled Castes, minor groups within Schedule Tribes, women of weaker sections, widows, women-headed households).*

[209] *The responsibility and the powers to manage the forestry resources should continue to rest with the democratic forestry institutions. The democratic forestry institution shall be a member of Panchayati Raj Institutions at the respective level, and for this purpose suitable amendment may be brought in the Panchayati Raj Act, 1993 also.*

- [210] *In the initial years of institution building, the Government should subordinate the objectives of forestry management to accommodate the needs of the local people. Disadvantaged sections of the village or urban community must be included at the decision making level of the democratic forestry institutions. Favouring democratic process in the short run will help build institutions able to take up sustainable management in the long run.*
- [211] *Forests should be maintained as a 'public good' over which each member of respective democratic forestry institution would have equitable access. Private tenures should not be created in the forests by way of monopoly lease or regularisation of encroachments therein. In case of diversion of forestlands for non-forestry purposes, or for grant of forestry leases to private or public companies, concurrence of the democratic forestry institution at the appropriate level should be made mandatory.*
- [212] *Ecologically sound traditional practices should be identified, and formally recognized and incorporated in the forest management plans. Similarly, the livelihood strategies of the members of the primitive tribal groups should be properly incorporated in these plans.*
- [213] *The Government should provide adequate funds and fund raising power to enable democratic forestry institutions to fulfil their mandate. The fund raising power at appropriate level of democratic forestry institution may include powers to borrow, levy charges, fines or compensation, raise tax or fees, and transfer funds. Commercially valuable and ecologically sound resource-use opportunities should also be available to the democratic forestry institution in addition to subsistence-use of the resources. Accounting standards should be developed, and each level of democratic forestry institution should ensure the maintenance of these standards.*
- [214] *The members of democratic forestry institutions, as individuals or groups, need to be made aware of the opportunities available with other schemes and programmes in the government or the non-governments sector, and should be suitably supported to forge these linkages. Capacity building of officials in this regard should be a continuous process.*
- [215] *Simple but effective extension mechanisms should be introduced to reach the outputs of research to the common people. One such mechanism is establishing Van Vigyan Kendras at the Block level. Where Krishi Vigyan Kendras are operating, these may be made responsible for education, research, training and extension in forestry matters also. The compulsory environment education in schools and colleges should be based on the ecology of the local natural resources.*
- [216] *The Union Government should oversee the decentralization process and provide essential support, including capacity building, to the democratic forestry institutions at all levels to enable them to manage their forests.*
- [217] *Since decentralization of forests is creating a new set of right-regime, the existing records of rights be reviewed in view of the ecologically sustainable capacity of forests, to ascertain the minimum essential requirements of the local community with respect to the forest products.*

Chapter 12

- [218] *The country's forests must now be looked upon as ecological entities – regulators of water regimes, watersheds and catchments, gene pools, habitats of wildlife, providers of the needs of the neighboring communities and as treasure troves of the nation's natural heritage. The country's needs of timber, fuelwood, fodder, industrial wood, and medicinal plants must mainly be met with plantation forestry and through agroforestry, which thus must receive much greater attention and support than now. This would also require a change in the role of forests, forestry and forest personnel, with corresponding change in recruitment, training, attitudes and mindset.*
- [219] *Plantation forestry must be on degraded forest areas. It must add biomass, not substitute it, even if the tree growth in such degraded areas would not be as good as in areas requiring removal of existing good forest cover for plantation purposes.*
- [220] *The focus of agroforestry must filter down to the tahsil / block levels. While the responsibility in this regard would rest mainly with the agricultural departments and institutions, the forest departments must cooperate and support by providing quality seedlings and technical guidance and by enabling the farmers to freely harvest, transport and sell their produce. All restrictions on the harvest of trees, transport and sale of timber etc. must be removed.*
- [221] *There needs to be a much greater coordination and close cooperation between State Forest Departments, State agriculture, irrigation, animal husbandry and fisheries departments. If the State agriculture departments are to take a lead in agroforestry, they must take on board forest officers and staff for technical help to the extent required. At the national level, there should be a close collaboration between Ministry of Environment and Forests and the Ministry of Agriculture for the advancement of agroforestry.*
- [222] *Import of timber and import duty thereupon should be regulated to keep agroforestry remunerative to the farmer.*
- [223] *Tissue culture and cloning needs to be practised for multiplication of planting material. For this, quality seed and material needs to be obtained by the Forest Departments.*
- [224] *If the forest departments themselves cannot changeover to the new biotechnology methods of multiplication mentioned above, they should establish linkages with approved institutions and registered private growers who would undertake the task for them. Department of Biotechnology has already recognized The Energy Research Institute, the National Chemical Laboratory and the Jainarayan University of Jodhpur for multiplying trees and bamboo through tissue culture.*
- [225] *The need of medicinal plants cannot be met with from forests alone, even with their improved management. There is a great scope for growing medicinal plants on private agriculture holdings, which would require the supply of planting material, marketing assistance, and technical inputs at least in the initial stages, and this must come from the State agriculture departments with inputs from State forest departments as well.*
- [226] *Bamboo has multifarious uses and is in increasingly short supply, especially in the north, central and western India. Bamboo cultivation has great prospects as a remunerative crop under agroforestry and can be grown along field boundaries*

- and in homesteads. Bamboo propagation thus needs to be made a national priority, for State Forest Departments, State Agricultural Departments, and local bodies including panchayats and Gram Sabhas.*
- [227] *Assistance and cooperation of concerned panchayats, Gram Sabhas and appropriate non-government organizations need to be taken in agroforestry extension.*
- [228] *The State Forest Departments must establish appropriate extension services to provide necessary technological support to tree growers. In order to provide single-window-services to farmers, agroforestry extension should be handled by the extension services of the agricultural universities and agriculture departments. Subject matter specialists in forestry species should be posted at Krishi Vigyan Kendras and in other appropriate extension units undertaking forestry extension.*
- [229] *Wood-based industries should also be encouraged to supply certified quality planting stock to farmers and to enter into buyback arrangements with them for the raw material produced by them. The farmers should be free to sell to the market if they get higher prices.*
- [230] *Liberal credit facilities at lower interest rates may be channelized through banks and other financial institutions to farmers to raise tree and bamboo plantations.*
- [231] *Suitable lands outside village forests, falling in the category of permanent agricultural fallows or wastelands fit for agriculture (e.g. canal side lands), or problem lands (e.g. usar, ravines, etc.), should be assigned to individuals or groups for tree cultivation in any form (including agroforestry, farm forestry, silvi-pasture, horti-silviculture), and suitable incentives should be designed and put in place to promote tree planting on lands distributed to the landless persons.*

Chapter 13

- [232] *Ecological relations of species with their environments should be documented.*
- a) *Ecological keystone species in major forest types should be identified.*
 - b) *Optional and truly obligate physiological or behavioral relationship among species should be identified and studied.*
 - c) *Key agents in biogeochemical cycles and energy flow chains, and quantify the rates of nutrient and energy transfers should be identified.*
- [233] *Genetic markers for identification of plus strains of important tree species for forestry and utilitarian purposes should be developed.*
- [234] *Soil processes in forest ecosystems, particularly aboveground –belowground interactions including role of mycorrhizae in forest regeneration and rehabilitation should be studied, and indicators of soil quality be identified.*
- [235] *Carbon sequestration of degraded forests using forestry practices should be improved, and carbon sequestration by major forest types be evaluated.*
- [236] *The role of coarse woody debris in forest regeneration/restoration should be determined.*

- [237] *Pollutant sensitivity of major tree species and the response of forest to carbon dioxide and nitrogen enrichment should be determined; the impacts of toxins and pollutants in perturbing biogeochemical cycles be considered.*
- [238] *Tree species for urban forest in different agro-climates should be designed and identified.*
- [239] *Biodiversity database for major forest types should be developed and the uses of this biodiversity be examined.*
- [240] *The effect of changes in ecosystem structure and functioning in response to global biophysical and sociological impacts on the delivery of ecosystem services, both tangible and non-tangible, should be documented.*
- [241] *The linkage of ecosystem services to human well-being should be determined, and the level of well-being dependency on ecosystem services for different forest systems under different socio-economic conditions be evaluated.*
- [242] *Robust analytical framework and methodological foundations for valuation of ecosystem services and their delivery across social groups should be developed.*
- [243] *Indian Council of Forestry Research and Education should assess the local research needs of States and prioritize.*
- [244] *Forest Departments and the Government of India should encourage universities and organizations to take up research proactively, particularly applied research; the topics/areas for required baseline data collection and research should be identified, researchers be supported, and the findings of applied research in the working / management plans be incorporated.*
- [245] *Research permits, getting of which is a difficult task, should be given without arbitrariness and quickly, provided certain conditions are met. Each management plan should list: i) research required, ii) research carried out in the area, and iii) publications and summary of findings that are relevant to the management plan.*
- [246] *Long-term research on grassland ecology, fire, flood, invasive species, forest regeneration, wildlife diseases, inter-relationships and inter-dependence of species, groups and habitats, multidisciplinary integrated research encompassing scientific and socioeconomic aspects related to protected area management, reintroduction, rehabilitation of species, etc. should be undertaken in different eco-regions with proper funding by the government and provision of facilities by the Forest Department. Research for making use of ethnic knowledge in wildlife conservation and management, and applied research to obtain intellectual property rights capable of benefiting the local communities and the country, should receive special attention.*
- [247] *ICFRI (Indian Council of Forest Research and Education) institutes should focus on basic research, and on research relating to national or regional problems which cannot be handled by State Forest Research Institutions (SFRI), such as genetics and tree breeding, wood science and technology, forest hydrology, chemistry of forest products and their utilization, bio-pesticides, global warming, biodiversity conservation and management, forest sociology including participatory management, and forest economics. Strong linkage should be ensured between SFRI, ICFRE institutes and agricultural universities*

- undertaking forestry research in the same State. Networking of scientists working in these research organizations on common problems needs to be done.*
- [248] *A quinquennial review of the research projects should be undertaken by a committee of outside experts in respect of each research institute. An expert committee may be constituted to critically examine and recommend revamping and refocusing forestry research in the country.*
- [249] *The outlay on forest research needs to be very substantially enhanced.*
- [250] *Keeping in view the paucity of personnel in forestry research, certain thrust areas of research in forestry should be put on contract to agricultural or other universities, as well as private institutions engaged in such research activities. Simultaneously, the extraneous posts of research officers in State Forest Departments, who do no research as such but merely help in providing posts for unwanted personnel, should be abolished.*

Chapter 14

- [251] *Appointment of faculty should be done through a constant interaction with the State officials. A committee consisting of the director, Indira Gandhi National Forest Academy (IGNFA), one professor, and a representative of the Ministry of Environment and Forests should screen the officers and draw up a list. The officers who have put in a minimum of ten years service and having a very good service record, aptitude and a competence in teaching should only be eligible for appointment. Since there is a dearth of young and willing officers at the level of DCF in the cadres, the faculty positions in the IGNFA should be made flexible and filled up at the level of DCF or Conservator of Forest, depending on the suitability and availability of officers or by getting suitable persons from outside the service. The criteria of selection should not be seniority of service or plain experience, but a combination of experience and aptitude with a greater emphasis on the latter. A detailed guideline of such a selection process should be worked out by the IGNFA in consultation with Ministry of Environment and Forests. Only those members of Indian Forest Service/ State Forest Service should be eligible for selection for a faculty position in IGNFA or training colleges/schools, who must have had at least 10 years service and should have annual reports of not lower than 'very good', besides having an aptitude for teaching.*
- [252] *Seniority should also not be the only criteria for selection of director of the Indira Gandhi National Forest Academy. The Ministry of Environment and Forests should ensure that the officer selected is suitable for this very important post and delivers what is expected of him as the head of the premier forest academy of the country.*
- [253] *The recruitment of the faculty, their assessment and tenure of deputation for the faculties of the Directorate of Forest Education, should be on the same lines as recommended in the case of the Indira Gandhi National Forest Academy.*
- [254] *Keeping in view the low intake at the level of State Forest Service and Forest Range Officers by the State Governments, there is need to review the mandate of the Directorate of Forest Education, the utilization of the existing infrastructure and of the upgradation of the post of the Director, Forest Education.*
- [255] *The Indian Council of Forestry Research and Education (ICFRE) should be granted autonomy on the pattern of the Indian Council of Agricultural Research*

