

## Chapter 11

# Forests, Local Communities and Peoples' Participation

### *11.1 Tenure and Administration of Forests vis-à-vis People's Rights*

#### **11.1.1 Area under the Control of Forest Department**

Legally, forests occur on lands controlled by government and communities, organizations or individuals. Of the forests on lands controlled by government, a very large percentage is on lands under the Forest Department control today. It has been the general principle that those areas which are notified under the Indian Forest Act are put under management control of Forest Department. During the entire British period larger forest areas were under management control of the Revenue Department and ownership control of princely States and intermediary tenure holders (e.g. zamindars in the Permanent Settlement areas of the Bengal Presidency and Madras Presidency). Again the general principle was that such government forests which required higher degree of management control, either for the purpose of conservancy or commerce, were brought under the Indian Forest Act and given to the Forest Department, which managed these mainly as per European forestry standards of regulated and cyclic system of regeneration and cutting. During the British period the policy of clearing of forestlands for the purpose of settlement for agriculture also continued, but the Forest Department controlled forests were usually not disturbed. It was only such forests under the management control of Revenue Department that were freely used for conversion into agricultural lands. Government revenue consideration was the basis on which such decisions were taken by the local Revenue District Collectors and Divisional Commissioners. Similarly, forests on intermediary tenure holders' (e.g. zamindari) lands and princely States also suffered. Loss of forests and reduced forest productivity of these areas also meant curtailment of usufructory benefits to the local tenants, who started protesting in many cases. Many of these areas witnessed large number of organized and unorganized protests mainly directed against the intermediary tenure holders and their sovereign, the British Crown. The incessant hostilities of the local people forced the British to enact tenancy laws to protect the rights of the tenants, many times separating the areas for use by tenure holders and general public (raiyat) respectively. After merger of princely States in the Indian Union and vesting of intermediary tenures in the States following land reform legislations in post-independent India, especially during the 1950s, the extent of forestlands under the management control of Forest Department suddenly grew manifold (Table 11.1) . The sudden increase caused enormous pressure on the forestry establishment then, as the level of resources required for demarcation, consolidation and drawing of management plan for the new forests, both in terms of human and financial resources, far outstripped the capacity available to forest departments during 1950s. The forest and revenue departments were also confronted with the fact that the intermediary tenure holders were bitterly opposed to land reforms. Finding that abolition of intermediary tenure had become a fait-accompli, these tenure holders prompted large scale felling of forests for the purpose of earning profit through sale of trees, mining, etc., and by illegally selling as much forestland in the name of previously settled agricultural land. There was another problem associated with the

abolition of intermediary tenures. The unsettled common lands with the intermediary tenure holders first passed on to the Revenue Department and then to the Forest Department. However, in large number of cases the transfer of management control and notification of the land as forests created ambiguous tenures as the Revenue Department did not exclude the respective land from their records. As a result, same areas continued to be treated as notified forests by the State Forest Department (SFD) and common revenue land by the State Revenue Departments. Following land distribution to the landless, or settlement of encroachment, or transfer of land for non-forest use by Revenue Department, such ambiguous tenures created serious problems in the field. One of such significant case is that of the Orange Areas in Madhya Pradesh and Chhattisgarh

**Table 11.1 Change in the Recorded Forest Area  
(between 1951 and 2001)**

Year	Recorded Forests(in million ha)
1951	71.80
1961	68.96
1971	74.83
1981	75.00
1991	77.00
2001	76.84

Source: *State of Forest Report, 2003*. Dehradun, FSI.

### 11.1.2 Qualitative Change in Forest Cover

For the above reasons, and also because of policies which promoted extension of agriculture into new areas including forests and the establishment of large public sector infrastructural projects in the Nehru era, while the area under the management control of Forest Department was increasing, the actual forest cover was receding very fast in the country. Besides loss of forest area due to legal or illegal use of forestland for agricultural and industrial development purposes, degradation in terms of quality of forests also occurred because of a host of factors including exponentially increasing biotic pressure. India in the 2003 assessment had 5.13 million ha of forests with over 70 per cent crown density, 33.93 million ha with 40 to 70 per cent density, 28.78 million ha With 10 to 40 per cent crown cover and 4.03 million ha of scrub area.

**Table 11.2: Changes in Dense Forest Cover in India**

Year	Dense Forest Cover (million ha)
1972-75	46.72
1980-82	36.14
1985-87	37.85
1987-89	38.50
1989-91	38.56
1991-93	38.58
1995-97	36.73
1997-99	36.72

2000-01	41.68
2001-03	39.05

Source: *Forest Statistics India – 2000 and State of Forest Report 2001 and 2003*

### **11.1.3 Legal Classification and People’s Rights in Forests**

Three types of forests are recognized under the Indian Forest Act: Reserve Forests (RF), Village Forests (VF) and Protected Forests (PF) under chapters II, III and IV of the Indian Forest Act, 1927, respectively. Village forests are those RFs which are assigned to the village communities for management. This leads to two conclusions: first, that RFs and PFs are to be managed by the government (Forest Department), and second, that legally speaking there are only two types of notified forests, RF and PF. As per the scheme of reservation of forests under chapters II and IV, the procedures under the former (i.e. one related to RF) are fairly elaborate and oriented towards higher levels of conservancy and government control. In popular parlance, nothing is an offence in PF unless it is specifically prohibited, whereas nothing is allowed in RF unless specifically permitted. The general principle during the British period was that those areas which are farther from the habitations and over which the local population has least dependence be notified as RF, while nearby forest areas over which local people have high dependence for their day-to-day subsistence needs be notified as PF. The Management Plans which flowed from this principle, broadly conformed to two streams - commercial management of RFs (e.g. for production of large timber) and subsistence management of PFs (e.g. for production of small wood, firewood, etc., for the local right-holders). Combined together, these principles and practices led to the near exclusion of people from the RF areas while the quality of forests in PFs deteriorated rapidly. Such broad conclusions also led to the belief that reservation of forests as RFs is the key to improvement, and therefore, many State Forest Departments (SFDs) vigorously pursued re-reservation of PFs and UFs as RF under Chapter II of the Indian Forest Act. The writing of the Management Plans heavily came under the influence of this shift – more and more Forest Working Plans since early 1970s started replacing “Community Working Circle” with the phrase “Coppice Working Circle”, even for PFs closer to habitations. Thus, while the rights of the people over the forest produce did not change in legal sense, there was a significant shift in the framework for enlisting participation of local people in general management and harvesting of the assigned areas. Partly, such shift also occurred because of the revenue orientation of the Government at that time. Such shift also meant that the progress in notifying more areas as Village Forests for assignment to the local village communities for management also got hindered significantly. Only Kumaon and Garhwal region of the then Uttar Pradesh continued with the system of Van Panchayat areas notified as Village Forests. At the macro-level, these disparate managerial and attitudinal changes together snowballed in greater dissociation of local people from forests, which started turning into open access regimes because the SFDs had no wherewithal to guard entire forest patches on a continuous basis. The situation reached its zenith in the 1980s when it was realized that people’s participation is essential to conservation of forests. 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.

### **11.2 People’s Needs: Goods and Services from the Forests**

In formal terms, the Gross Domestic Product (GDP) contribution from forestry and logging in India was 1.1 per cent in 2001, versus 20.7 per cent from primary agriculture, almost a 20-fold difference. The share of the Indian GDP for both sectors has declined slightly in current and constant (1993=100) terms from 1982. However, the percentage drop in forestry and logging, GDP contributions is almost double the rate for agriculture. Across selected States, forestry and logging account for between 0.48 and 2.97 per cent of GDP at current values. The strict definition of GDP underestimates the total economic value of forests in India. More importantly, those informal economic activities that dominate the livelihoods of the rural poor are hardly captured in any economic assessment at the national or State level. For example, subsistence non-timber forest produce (NTFP), fuelwood, and vital local and distant ecological service functions such as farm nutrition and irrigation, disease and storm protection, maintenance of aquifers and hydrology of the area, carbon sequestration, aesthetic values, soil stability on steep slopes, etc., even though occurring at enormous scales, are hardly ever measured, let alone included in the GDP assessment. If one only makes a guess estimate of the fuelwood trade alone at conservative price, its annual turnover is around Rs. 76,500 crores (US\$17 billion, @ Rs. 45 = US\$1) and is a source of livelihood for over 11 million people, making it the largest employer (formal and informal) in the Indian energy sector. Estimates have been made for ecotourism and carbon sequestration in forest areas, which increases the national GDP share from forests from 1.07 to 2.4 per cent. But even adding these values and considering non-market fuelwood and NTFPs, the share of forestry GDP will still remain far below that of agriculture, and this scenario is likely to remain unchanged unless the projected 29 million ha of lands outside Recorded Forest Area (RFA) is covered with trees to meet the National Forest Policy goal of one-third forest and tree cover in the country.

Apart from formal and informal contributions of the forestry sector to GDP, clear distinction needs to be maintained regarding the use value of forests vis-à-vis needs of the people based on location. While the importance of forests to the ecological and economic sustainability at the national level has been well emphasized in various policy documents, these do not fully capture the criticality of forests to the local people's livelihoods. In the following paragraphs, it is intended to highlight those local livelihoods links between forests and the local people.

### **11.2.1 Food Security**

Food security is the outcome of complex interactions among natural resource management, and political, social, and economic factors. Forests, as an important element within this matrix, affects food security in three major areas:

#### **11.2.1.1 Agriculture and Fisheries**

Forests help maintain favourable and stable conditions needed for sustained agricultural productivity. Moisture and nutrient leaching from the adjoining forests maintain the fertility of the agriculture fields. It is common in forest regions of the Eastern India plateau (Northern Orissa, Jharkhand, and Eastern Chhattisgarh) for farmers to desist from the use of chemical fertilizers. Thus, many farmers leave their fields up to 500m from a moderately dense forest to be fed entirely from moisture and nutrient from the forests and save the precious cow dung to fertilize more distant fields. Preliminary analysis of the land holding pattern in the tribal areas of Jharkhand has also revealed that the most dominant khunt

(lineage) of a village also owns those agricultural lands which directly feed from moisture and nutrient flow from the forests. Over the years local communities have developed sophisticated indigenous techniques to augment and harvest forest-based moisture and nutrient flow. Raised bunds on forest boundaries along the contours are common in the Eastern India plateau. Further, in recent years a cash rich economy has developed in many forest areas when farmers found out that fields at the foot of the forested hills are best suited for potato cultivation, as these have accumulated rich potash deposit that has leached down from the up-hill forests.

Windbreaks and shelterbelts protect crops from drying and damaging winds. Local people fully appreciate the importance of forests in disease control and prevention of epidemic outbreak related to agriculture crops. Local villagers in forested regions appreciate the role of avifauna in the control of rodent and insect pests. Forests also serve as the chief source of tree fodder for feeding livestock. Of growing importance is the role forests play as storehouses of biodiversity, potentially very important in future crop breeding and pest and disease management programmes.

Forests also have significant links with inland and marine fisheries. Rivers and streams are rich fishing grounds for local populations. Forests regulate the volume and fluctuations of stream flows and provide a shaded riparian environment favourable for the development of smaller life forms which fish feed on. Villagers in the forest region of the Eastern India plateau know that the water flowing from bamboo forests has high nutrient capacity and is able to support larger volumes and healthy population of edible aquatic fauna (fish, crab, mussel, snail, etc.). The mangrove swamps in southern India provide habitats for many fish species, especially shrimps. The fish catch from these areas not only enrich protein-deficient diets and generates household income, but also help maintain/ enrich local level social capital when the whole village gathers to celebrate community fish harvesting festivals based on the principles of strict equality in sharing of the catch.

#### **11.2.1.2 Forest Foods**

Forest foods are important for the local villagers during both stress and normal periods, and the use of forest foods as a component of local response strategies to increasing food insecurity is widely documented. In normal times, leafy vegetables, mushroom, berries and fruits available in different seasons form the usual component of their diet. Having a diverse resource base with a range of different trees, plants and insect species, forests increase the options for maintaining food security. Different seasonal products complement each other with seasonally different pattern of availability. For example, in the Eastern and Central Indian tribal forests leafy vegetables and fruits provide essential vitamins and minerals as dietary supplements during March – May. An year long-longitudinal survey in 24 villages of Jharkhand and Orissa indicated that 90% households in the sample villages in Jharkhand collected on an average seven leafy vegetables from forests on a regular basis during this period. Similarly, wild fruits are very rich in Vitamin A and C. For example, mango is rich in  $\beta$ -carotene which is a precursor of Vitamin A. It has been found in a study of a mango orchard area of Andhra Pradesh that wild mango eaten during the summer season provided enough Vitamin A stored for the whole year. This study also pointed out that in one such mango growing area, Vitamin A deficiency reduced from 42% in 1985 to 21% in 1990. In dry land farming areas of North India, *Zizyphus spp.* fruits are a good source of food complement between February and April.