- and the DG, ICFRE should be made Chairman of the Board of Governors, ICFRE. The post of the DG, ICFRE should be made equivalent to the level of Secretary, Government of India.*
- [256] *Since the major clients for forestry research are the State Forest Departments which do not have funds to sponsor paid research projects and there is not much scope for the Indian Council of Forestry Research and Education to generate its own financial resources except for a few externally aided projects, the Ministry of Environment and Forests must increase the plan and non-plan allocation to the Indian Council of Forestry Research and Education for pursuing research activities as per the National Forestry Research Plan. At least five per cent of the revenue from forests should be earmarked for forestry research. The States must increase the allocation to the State Forest Research Institutes, and other research units for carrying out research.*
- [257] *There is an urgent need to review the mandate of the institutes and fix research priorities for each institute/advanced centre, based on themes and regional research needs, to maintain focus on critical forestry issues. An 'Expert Committee' may be constituted to critically examine and recommend the revamping and refocusing of forestry research in the country and which should be need based applied research.*
- [258] *More emphasis should be given on field oriented applied research.*
- [259] *Certain glaring omissions in the field of applied research remain. This was shown, for example, by the sal-borer infestation in Madhya Pradesh. The know-how to deal with this periodically recurring menace to one of the most widespread and valuable biomes in the country's forests, has made no progress since what was advocated in the 1940s.*
- [260] *There needs to be much greater attention given to research to achieve biological control over exotic weeds like eupatorium, Mikenia, Strobilanthes, lantana, mimosa and parthenium, which are a serious threat to the regeneration of natural forests.*
- [261] *The non-plan component of grants-in-aid must be increased to meet the establishment expenses, so that the plan funds could be utilized for only research activities.*
- [262] *For attending to the State's specific problems and research needs, there should be a separate State Forest Research Institute in each state with autonomy on the pattern of the Kerala Forest Research Institute and these must undertake field oriented research in close coordination with the State Forest Department (SFD). This can be done through reorganizing the Silvicultural Wing of the SFD. The institute should be manned by competent officers and scientists. The useful findings should be widely disseminated. Indian Council of Forestry Research and Education should avoid duplication in their own research work.*
- [263] *Strong linkages must be ensured between State Forest Research Institute, ICFRE (Indian Council of Forestry Research and Education) institutes and agricultural universities undertaking forestry research in the same State. Networking of scientists working in these research organizations on common problems, should be done.*

- [264] *There has to be an in-built system of dissemination of research results to the State Forest Departments, other stakeholders, trainees in forest academy / colleges / schools etc. through conduct of refresher courses, seminars, workshops, electronic and print media. Effective linkages should be established between all the research institutes and the beneficiaries of research. The Ministry of Environment and Forests may devise mechanisms for quick transfer of research results to the stakeholders and receive feedback from them.*
- [265] *Detailed procedures for selection of IFS (Indian Forest Service) officers and scientists on research and training posts should be formulated. The officers with adequate aptitude, experience and real interest in the areas of responsibilities of a particular post should only be appointed. The IFS officers who are not performing must be given one year's time to perform. If they fail to do so, they should be repatriated to their cadres.*
- [266] *The working of the Indian Institute of Forest Management should be reviewed and the curricula of various courses being organized by the Institute should be suitably modified. The 'perspective plan' for the faculty must be completed on a priority basis and action taken for filling up all the vacant posts.*
- [267] *The an Institute of Forest Management should publicize its achievements and strengths in the field of forest management, education and training, to improve its image and attract consultancies and projects.*
- [268] *The problems with the staff at the an Institute of Forest Management need to be sorted out.*
- [269] *The Indian Plywood Industries Research and Training Institute must have a detailed vision paper for the next 20 years. The Institute must have constant interaction with industries and other stakeholders for deciding research priorities and other activities to be taken up. Adequate grants-in-aid should be made available to carry on with research and extension activities and for facilitating the work of the institute.*
- [270] *Assessment of research needs of the Wildlife Institute of India should be carried out in consonance with the current wildlife strategy/action plans and policies of the Government of India. The Institute must lay more emphasis on applied research on field related problems pertaining to management of wildlife, especially those related to the reduction of man-animal conflict and to develop methodologies and applications for the capture, translocation and rehabilitation of problem animals.*
- [271] *The Wildlife Institute of India must also devise short-term courses for various levels of forest officers (DCF, Conservator of Forest and Chief Conservator of Forest) which can be sponsored by the Ministry of Environment and Forests.*
- [272] *A thorough assessment of role identification of the officers on deputation should be undertaken to utilize the potential of officers in full, to supplement and complement the needs of the Wildlife Institute of India. Vacancies need to be filled up and the posts allocated to spheres now requiring attention and priority.*
- [273] *Trainees receiving long-term training at Wildlife Institute of India must be posted in the respective wildlife wings in the States*

- [274] *Each manager of a protected area should have received training at Wildlife Institute of India. There should be an incentive by way of an allowance, to achieve this end.*
- [275] *The States must fully utilize the “slots” of training available to them at Wildlife Institute of India and indeed, should ask for more than the present quotas.*
- [276] *Develop a dynamic database under the geographical information system domain at the Wildlife Institute of India for monitoring changes in prime wildlife habitats, for facilitating adaptive management.*
- [277] *Establish a special laboratory for forensics and conservation genetics at the Wildlife Institute of India and to disseminate knowledge in this regard to the States.*
- [278] *To grant real autonomy to the Wildlife Institute of India as contained in the Memorandum of Association.*
- [279] *The zonal establishments of the Forest Survey of India (FSI) should be strengthened with enough budgetary and staff support so that more periodic information on forest resources can be made available to State Forest Departments. Since field verification and interpretation of the data obtained through satellite imagery is very essential and is to be done on a time-bound basis, the staff and budgetary requirements of the zonal offices of the FSI should be properly assessed and they should be provided with adequate finances and essential field staff, which can be kept on a contractual basis. Two more zonal offices, one exclusively for the North-East and the other for the western region needs to be established.*
- [280] *The Ministry of Environment and Forests must impress upon the State Governments the need to ensure that the forest training institutions are administered and managed properly and the posts are filled with willing and competent officers.*
- [281] *Forestry personnel have to be equipped with necessary tools for managing forests according to emerging needs of the civil society and in view of the increasing pressures on the forests. Hence, there is need to regularly review the contents of training being imparted to forestry personnel at various levels, at least once in five years, and the training be modified suitably.*
- [282] *The Forest Development Corporations (FDCs), in their current mandate and functioning, are redundant. Their existing work can readily be transferred to territorial forest divisions and afforestation wings, if any. Some of the staff of the FDCs may be transferred with the charge. The mandate and role of Forest Development Corporations need to be reviewed and other functions assigned to them. The FDCs can also be entrusted with the work of fuelwood supply, to extract and supply fuelwood in lieu of the ongoing practice of sale of ‘head load’ fuelwood in towns and cities and which therefore can be stopped. The people currently extracting and selling fuelwood could be given fuelwood from established depots of the FDCs and they in turn can sell them. But extraction of fuelwood from forests for the purpose of sale must remain the monopoly of the Forest Department.*

- [283] *The Forest Development Corporations should be given the task of extending forestry to grassland/watershed management in government lands outside of forests, as well as to cooperate with agriculture departments in the extension of farm and agroforestry.*
- [284] *The State governments must ensure that all the administrative and scientific posts in these institutes are filled up in time with competent and willing personnel and adequate facilities and incentives are provided so as to attract the best talent for manning these institutions. These posts must not be a preserve of in-service personnel, but should be filled up with recruitment of the best possible talent, within the State Forest Department as well as from universities and from the open market.*

Chapter 15

- [285] *A separate Department of Forests and Wildlife within the Ministry of Environment and Forests should be created to ensure adequate importance and attention to the management of natural resources. Forestry related subjects of biodiversity, mangroves, wetlands, medicinal plants, forestry issues under climate change and combating desertification, which are being dealt mostly by the forest departments in the State governments, should be transferred to the proposed new department, from the Environment Wing. This department should also handle coastal development, National Wasteland Development Board and watershed management in areas having forests, as well as coastal conservation involving the biota. The new department also needs to be given adequate resources to fulfill its duties.*
- [286] *On most of the international forestry issues wherein India has a larger stake as a developing nation, generally wider consultations are not held among the forest officials within the Ministry as well as with the State Forest Departments. As a result, in international consultations the country does not get the benefit of collective work experience of a wider section of foresters. Even the officers do not get to know the latest happenings in the sector at the global level, which have a bearing on the development of forestry and wildlife at the national and regional levels. Appropriate mechanisms should be evolved for wider consultations and dissemination of information to foresters at the national and State levels.*
- [287] *Presently, there are no detailed defined duties and responsibilities for various levels in the forestry hierarchy, except the mention of some broad duties in the forest codes/forest manuals of the State Forest Departments. Detailed job description for all levels including that of the ministerial staff should be documented by revising the forest codes and it be given to all the personnel. Need based training for the personnel at different levels should be arranged.*
- [288] *For efficient administration and better coordination among the various wings of the State Forest Department, it is necessary to have a single line command. Only the Principal Chief Conservator of Forest should report to government on policy issues.*
- [289] *Over the last three decades, there has been an immense change in the aims and objectives of managing forests and wildlife resources in keeping with emerging*

- needs of the civil society. However, the structure of the State Forest Departments (SFDs) including the strength of the frontline staff has not undergone adequate changes. The Ministry of Environment and Forestry should undertake a detailed review of the structures of various SFDs and issue appropriate guidelines to States in the next two years, for the restructuring of each State/Union Territory State forest department.*
- [290] *Accountability of officers at various levels in the forestry services needs to be closely laid down and monitored, to improve their performance.*
- [291] *For the welfare of the service (housing, educational facilities for children, conveyance, facilities for maintaining physical fitness, grievances handling and counseling etc.), the State Governments should establish Forest Services Beneficiary Funds.*
- [292] *Professional knowledge of the forest staff, especially the field staff is very poor in respect of the procedural requirements to prosecute a case in court. They need to be provided regular training in legal requirements pertaining to search, seizure, evidence collection and prosecution in court. Legal cells need to be established in each State to pursue the backlog of court cases and in hiring good lawyers in important cases.*
- [293] *In States where the backlog of pending cases pertaining to forest offences is especially large, the High Court could be requested to appoint special courts to hasten the process of law.*
- [294] *Grievance redressal cells should be established at circle and headquarters level to address the problems and grievances of the subordinate staff.*
- [295] *The delegation of administrative and financial powers should be reviewed and for efficient administration and service delivery to the society, there has to be more devolution of these powers to the middle level management and the field officers, with corresponding increase in accountability.*
- [296] *Professionalism should receive priority within the department. Measures to reduce unnecessary administrative work at different levels are necessary, as these consume a major time and attention of senior staff and hampers technical and professionalism improvement and specialization.*
- [297] *The State governments must complete demarcation of forest boundaries, and mutation in revenue records. The process requires financial and technical capacity building of forest settlement offices. A trained team of surveyors be equipped with global positioning system and other technical tools to carry out the process of demarcation. Forest maps should be updated after demarcation and be incorporated in the working plans.*
- [298] *Staff and vehicles of the Forest Departments are requisitioned for non-forestry purposes, the advantage of which is taken by wood and wildlife poachers. Such requisitioning must be avoided.*
- [299] *In view of prevalent threats to forests and forest personnel who unlike the police have to function alone or in very small units, the forest field staff need to be armed and need to be given protection under the law in the exercise of their*

duties, as is given to the police and the paramilitary forces, under section 197 of the Criminal Procedure Code. They need to be safeguarded against wrongful accusations under the various anti-SC/ST (Scheduled Castes/Scheduled Tribes) atrocities legislations and need to be provided reasonable and just indemnities in fabricated cases.

[300] *Making frontline staff a satisfied lot is a most important tool for achieving effective conservation and management of forest. For this, it is necessary that their housing problem is addressed. Keeping in view the remoteness of the posting of the frontline staff, they are not in a position to keep their families at their place of posting. It is, therefore, recommended that Forest Housing Corporations be created by every State Government to construct primarily family accommodations for the frontline staff. An adequate corpus fund be allotted to the proposed corporations for their effective functioning.*

Chapter 16

[301] *Forest administration should take advantage of forestry education in the universities by at least giving preference in selection for the posts of forest officers.*

[302] *Recruitment to forest rangers should be from amongst B. Sc. Forestry graduates produced by universities imparting forestry education. Induction training in the forest rangers colleges will, however, still be necessary for trainees who might already be forestry graduates.*

[303] *Forestry should be recognized as a subject for competitive examinations in state and All India Administrative Services.*

[304] *In view of the serious shortage of forest staff at the field level, the general ban by the State Governments on filling up of vacant posts should not apply to the field posts of wildlife guards, forest guards, foresters and others up to the level of forest range officers. Tribal and other backward communities need to be given preference in the filling up of the vacant posts of Forest Guards, and educational qualifications need to be relaxed in the case of such recruits.*

[305] *The number of beat guards needs to be substantially increased and a revision of beat areas needs to be done state-wise. No change has been done in this regard since before Independence. Each State needs to appoint a committee to go through the exercise of re-delineating beat boundaries.*

[306] *The field staff is also poorly provided for by way of transport, communication and other facilities required in the better exercise of their duties. A state-wise assessment needs to be carried out and these basic requirements have to be provided to make the field staff more effective for protection work, on a priority basis.*

[307] *Specialization is a prerequisite in forestry to enable the service to fulfill its role in conserving the forest ecosystems and its biota, in extending forestry within and without existing forests, and in fulfilling the needs and aspirations of the people vis-à-vis forestry. Experience has shown that specialization in real terms can only be achieved by restructuring the personnel setup and setting up specific sub-cadres, by changing recruitment rules and by providing the complementary*

training and cadre management. Four broad areas of specialization for purposes of developing sub-cadres are recommended. They are:

- a) Forest conservation, including protection, harvesting and sale of forest produce;*
- b) Extension forestry, including plantations and nurseries, joint forest management, grassland and watershed management and eco-development outside Reserve Forests;*
- c) Wildlife management, including management of protected areas and their buffers and corridors; collection of basic data, control of wildlife trade and taxidermy, etc. implementation of international conventions pertaining to nature conservation;*
- d) Research, training, working plans, technical support to agro- and farm forestry*

[308] However, a detailed and impartial study needs to be commissioned to define in detail, (i) which precise work spheres should be assigned to the respective sub-cadres (ii) what should be the required strength of each sub-cadre for the Indian Forest Service and other cadres in the States (iii) guidelines for the cadre management of the various sub-cadres.

[309] The same study referred above should also consider as to what changes are required in the recruitment rules for the individual specialized sub-cadres, and the training and training periods required for recruits with degrees in subjects related to forestry and forestlands like botany, biology, zoology, ecology, forestry, ethology, environmental sciences, etc, and for those recruits who have other science degrees. But weightage has to be given to those recruits who have graduated in subjects related to forestry as against those who have science degrees not related to forestry and ecology, and this should be reflected in the period of induction training. This, in itself, will encourage candidates to opt for relevant subjects in their college education.

[310] It is a regrettable fact that very few amongst the present personnel of all cadres of forest services would opt for the proposed sub-cadres of categories b, c and d mentioned in the recommendation 308 above. They would vie to remain in the traditional work sphere of the service – territorial forest divisions and in the harvesting and marketing of forest produce. This mindset and the lack of specialization that emanates from it, is one of the main reasons for the setting up of specialized sub-cadres. The needs and interests of forestry and forestlands are paramount and hence the services at all levels must be organized to suit the current job requirements, and not the other way around. Once the cadre strength at various levels for categories b, c and d of the proposed sub-cadres are worked out, a certain number of ex-cadre posts would have to be kept in each sub-cadre, so that if an adequate number of appropriate personnel from the existing forestry staff do not opt for them in the initial stages, the required manpower could be recruited from the open field, both through deputation and through competitive examinations. Once the recruitment for different sub-cadres begins and the recruits are imparted the requisite training, the problem of vacancies would not persist.

[311] In order to take care of the training required to be imparted to equip Indian Forest Service (IFS) officers to handle newly emerging roles and responsibilities,

- IFS training at Indira Gandhi National Forest Academy should be of three years duration, followed by one year training in the State on different assignments.*
- [312] *Training for the staff at field levels, i.e., forest guards, wildlife guards, foresters and forest rangers, need priority. Direct recruitment may be only at the level of forest guards and forest rangers to improve promotional avenues in subordinate services. All those promoted to the level of foresters and forest rangers should undergo one-year training. No person should be appointed as forest guard, wildlife guard, forester or forest ranger without receiving training prescribed for these posts. It should be ensured that every frontline personnel gets at least two promotions / equivalent pay scales in his career span.*
- [313] *Forestry research and training in the State should be integrated and conducted at the State Forest Research Institute (SFRI). The existing Forest Rangers Training College or Foresters Training School in the State should be upgraded as SFRI. It will help in making available competent faculty for training and will ensure quick transfer of research results to the trainees.*
- [314] *Each forest training institution may have a 'training forest' to be managed by the institution, where all operations should be done by the trainees as a part of their training.*
- [315] *Pattern of staffing in most of the States and union territories is similar, but for the National Capital Territory (NCT), Delhi, where IFS officers are posted as Conservator and Deputy Conservators as per cadre allocation of the AGMUT(Andaman, Goa, and Mizoram Union Territory) cadre, there is no well-developed structure of forest rangers and others. It is recommended that cadre strength, and recruitment rules of all categories of frontline staff be framed by government of the NCT, Delhi by making them at par with the other States / union territories; but ensuring that personnel presently working here are not put to any hardship in this process.*

Chapter 17

- [316] *A strategy is required for improving productivity of degraded forests (10-40% crown density) by assisted regeneration and afforestation through joint forest management in forest areas near villages, and by the Forest Departments in areas away from the villages. This would involve prevention of fire and effective reduction/elimination of biotic pressures.*
- [317] *A strategy is needed for meeting the needs of construction timber, panel, pulp paper, packaging and particle board panel and chip board industries, through quick growing high yielding plantations of softwoods*
- [318] *A new strategy for social and agroforestry be evolved, which would include planned involvement of forest-based industries in the distribution of high quality seedlings, with buy-back guarantee to the farmers, to ensure qualitative support to the planting programme and market support for the produce. This is to help bring about an additional 10 million ha. under farm forestry/agroforestry and to meet substantially the needs of industry*
- [319] *In order to promote tree plantation on government revenue wastelands, a survey on the availability of such areas be carried out and at the same time some pilot*

projects involving van panchayats / village communities, government departments and the investor in such plantations, be formulated in states where such land is available.

- [320] *Establishment of a forum for periodic discussion between Ministry of Environment and Forest, Ministry of Industry and Commerce and recognised associations of wood-based industries, to review and evolve a rational import export policy and review tariff rates keeping in view local demand , supply and market conditions, would be useful.*
- [321] *It is necessary to assess the demand and supply scenario of forest products, including exports and imports, to make projections for 2020 A.D. and to suggest strategies to bridge the gap between demand and supply of raw material for forest based industries*
- [322] *The efforts to develop cottage industries should be concentrated in farm forestry areas. It is also necessary to evolve a strategy to ensure availability of raw material in adequate quantity and quality at a competitive prices to the small entrepreneur. The Khadi and Village Industries Commission, Council of Scientific and Industrial Research and non-government organisations have a major role to, play. Linkages with such organizations /institutions need to be established and strengthened.*
- [323] *Cooperation between forests authorities, community groups and industry is required.*

Chapter 18

- [324] *There needs to be a detailed advance planning and more attention given to the formulation of any new international arrangements and agreements at both global and regional levels, pertaining to forests and wildlife, so that interests and needs of the country are well safeguarded.*
- [325] *There also need to be a far more concentrated effort to implement in both letter and spirit, the national duties and obligations envisaged in international agreements to which India is a party, and not just merely participate in the periodic meetings related to these instruments and to give vocal support. Many of these international instruments and agreements including those related to suppression of illegal trade, have a direct bearing on the conservation of the country's biodiversity and natural resources and it is in India's interests to give full cooperation and seek the same, at both regional and international levels.*
- [326] *There needs to be greater financial inputs provided to fulfil these international obligations, and there needs to be a nodal cell to monitor the follow-up action and implementation of each instrument, within the Forest and Wildlife Wing of the Ministry of Environment and Forests.*
- [327] *We may also learn lessons from other regional instruments such as the Amazonian and Central African and establish regional instruments, at least at the South Asian regional level, for the purpose of achieving cooperation and collaboration of the countries concerned vis-à-vis international commitments and obligations pertaining to wildlife and forests in the Asian region.*
- [328] *The views of India should be framed well before international negotiations and after wider consultation from all stakeholders.*

[329] *The size of the delegation for the participation in different conventions and international meetings is very small. Since almost one fourth the land mass in the country belongs to the forestry sector and around 28% population of the country have dependence on forests, there is need to have an adequate delegation representing all sectors of the country, including industry, non-government organisations and individual experts.*

[330] *It was observed that many forest-related international instruments such as the Convention on Biological Diversity, United Nations Convention to Combat Desertification and Commission on Sustainable Development are not dealt with by the Forest and Wildlife Wing of the Ministry of Environment and Forests. This needs to be rectified.*

Chapter 19

[331] *A national level coordination committee for forest resource accounting (FRA) should be constituted to provide technical support and strengthening networking of concerned institutions/agencies, with a view to promote use of FRA at all levels (national/state/local). The committee shall comprise institutions and individuals including economists, ecologists, and physical science experts working in the area of forest resource data generation, valuation and accounting, along with the practitioners. The committee would work out a dynamic formula based upon paradigms and parameters which can be revised from time to time as more data becomes available and better norms get evolved.*

[332] *The data requirements for natural resource accounting are very high and the Central Statistical Organisation should create a cell or a separate wing to generate the required data on a continuous basis. Major data gaps are inconsistent data from different sources in the forest sector as well as other line departments, and the lack of resource inventory data. Some of the specific data gaps are forest resource stocks and exploitation data, change in forest stock, time series data on ecosystem services provided by forests and biodiversity, data on encroachment, data on resources drawn from forests by industrial units and data on intermediate consumption by industrial units, etc. On account of lack of data from secondary sources, primary level studies need to be conducted to cover varied dimensions to bridge the existing data gaps.*

[333] *As forests have multiple stakeholders and multi-sectoral linkages, the knowledge generated and the formula of assessment and accounting shall be disseminated in the form of working or policy papers on developing the framework for valuing forests, to guide the formulation of a policy in respect of forest resource accounting, which would then determine the valuation of forests, forestlands and their goods and services and put the assessment of their valuation in its true perspective.*

[334] *A manual containing basic concepts, methodology for economic valuation and accounting of forests and forestlands may be prepared for handy use by the end users. Necessary capacity building regarding a new system of forest resource accounting should also be done amongst the personnel of forest departments who are expected to be involved in implementing the proposed system.*

[335] *The new system of forest resource accounting (FRA) proposed through the efforts of the expert group shall comprise tools and techniques of capturing values of tangible and intangible goods and services provided by forests and shall produce a set of accounts for systematically recording such values in the system of national accounts. The proposed system can be implemented at the functional unit level, which may be a division or State level. Since the forest sector is a dynamic sector and any change in it will have a multiplier effect on itself as well on other sectors, it is essential that the exercise of valuation and accounting be taken on a regular basis. For this purpose, it is proposed that the exercise should be made as a component of the existing working plan preparation exercise. As the Working Plan is prepared every 8-10 years, the FRA shall also be automatically done. In fact, if FRA exercises are performed first, important signals can be generated for the new working plan itself.*

Chapter 20

[336] *While fulfilment of requirements of the community from adjoining forests cannot be denied, the fact remains that the 'forests' are a national wealth and their protection and preservation must be viewed from that angle and not only from regional, sectoral, ethnic or political standpoints.*

[337] *Forest-rich States, which are having forest/tree cover more than the target fixed in the National Forest Policy, 1988, should be provided special incentives to maintain that area under forest/tree cover, but their demand for compensation cannot be acceded.*

[338] *Forest-deficient States should be provided incentives to increase their forest/tree cover, but the content and approach of this incentive should of course be different.*

[339] *While there should be no dilution in implementing the Forest Conservation Act and the existing guidelines are fairly balanced, care should be taken that legitimate demands for basic needs should be cleared without any delay, while safeguarding the long term interests of forests, wildlife and the environment.*

[340] *The National Forest Commission is of the considered opinion that the proposed Scheduled Tribes (Recognition of Forest Rights) Act would be harmful to the interests of forests and to the ecological security of the country. It would be bad in law and would be in open conflict with the rulings of the Supreme Court. Another legislation, therefore, needs to be framed providing the forest dwelling communities a right to a share from the forest produce on an ecologically sustainable basis and Ministry of Environment and Forests could be asked to do the needful, after taking into account the inputs of the State Governments as recommended by the Sarkaria Commission as a subject under the concurrent list.*

[341] *Forest encroachments to the extent of 3.60 lakh per annum have already been regularized. If any State feels that any encroachments done prior to 25-10-1980 still remains unsettled, the concerned State governments could appoint commissions, perhaps headed by judges, to finalize the claims within a time frame. Settlement of such claims and disputes arising therefrom should be done by quasi-judicial bodies and not left to the discretion of Gram Sabhas.*