Rainy season collection of wild food typically exemplified a high protein diet – mushrooms, ants, fish, snails, etc. Bamboo shoot provides the much needed carbohydrate energy to replenish the immediately preceding food scarce summer season in almost all tribal forested regions of India, particularly in the North-East and the East. Moreover, the forest food have a definite pro-poor bias. Women and children are the largest consumers, followed by the elderly. In the wake of social customs forcing rural women to eat at the end, and at times only the left over and poor portions of the cooked meal, such harvests do help women regain some nutrition.

During the periods of acute food shortage, e.g. during the famine periods, forest foods sustain livelihoods. In the Bihar famine during 1965-66 severely affected villages were found to be eating a lot of wild vegetable leaves. Collection of genthi-kanda (*Dioscorea spp.*) is common in the drought prone forest areas of Palamau and Singhbhum Districts of Jharkhand. Similar observations have been made in drought and famine situations in Africa and Asia.

### **11.2.1.3 Potable Water**

The filtering capacity of the rich humus on the forest floor is critical for maintenance of many potable water sources in the country. The criticality of the contribution of forests in this respect increases in view of the fact that a large percentage of the villages in the forested region of the country still depend on traditional water sources (artesian wells, small streams, etc.). There are numerous instances now in the country, where local people have started regenerating and protecting forest patches to generate water, making clear preferences regarding species that could retain more water (e.g. oaks in Western Himalaya, Ficus, jamun, sal, etc., in Central and Eastern India.). Water quality is also an important aspect of forests' relation with potable water. Water coming from bamboo forests is supposedly sweeter and softer, and hence requires less energy for domestic cooking, than the water coming from sal forests.

### **11.2.2 Cash Income from Non-Timber Forest Products**

Cash income from forests, especially non-timber forest products (NTFPs) provides the buying power to purchase food when agriculture is not practiced or when crops fail. A study illustrated that up to 23 NTFP items were traded in rural weekly markets in Northern Orissa, and up to 20 items in the weekly markets in Jharkhand. The study also revealed that the average annual income per household from sale of NTFPs (excluding Kendu patta, which was the major revenue earner) in Orissa villages was Rs. 726, while in the Jharkhand villages it was Rs. 934. In terms of share of total household income, the income from sale of NTFPs varied from an average 1% in certain villages to 48%, with an overall average of around 19%. The study also noted that given the fact that the study period coincided with a low-flowering/ fruiting year for tamarind and mahua, these incomes were at best highly conservative. Additional incomes from Kendu patta, collection was average Rs. 471 per household per season in the Orissa sample. Indeed, in terms of share of total annual household incomes these might not appear highly attractive in the first instance. But a closer look reveals that since they come at a time when income from regular sources is negligible, NTFP incomes is an important factor of earnings for the poor.

### **11.2.3 Timber**

A preliminary examination of the demand-supply situation of timber and fuelwood in the country presents a very alarming picture. The total demand of timber in India was estimated at 64 million m<sup>3</sup> in 1996, which was estimated to rise to 73 and 82 million m<sup>3</sup> in the years 2001 and 2006 respectively. For timber, the supplies from natural forests have been limited following the 1988 National Forest Policy which discourages harvesting of natural stands for commercial plantations, and the 1996 order of the Honorable Supreme Court in Civil Writ Petition no. 202/ 1995 (TN Godavarman and others versus Union of India and others) requiring approval of the Working Plans of forests prior to its harvest. Thus, only 12 million of a total demand of 64 million m<sup>3</sup> timber was estimated to come from forests, while nearly 31 million m<sup>3</sup> was estimated as coming from farm forestry and other woodlots. Although import of timber, mainly from Malaysia, Myanmar, Indonesia and Nigeria has increased manifold during this period, partly due to a highly favourable import tariff (only 5% for logs), most of the balance of 21 million m<sup>3</sup> was estimated to be unrecorded removal from plantations and natural forests. Given the fact that most forests and woodlots of the country are producing far below their potential, the situation calls not only for direct measures for enhancing forest productivity but also an immediate re-look at the indirect measures (e.g. tariff structures) to protect the domestic growers both in forests and community woodlots. This is also necessary, in turn, for achieving the goal of one-third forest and tree cover in the country. Indeed, in successful JFM areas of Jharkhand and south West Bengal, the coppice sal forests have been able to regenerate quickly and reach marketable pole stage in less than eight years while the stocking densities are also quite high (> up to 3000 stems per ha, against the normal density of about 1600 stems per ha at that age). This has resulted in large marketable surplus for the JFM villages.

### **11.2.4 Fodder**

In India, the fodder for animals comes from five sources:

- 1 Crop residues;
- 2 Fodder grown on grasslands, grazing on grasslands and uncultivated marginal lands;
- 3 Grazing on fields which are lying fallow during the dry season;
- 4 Fodder produced from trees and from forest areas generally; and
- 5 Grain and other high quality feed. This is a small proportion of the total.

A good portion of the land needed for grazing in India comes under the classification as "forests and woodland". The "forests" in India meet about 30 per cent of fodder requirements mostly through provision of grazing facilities in forests. This large extent of grazing, which is much more than the sustainable capacity of the forests, adversely affects forest and the conditions in which forests reside. The cattle, on the other hand, provide social and economic benefits, mostly to the poorer section of society.

### **11.2.5 Fuelwood**

Fuelwood is a major source of energy in rural as well as urban India. Annual consumption in the country as a whole is estimated at 220-300 million tonnes, worth some US\$ 9

billion, and this amount is increasing. At present, fuelwood accounts for 20-30 per cent of all energy used in India, and more than 90 per cent of this is in the domestic sector. In addition, in the rural areas, between 1978–79 and 1992–93, the share of fuelwood in the total energy consumption increased from 54.57 to 61.60 per cent, although the share of non-commercial fuels went down from 94 to 92 per cent. This should cause concern, for more wood means more collection, leading to an acceleration in the diminution of tree cover. Referring to the high dependence of the Indian population on wood-based energy, it has been predicted that firewood would continue to be used as it is (a) the least expensive fuel; (b) consistent with cultural patterns and living habits; (c) socially acceptable; (d) responsive to low inputs and low maintenance, etc.

### **11.2.6 Needs of the Urban Population**

While the strongest role for forestry lies in the rural context and poverty is predominantly a rural phenomenon, a substantial proportion of urban households continue to draw on the plant and animal products of forests to meet some part of their basic needs, such as construction, energy, nutrition and medicine. While the contribution of forest products will decrease as the income levels of urban households increase, many low-income families will continue to depend on wood for fuel. And for the growing numbers living in slum and marginalised communities in urban areas, gathering fuelwood may continue to be one of the few options open to them to generate income. The importance of forests to the urban poor is demonstrated by evidence that an increase in urban poverty temporarily increases demand for low cost forest products.

The other link between urban communities and forests that deserves consideration is the influence of urban markets on traded forest goods. Expanding and growing forest product activities are more likely to be found where per capita incomes are rising, and there is a growing demand from markets. In addition, forests also provide certain services like tourism and recreation which are used primarily by the urban population. Forests also provide ecological and environmental services of regional national and global importance. These include watershed protection, acting as a sink filter for air pollution emissions, carbon sequestration and conservation of biodiversity.

### ***11.3 Past Experiences with Decentralized Forest Management***

Recent theories of natural resource management tell us that certain kinds of decentralized institutional arrangements lead to positive outcomes. These include: democratization and participation, rural development, public service performance, poverty alleviation, relief of fiscal crisis, political and macro-economic stability, and national unity and state building . The process of decentralization, though, is not straightforward. Many countries have experimented in various ways, yet the process has hardly been complete in any. In many instances, these processes started with participatory processes whereby local people are mobilized to participate in local forest management and/ or development. India has also experienced a similar evolutionary process of decentralization of forest resources. The field conditions might have been highly conducive in case of India as the rights of the local people in forests have been fairly well recorded. Discussions in Chapter 2 of this Report have revealed that there was indeed an appreciation of the people's role in forestry management since quite early – and that is why the Indian Forest Act recognized different categories of forests depending upon the needs and capacities of the forest dependent



population. Somehow, this appreciation started getting blurred in the post 1960 phase when revenue generation concerns started reigning supreme in State priorities. Thus, a number of useful experiments, e.g. the transfer of forests to the local Panchayats in Latehar and Ranchi subdivisions of Chotanagpur in Bihar (now Jharkhand) and Chengleput District of Madras (now Tamil Nadu). to the local forest cooperatives in Kangra in Punjab (now Himachal Pradesh), to Van Panchayats in the Kumaon hills in Uttar Pradesh (now Uttaranchal) were relegated to being non-entities, and actual forest control was wrested back from them. Pressure from international donors and the wide spread failure of total control and command mode of forest management in checking large scale deforestation and forest degradation in the country, led to the adoption of more participatory approaches. Thus, the 1970s and 1980s saw the birth of the social forestry movement in the country, which gradually matured into joint forest management by the 1990s. This chapter traces those moves towards participatory management and decentralization in the country.

### **11.3.1 Forest Cooperative Societies**

#### **11.3.1.1 Introduction**

By the early 1930s, the Government realized that coping with rapid deforestation is a major challenge if agencies other than government are also not involved. Various Commissions/ Committees were appointed during the 1930s to look into this issue, and the majority of them recommended formal involvement of villagers by handing out management of forests to peoples' organizations. Realizing the importance of trees in rural transformation and hence to encourage afforestation on a massive scale, the Government of India introduced social forestry and wasteland management as an integral part of the rural development programme in the country. To give a boost to the programme, the National Wastelands Development Board was set up in 1985. The Board was given the mandate of undertaking development of wastelands through a massive programme of afforestation and tree planting with people's participation. In the first meeting of the National Land Use and Wasteland Development Council held in February 1986, the Tree Growers Co-operative Societies (TGCS) were identified as an important mechanism to organize people's movement in the wastelands development programme.

#### **11.3.1.2 Past Experience – the Kangra Forest Cooperative Society**

The idea of constituting co-operative societies was the result of a resolution passed in the Forest Officers Conference held in 1935 in Madras (now Chennai), in which the policy of management of unprotected forests was proposed to be reshaped in such a manner that this protection was ensured. The Punjab Government, therefore, appointed the Garbert Commission in 1937 to go into the matter in detail. The Commission recommended handing over the management of unprotected forests to the panchayats. The Punjab Government accepted the recommendations in 1938, with the modification that instead of handing over the management to panchayats, cooperative societies were made responsible. In 1939, the Village Forest Cooperative Societies (VFCs) were organized and a full-fledged division, viz. Kangra Village Forest Division was created. In 1941, the first such society was registered as the Behnala Forest Cooperative Society. Unlike later initiatives

in the same area, these societies were authorized to manage forests on all types of lands, not just degraded forestlands notified under the Indian Forest Act, 1927. By 1954, a total of 72 such societies were registered. By 1971, it was clear that there were structural problems in the operations of these societies. Indeed, there were islands of success in regeneration of such cooperative forests, yet by 1973 it was clear that the roles, rights and responsibilities of the cooperatives and the frontline staff of the SFD (the newly formed Himachal Pradesh Forest Department) overlapped to a large extent. Further, the Department wanted some important amendments in the bye-laws of the cooperatives which were not agreed to by the Cooperative Department and the forest cooperative societies of Kangra. Finally, in 1973 the scheme did not receive further extension, although in 1975 the Himachal Pradesh Government issued rules for the payment of grants-in-aid to the societies (totaling approximately 33.77 lakh) with the recommendation that the scheme be extended up to 1977-78. Various attempts have been made thereafter to formally revive the societies, the last being the constitution of a Subcommittee of Conservator of Forests, Dharmashala and Additional Registrar, Cooperative Societies, Himachal Pradesh in 1996. The Subcommittee had submitted its report to the Administrative Department on 20-10-1997, and the report was to be placed before the Committee chaired by the Forest Minister, Government of Himachal Pradesh. Further progress is pending. The general milieu of utter confusion, and lack of trust between the cooperatives and the Himachal Pradesh Forest Department (HPFD), has finally led to a state that the HPFD describes as “suspended animation”, where the societies believe that they are alive and active and that the State has wrongfully sought to unilaterally appropriate the basis of their right and existence.

#### **11.3.1.3 Other Forest Cooperatives**

The Dhebar Commission in 1966 had recommended that the State Governments should organize Cooperative Finance and Development Corporations on the model of the Andhra Scheduled Tribes Cooperative Finance and Development Corporation, with such modifications as circumstances may require, with a view to consolidate and develop the economy of the tribals, particularly in relation to purchase of minor forest produce, supply of requirements of the members, processing and grading of forest produce for the benefit of the tribals, discharge prior debts and to act as an agent of the government for procurement, supply and distribution of agricultural and other produce. The programme should cover all the tribal areas by primary cooperatives, which should function as agents of the Central Institution. The participation of women in cooperative societies was stressed by the Rita Verma Committee which stated that women NTFP producers’ cooperatives and other groups with membership restricted to actual producers should be promoted and provided organizational and technical support for taking up collective marketing in both JFM and non-JFM areas through developing their own co-operative marketing federations. These should be based on genuine Cooperative Principles defined by the International Cooperative Alliance instead of the present bureaucracy controlled co-operatives.

#### **11.3.1.4 Issues**

Though, the Kangra forest cooperative initiative was good in its intentions, it had serious shortcomings:

- 6 The right to membership to these societies was limited to those who were Mamla paying landholders according to settlement. Non-right holders could become members but were not entitled to share the income. Since “Mamla” was the basis for income sharing from the society, large landowners gained at the expense of the poor, and the non-agriculturists and village artisans were almost deprived.
- 7 The management of the societies was entrusted to a few large landowners mostly of higher caste, thereby alienating the majority lower caste households from forest management/protection.
- 8 Women participation was non-existent as the men own the lands and, thus, became members of the societies.
- 9 There was no mechanism to elicit broad-based support for the societies in the villages – decisions were taken by an elite few.
- 10 Societies were fully dependent upon the Forest Department for the preparation of management / working plan of the forests.
- 11 Similarly, experiences from tree growing and marketing cooperatives have revealed the following reasons for the lack of their success:-
  - Lack of cooperative discipline among members
  - Absence of credible leadership
  - Absence of credible and efficient marketing system
  - Lack of appropriate technical support
  - Absence of demonstrable success

### **11.3.2 Village Forests**

#### **11.3.2.1 Experiences from Uttarakhand**

##### **History and Evolution of Van Panchayats**

The concept of Van Panchayat (VP) evolved with the Trails Revenue Settlements, popularly known as Saal Assi Bandobast conducted in 1823. According to this, the boundaries of forest and wastelands were demarcated for individual villages within which every villager enjoyed the rights of pasture and woodcutting. The first Indian Forest Act came into existence in 1864 under which the Kumaon Forest Department was formed. Following the promulgation of the 1878 Indian Forest Act about 72,520 ha of land in Kumaon was declared as Reserved Forests, and in 1910 this forest area was transferred from the Revenue Department to the Forest Department. These developments were considered improper by the people of Kumaon, who revolted against them. Therefore, in 1921, the then Uttar Pradesh Government constituted a Committee known as the Kumaon Forests Grievances Committee that recommended reclassification of forests. According to the Committee’s recommendations, the Uttar Pradesh hill forests were divided into two categories - Class I and Class II. Under Class I Forests, provision was made to form VPs. Class II forests were under the direct control of the Forest Department. Subsequently, some VPs were formed into Class II forests also. The VPs could exercise the power of a

Forest Officer within the area notified under the Kumaon Panchayat Forest Rules, 1931.

The Panchayat Forest Rules have been amended from time to time – major amendments having been made in 1972, 1976 and recently in the year 2001 respectively.

The first Van Panchayat was constituted in 1926. Only 237 Van Panchayats could be constituted by 1940. By 2000, this figure had reached up to 6,440, which is approximately 20% of the total villages in Uttaranchal (31,008) and about 44% of the total revenue villages in the state (14,636). Considering the historical importance and success of the Van Panchayats, a campaign to constitute them in all the 14,636 revenue villages is being carried out in the State. Till July 2004, the process has been completed in 11,540 villages, while it is underway in the remaining 985 villages.

### **Relationship with Local Government**

The institution of Van Panchayats was started at the local level by the villagers to protect the forest falling in the boundary of their village. It was initiated as a subset of the Gram Panchayat, wherein the Gram Panchayat responsibility was to look after the overall welfare and development of the village and the Van Panchayats' role was the management and protection of the forest. The functions of both the institutions are defined and each work for the betterment of the people. In situation of any conflict, the issue is mutually resolved.

### **Relationship with Administration**

The Uttaranchal Panchayati Forest Rules, 2001 proposes a strict administrative control over the Van Panchayats. The Van Panchayats are guided and controlled by the district administration, right from the demarcation of forest boundary to its day-to-day functioning. In the district, the Deputy Commissioner exercises control over Van Panchayats through the Sub-Divisional magistrate. Van Panchayats Inspector is the link between the administration and the Van Panchayat. Due permission is required to be taken from the district authorities for carrying out any development in the panchayati forest.

### **Relationship with Forest Department and Gram Panchayats**

Van Panchayats are required to prepare a micro-plan for five years and an annual implementation plan for the management and protection of the forest. In doing so, the Van Panchayat is assisted by the Forest Department officials who provide technical support to the Van Panchayats. The Divisional Forest Officer is the technical head over Van Panchayats in a district. Day-to-day technical support is provided by the Range Officer/Forester.

The 73<sup>rd</sup> Amendment of the Constitution has made it obligatory for a three-tier structure of local government in the form of Gram Panchayat, Block Panchayat and Zilla Panchayat, respectively, at the group of village level, Block level and district level. The Eleventh Schedule of the Constitution lists the subject on which the State Governments could delegate responsibilities to the Panchayati Raj Institutions at the appropriate level. There are four such subjects in the Eleventh Schedule, which distinctly relate to forests: watershed development (Sl. No. 3), social forestry and farm forestry (Sl. No. 6), minor forest produce (Sl. No. 7) and fuelwood and fodder (Sl. No. 12). Management of forests as such has not been explicitly mentioned in the Eleventh Schedule, though it is also argued that Panchayats by virtue of their power related to minor forest produce, fuelwood

and fodder, and overall economic development of the village, automatically become custodians of the forests too. Such an argument is also based on the contention that the intention of the 73rd Constitutional Amendment is to make Panchayats sovereign bodies, and any framework which creates/ retains institutions that are parallel to the Panchayats in terms of power, authority and responsibility would undermine the spirit of the Constitutional Amendment. Thus, the proponents of this view argue that all such natural resource management committees/ groups/ bodies (especially, Joint Forest Management Committees, Watershed User Groups/ Associations, etc including the Van Panchayats) should become part of, and subservient to, the Panchayati Raj Institutions (PRIs) at the appropriate level. In some States, such provisions have already been made in the State Panchayati Raj Act. The NFC held detailed discussions on this topic. It was observed that the experience of the Panchayati Raj Institutions vis-à-vis natural resource management varies significantly across different regions/ States in the country. In some places, useful synergy could be developed, but in most other places the PRIs have not shown much interest in investing their resources for forest conservation. Secondly, the Van Panchayats as well as the JFM Committees' membership is based on the principle of use right over a particular forest, which may not be so for all members of the concerned Gram Panchayat. Some hamlets within a Gram Sabha or some villages in the Gram Panchayat may not be interested/ involved in investment in forest management at all, leading to a situation where non-interested parties could become decision makers thereby causing potential village level conflicts and disintegration of people's participation. Third, the experiment of both Van Panchayat and Joint Forest Management has so far been successful in so much as regeneration of forests is concerned. If this has been so, it might not be appropriate to place these bodies under the control of parallel people's institution. Fourth, representation in PRIs at the Panchayat level is based on elections contested on the basis of political affiliation. Control of village forestry institutions by persons of political affiliations may lead to factionalizing the village people.

#### **11.3.2.2 Village Forests in Orissa**

Section 30 and 32 of the Orissa Forest Act of 1972 deal with Village Forests, with a rider that on assignment of any Reserved Forest as Village Forest, an equivalent area should be declared as Reserved Forest. Orissa has an old history of voluntary forest protection by the village communities, which in some cases dates back to the 1930s. These initiatives were mainly related to revenue forests, which occur as small patches of 50 -100 ha interspersed amongst the agricultural fields. Obviously, the main objective of protection was to restore/ maintain the ecology – checking soil erosion of nearby agricultural fields, etc. These were the gramya jungle (Village Forests) created by the feudatory states in the pre-independence day for the exclusive use by village communities to meet their day-to-day needs. Villagers' substantial community rights in these forests, coupled with weak SFD presence, led to villagers' initiative in protecting and managing the gramya jungles. Partly taking on from the experiences of such gramya jungles in revenue forests and partly due to the overall spread of voluntary forest protection in the State, the Orissa Government issued a resolution in 1996 that allowed forest areas under villagers' protection to be declared as Village Forests by the SFD, granting villagers rights to manage all NTFPs within them. For various reasons, though, the policy remained

unimplemented. A Committee was set up by the SFD to recommend how best to operationalise the 1996 resolution. The Committee recommended:

A beginning should be made by declaring Protected Forests as Village Forests, while seeking legal opinion on converting Reserve Forests to Village Forests, at least 5 villages per forest division should be declared as Village Forests, and forestry field staff should be given clear operational guidelines for implementation of the 1996 resolution.

The recommendations of the Committee were not followed, as these did not conform to the dominant JFM ideology of the SFD and also due to the controversy created by the fact that the Orissa Gram Panchayat Act, 1965 has vested the management of Gramya Jungles (treated as Protected Forests) within revenue village boundaries, to the Gram Panchayats. The 73rd Constitutional Amendment and the PESA Act, 1996, as these mandated the local PRIs to manage natural resources, further confounded the situation.

### **11.3.3 Anchal and Village Forest Reserves of Arunachal Pradesh**

The Arunachal Pradesh Anchal Forest Reserve (Constitution and Maintenance) Act, 1975 and the 1984 Amendment provide that the State Government may constitute any land (other than RF) at the disposal of the Government as “Anchal Forest Reserve” or “Village Forest Reserve” in the manner provided in Chapter II of the Assam Forest Regulations, for the constitution of Reserved Forests. The management of the forests is undertaken by the Forest Departments, but the net revenue from the management of Anchal Reserve is shared with the Anchal Samity and the Zilla Parishad, and the revenue from the Village Reserve with the Village Panchayat, up to a limit of 50%.

#### **11.3.3.1 Village Forest Reserves of Mizoram**

Three classes of Village Forest Reserves are recognized under section 12 of the Mizoram Forest Act, 1955, read with section 28 of the Indian Forest Act, 1927: (a) Village Safety Reserve, (b) Village Supply Reserve, and (c) Protected Forest Reserve. While in Village Safety Reserve and Protected Forest Reserve no tree can be felled except with the permission of the State Government, the Village Council may dispose the dead trees therein. In Village Supply Reserves, any person resident in the village may cut trees and bamboo for his own household needs.

## ***11.4 Joint Forest Management***

### **11.4.1 Background**

The Ministry of Environment and Forests, Government of India issued policy guidelines for the involvement of village communities and voluntary agencies in the regeneration of degraded forestlands on 1 June 1990 under the JFM (Joint Forest Management) programme. This resolution was in tune with the Forest Policy announced in 1988, which was fundamentally different from the two of the previous policies in the sense that it aimed to shift the focus from commerce and investment to ecological conservation and satisfying people’s basic needs. It forged a new path as for the first time it specified assured benefits to the protecting communities over forestlands. In addition, the Ministry of Environment and Forests, in view of the recommendations of the “Standing Committee on JFM”, issued supporting circulars dated 21 February 2000 and 24 December 2002 for strengthening the JFM programme in the country. In the field, the constitution of JFM committees and assigning forests to them for management purposes is undertaken under the respective

State Government resolutions/ orders. All 28 State Governments and Andaman and Nicobar Islands have adopted JFM by July 2005. Currently, it is estimated that 21.43 million ha forestlands are being managed under the JFM programme, through around 99 thousand committees in 28 states.