- [342] *The Bill implies that tribals would be permitted to exploit forests for commercial purposes and not only for bona fide livelihood purposes as was originally intended, with only the concerned Gram Sabha empowered to decide as to what exploitation would be unsustainable. The extent and nature of forest exploitation on an ecologically sustainable basis must be decided by forest managers in consultation with the local communities, who would have first charge over any forest produce extracted, to meet their bona fide livelihood requirements, and an economic share of any surplus produce that may be disposed off thereafter.*
- [343] *The proposed legislation should not apply to national parks and sanctuaries, which are the last havens of hope for the nation's forests, wildlife, wilderness and biodiversity. The villagers that remain within them have their pattas and rights and encroachments within them must not be condoned. Many communities themselves wish to resettle outside of such protected areas and this must be facilitated and alternative forestland provided. The politically motivated and ecologically suicidal proposal of providing temporary rights in these protected areas for a period of five years and then if they are not relocated in that period the rights to become permanent, is a mere facade, and considering the past record and political motivations will never be achieved and the grant of such rights will irrevocably impair the ecological viability of protected areas.*
- [344] *The clause that no encroacher should be evicted from forestland under his occupation till the recognition and verification of his claims are completed, with no time limit for such a process, is again self-defeating and will give an impetus and license to more encroachments in forests and to corruption. Such a provision must not apply, at least to national parks and sanctuaries, if not to all forests.*
- [345] *There is an ambiguity in the Bill about the applicability of laws. If the laws of the land pertaining to forests and wildlife are to apply to all tribals and non-tribals, this must be clearly stated and the current confusion about duality in the application of law to tribals and non-tribals, be done away with.*
- [346] *It is recommended that to provide an incentive to the forested States to retain and augment their forests, it would be appropriate if additional allocations could be given by Government of India annually, commensurate to the quantum of forest held by the State and the efforts being made by the State to implement national policies for the conservation of forests and watersheds. Such annual grants must be linked with conservation performance and not just forest area alone. The quantum of annual aid given must have a certain matching grant quotient from the State concerned and which must be in addition to current State outlays on forest conservation and not just substitution of ongoing expenditure and must go entirely for forest conservation and must be directly linked with qualitative and quantitative improvement of forest cover, periodically to be reviewed by the Forest Survey of India or any other designated agency.*

Chapter 21

- [347] *The allocation to the forestry sector must be increased, both in central and State budgets, and must not be less than 2.5% of the total plan outlay.*
- [348] *To finance the normal forestry operations like fire protection, regeneration etc. funds should be made available to State forest departments, either by increasing non-plan expenditure or covering this under plan expenditure*

- [349] *Whereas the Supreme Court order not to harvest forests as per the working plan prescriptions without getting funds for regeneration must be honoured in letter and spirit, forest working must not be stopped for want of funds and funds must be made available for regeneration.*
- [350] *Funds for plantation should be grouped under two sub-heads – one for achieving plantation target for that year and another for advance work for the next year.*
- [351] *In the subsequent year funds for raising plantation in that year should commensurate with the target set and the funds made available for advance work in the previous year.*
- [352] *20% funds of all the Rural Development Programme should be incurred on forestry and watershed operations as was done in case of NREER and RLEGP.*
- [353] *All disaster management programmes of the Central and State Governments must have a component of forestry, which should not be less than 5% of the total outlay.*
- [354] *Efforts should be made by Central and State Government to obtain adequate funding from external sources to fulfill the NFAP targets.*
- [355] *Before accepting funding both from donors and lending agencies, the executing agencies namely, the State governments, must provide in real terms matching/required contributions, which should be additions to and not substitution of existing funding, and also make provision for continuing the posts and the programme that have been initiated, after the project has come to an end.*
- [356] *Fund releases should be timely and in keeping with the requirement. Funds should not be held up by the states to improve their own financial ways and means situation.*
- [357] *Programmes under the National Rural Employment Guarantee Act (NREGA) 2005 should also be extended to forestry operations.*
- [358] ***Currently, industries pay a 2% cess on water, which goes to the concerned Pollution Control Boards. However, water is a commodity that is regulated by forests and most rivers have their upper catchments in forests. At least half of the 2% cess should go to the concerned SFDs or, more appropriately, the cess be enhanced to 4% with half going to SFDs.***

Chapter 22

- [359] *An independent mechanism of the appropriate status be set up to prioritize and monitor the implementation of the recommendations of the National Forest Commission and to draw attention of the concerned implementing agencies where implementation is deficient.*
- [360] *To assess and advise on the conservation needs and priorities of forests and grasslands, of biodiversity and wildlife, and of the civic society in this regard in future, it is recommended that a National Forest Commission be set up from time to time.*

Summary

1.1 Introduction

The Indian Board of Wildlife in its 21st Meeting held on 21.1.2002, under the chairmanship of Prime Minister of India, resolved to constitute a National Forest Commission (NFC) to review the working of the Forest and Wildlife sector. In pursuant of the said resolution, Government of India in the Ministry of Environment and Forests (MoEF) constituted the NFC through notification (S.O. 142E dated 7.2.2003 under the Chairmanship of Justice B.N. Kirpal (Ex-Chief Justice of India) with 6 Members, including a Member – Secretary from the MoEF.

The Commission was given the following terms of reference

1. Review and assess the existing policy and legal framework and their impact in a holistic manner from the ecological, scientific, economic, social and cultural view point.
2. Examine the current status of forest administration and the forestry institutions both on all India and State level to meet the emerging needs of the civil society.
3. Make recommendations indicating policy options for achieving sustainable forest and wildlife management and development, bio-diversity conservation and ecological security.
4. Suggest ways and means to make forest administration more effective with a view to help to achieve the above policy options.
5. Establish meaningful partnership and interface between forestry management and local communities including tribals.

1.2 Methodology

To receive the desired inputs from different stakeholders, the Commission adopted the following methodology and procedure:

Obtaining responses of the general public through public notices;

Obtaining responses from selected target groups through replies to questionnaires;

Interacting with various stakeholders including State governments, local communities, NGOs, institutions, individuals, etc., through visits to various places;

Soliciting the views of various Ministries of the Government of India; and

Organizing workshops to get inputs on specific issues.

2.1 The Report

Using the above methodology and instruments of response, as well as data available from various reports, the Commission was able to collect a considerable volume of information, data and inputs. These were analyzed fully and were utilized by the four sub-committees constituted to go into the ramifications of the five 'terms of reference' and their individual reports were subsequently used by the Drafting Committee. The

Commission has been aware that Forest and Forestry constituted a section which is interconnected with a large number of other sectors and also spans so many disciplines, that the organization of the content in a report of this nature has the risk of repeating and cross-cutting themes and making integrated recommendations in one place a truly difficult exercise. There has been an attempt to rationalize the degree to which such repetitions could be avoided.

The content is spread over 22 chapters, of which the first Chapter gives the background in which the Commission was set up, the progress of its work, consultations with various people and writing and organization of the present report. The concluding chapter (Chap-22) presents in one place all the recommendations that have been made in the other 20 chapters, in close juxtaposition with the different issues discussed therein.

2.2 Forests of India

The second chapter is on 'Forests of India', giving an overview of the forest sector, its history and present situation, statistics on forest cover, land use and classification, forest policy outlook and so on. It has been pointed out that the Joint Forest Management (JFM) concept has taken firm roots in the country since 1990, however, the pace of institutionalization of JFM has been highly uneven. The specific problems confronting the Indian forest sector, first documented in the National Forestry Action Programme, 1999 (NFAP) are reiterated in this chapter, revealing the enormity of the problem the forest sector is faced with.

2.3 Forest Policy

Chapter 3 goes into the history of national policies on forests before independence and after, also the views of past commissions and committees that had gone into Policy considerations. After the establishment of a structured forestry set up in 1864, with the appointment of the first Inspector-General of Forests, the first National Forest Policy was formulated in 1894. This Policy document discussed the principles which should underlie the management of state forests in British India. It is felt that the 1894 Forest Policy did not accord due recognition to forestry which it was entitled to and in respect of land use, it was placed only next to agriculture.

After independence, the 1894 policy was replaced by another policy - the National Forest Policy in 1952. This policy identified certain vital national needs in a system of balanced and complementary land use and also dispelled "the notion widely entertained that forestry, as such, has no intrinsic right to land but may be permitted on sufferance on residual land not required for any other purpose". The policy also set a target for proportion of forest cover, for the first time, stating that, "India, as a whole, should aim at maintaining one-third of its total land area under forest". However, even after enunciation of this new policy of 1952, things did not change materially on the ground.

A major shift was noticed when the National Commission on Agriculture, 1970 (NCA) was asked to recommend on improvement of the forestry sector. After deliberating for several years the Commission came out with a report in 1976, which has 6 chapters on 'Forestry' in its part-IX. The chapters were on Forest policy; Production and Social Forestry; Minor Forest Produce; Forest Ecology and Wildlife Management; Forest protection and law; and Forest Planning, Research and Education.

Two major recommendations were on: Institutional changes to be brought about in the management of production forestry, and man-made forests to be raised on an extensive scale with the aid of institutional financing; and the existing system of harvesting of major and minor forest produce through contractors be replaced by taking it up either directly by the State Forest Departments (SFDs), or by a network of forest

labour cooperative societies, or by a combination of the two. Both of these were in total contrast to the tradition that had prevailed for over a century and both of them directly flowed from the increasing threats to existing forests.

Based on the recommendation of the NCA, the Government of India took the following important steps:

- i) Creation of Forest Development Corporations by States for harvesting forest produce and thereby eliminating the contractor.
- ii) Establishment of the Indian Institute of Forest Management to produce managers.
- iii) Initiating the programme of social forestry on village and forest land.
- iv) Formulating a new National Forest policy in 1988.
- v) 'Forests' was shifted from the State list to the Concurrent list of the Constitution, whereby both central and state governments share legislative jurisdiction.
- vi) Creating a separate Ministry of Environment and Forests in 1984.
- vii) Ensuring people's participation through a resolution issued in 1990 for adoption of Joint Forest Management as a tool of managing forest resource.
- viii) Conferring ownership right of minor forest product to Panchayats through a Constitutional amendment, and
- ix) Enactment of the Panchayat Raj (Extension to Scheduled Areas) Act (PESA) 1996.

The new Forest Policy (1988) is a clear improvement over the Forest Policy of 1952, as for the first time "Environmental stability" was considered as the prime object and direct economic benefits were subordinated to this principal aim. Naturally, preservation, restoration of ecological balance, conservation of natural heritage and preserving the vast variety of flora and fauna, were given due importance.

Major aspects of policy consideration of a number of other commissions and committees have also been considered in this chapter.

Significantly, the NFC has stated in its recommendation that "there is no need to amend the 1988 Forest Policy", and has reiterated that one third of the country's land mass should be under tree cover.

2.4 Legal Framework

A critical review of existing laws, analysis of problems rooted in regulatory failure and legal enforcement and recommendations for addressing them, are discussed in chapter-4. The Indian Forest Act (1927), the Forest (Conservation) Act, 1980 and the Wildlife Protection Act, 1972 are discussed at some length. Some other relevant acts have also been mentioned of which two are the Environment (Protection) Act, 1986 and the Biological Diversity Act, 2002. They have a similarity in their origin, in the sense that the

first one came as a result of India's participation in the UN Conference on the Human Environment held at Stockholm in 1972, while the second one has a reference to the UN Convention on Biological Diversity at Rio de Janeiro in 1992. Another couple of Acts relating to Panchayats, namely the Panchayat Raj Act, 1992 and the Panchayat (Extension to the Scheduled Areas) Act, 1996, are important in the sense that they helped create democratic institutions (village panchayats) which, in turn, could take active part in the Joint Forest Management programme. Rules and Guidelines of forest management have also been considered in this chapter.

Amongst the recommendations are a revamping of the Indian Forest Act of 1927, taking into account the current threats and needs, giving due emphasis upon the conservation imperatives and the Act to cover grasslands, wetlands, etc., and prevention of fire, over-grazing and over-exploitation. It is recommended that the Forest (Conservation) Act of 1980 not be diluted.

2.5 Ecological Security

Under this broad heading chapter-5 of the report describes the significance of the natural areas and their ecological values and the relation of these values to human existence in India and the ways to safeguard them. The ecological imperatives of forests are immense. Water and fertile soil are the two most important prerequisites of our food security and both are irrevocably linked with forest and watershed conservation. In the relevant recommendations, the NFC has stressed that

“a well-conserved and scientifically managed forest is very efficient in ensuring ecological security”. The Commission has further emphasized that, “the main objective of forest management should be ecological security”.

2.6 Emerging Needs and Goals of Forestry Sector

This is the scope of chapter-6. The key areas of attention and discussion here are sustainable management, demand of forest products, arresting and reversing degradation, afforestation, wildlife conservation and the issue of man-animal conflict, watershed management, multi-stakeholder partnership, and valuation of ecosystem services and ecotourism.

In the context of forest management, ‘sustainable’ should imply allowing the forest to recover to its optimum level of production and biodiversity and then managing it in such a way as to maintain at all time in the future, that optimum level of production, biodiversity and ecological security.

There are discussions on livelihood needs and sustenance. There are indications to suggest that people in and around forest areas are not getting sufficient benefits from revenue generated from forests as a natural resource. This needs correction through policy interventions, under which forests are used for the livelihood needs of the forest dwelling and forest dependent people for their sustenance.

The problem of unequal demand and supply of timber and fuelwood in the country has been discussed. There is a consistent increase in demand for both. There is already a large-scale import of timber which has affected the domestic pricing pattern. Supply of both the products from non-forest areas and plantations has to be increased to meet the demand. Several suggestions have been made to meet requirements of not only timber

and fuelwood, but also some other products and services, such as grass and fodder, food from forests, medicinal plants, and increasing the forest/tree cover. The extra supply has to come from large-scale plantations, rehabilitation of degraded forests, agro-forestry, afforestation of scrub forests, homestead tree planting, strip planting along roads, canals and railway lines, urban forestry, etc.