#### **11.4.2 Committees under JFM**

The State Governments' resolutions/ orders make provisions for broadly three kinds of committees, i.e. committees for protection of well-stocked forests, committees for rehabilitating degraded forests, and committees for participatory biodiversity conservation in and around PAs (National Parks, Sanctuaries, etc.). The latter are usually called Eco-Development Committees (EDC), and stand at a slightly different footing in the sense that sharing of forest produce, which is the basis of JFM in other areas, is not followed for EDCs in view of the restrictions imposed upon removal of any forest produce from the PA areas. For remaining committees (i.e. other than those constituted for PAs), the JFM framework of the States/ Union Territories provides for the access to forestlands as well as usufruct benefits to committee members. The main role of the JFM committee (JFMCs) involves protecting the regenerating forests from being further degraded by activities such as grazing and encroachment. Interestingly, no two States have implemented JFM in exactly the same fashion in terms of devolution of rights and responsibilities to the JFMCs, powers to the FPCs as well as in benefit sharing arrangements under JFM. In most states, JFMCs are registered with the SFD only. These are registered societies under the Societies Registration Act 1860 in Haryana and as cooperatives in Gujarat. In Uttar Pradesh, VFCs have been recognized as Forest Officers for the Village Forests under Section 28 of the Indian Forest Act, 1927, thus, empowering village community with the rights of the FD. Many state resolutions have panchayat members as ex-officio members of VFCs. In most cases, the secretary of the JFMC is an SFD employee (Forester or Forest Guard) and the chairperson is a villager. Many argue that because of this arrangement, the accountability of the JFMC principally lies to the FD and not to the village/ General Body of the JFMC.

The JFM programme in the country is at least 15 years old now, and the JFMCs have evolved as progressive forestry institutions during this period. Yet, there are a number of concerns that are analyzed in greater detail in the following paragraphs.

#### **11.4.3 Gender Issues in JFM**

##### **11.4.3.1 Gender Differences in Forest Use and Dependence**

Rural women are a major actor in the India's forestry sector. Besides gathering a diverse range of NTFPs, they participate as wage labour in forestry works. Two of the main cash earners among NTFPs, sal (*Shorea robusta*) seeds and tendu (*Diospyros melanoxylon*) leaves, are collected primarily by women. It is generally the female members, who travel long distances to collect them. This crucial task performed by the women implies that they share a symbiotic relationship with the forests whereby they both affect and are affected by the resource base. Unfortunately, it is this important linkage that often tends to be missed in various projects aimed at involving communities in forest conservation and management.

The participation of women in decision making can be visualized at two levels

1. household level
2. community level

At the household level, the women usually do have a say in the decision making within their socially assigned domains. But at the community level, their presence in the decision making has left much room for improvement. This coupled with the fact that they are the most frequent interacting entity with the forest resource makes the situation precarious and one which demands immediate consideration.

#### **11.4.3.2 Arrangements for Women in JFM**

The National Forest Policy of 1988 envisages active participation of women in protection of forests. Subsequently, Government of India specified that at least two women should be on every committee in the JFM programme. This was in tune with the recognition by the government that a participatory programme such as JFM which aims to involve women as major actors needs to be particularly sensitive to gender disparities and in addressing the constraints which prevent women from participating as equals to men. The 21<sup>st</sup> February 2000 Guidelines of MoEF regarding strengthening of JFM programme prescribe that women should constitute 50% of the membership of the general body and at least 33% of the JFM Executive Committee (EC). A woman must hold at least one post – of president, vice-president or secretary. The quorum for holding meeting of such Executive/ Management Committee should be one-third of women executive members or a minimum of one, whichever is more. Further, the National Afforestation Programme guidelines provide that women should constitute 50% of the membership of the general body of the Forest Development Agency (FDA), which is a confederation of JFMCs at the forest division level. In the executive body, the fifteen nominees from the JFMCs would include minimum of seven women.

#### **11.4.3.3 Reasons for Lack of Participation of Women in JFM**

In spite of these provisions, it has emerged through a number of studies in India that the village level institutions under JFM are still male dominated and decisions are made largely by men based on their own needs, aspirations and perceptions. JFM resolutions of the majority of the States now define household membership in JFMC in terms of one male and one female member, but some of the States still retain households as a member of a JFM committee. In the latter case, participation of women in the village is effectively ruled out. More democratic, at least in theory, are JFM resolutions in some States, e.g. Uttar Pradesh where all adult men and women are included in JFM committees. In most cases, women's presence in JFMCs is secured essentially to notionally fill the quota for women. Some of the reasons for the lack of participation of the women in the JFM programme include lack of information, apprehension about attitude of FD staff, family responsibilities, social and cultural restrictions, lack of confidence, lack of security, lack of direct benefits and the lack of female staff in the FD. More crucially, the new gender agenda focuses on participation of women as an undifferentiated social group while ignoring the fact that it is the poor women who suffer the most due to elite male control over the JFM forests and institutions. Women from large farmers' families, similar to their men folk, are usually interested in non-consumptive ecological use of the forests, as they gain the most in the form of improvement in soil-moisture conditions of their agricultural fields, or in large sized timber/ pole for repair/ construction of their houses, etc. In many cases, JFMCs introduced new rules for redistribution of products from JFM forests in the



name of equity, which affected the poor women NTFP collectors. In one such instructive case, the JFMC of Gadabanikilo village in Nayagarh District of Orissa directed that 50% of all mahua flower collection made by the primary collectors be distributed amongst all member households of JFMC. Ostensibly, this was done in the name of participation and equity. But this deprived the women collectors of 50% of the fruits of their labour.

#### **11.4.4 Equity Issues in JFM**

Joint Forest Management in its present form ignores the complex meanings often attached to forests, all of which affect the potential of the local to be good managers. It is here that the issue of equity features. Forest dependent communities are multiple and diverse in nature and the danger of ignoring this heterogeneity is that state intervention will end up identifying inaccurately the priorities and the beneficiaries, causing inequities.

The communities usually attach multiple local meanings to forestlands. There is no doubt that forests are considered as a pool of precious NTFP, a resource having both subsistence and commercial value, for the forest dependent communities. But the forests are also regarded as a potential area for extending agriculture, grazing, etc., by certain groups within the village community. Also, the varying local meanings have their implications in terms of the social meanings attached to the forests. Social meanings also vary with the proximity to forests. Generally, the legal rights conferred upon the communities have not taken these aspects into cognizance and have created intra and inter-community socio-economic inequities.

In addition to the use potential, social meanings attached to the land are also affected by the ownership status. There have been instances where JFM has succeeded with communities only being endowed with usufruct rights, but for a community's access to common property resources to be secure, it needs to be a conferred legal personality. JFM in its present form still offers only a weak tenure over trees as opposed to land as a whole.

Another contentious issue is the one involving traditional rights of the communities. These may be categorized into four groups

1. More than one villages having rights on the same forest
2. Customary rights of people living far away from forests
3. New settlers having no traditional rights
4. Migratory communities

Though the concept of JFM is based on the philosophy of care and share, the same is often not reflected in the right regime, leading to situations of potential socio-economic conflicts.

#### **11.4.5 Legal and Procedural Provisions in JFM**

##### **11.4.5.1 Access Regimes**

The legal and organizational framework for joint management remains weak and controversial. Traditional rights in the forests is the main basis of JFM functioning. In many areas, however, villages quite distant from the forest have the use rights, while the

nearby village which has been customarily protecting/ using the patch of the forests, has been left out in the forest settlement proceedings for some reasons. It might also be the case that the nearby villages have a large number of use rights and the distant villagers have only limited rights (e.g. grazing cattle, taking dry wood for cremation, etc.). In most cases, this latter kind of village has been given no role in JFM, yet when the JFM forests are ready for harvest the distant rightholders might also start claiming share in the profits, etc. In JFM based on customary rights, the question of the new settlers, migrants, non-residents, etc., is also of utmost importance. While the new settler households might not have any recorded right to claim the share in the JFM forests, it might be investing as an active member of JFMC. On the other hand, the migrants or non-resident villagers continue to have recorded rights over the forests, yet their involvement in JFM in the village is not possible because of their absence from the village. In the formative years of JFM, thus, it could only be the resident villagers, permanent or temporary, or new or old settlers, who invest their labour and other resources in protecting and regenerating a forest patch. But at the time of sharing the harvest, the claim of non-resident members of the villagers could not be ignored on legal grounds, leading to an anomalous situation in which the investors will feel cheated.

#### **11.4.5.2 Legal Status of JFM Committees**

Most State Governments' resolutions recommend village level committees as functional groups registered with the local SFD. This has led to the widespread belief that these committees have no legal or statutory basis, and it may be difficult for them to manage resources on a long term basis. The need for their legal recognition has also come to the fore in view of their sporadic conflict with statutory PRIs. The notion, however, that JFMCs do not have legal backing simply for the reason that these are not constituted/ registered under any Act is not based on sound jurisdictional principles. But, the issue needs wider national level consensus building if useful synergy is to be developed between two highly promising people's organizations – JFMCs and PRIs.

#### **11.4.5.3 Working Plans and JFM**

Most government resolutions envisage preparation of a Village Micro-plan. As such, a microplan developed for a forest patch needs to be dovetailed with the Working Plan of the concerned forest division. This will require changes in the philosophy and contents of the Working Plans.

#### **11.4.5.4 JFM and Social Forestry**

Relationship of JFM with social forestry programme has to be spelled out. Within one Forest Department, separate divisions for JFM and social forestry are likely. Since JFM is under the jurisdiction of territorial forestry division alone, it is possible that two different rangers and their respective staff could be working in the same village with different mandates. Identical institutions for almost similar purpose (social forestry and JFM) could only create confusion at the implementation level.

#### **11.4.5.5 JFM and Protected Areas**

While JFM would not be possible in national parks and sanctuaries under the provisions of the Wild Life (Protection) Act, it could be possible if the two new categories of PAs are

created under the Act by the 2004 Amendment. These are Conservation Reserves and Community Reserves. But JFM policies would have to be in accordance with the management plans prepared by the Management Committees of the two categories, in which the local people would be participating.

#### **11.4.5.6 Tenure Issues regarding JFM in Sixth Schedule Areas**

The tenure relationships of individual forests can be very location specific and complex, and thereby can play a major role in encouraging or discouraging JFM in particular situations. The issue of land tenure gains special significance in the case of North-East India, where the SFDs, except in Tripura and Assam, have little forestland under their control. Around 62-92% of the forestland in these States is owned by the various communities, individual families, and other traditional institutions such as Anchal Samitis, Syiems, Villages, Village durbars, Village Councils, etc. In view of the complex forest and land tenure pattern in the region, it has been very difficult to work out a policy having wider acceptability. Yet, the acceptance of JFM principles by the Autonomous Hill District Councils (AHDCs) for implementation of the National Afforestation Programme (NAP) projects has given a new ray of hope. As these partnerships are almost nascent, the longitudinal progress of JFM in these areas need to be followed very closely.

#### **11.4.5.7 JFM and Panchayats**

Joint Forest Management Committees (JFMCs) are usually recognized and owned only by the Forest Department, while all other government departments recognize and own PRIs, making any potential conflict between JFMCs and PRIs disastrous for JFMCs. MoEF considers that while both PRIs and JFMCs need to be strengthened independent of each other, the synergy between the two could be utilized for better overall outcomes. The 24th December 2002 JFM circular of MoEF seeks to achieve this synergy through a district level committee chaired by Zilla Parishad chairperson, or Collector where Zilla Parishad is not constituted. The concerned DFO should be the convener of the committee. On the whole, States have also felt the need to further clarify the relationships between JFMCs and PRIs. Haryana has been a pioneer in this regard where JFMCs (the Hill Resource Management Schools, (HRMS) are societies registered under the provisions of the Societies Registration Act and have adequate authority to function effectively. Similarly, in Madhya Pradesh, the JFMC and Gram Sabha are linked through one of the eight committees of the Sabha, the Estate Committee, which is expected to act as a nodal committee for the JFMC. In the case of West Bengal, the FPC/EDC resolutions link all the three tiers of Panchayats. The FD executive is obliged to place before the elected representatives its actions in respect of selection of FPC/EDC members, distribution of benefits, and annulment of FPC/EDC. It must be remembered that Panchayats are political organizations based on electoral systems. So people there at the helm of affairs are bound to have political interests, which could be quite detrimental to the forests. For instance, under the Aravalli project in Haryana, the VFCs are hesitant to levy fine and punish the offenders because the VFC chairperson is the elected Sarpanch who is not bold enough to take hard decisions (such as punishing the offenders) that would displease his voters.

#### **11.4.5.8 Access to NTFPs under JFM**

The 1st June, 1990 circular states “the beneficiaries should be given usufructs like grasses, lops and tops of branches and minor forest produce”. Accordingly, most State JFM

orders provide members of Partner village institutions free access to specified NTFPs. Studies have revealed that the financial return to wages involved in NTFP collection and primary processing is often very low, leading only the poorest to be involved in collection of NTFPs. In addition, JFMCs often have little experience or managerial capability for organizing collection and marketing of NTFPs. Usually the traders pay higher prices and hence the collectors have no incentive to handover their gathered produce to VFIs. If the poor are to enjoy the fruits of their labour, an overhauling of the policy frame as well as the supportive institutional framework is necessary. Encouraging setting up of processing units within the tribal areas is also to be recommended. The 24 December 2002 circular of the MoEF also recommends capacity building of the primary collectors, and promotion of non-destructive harvesting techniques, equity in sharing and experience sharing amongst States.

#### 11.4.5.9 JFM Rules and Panchayat Raj Act including PESA

These three have been discussed together as these are linked to people centric forest resource management at the grass root level. Table 11.3 shows issue based comparison of the provisions and outcomes of the JFM and Panchayat Raj/PESA.

**Table 11.3: Comparison of JFM and Panchayat Raj/PESA**

Issue	Joint Forest Management	Panchayat Raj/PESA
Basis for formation	A framework for the involvement of forest dependent community for the protection, regeneration and development of degraded forestlands situated in the vicinity of villages but at the same time forest dependence can include motive to control the resource for yielding power. Guidelines have been issued for registering the same under the Societies Registration Act, 1860 but this Act is for the registration of literary, scientific, and charitable societies and JFMC doesn't fit into this mould	Through the Constitution (Seventy-third Amendment) Act, 1992 Part IX "The Panchayats" was inserted in the Constitution, which paved the way for "Village Panchayats", doesn't apply to Schedule Area. Through the Panchayat (Extension to the Scheduled Areas) Act, 1996 the provisions of the Panchayat Act have been extended to the Schedule Areas
Geographical Extent	Territorial area is fluid and is need based, area under the control of one JFMC can extend over more than one Village Panchayats. Upper limit for the extent of good forest areas is restricted to a maximum of 100 ha and 2 km from the village boundary, for degraded forests it is 5 km from the village boundary	Territorial area i.e. the Village Panchayat's area is defined by the State Government, number of villages falling within the territory of Village Panchayat is clearly identified with their names
Nomenclature	Initially such committees were constituted under different names in various States, guidelines have been issued for adopting uniform nomenclature i.e. JFMC	Act provides for uniformity in name i.e. "Panchayat"
Membership	All adults of the village are eligible to become members of the JFMC, at least 50% members of the JFM general body should be women, membership is fluid and moving in and out is permissible Communities traditionally protecting and assisting in the regeneration of forests need to be identified, recognized and registered as	Panchayat consists of Gram Sabha/s which in turn consists of persons registered in the electoral roll relating to a village within the area of the Panchayat

### 11.4.7 Sacred Groves

Sacred Groves are small patches of forests left untouched by the local inhabitants. These groves are protected by the people of the surrounding areas to avoid the wrath and to seek the blessings of their resident deity. Sacred groves are the last remnants of native vegetation of each particular region. They probably indicate the heroic efforts made by local communities to protect and preserve their natural forest tracts against the onslaught of clearing of forests, cultivation and settlement. The fundamental consideration for declaring a forest as a 'Sacred Grove' is to extend the control of the community not only on the forest but also on the individual. The community designates a forest area as protected and declares it 'sacred' by dedicating it to the deity. In the 'Sacred Groves' all forms of vegetation including shrubs and climbers belong to the deity. Grazing and hunting are prohibited and only the removal of dead wood is permitted. During the course of transition from hunter-gatherer lifestyle to the agrarian settlement, the customary use of nature was governed by traditional systems of resource use and conservation, involved a mix of religion, folklore and tradition regulating both quantum and the form of exploitation. Since ordinary belief did not have a deep impact, various taboos were evolved to instill fear and reverence into the people to prevent them from exploiting the resources of the grove.

In India the emergence of 'Sacred Groves' was possibly much before the arrival of the Aryans as the pre-Harappan and Harappan remains reveal that the society with all its achievement in agriculture, settlements, etc., had also all reverence for trees for various reasons. Though conceptual models of sacred groves and its goods and services also underwent change, the cardinal principles are not felling the trees and extraction of plants and not tampering with the main abiotic setting, namely, land use and water resource points which continued through the ages. If the environmental problems are to be tackled, ecological security and its influence on social and economic sustainability of the society have become pre-requisites. The sacred groves provide in their origin a code of conduct and associated restrictions or regulations through legends which, prescribed relationship of the community with the surroundings.

Records of very few authenticated studies on sacred groves in the country are available. However, Dr. Brandis, the first Inspector-General of Forests, in his book *Forestry in India* has given the following descriptions of sacred groves visited by him.

“Very little has been published regarding sacred groves in India, but they are or rather were very numerous. I have found them in nearly all Provinces. As instances, I may mention the Garo and Khasia Hills, which I visited in 1879, the Devara Kadus or sacred groves of Coorg with which I became acquainted in 1868, and the hill ranges of Salem district in Madras Presidency examined by me in 1882. Well known are the Swami Shola on the Yelagiris, the sacred groves at Pudur on the Javadis and several sacred forests on the Shevaroyes. These are situated in the moister parts of the country. In the dry region, sacred groves are particularly numerous in Rajputana. In Mewar they usually consist of *Anogeissus pendula*, a moderate sized tree with small leaves, which fall early in the dry season in December and January. Before falling, the foliage of these trees turns a beautiful yellowish red and at that season these woods resemble our Beech forests in autumn. In the southernmost states of Rajputana, in Pratapgarh and Banswara, in a somewhat moister climate, the sacred groves, here called Malwan consists of a variety of trees, Teak among the number. These sacred forests, as a rule, are never touched by the axe, except when the wood is wanted for the repair of religious buildings, or in special cases for other purposes.”

A plethora of literature has been published on sacred groves in the recent years. National Afforestation and Eco-Development Board (NAEB), Ministry of Environment and Forests, through its regional centres namely Agricultural Finance Corporation Ltd., New Delhi; University of Agricultural Sciences, Bangalore; Jadavpur University, Kolkata, have also undertaken detailed studies of sacred groves in these regions covering the States of Haryana, Rajasthan, Uttar Pradesh, Bihar, West Bengal, Orissa, Andhra Pradesh, Tamil Nadu, etc. The publications of these centres on sacred groves are detailed and comprehensive.

Whatever may be the number of these groves, the fact remains that their constitution, protection and management reflects the robust collective will and foresightedness of the communities in providing conservation and protecting natural resources, particularly the forests. The need of the hour is to harness this collective will of the communities for achieving conservation on a much wider context and on a much larger scale. This is being reflected adequately in the recommendations by this Commission.

Now that areas protected by people are given legal support in the form of Community Reserves under the recently amended WLP Act, and in which the management and ownership will vest with the local people who will become the wardens of those community reserves, such sacred groves must be brought under the purview of the concept of community reserves and the government must render them technical and financial support.

#### **11.4.8 Workshop on JFM**

The Commission held a two-day workshop on this subject for soliciting suggestions from experts. The suggestions were as follows:

1. From the presentations made in the workshop there has been a general consensus that JFM has been by and large successful. It is, however, important to see it as part of the continuing development process in the country and not a standalone programme by itself.
2. The sustainability of JFM is a serious concern. Sustainability should also have benchmarks which need be laid down, the aim being to build up the productivity of the forest to an optimum level, or at least to a sub-optimal level and not sustainability with the forest continuing to remain at a degraded level. Performance of the JFM samitis may be evaluated on the basis of certain indicators. More importantly the yardstick for measuring the success of JFM should include, among others, prevention of:
  - a. Encroachment (including misuse of area allotted to the samiti)
  - b. Control of grazing
  - c. Illicit felling and
  - d. Fire
3. Community based natural resources management and development has major potential for enhancing the well being of people. Forests should therefore be harvested on sustainable basis for strengthening the livelihood support system of the forest dwellers in general and samiti members in particular.
4. JFM has been perceived mostly as a forest department program in which people

participate. In fact, it should be a people's program that the department should facilitate. JFM is not only what the department gives to the people but also what the community has given to the cause of forests.

5. Towards the future development of the JFM process, it is recommended that the community assumes a central role in all planning process (including JFM) and the government as the provider of extension and support services, including:
  - a) Development of local institutional and organizational capacity to undertake development planning and mobilizing local and external resources; provision of health care, drinking water and education;
  - b) Establishment of federations/cooperatives for protection and management of existing forests; and creation of new (community owned) forests in deforested and degraded lands to meet their current and future needs;
  - c) Decentralization of the decision making structure to local level; setting mechanism for inter-departmental cooperation and promoting participation of NGOs and local people in the decision making process; recognition of the value of local production systems and cultural diversity.
  - d) Promotion of local processing of forest products and their marketing through village cooperatives; development of partnership with private sector and NGOs.
6. Large quantum of funds is flowing to JFM, after being diverted from amounts that erstwhile used to go for forest protection. As long as funds were flowing, the samiti members of JFM societies were attracted to the programme. Once the flow of funds was reduced or stopped, the situation changes and JFM activities often wither away. This would indicate a failure of the concept of JFM taking root in such areas. People should be motivated not by external money supply but by the funds generated from the JFM effort from the benefits of the protection itself. The Midnapore (West Bengal) experience has shown that JFM can sustain itself without external funding. JFM should thus survive and thrive with its own resources and not by the artificial resuscitation of external funding. It is, therefore, recommended that a bare minimum amount be given to the samiti members only for the first year or at most two, for the biomass to recover and for JFM to be self-sustainable. If the biomass has not recovered by then, it would indicate that the protective inputs have not been adequate and the programme has not succeeded.
7. It is not the quantity, but the quality of the JFM samiti that determines the outcome. Therefore, an appropriate monitoring mechanism that can be operationalised by the samitis also, should be developed to evaluate their performance. Based on the critical analysis, the capacity and capability of those JFM samitis whose performance is below a certain standard should be enhanced through training and other methods.
8. It was reiterated that for bringing sustainability to the system, not only the timber but also the non-timber forest-produce (NTFP) which becomes available on annual/seasonal basis should be accorded due priority. Therefore, NTFP should be harmonized with timber by mainstreaming NTFP management in Working Plans. Accordingly, suitable silvicultural system should be developed.
9. An attempt should be made to take into consideration the felt need of the people, their

culture, belief, traditions and norms.

10. Due to variety of reasons positive aspects of planned economic development have not percolated down to forest fringe areas. Therefore, Forest Department, on account of their physical presence in these areas, may be considered as a nodal agency for coordination, convergence, and in certain cases, even execution of all development programmes. A case in point is the Dhamtari model developed and executed by the Chhattisgarh Forest Department.
11. JFM should provide enough space and flexibility for identification and replication of innovative approaches, projects and models of forest management that strengthen JFM, and better conserve the forests. There cannot be one universal model for JFM as the situations vary dramatically from one area to another
12. All efforts should be made to convert the people from mere wage earner to stakeholders and even shareholders in the entire endeavour
13. Appropriate entitlement regime for all the goods and services available from forest ecosystems should be developed.
14. An equitable benefit-sharing arrangement (BSA) will form a strong foundation of the programme. Therefore, a people friendly BSA should be evolved.
15. Micro-plans (covering role, responsibilities, duties and rights) should be prepared with active participation of the samitis and all the operations including harvesting of the forest produce should be implemented as per prescriptions of the micro plans by the samitis, under the technical guidance of the forest department. There should be absolute transparency in financial administration including funding mechanism of the same. Appropriate legal backup should be provided to JFM so that the programme can have desired institutional strength and stability.
16. Public Private Partnership (PPP) through JFM should be introduced in degraded forest areas which Government funds alone cannot rehabilitate. The degraded forestlands would not be leased to industry in accordance with the 1988 Forest Policy, but the local people would undertake plantation of species which are required by industry and which the FD approves of as not being adverse to the ecology of the area, or detrimental to the interests of the neighbouring communities. In this process even landless forest dwellers will get an income and the industry will get the desired raw material including medicinal plants, while at the same time the forest department will get green cover in degraded forests without any departmental investment.
17. While taking up mineral extraction in JFM areas, if indeed such activity is permitted, green-mining technologies must be employed to minimize damage to forest resources and a part of the revenue from mining should be earmarked for regenerating the area along with welfare of the local population.
18. The mechanism for coordination and / or dovetailing of JFM samitis and Panchayat Raj Institutions (PRIs) should be developed.
19. Before issuing new guidelines, the Government of India should ensure that there is no inconsistency in the working of JFMCs and PRIs.
20. A central agency should do regular review and monitoring (including quality) of the JFM programme in the country.
21. Institutional structure and the capacity building of the department should be



commensurate to the new role and duties assigned to forest officials. Specialized staff may also be inducted to help the Department.