Afforestation would need to be undertaken on almost 29 million ha of land to bring one-third of India's land under forest cover. The private sector has to be a key partner in realizing this policy goal. Private sector's stake is that the forest based industries are starved for raw material.

It has been suggested that a concerted effort be made to wean away the people from the current unsustainable practice of free grazing to stall feeding, to encourage the cultivation of medicinal plants, develop alternate sources of energy to lessen dependence on fuelwood. Attainment of self-sufficiency in forest products should be a national goal. Areas rich in floral diversity should also be brought under the PA system, and watershed management must be a high priority. A document, "Forestry Vision, 2020" should be developed with a well-defined statement of goals and visions.

2.7 Constraints and Threats

Some of the perceived deterrents and impediments to the conservation and management of forests are highlighted in chapter 7. These are burgeoning human population leading to large-scale land use change; major development projects affecting forest areas, wildlife, and village commons; market pressures leading to over extraction of both timber and non-timber produce resulting in degradation of forests; lack of conservation leadership and political will for conservation; lax implementation of legislation and policy already in place; large-scale encroachment on forest lands and regularization of such encroachments in defiance of the spirit and intention of the Forest (Conservation) Act 1980 and the National Forest Policy, 1988, delayed settlement of rights in Protected Areas; poaching and illegal trade; and lastly, forests having been chosen as a refuge by insurrectionists and terrorists, a number of critical habitats have been affected.

2.8 Forest Conservation

The chapter deals with classification of Forest Types done by Champion and Seth in 1968 and Forest Productivity under various forest types. It also describes Scientific Management through Working Plans and formulation of Working Plan Code by Government of India. Important causes of Forest Degradation such as collection of fuel wood, grazing, forest fire, shifting cultivation, encroachment, mining and quarrying etc have been described in brief. The chapter after describing plantation efforts made during various Five Year Plans and importance of Criteria and Indicators (C&I) for Sustainable Forest Management (SFM), mentions importance of Saving Neglected Areas and Habitats and Conversation Education, Awareness and Training.

Recommendations of the chapter include Fire Protection Measures to be adopted, Controlled use of Pesticides, Control of Invasive Species and Exotics, role of Media and Educational Institutes in Awareness and Training and creation of Forest Conservation Fund.

2.9 Wildlife and Nature Conservation

The Protected Area network, administration of wildlife and of ongoing projects and recommended initiatives are dealt with in Chapter – 9. In 1935, the first National Park, the Corbett National Park was created. There has been a quantum increase in the number of national parks and wildlife sanctuaries since then, especially after independence, but very little since the 1980s. There are currently 597 parks and sanctuaries in India but hardly any under the new categories of PAs created by the 2003 amendment of the Wild Life (Protection) Act, namely, Community Reserves and Conservation Reserves.

The Wildlife Wing (WW) in the MoEF, is at the top of the administrative set-up. This Wing has three Divisions namely, Project Tiger Division, Project Elephant Division, and Wildlife Division. There are also two autonomous bodies under the WW, namely, the Wildlife Institute of India, an academic body, and the Central Zoo Authority. The Wildlife Division deals with all matters relating to national parks and wildlife sanctuaries. The working of all the three Divisions has been presented in some detail, bringing out a number of issues, problems, shortcomings, and several suggestions for policy initiatives.

Among the recommended policy initiatives, the following may be mentioned: Grassland Management Policy; Livestock Grazing Policy; Fuelwood Policy; Policy for Shifting Cultivation; Policy on Controlling Poaching, illegal trade in wild flora and fauna and the infrastructure required to implement this, rationalization of PA boundaries, the need for relocation of human settlements, promoting research and monitoring; Policy on ecotourism; Mitigating man-animal conflict; Policy towards communities preserving habitats and species and creation of more Community Reserves and Conservation Reserves; conservation awareness and training; Ex-situ conservation; Restoration ecology; involvement of military and paramilitary, sustainable forest management and aid to forested States.

It is pointed out that with the amendment of the Wildlife (Protection) Act effective from 2003, wherever the acquisition of rights have already occurred, the PAs or parts thereof would be regarded as final. Whatever legal action may still remain, must be completed in a time-bound programme. It is very important to retain linkages between habitats to prevent biotic isolation. Wildlife wings need to be manned by specialized and trained staff of a sub-cadre for this purpose.

The control of exotics and the need for control of genetic “swamping” is also emphasized, as is the need to develop special recovery plans for the listed more endangered species. The development of techniques for the capture, translocation and rehabilitation of troublesome animals is discussed at some length. Neglected areas like corals, grasslands, coastal and marine areas are highlighted.

The Chapter has as many as 90 recommendations on the topics discussed and has listed certain research areas where the focus should be.

2.10 Forests of the North East

The Commission recognized the distinctive nature of problems and existence of a high proportion of forests and of biodiversity in the north-eastern of India, and as such, decided to devote a Chapter on this region.

The North-East is considered to be one of the 'hot spots' of biodiversity in the world. Conservation of this biodiversity is of great significance for the country and also for the economy of the seven States in the region. There are 39 National Parks and Wildlife sanctuaries in the region, covering an area of about 13555 sq. km which works out to 5.31% of the geographical area of the States.

The North- East stands unique in having different land tenure systems compared to the rest of India. An overview on the diverse land tenure systems that prevail in the States of the region, is given. Communities and individuals own the large majority of forests. The application of Acts of Parliament also varies from state to state, and sometimes from district to district within the same state.

Shifting cultivation (jhumming) is a conspicuous feature of agricultural practice in the region. Broad estimates indicate that out of the total area of 25.5 million ha of land, about 3 million ha is under settled agriculture and about 2.7 million ha is under jhum. Many studies and reports have condemned this practice and there have been suggestions to regulate it.

The Commission has recommended weaning away the jhoomias from shifting cultivation by improved animal husbandry, horticulture, settled agriculture, apiculture and other appropriate agricultural and pastoral practices and occupations.

In view of the different traditional land tenures and ownership rights, the Commission has recommended that the traditional rights of the north-eastern people's forest and land must be honoured. They should have the right to conserve, manage and rationally utilize their forest in an ecologically sustainable manner.

There is another recommendation, which is timely, in view of the present disturbed situation in the region. It reads as, "In forests, prone to organized or large scale violations or insurgency, special protection staff or para-military forces need be deployed to prevent illicit felling, encroachment, infiltrations, smuggling and poaching, especially on the international borders and in insurgency affected areas".

2.11 Forests, Local Communities and People's Participation

The Chapter deals with participatory management experiences; international experiences; peoples' rights and potential for participation; experience of JFM, lessons learnt and the way ahead. The Commission has strongly recommended the creation of Democratic Forest Institutions – notably the Village Forest.

Three types of forests are recognised under the Indian Forest Act 1927: Reserve forests (RF). Village forests (VF) and Protected forests (PF). The social forestry movement in the 1980s and the new National Forest Policy of 1988 signified the reversion to people oriented forestry in the country.

Forest types, productivity and potential for people's participation in relation to people's needs in terms of goods and services, have been elaborated. Experiments were made in the 1930s by handing out management of forests to people's organizations. Ultimately, the MoEF issued policy guidelines for the involvement of village communities and voluntary agencies in the regeneration of degraded forest lands in 1990, under the JFM programme. This policy guideline was in tune with the Forest Policy announced in 1988,

which shifted the focus from commerce and investment to ecological conservation and satisfying people's basic needs. The National Forest Policy of 1988 also envisaged active participation of women in the protection of forests.

International experiences in participatory forest management have been recorded. It is generally accepted that bringing the government closer to the people increases efficiency, by helping to tap the creativity and resources of local communities, by extending them the chance to participate in development.

The Commission received responses from some NGOs which uphold the need for a greater participation of the voluntary sector, involving the NGOs. They believe that this will enhance overall efficiency in the management of national natural resources.

2.12 Farm and Agroforestry

Agroforestry (AF) has received a focal attention of NFC. The simplest definition of AF is simultaneous practice of agriculture and forestry on private land. It is believed that AF is capable of meeting the present challenges of resource conservation and improvement of environmental quality. Reasons for higher protection and the tangible and intangible benefits under the AF system are discussed. Some ongoing AF research projects and AF practice in the field are mentioned. It is stressed that with forests under increasing pressure, agro-forestry is the only segment that can record growth in production in timber, fuelwood, industrial wood, fodder and grass, medicinal plants and the rest.

The NFC held a workshop on AF, where national experts were invited to deliberate, and several latent and related issues came to light. The recommendations being made by the NFC draw heavily on the suggestions made at the workshop.

The Chapter also discusses the concept and practice of social forestry which is intended to meet basic and economic needs of the rural communities

2.13 Research and Applications

The Chapter gives a brief account of forestry research, the existing institutional setup, national research needs and research areas. The Indian Council of Forestry Research and Education (ICFRE) is the apex body in this field. The ICFRE prepared a perspective plan in 2000. The National Forestry Action Programme (NFAP) of the MoEF and the Five Year Plans of the country have heavily drawn on the ICFRE plan.

The Commission has endorsed the research activities as outlined in the National Forestry Research Plan developed by the ICFRE and has listed certain research areas where the focus should be.

2.14 Forestry Institutions

The forest and wildlife resources of the country cannot be administered and managed efficiently without the support of various training and research institutes. For this purpose there exist many institutions whose role, mandate, weaknesses and requirements are reviewed in this Chapter.

The institutes considered are: Indira Gandhi National Forest Academy (IGNFA), Directorate of Forest Education (DFE), Indian Council of Forestry Research and Education (ICFRE), Indian Institute of Forest Management (IIFM), Indian Plywood

Industries Research and Training Institute (IPIRTI), Wildlife Institute of India (WII), Forest Survey of India (FSI), Forest training schools/ academies / institutes; Forest Development Corporations(FDCs) and State Forest Research institutes (only 7 States).

Several suggestions and recommendations have been made for each of these institutes. Some of them are as follows. On the appointment of faculty position, it is recommended that officers who have put in a minimum of ten years service and having a very good service record, aptitude and a competence in teaching should only be eligible for selection (IGNFA and DEF) and not on the basis of seniority. The ICFRE should be granted autonomy on the pattern of the ICAR; there is an urgent need to review the mandate of the institutes (under ICFRE) and fix research priorities; the working of the IIFM should be reviewed and the curricula of various courses suitably modified; the 'perspective plan' for the faculty must be completed on a priority basis (IIFM); the IPIRTI must have a detailed vision paper for the next 20 years; assessment of research needs of the WII should be carried out in consonance with the current wildlife strategy / action plans and policies of the Government; the WII must also devise short-term courses for various levels of forest officers, each manager of a PA should have received training at WII; the zonal establishments of the FSI should be strengthened with enough budgetary and staff support so that more periodic information on forest resources can be made available to SFDs; the MoEF must impress upon the State governments on the need to ensure that the forest training institutions are administered and managed properly and the posts are filled with willing and competent officers; the original mandate of the FDCs having been given up, and as their work could well be handled by the SFDs themselves, the FDC's mandate and work sphere needs to be recast to fulfill a new and more valid role, one being to provide fuelwood.

2.15 Forest Administration

Description and critical assessment of the present administrative structure, suggestions for recruitment, training, monitoring are covered in Chapter I5.

A historical background of the forest services, IFS and SFS, followed by an account of the evolution of forest administration, are given. Functions of forest administration are detailed as: Forest protection; silviculture, and management; survey, demarcation and working plans; harvesting, transport, processing and marketing; supervision, budgeting, policy formulation and legislation; research, training and extension; wildlife management; social forestry; joint forest management; watershed management, including soil and water conservation; and Non-wood forest product collection and marketing. All of them are explained in some detail.

The present forest administrative structure, both at the national level and state level, is detailed. There are observations also on recruitment, induction and in-service training at national and state levels.

It has been stressed that advantage should be taken of forestry education available in the universities and this also needs to be encouraged, both of which could be achieved by giving preference in recruitment of forest personnel. The shortage of staff at the field level must be overcome through recruitment in vacant posts. The area of the forest "beat" needs to be reduced.

Several suggestions and recommendations have been made on various aspects of administration. Some of them are as follows: Detailed job description for all levels including that of the ministerial staff should be documented; a separate 'Department of Forests and Wildlife' within MoEF, to ensure adequate importance and attention to management of the natural resources; for efficient administration and better coordination among the various wings of the department, it is necessary to have a single line command; forest administration suffers from poor documentation, consequently, the Institutional memory remains very much limited and weak; forestry administration is yet to fully realize the potential of information technology.

2.16 Personnel Management

Various cadres in the forest services and their management, postings, transfers and specialization are the topics of discussion in Chapter-16. It is a truism that the success of an organisation to a large extent depends on the capabilities of its personnel.