22. JFM has the potential to address jhum problem in the North-East. A comprehensive landscape-level planning associated with guidelines to accommodate site-specific appropriate land-based activities should be undertaken.
23. There are two aspects of JFM that must be axiomatic for judging the success or failure of JFM. Firstly, poverty alleviation is not the primary goal of JFM, forest conservation is. There are numerous schemes for poverty alleviation. The litmus test for any JFM activity is how far it has helped to better conserve and improve the forest while improving the socio-economic conditions of the local populace simultaneously. Secondly,
24. JFM is a social contract. Every member of it has both rights and duties and the access to the right is subject to the fulfillment of duties. Only if the stakeholders fulfill their duties to protect their forest and harvest it both judiciously and sustainably, would they be entitled to continue to receive the benefits. JFM cannot and must not be a one way traffic of rights without obligations.
25. Building partnership and rapport with the people, to understand their problems and needs and to evolve practical strategies that would be both widely acceptable and ecologically sound and sustainable, requires a special kind of personnel, involving aspects of forestry, sociology and even anthropology. Hence, there is a need for a special sub-cadre in the forest services to take charge of JFM, social and farm forestry, discussed elsewhere in this report.

## ***11.5 Stakeholder Views***

### **11.5.1 More Involvement of NGOs**

Every single NGO that has met the Commission or otherwise corresponded with it has upheld the need for a greater participation of the voluntary sector in the management of forests and wildlife. Several retired as well as serving foresters are also of the view that participation of people in conservation can be better achieved by involving NGOs. They believe that this would also enhance the overall efficiency in the management of national natural resources.

### **11.5.2 Joint Forest Management**

Much has been said on this subject. The general demand is that Joint Forest Management (JFM) may be extended to Gram Sabha areas as well. More legislative support is needed. The following present two divergent strains of thought that was encountered in the responses:

New bodies called JFM Coordination and Implementation Committees (JCIC) at various levels have been suggested. The JCIC be formed at village, taluka, district and at state levels comprising revenue officials –talatias, mamlatdars, Collector, Secretary Revenue, tribal development officials, social welfare development officials, Tribal Development Project Administrator, NGOs, tribal research institutes. The role of JCIC at each level should be very clear and it shall clear all the complaints and disputes between the main

players- Forest Department and Tribal and also it shall oversee progress of all JFM groups and spread of JFM groups in new areas.

Others feel that joint forest management concept has limited application and it doesn't have the potential to increase the productivity of the forest beyond 1 cu. m per ha per annum from the present productivity, stagnating in the range of 0.6 to 0.8 cu. m per ha per annum, even with best of the inputs whose flow is doubtful in view of poor investment by govt. institutions in the forestry sector so far.

### 11.5.3 Fuelwood

People have scaled the extent of suggesting that all fuelwood be given to the needy free of cost. Alternative arrangement for fuel and fodder need to be made by the government by developing village grasslands.

## 11.6 *International Experiences in Participatory Forest Management*

The increased importance of forestry has also led to a dilution in the custodial approach of the forest services globally. This change has been in the wake of the realization that the government with its current budget and staff may not be able to deliver the ever-increasing expectations from forestry. This has been slowly leading to a transition towards an approach where governments will encourage all the interest groups to have a stake in the way forests are managed. The adoption of participatory measures passes some responsibility for enforcing public behavior to the communities, but this has still been an exception than the rule.

With the increasing recognition of the requirement of increased stakeholders' participation in the forest management, the sharing or transfer of responsibilities has taken different forms, ranging from decentralization to partnership with NGOs or private organizations. Today, a fourth of the forest estate in most forested developing countries is owned or controlled by indigenous or rural communities (Table 11.4).

**Table 11.4: Local Ownership and Control of Forest Resources in 18 Developing Countries with Most Extensive Forest Cover .**

Type of Tenure	Area (1395.6 million h)
Public ownership administered by government	990.9 million h (71.0%)
Public ownership reserved for community and indigenous groups	112.9 million h (8.1%)
Private community or indigenous ownership	192.8 million h (13.8%)
Private ownership by individuals or firms	99.0 million h (7.1%)
Land claimed by communities or indigenous groups recently legalized in process	Another 100 million h (4%)

Private ownership has more than doubled in the last 15 years and appears set to at least double in the next decade. Many countries have begun to formally grant long-term land use rights to local households or communities under diverse models, although the process is slow and local people often receive only the more degraded forest resources.

Nepal has been a pioneer in this regard where handing over of government forests to Panchayats, started with the promulgation of Panchayat Forest Regulations and Panchayat Protected Forests Regulations in 1978 and the Decentralization Act in 1982. The 1988

Master Plan for the Forestry Sector further strengthened the foundation by recognizing the role of real users in forest management. The Forest Act of 1993 and Forest Regulations of 1995 gave new directions to people's participation by allowing that community forests could be directly handed over to the real users, i.e. the Forest User Groups (FUGs). The FUGs have been recognized as autonomous legal entities, competent to fix price, transport and market the forest products obtained from community forest areas and utilize the fund, so generated, for any community development activity. In addition, FUGs are allowed to grow perennial cash crops in community forest areas and establish forest-based industries. The Act also guarantees non-interference from the State Forest Administration so long as the FUGs observe the Forest Act, Forest Regulations, and the Operational Plans. Further commitment to the decentralizing principles has been echoed in a series of recent landmark CFM Guidelines 2003, Leasehold Forestry Policy 2002, etc.

In China, the new Rural Land Contracting laws, 2002 aims to strengthen the security of collective forests ownership, which now constitutes about 60% of all forests in China . It may be recalled that the 1981 Forest Policy of China has already started to soften the monopolistic control of the State and communes over the forest resources. The core of these changes included leasing of forests/ lands for afforestation to individual households, communes or enterprises, more flexibility and power to the forest farmers in choosing the right kind of intervention, and changing the management model from collective management to a combination of collective and individual management. The forestry income was also changed to be shared, based on labour contribution of the farmers while taking into account other factors, such as land, technical inputs, capital investments, etc.

Similar decentralization sentiments have been reflected in the revised draft of the National Forest Policy of Bhutan, 1991, where five or more persons can obtain use right to an area of partially degraded government forests as long as re-vegetation of the area is done and a management plan is followed. Sri Lanka has decided to analyze the impact of National Forest Policy, 1995, through a participatory process with the involvement of all the stakeholders. Likewise, the new forest policy of Myanmar and the revised Forest Law, 1992 and the Forest Policy, 1995 demonstrate a shift towards community forest management, and also allowed establishment of cooperatives for reforestation in villages. Benefits derived from community-managed forests are fully shared amongst members as there is no royalty charged by the Government. In Vietnam, Decision 178 has paved the way for a strong decentralization of the forest sector, with management rights and responsibilities for most forests and forest resources being devolved to Provincial and local authorities.

### **11.6.1 Legal Framework for Decentralization - Challenges Ahead**

Despite a plethora of local initiatives world over, many community management efforts in the regions, where State has the monopoly control or ownership over the natural resources, continue to exist in a state of legal uncertainty because of the lack of clear rules in this regard. Indeed, State law has a necessary place in local management initiatives as it is needed to help define the rules by which community based institutions interact with the outsiders, to delineate the limits of State power, and to protect both individual rights and wider societal interests such as the environment. This lack of legal framework has created a situation of dualism in the management of the forests in several regions, e.g. Gabon and Cameroon in Africa, the Czech Republic, Estonia, Latvia, Lithuania in Eastern Europe, to

name a few. On the one hand, the law that makes the State the main owner of the forests is not operative either for the State or for the local inhabitants, while on the other, traditional systems remain the frame of reference for rural inhabitants in their day to day involvement in the management of the natural resources. This has virtually resulted in a situation where the traditional institutions managing the forests have been doing it illegally. Under such a regime of uncertain legal framework, the communities are not sure if the incentives for managing the forests along the lines of sustainability would outweigh the costs of forbearance. Hence, the search for legal regimes that provide meaningful, secure and flexible rights to community based management is fundamental if community based management is to become sustainable and widespread.

### **11.6.2 Decentralization and Devolution**

Bringing the government closer to the people increases efficiency, by helping to tap the creativity and resources of local communities, by giving them chance to participate in development. However, global level studies show that the genuine devolution of power over forest resources has been occurring to a very limited extent, even where decentralization and devolution are major themes of policies. The key forest management objectives in Asia, Africa and Latin America are nearly always set by governments, and the decision making authority of the local communities tends to be limited to decisions that meet these objectives. The arguments presented in favour of such actions primarily challenge the ability of the communities to manage the forest, maintaining that cultural mechanisms that have been developed as adaptations to the forest environment over hundreds of years may be easily cast aside when trade and new technologies free people from traditional ecological constraints. Further they argue that the local people may desire to obtain material benefits and a better standard of living from community-based forest management, and this goal may not be consistent with sustainability. This school of thought also challenges the hypothesis of the existence of a unified community, which is generally assumed as the one to whom the power should be devolved. It further argues that villagers are often politically fractured and socially differentiated along gender, wealth, class, age or ethnic lines and hence the perceptions and definitions of biodiversity, as well as the implications of biodiversity loss and the costs of conserving biodiversity, are similarly differentiated, hence devolution should figure in the discussion of viable options – but it should not be viewed as the only solution for all the problems.

Concerns have also been raised regarding the real efficacy of the decentralization process. World over, there has hardly been any standard monitor in place to check which participatory approach or component works and which ones do not. Thus, many half-hearted or ill-designed decentralization processes have been initiated without much positive or net negative outcomes. The general consensus is that the benefits of decentralization can only really be achieved if the two components of decentralization are in place: locally accountable representation and significant public powers over which the representatives have freedom of decision. Caution has been suggested as in this approach there would always remain the fear of the institutions being used by the elite at the expense of weaker entities. In Indonesia, local people are being used as proxies for outside commercial interests to gain access to timber. Similarly, local elites in Senegal captured the control of local cooperatives in the 1970s and 1980s by registering them in their names and filling them up with fictive members.

### **11.6.3 Change in the Administrative Set-up**

Till recently, forestry was assigned to Ministry of Agriculture (e.g. Bhutan, Vietnam, Japan) or Ministry of Environment (e.g. Bangladesh) in several countries. This speaks of the low priority accorded to forestry in most countries. Of late, however, this trend seems to be reversing, with many countries either creating a new ministry or specific departments for specialized forestry activities. Forestry, which used to be under the Ministry of Primary Industries in Malaysia, has now been placed under the newly created Ministry of Natural Resources and Environment.

### **11.7 Recommendations**

- [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

# Agroforestry and Social Forestry

### *12.1 Definition and Significance*

Agroforestry means practice of agriculture and forestry on the same piece of land. It has been defined as a sustainable management system for land that increases overall production, combines agricultural crops and animals simultaneously. It also connotes a land use system that integrates trees, crops and animals in a way that is scientifically sound, ecologically desirable, practically feasible and socially acceptable to the farmers. Another widely used definition given by the International Centre for Research in Agroforestry (ICRAF) Nairobi, Kenya reads:

Agroforestry is a collective name for all land use systems and practices where woody perennials are deliberately grown on the same land management unit as agricultural crops or animals in some form of spatial arrangement or temporal sequence

It is an age-old practice that went into disuse in modern agriculture context. AF is capable of meeting the present challenges of resource conservation and improvement of environmental quality. In low rainfall areas, AFP increases rainfall utilization by extending the growing season. AFS provides insurance against risks caused by weather aberrations, controlling erosion hazards and ensuring sustainable production of the land. In AF, maintenance of a sufficient ground cover during the period of erosive rains has a high potential to reduce erosion. The effectiveness in conserving water is proportional to the speed of decomposition of the litter.

Effects of the tree-crop mixture on the water balance are cumulative. If water is conserved, the water saved can be carried forward through dry periods in lower soil horizons. Some traditional AFS have built in dynamism for restoration of soil fertility, amelioration of soil and providing sustained yield. They should be utilized for developing AF technologies in different agro-climatic regions. The mass erosion areas (landslide, torrents, mine spoils, ravines etc.) could be rehabilitated through bio (AF)-engineering measures. The interventions significantly reduce sediment load; improve vegetation cover, dry weather flow, water quality; besides improving the soil fertility. Integrated development of watersheds including AF interventions reduced runoff or moderated flooding of downstream reaches and improved in situ moisture conservation for increased biomass production.

The reasons for higher production under agroforestry system include:

- 1 Greater efficiency of tree species for photosynthesis
- 2 Improved soil structure and fertility with increasing effects on crop yield
- 3 Reduce losses from soil erosion and more closed cycling of organic matter and nutrients
- 4 Creating better micro climatic conditions for the growth of agricultural crops

The tangible and intangible benefits of agroforestry are mentioned below:

- 5 To meet the demand of fuel, fodder and timber for the increasing population.



- 6 To reduce the biotic pressure on existing forests.
- 7 To obtain maximum output in terms of yield from the same piece of land.
- 8 To develop wasteland/ degraded lands by planting suitable tree species with agricultural crops.

## ***12.2 Area Available***

National Forestry Action Plan (NFAP), 1999 estimated about 25.4 m. ha out of 55 m. ha wasteland available for tree plantations. Yet, even this area can hardly be counted as available given prolific urbanization and increasing price of land. Only about 12 m. ha of wastelands may be available for tree plantations. The only hope is the 142 m. ha agriculture land, which may be used in agroforestry models for increasing tree cover. Earlier studies have shown that about 5% of total agricultural lands are generally available for tree plantations with the available tree species under agroforestry models. So about 7 m. ha agriculture land may be made available for tree cover.

## ***12.3 Research and Prevalence in India***

India has been at the forefront of agroforestry research ever since organized research on the subject began worldwide. The first Symposium was held in 1979 at Imphal, Manipur. In 1983, ICAR launched AICRP on agroforestry at 20 centres. The National Research Centre on AF was established at Jhansi in 1988; the Planning Commission recommended upgrading it to a National Institute.

AICRP on AF 35 Centres (10 ICAR institutes and 25 State Agricultural Universities) representing all agro-climates of the country. MoEF institutions such as the zonal Forest Research Institutes under ICFRE and IIFM also have a number of projects on land use management and agroforestry systems. A number of private players, industries, universities and NGOs are also engaged in research. More than 2000 scientists and technicians are currently engaged in AF research.

With ongoing research on one side, AF systems are also in practice in the field. Examples from different Agro-ecological zones include:

High rainfall and cool temp:

- 9 *Grewia optiva* and Alder in northern region

Long drought period:

- 10 Poplar, eucalyptus, mango and shisham in Indo-Gangetic region
- 11 Neem, babool and bamboos in central India
- 12 Babool, khejri and *Zizyphus* in western India

High rainfall levels and long rainy seasons:

- 13 Teak, tamarind, para rubber and cashew nuts in southern region
- 14 Jackfruit, neem, casuarina and bamboos in coastal and island regions

## ***12.4 Constraints***

The following factors impede the popularity of agroforestry as a farm system from

growing :

- 15 No market information system exist
- 16 Standing trees exempted from wealth tax but not taken as collateral for a grant of loan
- 17 Lack of appropriate machinery and infrastructure at the ground level for generating data on agroforestry area, production and prices by species and regions
- 18 Volume tables - Local VT\Regional VT of AF species not available.
- 19 Farmers unaware of buyers
- 20 Market imperfections
- 21 Middlemen's margin quite high
- 22 For middlemen - largest risk is unreliable quality and quantity of smallholder products.
- 23 Lack of adequate policy and institutional infrastructure for promotion of AF

### ***12.5 The Significance of Agroforestry***

It is only too obvious that government owned forests cannot meet the current requirement of the country, let alone in the future. Even our forests at the optimum level of conservation and productivity would find this task not possible. At the present level of degradation caused by ever-increasing demographic pressures, with 60% of the country's livestock being grazed on forestlands and 175 millions tonnes of fodder being annually harvested from them (NFAP, 1999) the task is well-nigh impossible. Approximately Rs.2000 crore worth of timber is being imported annually. Table 12.1 clarifies the situation.

**Table: 12.1 Demand and Supply of Wood ( in million cu. m. )**

Particulars	1985	1996	2001	2006
Wood demand for domestic furniture, agriculture, industries	50	64	73	82
Output from forests	24	12	12	12
Output from plantations, production, social, farm forestry		41	47	53
Deficit	26	11	14	17

Source : Ganpathy (1997); Saxena (1990)

It would be seen from the above that while wood demand has increased by over 60% in the last two decades, the output from forests has halved in the same period. If the deficit, nonetheless, has been reduced by over 50%, it is because of the dramatic rise of outputs from plantation and farm forestry. More than 50% of industrial timber is being contributed by agroforestry in the private sector. A large portion of the annual 250 million tonnes of fuelwood consumption also comes from community lands. With forests under increasing pressure, agroforestry is the only segment that can record growth in production – in timber, fuelwood, industrial wood, fodder and grass, medicinal plants and the rest.

The current situation and future prospects must alter the role of forests and forestry, and with it the forest personnel would also have to change their recruitment, training, attitudes and mindset.

The country's needs of timber, fuelwood, fodder, industrial wood and medicinal plants

must be met with from private lands and community lands. This can only happen if the farmers get remunerative returns and no hassles in harvesting, transport and market access.

Agroforestry has been a sleeping giant. Agriculture Departments, research centres and universities have been pre-occupied with agricultural crops and in giving impetus to the green revolution. The forest department has been only concerned with forests. The former are now giving greater attention to agroforestry, but much greater impetus is required. This focus must filter down to the district and tahsil / block levels and the State agriculture departments supported by research institutions and universities must treat agroforestry as an important agricultural crop and provide guidance and support to the farmers. The forest departments, on their parts, must produce seedlings, at least in the initial stage and not only cooperate in providing technical inputs, but also by removing barriers to the harvesting and marketing of agroforestry products. Import of timber must also be regulated to keep the price of timber remunerative for the agroforestry farmer, who is making a long-term investment and is making a novel venture in preference to traditional crops.

A disconcerting feature has been a drop in farm grown wood prices. In Yamuna Nagar, the biggest market of poplar wood, the average price between 1987 to 1997 for poplars with over 24" girth, was about Rs. 500 per quintal. By November 2002, the same commodity was fetching only Rs. 225 per quintal. Elsewhere too the prices have plummeted.

Another field, which needs to be urgently attended to, is plant multiplication and quality plantation. Forest Departments have traditionally been growing seedlings in nurseries. There is no assurance about the seed quality and variation among seedlings does occur. With the advancement of biotechnology, techniques like tissue culture and cloning must be adopted by the forest departments. If such facilities cannot be created by the State Governments, there should be linkages with private laboratories and institutions. The Department of Biotechnology have identified TERI, the National Chemical Laboratory and the Jainarayan University of Jodhpur as National Facilities for raising tissue culture for multiplication of trees and bamboo. The various forest departments should establish working partnerships with such institutes for tissue culture purposes if they cannot propagate it themselves. The research bodies under the FDs should identify quality seed and material for multiplication, which will be done by approved institutions and registered private growers. Tissue culture plants have an added advantage of being able to produce disease-free plants.

Of the total area under agriculture of approximately 142 million ha, about an equivalent of about 14 million ha (about 10% of agriculture area) could be brought under tree cover through agroforestry and farm forestry. To this may be added the area under horticulture. There is thus great potential to extend and maintain tree cover under agroforestry and farm forestry.

Agroforestry offers a number of advantages. Timber and fuelwood produced under agroforestry meet the local demands in rural areas and thus the problems and expenditure related to transport is avoided. Productivity of agroforestry plantations is much higher than that of natural forests or plantations in forest areas. Production cost of timber or pulpwood and normally even their transportation in agroforestry plantations are much

lower than the same in case of forest department's plantations. Transportation costs to industries and users are also much less. Thus, the investment required per cubic meter of wood produced is much lower in case of agroforestry plantations as compared to plantations raised on forestland. Government resources, both financial and human, needed for agroforestry will be small. Agroforestry also helps in poverty alleviation in rural areas. Production and processing of wood produced under agroforestry is estimated to generate substantial employment in rural areas, major part of which will be in processing of timber such as sawing, joinery, furniture making, etc. Government spending on such employment generation will hardly be any. Agroforestry thus offers great potential of providing off-farm employment, which is the need of the day to take surplus labour off agriculture.

The National Forest Policy, 1988 provides that diversion of good and productive agricultural lands to forestry should be discouraged in view of the need for increased food production. The rich farmers can provide investments required for tree growing more easily than by poor farmers. It is observed that relatively wealthier farmers could benefit more than poorer farmers because of inequitable patterns of land ownership and the difficulties in marketing. In some areas, however, small farmers also took to tree growing. On the whole, agroforestry has picked up and about 50% of the planting done after 1980 is reported to be under agroforestry. The profitability of agroforestry under reasonable conditions is quite high. The experience of Andhra Pradesh shows that through the use of improved planting material, yield of Eucalyptus could be improved from 7 to 20 m/ha/yr. Expansion of agroforestry will require extension support; supply of genetically improved good quality planting stock, marketing support, and above all, removal of restrictions on harvesting and sale of trees and timber.

The MoEF has the mandate to bring one third of geographical area of the country under forest and tree cover. The SFDs have only 23% of geographical area under their control and hence to achieve the target, afforestation is required to be done outside the designated forestlands. The land where planting could be done include panchayat land, revenue land, land with other departments, institutions, private land and agriculture farms. Since more than 46.6 % of land is under agriculture, farmers can grow trees simultaneously with agricultural crops. However, the farmers would grow commercially important species only if they would get remunerative price for their produce and are free to fell and transport wherever they plant. Non-availability of quality planting stock of commercially important species, inadequate extension services on the benefits of planting tree species, and restrictions on felling and transport imposed by the States under different forestry related enactments, lack of market linkages, etc., are some of the constraints which discourage bringing more area under farm forestry.

## ***12.6 Workshop on Agroforestry***

Placing a great deal of significance on the subject of agroforestry, NFC held a separate workshop focused on the topic, where national experts were invited to deliberate. This workshop threw light on several latent and related issues. The recommendations made in this chapter derive substantially from those suggested in the workshop.

### **12.6.1 Deliberations of the Workshop**

The following institutional arrangements are recommended for promotion of agroforestry:

- 24 A national mission for agroforestry should be set-up in the Ministry of

- Environment and Forests. If MoEF does not choose to set up one, the same should be set up in the Ministry of Agriculture. The mission should comprise of eminent foresters and agriculture / agroforestry experts, those from horticulture, animal husbandry and representatives of the departments of industry and commerce and of private industry.
- 25 Every State should have a State-level agroforestry mission. ( the national and State missions should coordinate policy formulation and programme implementation of relevant ministries.)
  - 26 The missions should have close co-ordination with ICFRE, ICAR, CSIR, NADORA, the 35 institutions which are in existence dealing with agroforestry, and agricultural / forestry universities, the corporate sector and NGOs.
  - 27 The missions should also have close coordination with other government departments, such as Tribal Welfare, Rural Development, etc.
  - 28 There is an urgent need to have coordination between various departments especially the Agriculture and Forest Departments, of Central and State Government levels to ensure a forceful thrust in this field. For this purpose, each State may select the nodal agency / department either forest or agriculture, to be responsible for this activity and ensure the coordination of the others.
  - 29 The missions to be set up at the level of Central and State levels should deal with, inter alia, the topics mentioned below and may elaborate or alter the suggestions given.

The following interventions are required to ensure a holistic approach and accelerated pace of development of agroforestry:

- 30 Strengthen research and development in agroforestry with particular focus on genetic improvement of seed/ clones of select species preferred by farmers and with a market demand.
- 31 The Government should provide adequate resources for agroforestry research and also promote private sector investments in such research through various incentives.
- 32 The Government should promote integrated planning and development of agroforestry plantations and processing industries.
- 33 Technical extension services for communication and publicity for promotion of agroforestry at the national and State level must be strengthened. Dissemination of research findings and improved package of practices of agroforestry through electronic and print media should be supported.
- 34 Facilitate certification of seed and clonal planting stock of tree species and registration of nurseries for ensuring highest quality standards of planting stock through appropriate statutory mechanisms. Regulated markets for agroforestry products should be established in major trading centres to stop exploitation of farmers and ensure transparent transactions.
- 35 There should be provision of insurance for private nurseries and agroforestry plantations.
- 36 Long-term credit facilities at reasonable interest rates for financing of agroforestry

- plantations and technology-based nurseries should be ensured.
- 37 Government should revise ceiling limits for agricultural land holdings upwards for landholdings, which are brought under agroforestry, on the precedence of such relaxation being given in some States for horticulture production.
  - 38 There needs to be provided market information vis-a-vis agroforestry and its economic feasibility in the different States.
  - 39 As regards other species, methodologies may be evolved hereunder farmers planting trees on private land such as teak etc., may inform the FD, Panchayat etc of this activity and inform the same at the time of harvest. If any transit permit is required, it could be obtained from the Gram Sabha / Panchayat. No transit permits be required to harvest and transport species of trees which are exotic to the area where they are grown on private lands.
  - 40 Agriculture Departments, State Forest Department and the private sector nurseries should supply high quality planting stock based on genetically improved seeds and clones. Free distribution of seedlings may only be restricted to the initial period to popularize the endeavour.
  - 41 Import policy should provide for only certified timber consistent with safeguarding the legitimate interests of practising agroforesters.
  - 42 Government should provide incentives for establishment of industries for seasoning and preservative treatment of wood and wood products for enhancing the longevity and conservation of valuable timber.
  - 43 Institutional capacity building.
  - 44 The Government of India should set up an autonomous authority on the lines of Forest Stewardship Council and develop country-specific criteria and indicators for certification of forest / agroforestry produce so that industrial products can be exported with sustainability eco-label.
  - 45 Several States have taken positive steps for removing cumbersome timber-transit permits and felling permits. Other States should also take policy initiatives to free farm grown timber / bamboo species from the regulatory felling and transit restrictions.
  - 46 Medicinal plants must be promoted as an important and integral dimension of agroforestry.
  - 47 IIFM, Bhopal must take up agroforestry as a priority area of work
  - 48 Agriculture extension staff of the State Agriculture Department is already in the field in rural areas and have a rapport with the people. They must be made responsible for the extension of farm forestry as another cash crop and they need to be trained in this regard.
  - 49 Farm forestry needs to concentrate on a few species at the initial stage, but if farmers demand other species, they should be made available. TBOS (tree-borne oil seed) needs to be greatly encouraged.
  - 50 Agroforestry must also be encouraged and incorporated as an integral part of watershed management.