After dwelling on the cadre management practices of the IFS and SFS/ FRO officers, the report comes to a consideration of the possibility of specialization in forestry personnel. The NFC is clearly in favour of specialization and has suggested the following four broad subject areas for specialization:

- (a) Forest conservation including protection, harvesting and sale of forest produce;
- (b) Extension Forestry including plantations and nurseries, JFM grassland and watershed management, and eco-development outside reserve forest.
- (c) Wildlife Management including management of PAs and their buffers and corridors, collection of basic data, control of wildlife trade and taxidermy, implementation of international convention, etc
- (d) Research, training, working plans, technical support to agroforestry.

The Commission has recommended the formation of four sub-cadres, along the above mentioned subject specialization, by changing recruitment rules, including recruitment of personnel from outside the service and by providing complementary training and cadre management. However, a detailed and impartial study needs to be commissioned to study in detail,

- (i) Which precise work spheres should be assigned to the respective sub-cadres. .
- (ii) What should be the required strength of each sub-cadre for IFS and other cadres in the States, and
- (iii) Guidelines for the cadre management of the various sub-cadres.

2.17 Forests and Industries

The interface of industry and forests, demand of forest products, the role of industry, and attempts to involve the private sector are the topics considered in Chapter 17.

The demand from industry on forest products comes in the form of wood for industrial purposes, such as construction timber, plywood, veneer and pulpwood. Presently India is facing a severe scarcity of wood. The paper industry in particular is plagued by raw material shortage in the face of continually increasing demand. Wood-based industry is in

a peculiar position, because while 90% of wood-based products are manufactured in the private sector, 97% of the forest area is owned and managed by the government. The role that the corporate sector can play outside government forest areas is also severely restricted, as it is unable to raise large scale plantations on non-forest lands on account of statutory land ceilings.

To overcome the difficulties, there have been a number of company-farmer partnership schemes to produce timber for industry. Attempts to involve industries in the afforestation of degraded forestlands have also been discouraged. Finally, the Government has issued guidelines for participation of the private sector through involvement of NGO and Forest Department in afforestation / rehabilitation of degraded forests.

The Commission has recommended a strategy for meeting the needs of construction timber, panel, pulp paper, packaging, particle and chip board industries through quick growing high yielding plantation softwoods. This would include planned involvement of forest-based industries in the distribution of high quality seedlings, with buy-back guarantee to the farmers.

1.18 International Forest-Related Instruments

The Chapter-18 provides an overview of the international instruments on forests and related subjects, history and developments of various fora, the terms in various instruments and examples of regional agreements.

International instruments or agreements frequently contain an articulation of general principles and framework for action to address specific problems. They often call for specific national level actions, such as the adoption ,of national regulations, standards and implementation strategies. Other common provisions of such instruments include international cooperation, monitoring and reporting, research, exchange of information, dispute resolution processes and coordination among related agreements. Suggestions to better implement international commitments and which would be in the national interest have been made.

2.19 Forests in National Resource Accounting

Forests are increasingly being recognized as ‘natural capital’. The intangible services of forests, such as, recharging of ground water, regulation of stream flows, flood control, prevention of soil erosion, nutrient cycling, water purification, carbon storage, pollution control, micro-climatic functions, biodiversity, recreational, spiritual, and aesthetic values are grossly underestimated, or ignored, both in the system of national accounting as also during development planning.

There are now several tools, or techniques available for a far more complete computation of different values to be placed on biodiversity and ecosystem services.

Some of these techniques, including the Satellite System of Environmental and Economic Accounting (SEEA) suggested by the UN Statistical Division in 1993, the Forest Resource Accounting etc. are discussed. Also, several studies on forest valuation and resources accounting in India are considered and problems faced in the creation and operation of FRA are brought out, such as – valuation problems, capital output ratio, problem of double counting, problem of aggregation, data gaps, etc.

The Commission has recommended that, “A national level coordination committee for FRA should be constituted to provide technical support and strengthening networking of concerned institutions /agencies, with a view to promote use of FRA at all levels (National / State / local)...” There are in all four recommendations on FRA.

2.20 Center-State Relation

Initially, the subject of ‘forests’ was kept in the state list of the Indian Constitution. However, realizing the importance of the subject from the national perspective, it was subsequently transferred to the concurrent list by the Constitution (Forty-second Amendment) Act 1976.

To settle some of the ‘ambiguous situations’ arising out of center-state relations, the Government of India has constituted a Commission under the chairmanship of Justice Sarkaria. One of the recommendations of the Sarkaria Commission is that before legislating on a subject in the concurrent list, the Union government should consult the states. In this context, the case of a pending bill in the parliament, namely, the ‘Scheduled Tribes (Recognition of Forest Rights) Bill, 2005’, has been discussed in some detail. It has been pointed out that prior consultation with the states, as per the Sarkaria Commission recommendation, has not been done in this case and there are several flaws in the bill e.g. unfair discrimination between tribals and non-tribals, giving implicit permission to the tribals to exploit forests for commercial purposes and giving the concerned Gram Sabha the sole authority to decide as to what exploitation would be unsustainable. The Commission has recommended the proposed legislation should not apply to national parks and sanctuaries, which are the last hope for the survival of the nation’s forests, wildlife, wilderness and biodiversity and that giving temporary pattas in these protected areas will seal their fate. It is pointed out that 3.60 lakh ha of encroached forestland has already been “settled” and if there are still and just demands, they could be looked into by a quasi-judicial body. It is also pointed out that the provision of non-eviction of an encroacher from forest land till his claims are settled by the Gram Sabha will give further impetus to encroachment. The letter written by the chairman of the NFC to the Prime Minister discussing why the Commission feels the proposed Bill would be harmful to forests and the ecological security of the country, is reproduced.

The National Forest Policy of 1988 aims at maintaining 33% of the geographical area of the country under forest/tree cover. There are some States which have forest area much more than the targeted 33%, while there are other States with much less area under forest/tree cover. The forest-rich States have started claiming compensation for maintaining the higher level of forests or else the State should be free to fell their forest.

In dealing with the above-mentioned ambiguities(?), the NFC has brought into focus a basic consideration or guiding principle which has been articulated as the first recommendation of the chapter. It reads as, “While fulfillment of requirements of the community from adjoining forests cannot be denied, the fact remains that the “forests” are a national wealth and their protection and preservation must be viewed from that angle and not only from regional, sectoral, ethnic or political standpoints”.

On the compensation claim of the forest-rich States, the recommendation is, “Forest rich States, which are having forest/tree cover more than the target fixed in the National Forest Policy, 1988, should be provided special incentives to maintain that area under

forest/tree cover, but their demand for compensation cannot be acceded.” There is one recommendation for the forest deficient States also, which reads as, “Forest deficient States should be provided incentives to increase their forest/tree cover, but the content and approach of this incentive should of course be different.”

There are eight more recommendations in the chapter, which are, in a way, further amplification of the NFC’s disapproval of the proposed Scheduled Tribes (Recognition of Forest Rights) Act and on the nature of incentives to be given to forest-rich and forest-deficient States.

2.21 Financial Support

Chapter 21 opens with a picture of outlay in the forestry sector in the successive five-year plans. In the first plan (1951-56) the outlay was Rs. 76 crores and in the 9th Plan (1997-2002), the amount had gone up to Rs. 68,000 crores, which was 0.90 % of the total plan outlay. Fund allocation by the states is also considered. Considering the National Forestry Action Plan (NFAP) investment estimates, the present level of plan outlay is inadequate.

The Commission has recommended that the allocation to the forestry sector must be increased, both in Central and State budgets, and must not be less than 2% of the total plan outlay. It also recommends that 20% funds of all the Rural Development Programmes should be incurred on forestry and watershed operations.

It is also recommended that before accepting funds from donors and lending agencies, the state governments must provide these funds as an additionality and not as a substitution of their own outlays and they must be prepared to continue with the additional fund flow and the infrastructure created by such projects and not simply end them once the funding projects end.

2.22 Implementation and Aftermath

This chapter briefly lays down the Commission’s expectations on the future course in view of its recommendations. A follow-up mechanism has been recommended. For the future of the forest sector, the Commission feels periodic reviews as by this Commission would be in order.

List of Abbreviations

ACF – Assistant Conservator of Forests
ACR – Annual Confidential Report
ADB – Asian Development Bank.
AF – Agroforestry
AFM – Advanced Forest Management
AFP – Agroforestry Practice
AHDC - Autonomous Hill District Councils .
AIS – All India Service
AS - Accounting Standards
ASEAN - -Association of South East Asian Nations
B Sc – Bachelor of Science.
B-I Process – Bhopal-India Process
BILT – Ballarpur Industries Ltd.
BNHS – Bombay Natural History Society.
BOG – Board of Governors
BSA – Benefit -Sharing Arrangement.
BSF – Border Security Force
BVEERI – Bhartiya Vidyapeeth Environmental Education and Research Institute
C & I – Criteria and Indicators
CBD - Convention on Biological Diversity.
CBEC Central Board of Excise and Customs
CBI – Central Bureau of Investigation
CBTC – Cane and Bamboo Technology Center
CCF - Chief Conservator of Forest
CCMB - Centre for Cellular and Molecular Biology
CDM - Clean Development Mechanism.
CEE – Centre for Environmental Education
CEO – Chief Executive Officer
CEP - Centre for Environment Protection
CF – Conservator of Forest
CFM - Community Forest Management
CGIAR - Consultative Group on International Agricultural Research.
CICI 2003 - International Conference on the Contribution of Criteria and Indicators for Sustainable Forest Management
CIDA – Canadian International Development Agency
CIFOR - Centre for International Forestry Research.
CII – Confederation of Indian Industries
CISF – Central Industrial Security Force
CITES – Convention on International Trade in Endangered Species of Wild Flora and Fauna
CMS - Convention on Migration Species of Wild Animals
COFO - Committee on Forestry

COP- Conference of Parties
 CPF - Collaborative Partnership on Forests
 CR – Confidential Report
 CrPC – Criminal Procedure Code
 CRPF – Central Reserve Police Force
 CSD - Commission on Sustainable Development.
 CSIR - Council for Scientific and Industrial Research
 CSO – Central Statistical Organization.
 CSS – Central Staffing Scheme
 cu. m –cubic metre
 CWLW – Chief Wildlife Warden
 CZA - Central Zoo Authority
 DANIDA – Danish International Development Agency
 DCF – Deputy Conservator of Forests
 DFE –Director, Forest Education (14.3); Directorate of Forest Education
 DFI - Democratic Forestry Institutions
 DFID –Department for International Development, UK
 DFO –Divisional Forest Officer
 DG –Director General
 DGF – Director General of Forests
 DGF&SS – Director General of Forests and Special Secretary
 DIET – District Institute for Education and Training
 DMCs - Developing Member Countries .
 DR – Deputy Ranger
 DRDA - District Rural Development Agency
 e.g. - For example
 EAP – Externally Aided Project
 EC - Executive Committee
 ECAFE – Economic Commission for Asia and the Far East
 ECOSOC -Economic and Social Council
 EDC – Eco-Development Committee.
 EEC – European Economic Community .
 EIA – Environmental Impact Assessment
 EPA –Environment Protection Act
 EPC - Environment Protection Committee
 ESA- Ecologically Sensitive Areas
 ESCAP – Economic and Social Commission for Asia and the Pacific
 EXIM policy - Export Import policy
 FAO – Food and Agriculture Organization of the United Nations
 FC Act – Forest (Conservation) Act
 FCA – Forest (Conservation) Act
 FD - Forest Department
 FDA - Forest Development Agency
 FDC – Forest Development Corporation
 FDES - Framework for the Development of Environmental Statistics
 FG – Forest Guard

FIPPI Federation on Indian Plywood and Panels Industries
 FLEG – Forest Law Enforcement and Governance.
 FMIS – Forest Management Information System
 FMS – Forest Management Standards
 FMU – Forest Management Unit
 FPC – Forest Protection Committee
 FPC/EDC – Forest Protection Committee/Eco-development Committee
 FR – Forest Ranger
 FRA - Forest Resources Assessment.; Forest Resources Accounting.
 FRI - Forest Research Institute
 FRLHT – Foundation for Revitalization of Local Health Traditions
 FRO- Forest Range Officer
 FSI – Forest Survey of India
 FUG – Forest User Group
 G8 countries - Canada, France, Germany, Italy, Japan, the Russian Federation, the Russian Federation, the United Kingdom and the United States
 GDP - Gross Domestic Product
 GEF - Global Environment Facility
 GFRA Global Forest Resource Assessment
 GIS – Geographical Information System
 GNP –Gross National Product
 GOI – Government of India
 GPA - Global Programme of Action for the Protection of the Marine Environment from Land-based Sources of Pollution.
 GPS – Global Positioning System
 GSDP – Gross State Domestic Product
 ha – hectare/s
 HPFD -Himachal Pradesh Forest Department.
 HRD – Human Resource Development.
 HRMS - Hill Resource Management Schools
 HR-NIT – Human Rights Network of Indigenous Tribal Peoples
 IAS – Indian Administrative Service
 IBA – Important Bird Areas
 IBRD - International Bank for Reconstruction and Development
 ICAR - Indian Council of Agricultural Research
 ICFRE – Indian Council of Forestry Research and Education
 ICRAF - International Centre for Research in Agroforestry
 ICSID - International Centre for Settlement of Investment Disputes.
 IDA - International Development Association.
 IEEA - Integrated Environmental and Economic Accounting
 IEG – Institute of Economic Growth
 IFA – Indian Forest Act
 IFC - International Finance Corporation.
 IFF – International Forum on Forests
 IFRI - Imperial Forest Research Institute.
 IFS – Indian Forest Service

IG – Inspector General
 IGF – Inspector General of Forests
 IGNFA – Indira Gandhi National Forest Academy
 IIED - International Institute for Environment and Development.
 IIFM – Indian Institute of Forest Management
 IPC – Indian Penal Code
 IPCC – Intergovernmental Panel on Climate Change
 IPF – International Protocol on Forests
 IPIRTI – Indian Plywood Industries Research and Training Institute
 IPMRA – Indian Plywood Manufacturers Research Association
 IPS – Indian Police Service
 IRDP -Integrated Rural Development Programme
 IT – Information Technology
 ITBP – Indo-Tibetan Border Police
 ITC – Indian Tobacco Company
 ITTA - International Tropical Timber Agreement
 ITTO - International Tropical Timber Organization
 IVRI – Indian Veterinary Research Institute
 IWDP - Integrated Wastelands Development Project Scheme
 JBIC – Japanese Bank for International Cooperation
 JCIC - JFM Coordination and Implementation Committees
 JFM - Joint Forest Management
 JFMC - Joint Forest Management Committee
 JFMDA – Joint Forest Management and Development Agency
 JPOI- Johannesburg Plan of Implementation
 JRY – Jawahar Rojgar Yojana
 km – kilometre/s
 KVIC – Khadi and Village Industries Commission
 LaCONES – Laboratory for Culture of Endangered Species
 LBSNAA- Lal Bahadur Shastri National Academy of Administration
 LFCC - Low Forest Cover Countries
 LPG – Liquid Petroleum Gas
 LTM - Legitimacy” Thresholds Model.
 LULUCF - Land Use, Land Use Change and Forestry.
 LVC – Local Village Community
 m – metre/s
 M Sc – Master of Science
 MAB - Man and Biosphere..
 MAI – Mean Annual increment
 MBBS – Bachelor of Medicine and Bachelor of Surgery.
 MC – Management Committee
 MCPFE Ministerial Conference for the Protection of Forests in Europe
 MD – Managing Director
 MDG - Millennium Development Goals.
 MFP – Minor forest produce.
 MHA - Ministry of Home Affairs

MIKE - Monitoring of Illegal Killing of Elephants
 MLR & LR Act - The Manipur Land Revenue and Land Reforms (MLR & LR) Act.
 mm - millimetre
 MoEF - Ministry of Environment and Forests
 MoTA - Ministry of Tribal Affairs.
 MoU – Memorandum of Understanding
 MT – Metric Tonne
 NAC – National Advisory Council
 NAEB – National Afforestation and Eco-Development Board
 NAP - National Afforestation Programme
 NBSAP –National Biodiversity Strategy and Action Plan
 NCA - National Commission on Agriculture
 NCT – National Capital Territory
 NDP - Net Domestic Product .
 NEC - The North-Eastern Council
 NEHU – North Eastern Hill University
 NEPED - Nagaland Environment Protection and Economic Development
 NFAP – National Forestry Action Plan
 NFC - National Forest Commission
 NFP - National Forest Policy; National Forest Programmes.
 NFRP - National Forestry Research Plan
 NFVM – National Forest Vegetation Map
 NGOs – Non-government Organizations
 NIRD – National Institute of Rural Development
 NP - National Parks
 NPV - Net Present Value
 NRA - National Resource Accounting ; Natural Resource Accounting
 NREP – National Rural Employment Programme
 NTFP – Non-Timber Forest Products
 NWAP – National Wildlife Action Plan.
 NWDB – National Wastelands Development Board
 NWFP – Non-Wood Forest Products
 PA – Protected Areas
 PCCF- Principal Chief Conservator of Forests
 PCCF(WP) – Principal Chief Conservator of Forests (Working Plan)
 PESA Act – Panchayat (Extension and Schedule Area) Act
 PF- Protected Forests
 PFS – Provincial Forest Service
 PhD – Doctor of Philosophy
 PPP - Public Private Partnership
 PRI_- Panchayati Raj Institutions.
 PV - Present Value
 R & D – Research and Development.
 RAW –Research and Analysis Wing
 RCNAEB –Regional Centre, National Afforestation and Eco-development Board
 Retd. -Retired

RF -Reserve Forests
 RFA- Recorded Forest Area.
 RFO- Range Forest Officer
 RFRI – Regional Forest Research Institute
 RLEGP – Rural Landless Employment Generation Programme
 RO – Range Officer
 SAARC – South Asian Association of Regional Cooperation
 SACEP - South Asia Cooperative Environment Programme.
 SBSTA - Subsidiary Body for Scientific and Technical Advice.
 SC/ST – Scheduled Castes/ Scheduled Tribes.
 SCERT – State Council of Educational Research and Training
 SEEA - Satellite System of Integrated Environmental and Economic Accounting.
 SENRIC - South Asia Environment and Natural Resources Information Centre.
 SFD – State Forest Department
 SFM - Sustainable Forest Management
 SFR – State of Forest Report
 SFRI – State Forest Research Institute
 SFS – State Forest Service
 Sh. – Shri
 SIDA – Swedish International Development Agency
 SNA – system of national accounts
 SPSC – State Public Service Commission
 SWEET - Sloping Watershed and Environment Engineering Technology.
 TB – Tuberculosis
 TBOS - Tree-Borne Oil Seed.
 TED - Turtle Excluder Device
 TERI – The Energy and Resources Institute
 TFD - The Forests Dialogue.
 TGCS - Tree Growers Co-operative Societies.
 TOF - Tree Growing Outside Forests.
 TOR - Terms of Reference
 UF – Unclassed Forest.
 UK – United Kingdom.
 UN – United Nations
 UNCCD - United Nations Convention to Combat Desertification.
 UNCED – UN Conference on Environment and Development
 UNCLOS - United Nations Convention on the Law of the Sea.
 UNCTAD - United Nations Conference on Trade and Development
 UNDP – United Nations Development Programme
 UNEP – United Nations Environment Programme
 UNESCO – United Nations Educational, Scientific and Cultural Organisation.
 UNFCCC - United Nations Framework Convention on Climate Change.
 UNFF – United Nations Forum on Forests
 UPSC – Union Public Service Commission.
 US – United States.
 USAID –United States Agency for International Development .

UT – Union Territory
VF - Village Forest
VFC –Village Forest Committee
VFCS - Village Forest Cooperative Societies .
VIKSAT –Vikram Sarabhai Centre for Development Interaction
VIP – Very Important Person.
VP - Van Panchayat.
VPd - Van Parishad
VS - Van Samiti
VSS - Van Samrakshan Samities
WBCSD - World Business Council for Sustainable Development.
WCMC –World Conservation Monitoring Centre
WEN - Wildlife Enforcement Network
WII- Wildlife Institute of India
WLP Act - Wild Life (Protection) Act, 1972
WLS - Wild Life Sanctuaries
WRI – World Resources Institute .
WSSD - World Summit on Sustainable Development .
WTO - World Trade Organization .
WWF – World Wide Fund for Nature
yr – year

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Annexure 1

Details of the Meetings of National Forest Commission

	Date	Justice B.N. Kirpal	DG *	Prof. J. S. Singh	Shri Chand Prasad Bhatt	Dr. M.K. Ranjitsinh	Shri A. P. Muthuswami	MS & ADG(F) #
1	21.02.03	√	√	√	√	-	√	√
2	07.04.03	√	√	√	√	√	√	√
3	13.5.03	√	-	√	√	√	√	√
4	30.7.03	√	√	-	√	√	√	-
5	08.9.03	√	√	-	√	√	√	-
6	14.10.03	√	-	-	√	√	√	-
7	19.11.03	√	√	-	√	√	√	-
8	22.12.03	√	√	-	√	√	√	-
9	22.1.04	√	√	√	√	√	√	-
10	26.2.04	√	√	-	√	√	√	√
11	10.4.04	√	√	-	√	√	√	√
12	24.5.04	√	-	√	√	-	-	√
13	28.6.04	√	√	-	√	√	√	√
14	1.8.04	√	√	√	√	√	√	-
15	31.8.04	√	√	-	√	√	√	-
16	24.9.04	√	√	√	√	√	√	-
17	18.10.04	√	√	√	√	-	-	-
18	2.12.04	√	√	-	√	-	√	-
19	11.1.05	√	√	√	√	√	-	√
20	22.2.05	√	√	-	√	√	√	√
21	3.4.05	√	√	√	√	√	√	√
22	16.7.05	-	-	√	√	√	√	√
23	12.9.05	√	√	√	√	√	√	√
24	2.10.05	√	√	√	√	√	√	√
25	14.11.05	√	√	√	-	√	√	√
26	16.12.05	√	√	-	√	√	√	√
27	17.01.06	√	-	-	√	√	√	√
28	03.02.06	√	√	√	√	√	√	-
29	28.02.06	√	√	√	√	√	√	√

* Post of DG(F) and SS was held by

- (i) Mr. M.K. Sharma from 7/2/03 to 30/6/03
- (ii) Mr. N.K. Joshi from 1/7/03 to 31/5/05
- (iii) Mr. J.C. Kala from 12/8/05 to 31/03/06

Following Officers functioned as Member Secretary (MS)

- (i) Mr. N.K Joshi from 2/7/03 to 30/06/03
- (ii) Mr. N.K Joshi from 1/7/03 to 29/02/04 (in addition to being DF(F))
- (iii) Mr. S.S. Patnik from 20/02/04 to 30/06/04
- (iv) Mr. N.K. Joshi from 01/07/04 to 22/12/04 (in addition to being DF(F))
- (v) Mr. G.K. Prasad from 23/12/04 to 31/03/06

Annexure II
NATIONAL FOREST COMMISSION
PUBLIC NOTICE

Under the Chairmanship of Hon. the Prime Minister of India, the Indian Board for Wild Life in its meeting held on 21st January 2002 recommended that a Forest Commission should be set up to look into re-structuring, reform and strengthening the entire forest set up and affiliated institutions in the country .

Pursuant thereto by Resolution dated 7th February, 2003 the National Forest Commission has been established having Hon. Justice B. N. Kirpal, Former Chief Justice of India, as its chairman. As per the Resolution the forests have a direct role in poverty eradication and sustainable development which have a bearing on the economic and social development, protection of environment and conservation of biological resources. There is a need for sound and efficient management of forests on a long-term basis and at the same time, the demand of wood for commercial and industrial purposes through agro forestry and plantations has to be met. In addition thereto, there was an increase in demand for medicinal plants. The fringe areas of national parks and wild life sanctuaries harbor many people whose participation and involvement in the management of such areas may be indispensable and the communities/people with gender equity is vital for the sustenance and conservation of forests. There are also a very large number of people who are partly or wholly dependent on the forests. Keeping also in mind the desire of the central government that there should be an increase in the forest and tree cover to 25 per cent by 2007 and 33 per cent by 2012, the following five terms of reference have been made to the commission.

TERMS OF REFERENCE OF THE COMMISSION

1. Review and assess the existing policy and legal framework and their impact in a holistic manner from the ecological, economic, social and cultural viewpoint.
2. Examine the current status of forest administration and the forestry institutions both at all India and state level to meet the emerging needs of the civil society.
3. Make recommendations indicating specific policy options for achieving sustainable forest and wildlife management and ecological security.
4. Suggest ways and means to make forest administration more effective with a view to help to achieve the above policy options.
5. Establish meaningful partnership and interface between forestry management and local communities including tribal.

General notice is hereby given to the stake holders and others, whether they be public representatives, Governments or their functionaries, corporations, education and research institutes, non-governmental organizations, representatives of industries or of village level organizations, any expert researcher, academician, foresters, interested citizens, tribal or a forest dweller, to send a communication to the Commission indicating its interest or desire to interact with the commission. They may also offer their views or comments on all or any of the five terms of reference in writing.

The communications should be sent to the undersigned, if possible, in English or Hindi or major regional language at the address noted below so as to reach the commission by 25th July 2003.

JUSTICE B.N. KIRPAL
CHAIRMAN
NATIONAL FOREST COMMISSION
CAMP OFFICE, 64, JOR BAGH, NEW DELHI -110 003
Fax No. 91-11-24615050, 24615252
E-mail: bnkirpal@vsnl.net
davp 6701/4/2003

Annexure III

QUESTIONNAIRE FOR STAKE - HOLDERS

NATIONAL FOREST COMMISSION

THE TERMS OF REFERENCE OF THE COMMISSION

1. Review and assess the existing policy and legal framework and their impact in a holistic manner from the ecological, economic, scientific, economic, social and cultural viewpoint.
2. Examine the current status of forest administration and the forestry institutions both at all India and State level to meet the emerging needs of the civil society.
3. Make recommendations indicating specific policy options for achieving sustainable forest and wildlife management and development, bio-diversity conservation and ecological security.
4. Suggest ways and means to make forest administration more effective with a view to help to achieve the above policy options.
5. Establish meaningful partnership and interface between forestry management and local communities including tribal.

A. PARTICULARS OF STAKEHOLDERS

1. Name of Respondent:
2. Designation (If holding any post in the organization represented)
3. Sex [Tick mark the appropriate box] M F

4. Mailing Address

House No.	Place	P.O.
District	State	Pin Code
Telephone [O]	Telephone [R]	Fax

5. e-mail Address
6. Category of the Respondent [Mark the appropriate box]:

- | | | |
|--------------------------------------|--------------------------|-----------------------|
| Public representative: | <input type="checkbox"/> | Post held: |
| Central Ministry: | <input type="checkbox"/> | Name of Ministry |
| State Government: | <input type="checkbox"/> | Name of State Govt. |
| Forest Corporation | <input type="checkbox"/> | Name of Forest Corpn. |
| Representative of Association/Union: | <input type="checkbox"/> | Name of Association: |
| Education/Research Institute: | <input type="checkbox"/> | Name of Institute |

19. Do you think that the forestry sector gets sufficient fund to support forestry activities? [Mark the appropriate box]
- Yes Partly yes No
 Can't say anything
20. If your answer is not "Yes" then please indicate various ways by which adequate resources could be mobilized to support forestry activities in the country.
21. Do you think that the forestry sector has effective mechanism to monitor and evaluate forest policies? [Mark the appropriate box]
- Yes Partly yes No Can't say anything
22. From ecological, economic, social and cultural point of view what, in your opinion, has been the impact of the existing forest policies of the Government and their implementation?
23. Do you think the forest department of your State is able to implement the forest policies effectively, if not that what are your suggestions?
24. Is the current forest policy promoting development and extension of new technology adequately?
25. Do you think that corporate or private sector should have a role to play in the development of forests, if so in what way?
26. Should non-forest activity be permitted in forest area? If yes then which type can be permitted and what steps should be taken so as to ensure increase in forest cover and preservation of biodiversity.
27. What steps should be taken to control illicit felling of trees and encroachments in the forest area?
28. To what extent and in what manner and in which forest should the felling of trees be, if at all, permitted?
29. To what extent the Joint Forest Management Programme has been successful and what improvements are needed to make it more successful?
30. What has been your opinion about contribution of villagers for conservation of forests?

31. Do you think that there should be a change in the existing forest policies of the Government? If yes then what changes should be there so that the forest cover increases to 25 per cent by 2007 and 33 per cent by 2012 while keeping in mind the applicability of the principle of sustainable development?
32. Do you have any other suggestion to make on policy framework and implementation, if yes, please enumerate.

C. LEGAL FRAMEWORK

33. In your opinion what is the level of legal awareness in the country, especially among forest dweller? [√ Mark the appropriate box]
- Very high High Low Very low
- Can't say anything
34. If your answer is not “very high” or “high” then please suggest steps that Government should take to increase legal awareness.
35. What is your opinion about Forest Laws/Rules? [√ Mark the appropriate]

Name of law	Doesn't require change	Minor changes required	Major changes required	Can't say
India/State Forest Act 1927/xx				
Wildlife Protection Act, 1972				
Forest Conservation Act, 1980				
Environment Protection Act, 1986				
Regulations on felling of trees on private land				
Transit of Forest Produce Rules				
Others				

36. If you have suggested changes in the Forest Law/Rules then give your suggestion for the changes you would like to be made in them [Name the law first and then suggest changes in each of them] Add additional pages, if necessary.

Name of the Law	Changes suggested		
	Number	Suggested change	Reasoning for suggestions

37. Do you think that Forest Laws are strong enough to deter offenders? [√ Mark the appropriate box]

Yes
 Partly yes
 No
 You have a mixed reaction
 Can't say anything

38. If your answer is not "Yes" then please suggest which laws should be amended? Also briefly mention the amendments to be made.

39. Are forest laws in conflict with the human rights or fundamental rights? [√ Mark the appropriate box]

Yes
 Partly yes
 No
 Can't say anything

40. If your answer is not "NO" then please suggest measures that should be taken to make them congruent.

41. Do you have any other suggestion to make a legal framework, if yes ,please enumerate.

D. WILD LIFE

42. Do you agree that shrinkage of the habitat of wild animals has given rise to man - animal conflict? [√ Mark the appropriate box]

Yes
 No

43. Do you know that the policy of the Government to establish wildlife national parks and sanctuaries is not only to provide habitat and protection to wild animals but it also ensures collect and regulate water flow, biodiversity, genetic resources and ecology? [✓ Mark the appropriate box]

Yes

No

44. What are your suggestions for the policy of national parks and sanctuaries [Name any five below]

1.

2.

3.

4.

5.

45. What are your suggestions for providing adequate protection to wild animals, plants and water? [Name any five below]

1.

2.

3.

4.

5.

46. What is the role, which can be played by the tribal and the local communities leaving and around the forest sanctuaries and national parks in the preservation, development and protection of biodiversity, ecology, wild life, water resources and water biodiversity and forest?

47. Are you aware of existence of communities who preserves and conserve sacred groves, wildlife and natural habitat. Is there any need to give protection and encouragement to such efforts?

48. What are your suggestions for man animals conflicts like damage to life and property by elephants, panthers, wild pigs ,Neelgai and monkeys in particular [Name any five below]

1.

2.

3.

4.

5.

49. Do you have any other suggestion on wildlife, if yes, please enumerate.

E. CURRENT STATUS OF FOREST ADMINISTRATION

50. What is your opinion about the forest administration? Are they able to meet the needs of the civil society and conservation of forests and wildlife. (✓ Mark the appropriate)

[a] It has been successful

[b] It has partly been successful

[c] It has not been successful

60. Are you satisfied with the pace of development of new products, processes and technologies in forestry sector in the country? (✓ Mark the appropriate box.)
- Yes Partly Yes No You have a mixed reaction
- Can't say anything
61. If your answer is not 'yes', then please suggest various steps you think should be taken to promote faster development of new products, processes and technologies in forestry sector.
62. Is there any shortage of trained manpower in the forestry sector? (✓ Mark the appropriate box.)
- Yes Partly Yes No You have a mixed reaction
- Can't say anything
63. If your answer is not 'yes', then please suggest various steps you think should be taken to fill this gap.
64. You may be aware that the State Forest Departments in the last decade have tried to involve people in the management of forests by constituting committees such as Forest Protection Committee (FPC), Village forest committee (VFC), Eco-development Committee (EDC), Van Panchayat, etc. What is your opinion about the working of these committees? (✓ Mark the appropriate box.)

Type of committee	Your opinion				
	Working very effectively	Working effectively	Just satisfactory	Not satisfactory	Totally ineffective
VFC					
FPC					
EDC					
VP					

65. Has involvement of people in the forest management led to empowerment of the communities? (✓ Mark the appropriate box.)
- Yes Partly Yes No You have a mixed reaction.
- Can't say anything.

66. Do you think that the forestry sector through participatory approach can significantly contribute in ensuring livelihood security of the people living in and around forests? (✓ Mark the appropriate box.)
- Yes PartlyYes No You have a mixed reaction
- Can't say anything.
67. In your opinion, what steps should be taken to increase the contribution of the forestry sector in livelihoods of the people living in and around forests?
68. In your opinion, what steps should be taken to ensure livelihood security of the people living in and around forest
69. Do the JFM framework provides for well-defined role for the NGOs? (✓ Mark the appropriate box)
- Yes Partly yes No Can't say
70. Has there been increase in income generation of the people through their involvement in Forest Management (✓ the appropriate)
- Yes Partly yes No Can't say
71. Has there been increase in the availability of forest produce to .the people through their involvement in Forest Management (✓ the appropriate)
- Yes Partly yes No Can't say
72. In what sphere or areas do you feel that there is need for research and development for solving recurring problems relating to forest conservation and management e.g. Sal borer, exotic weeds, drying of Sissoo, forest fires etc.
73. What do you think about the present research and management activities for the development of fuel wood, fodder, bamboo, medicinal plants and other non-wood forest products for their increased and sustained availability?
74. Do you think that the JFM approach can significantly contribute to the sustainability of livelihoods of the people living in and around forests? (✓ Mark the appropriate box.)
- Yes Partly yes No Can't say
75. If your answer is 'yes' then please suggest various steps that forest department should take to make livelihoods of the people living in and around forests sustainable.

76. Has there been an increase in forest cover in your constituency? (✓ Mark the appropriate box)
- Yes No Can't say
77. If forest cover in your area has not increased in the last 10 years, then enumerate five reasons for this (Please write down below)
78. In your opinion, what steps should be taken to increase the forest cover and achieve the target of 25% by 2007 and 33% by 2012 (enumerate 5 steps below)
79. How can the participation of tribal and other people help in implementing the Government forest policies and assist in increasing the forest cover (enumerate 5 steps below)
80. Does policy provide enough encouragement to the private sector to invest in forestry sector (plantation/forest based industry)? (✓ Mark the appropriate box.)
- Yes PartlyYes No You have a mixed reaction
- Can't say anything.
81. If your answer is not 'yes' then please suggest various steps you think should be taken to promote private investment in forestry sector.
82. Does policy provide enough encouragement to the private sector to develop & extent new technology? (✓ Mark the appropriate box.)
- Yes PartlyYes No You have a mixed reaction
- Can't say anything.
83. If your answer is not 'yes' then please suggest various steps you think should be taken to promote involvement of private sector in development and extension of new technology.
84. If your answer is 'No' than please indicate the part of the policy that has not been translated into rules and regulations?
85. Do you have any other suggestions on training institutions. If yes, please enumerate.

Annexure IV

List of Documents Compiled by the National Forest Commission

1. Analysis of Responses to the Public Notice of the National Forest Commission
2. Report on the Descriptive Responses to Questionnaires
3. Report of the Sub-committee Constituted to Report on TOR I
4. Report of the Sub-committee Constituted to Report on TOR II & IV
5. Report of the Sub-committee Constituted to Report on TOR III
6. Report of the Sub-committee Constituted to Report on TOR V
7. Interaction with Stakeholders Report I - Dehradun
8. Interaction with Stakeholders Report II - Bangalore
9. Interaction with Stakeholders Report III - Bhopal
10. Interaction with Stakeholders Report IV - Mumbai
11. Interaction with Stakeholders Report V - Ahmedabad
12. Interaction with Stakeholders (Industry) Report VI - New Delhi
13. Interaction with Stakeholders Report VII - New Delhi
14. Interaction with Stakeholders Report VIII - Guwahati
15. Interaction with Stakeholders Report IX - New Delhi
16. Interaction with Stakeholders Report X - New Delhi
17. Interaction with Stakeholders Report XI - Hyderabad
18. Interaction with Stakeholders (Tribals) Report XII: Report by Shri Chandi Prasad Bhatt after a visit to the Tribal Areas of Orissa and Andhra Pradesh
19. Proceedings of the NFC Workshop on 'Agroforestry: The Role of Forest and Agriculture Departments'
20. Proceedings of the NFC Workshop on 'JFM: Successes, Failures and Safeguard

Annexure V

Dissent Note by Shri J.C.Kala, DGF&SS and Ex- Officio member, Shri A.P. Muthuswamy -Member, Shri Chandi Prasad Bhatt -Member and Shri G.K. Prasad –Ex-Officio Member

The recommendations No. 75, 137, 307, 308, 309 and 310 have suggested separate sub cadres for coastal and marine biodiversity conservation (Recommendation No. 75), for wildlife management (137, 307, 308, 309 and 310).

Recommendation No. 75

The areas related to coastal and marine bio-diversity conservation are being dealt by the respective state forest department. There is no need for separate sub-cadre rather these subjects should be completely transferred to the forestry sector.

Recommendation No. 137, 307, 308, 309 and 310

A need for separate sub-cadre to deal with wildlife and protected areas is neither justified nor practical because around 70% of the wildlife exists outside the parks and sanctuaries and is being managed by territorial DFOs and their field staff. The creation of sub-cadre will be detrimental for conservation and preservation of wildlife as sub-cadre will lead to administrative and managerial conflicts.

The creation of sub-cadre in IFS is neither required nor desirable. Creation of sub-cadre within a service will lead to fragmentation of service and is bound to create conflict. The objective can be achieved by career planning with greater emphasis on taking up specialization along with appropriate transfer and posting policy.

Once the recruitments are made as per the recruitment rules, distinguishing them on the basis of their background will be unjustified. The training programme for the IFS is carefully designed taking into account varied background of the recruits.

All these recommendations are strongly contested as these are more of a personal opinion of a few individuals and not substantiated by ground reality figures or any authentic data. Making this a basis for setting up of specialized cadre is certainly neither correct nor desirable in the overall management of Forests and Wildlife.