- 51 Agroforestry and horticulture also need to be integrated.
- 52 Exemption be given to agroforestry farmers on income Tax, as is the case with exemption of wealth tax, as trees grown on private land are a farm produce.

## **12.7 Social Forestry**

### **12.7.1 Introduction**

Social forestry was first recognized as an important component of forestry for meeting rural needs in the interim report of the National Commission on Agriculture (NCA), 1972.

The objectives of social forestry adopted by the NCA were to fulfill the basic and economic needs of the community.

The scope of social forestry defined by the NCA included farm forestry, community woodlots and reforestation in degraded lands. By mid-1980, the concept of social forestry was firmly established as forestry 'for the people, with the people and by the people'.

Investment in forestry went up from 0.51% in the 5th Plan to 1.03% in the 7th plan, the majority of which was made in the area of social forestry while a much smaller proportion was allocated for protection and regeneration of State forests. Multi-lateral and bilateral funding organizations, e.g. World Bank, SIDA, etc., funded social forestry programmes in different States. In the period between 1980 and 1991, there were 12 externally funded social forestry programmes in 14 Indian States for a sizable amount of US \$906.76 million.

### **12.7.2 Farm Forestry**

The tree planting programme called farm forestry was kicked off in the late 1970s with a view to fulfil the subsistence needs of rural households for fodder and fuel. The NCA noted that any programme of planting trees on farms should serve the following general objectives:

1. To supplement the production of fuel wood and small timber to meet increasing requirements
2. To release cow dung for use as manure
3. To increase the production of leaf fodder
4. To create a diverse eco-system by having trees interspersed with cultivation to create wind breaks

### **12.7.3 Community Woodlots**

The community woodlots, which were conceptualized to be plantations of fuelwood species on community village lands, had an intended objective of increasing a villager's access to fuel wood, fruits and fodder. This component was assumed to have the greatest potential for addressing the fuel wood problem. The steps recommended by the NCA were that mixed forestry in village where wastelands should be acceptable to the people, and only quick growing species and those whose products of immediate concern should be taken up for planting, with optimum input and technology.

### **12.7.4 Rehabilitation of Degraded Forests**

As a third component, the interim report of the NCA suggested reforestation of degraded

forests to achieve the following objectives:

1. To grow short rotation fuel and timber species for meeting the requirements
2. To organize fuelwood supplies at reasonable rates, which will prevent pilferage from neighboring commercial forests
3. To tie up degraded forest areas with the nearby rural and semi-urban centres for their requirements of fuelwood
4. To provide employment
5. To rehabilitate the degraded forests in the process

### **12.7.5 Achievements**

If the sheer number of trees planted under the farm forestry component is any guide, it won't be an exaggeration to pronounce farm forestry a highly popular endeavor in certain parts of the country during the initial years of its inception. Against the original target of distribution of eight million seedlings to farmers in UP, in the period 1979-84, the actual distribution had to be stepped up to 350 million to meet farmer's demands. In Haryana, the farm area under trees grew at a rate of 53% per annum; while in Gujarat, in 1983-84, farmers planted 195 million trees as against the existing 49 million mature trees in the state. The farm forestry component in West Bengal achieved 200% of its target for the period 1981-83. In the country as a whole, as many as 10,500 million trees were planted on private lands during 1980. However, in comparison to farm forestry, community woodlots and rehabilitation of degraded forestlands formed a smaller component of the social forestry programme.

Community woodlots constituted roughly 25% of the total plantations undertaken while the corresponding figure for the degraded forestlands was 12%. These were quite small in comparison to the farm forestry component, which constituted a 60% share of the total plantations undertaken. The States of Himachal Pradesh, Orissa, Tamil Nadu and Maharashtra fared much better than other States in the community woodlot component, while the States of Haryana, Jammu and Kashmir, Bihar and Orissa had a better per cent area rehabilitated in the degraded forestlands component.

### **12.7.6 Analysis of Social Forestry Programme**

After nearly three decades since the inception of the social forestry programmes, it seems quite obvious that there has been a perceptible gap between the objectives and outcomes of the social forestry project. The programme has been analyzed and evaluated under the following heads:

- Efficiency
- Effectiveness
- Adequacy
- Equity
- Appropriateness

#### **12.7.6.1 Efficiency**

In its simplest terms, efficiency refers to the ratio of the amount of efforts made to the extent of objectives achieved. Production of fuelwood, small timber and leaf fodder had been the Stated objective of all the components of the social forestry programme. But



invariably in most of the cases, eucalyptus was the main species planted, with cash income being the main objective. Eucalyptus grows straight, has a small crown and is a non-browsable species and is not good for fuelwood purposes. These characteristics make it an utterly ill-suited species for the above stated objectives. The objectives spelt out for the programme were subsistence-based, while the programme was primarily dictated by market forces.

**Table 12.2: Regions Where Farm Forestry was Considered a Success**

Index	Western Uttar Pradesh, Haryana and Punjab	Gujarat	Karnataka	West Bengal
Districts	Almost all the districts	South Gujarat	Restricted to Kolar, Bangalore and parts of Tumkur	Restricted to Midnapore, Bankura and Purulia
Rainfall in mm	700-900	800-1000	700-800	1000-1200
Per cent of land irrigated	80-100	40-70	20-30	20-40
Main crops in the region	wheat, sugar, potato and rice	groundnut, cotton and sorghum	sorghum and paddy	rice, mustard and paddy
Productivity of the lands in which trees were planted	very high	high	low	very low
Main species	eucalyptus	eucalyptus	eucalyptus	eucalyptus
Objective of planting	cash income	cash income	cash income to buy paddy lands	cash income to buy bore wells
Pattern of planting	bunds by resident farmers, woodlots by absentees	woodlots and bunds by all class of farmers	mainly woodlots	only woodlots
Government's contribution	subsidized seedlings	free seedlings	free seedlings	degraded land was allotted to the poor
Constraints sought to be overcome through tree planting	shortage of labour, falling returns in cash crops	shortage of labour, uncertain production of groundnut	low productivity of sorghum and food grain crops	land unsuitable for crops, labour required for wage work
Participation by poor farmers	negligible	low to medium	high	very high
Proximity to forests/paper mill	remote from forests, 3 paper mills considered insufficient by farmers	remote from forests, no paper mills	remote from forests, paper mills buy pulpwood from farmers	degraded forests in the region, little support from paper mills
Status in 1991	stopped planting since 1987	stopped planting since 1985	still planting, on a reduced scale	still planting, on a reduced scale

Source: Saxena (1995) Forests People and Profit – New Equations for Sustainability.

The community woodlots component on the other hand, missed its target in most of the States and the agencies were more pragmatic in admitting its failure. In the, West Bengal Social Forestry Project, plantations on village woodlots met less than half of its objectives. In the Gujarat Programme too, the community woodlot component struggled to achieve its goal. As per the mid-term evaluation report (1983) of the USAID sponsored Madhya

projects have increased the pace of afforestation and several States have benefited by way of increase in forest cover, but the basic objectives have not been achieved satisfactorily. Even in West Bengal, the success of the programme in terms of high participation of poor farmers was due to different reasons. Here tree growing was carried on lands unsuited to crops, which were allotted to poor agricultural labourers and became an additional source of income for them. The programme made little impact on the vast subsistence regions like the paddy growing eastern India, the Himalayan uplands, the Chotanagpur plateau in south Bihar, and almost all tribal and heavily forested areas of Central India. These regions together account for 60% of the total cattle and buffalo population, and 85% of the forest area of the country. The virtual failure of the programme to take off in these regions connotes that the programme did not fare well on the effectiveness front too.

### **12.7.6.3 Adequacy**

Adequacy refers to the extent to which any given level of effectiveness satisfies the needs values or opportunities that gave rise to a problem. The conception of social forestry programme was rooted in the belief that free supplies of forest produce to the rural population and the exercise of the peoples' rights and privileges have brought destruction to the forest and hence it is necessary to reverse the process. Though this problem also presents an opportunity for supplementing the income of villagers by planting trees on farmlands and community woodlots, that should have been the secondary objective, to be pursued only when the primary felt needs were taken care of. But unfortunately, this objective of creating 'fuel and fodder reserves' had been not successful in fulfilling the needs of the vast bulk of rural population. Similarly, rural development researchers outside the country, who have studied India's social forestry efforts, have seriously questioned the ability of these initiatives to meet their original goals. The technical support provided was based on familiar forestry research focused on fast growing species with commercial value rather than any knowledge about villager's priorities.

### **12.7.6.4 Equity**

Critics of social forestry blame social forestry for benefiting the relatively richer households, while those not having any land were left to starve. In the Gujarat programme, it was found that 44% of the forest department's total output of seedlings was distributed to households with more than five hectares of landholdings. The claim that social forestry has primarily benefited rich farmers could best be demonstrated in the comparative success of the farm forestry component over the community woodlots component. The huge incentives in terms of high market prices being offered for eucalyptus induced the conversion of agricultural lands to eucalyptus plantations. The approach persisted in committing the error of the third kind – solving the wrong problem. One social state is better than another if it results in a gain in welfare for members of society who are the worst off. But the social forestry programme virtually achieved the less desired state thus creating an inequitable situation.

### **12.7.6.5 Appropriateness**

The NCA perceived deforestation to be a result of fuelwood and fodder demands of the people and hence assumed that people would willingly turn to raising fuelwood and fodder. If this assumption is considered true, two questions come to the fore:-

1. Are fuelwood and fodder rural people's most urgent needs in the context of the

other priorities like food, employment and income?

2. How well-designed was the social forestry programme to address the needs of fodder and fuelwood?

We focus our attention initially on the second question, because the answer of the first question flows from the second. It is quite surprising to note that a national strategy aimed at increasing fuelwood supply ended up distributing a commercially valuable species like eucalyptus, whose wood is not at all a preferred fuelwood species. The critics often blame State Forest Departments of imposing own preferences and priorities in the design of the programme. It might be true that eucalyptus was a preferred species in SFD nurseries, but it would be quite wrong to shift the blame entirely on the SFDs. In States like Western UP, Haryana, Punjab and Gujarat, the targets of seedling distribution had to be upwardly revised implying a huge demand for such commercial species. The high market value of eucalyptus for pulp factories at that time had been the single biggest incentive for the farmers, so as in the case of poplars today. For farmers, it was then a rational choice to plant trees, which either yielded income or replaced expenditure, rather than concentrating on increasing the supply of fuel and fodder.

For the landless rural poor, on the other hand, the only source left for fuelwood was community woodlot or rehabilitated forest areas. These areas were traditionally under the ownership of the village community/ Panchayats or the SFDs. Indeed for the RDF component, the externally-aided projects (e.g. SIDA-assisted social forestry projects in Bihar, Orissa and Tamil Nadu) required that a Village Forest Committee be formed comprising of all willing adult users in a project village. But, more often the VFCs were dominated by the same elite who captured other local institutions. This implied that decisions were taken within a complex structure of rural situations where the poor often tend to be ignored. Also, at times, Panchayats/ VFCs representing several villages often came in conflict with initiative from a single village. Thus, social forestry failed to establish woodlots on community lands because of a lack of understanding of competing interests in a heterogeneous community.

## **12.8 Recommendations**

[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**

# **Research and Applications**

### ***13.1 Forest Science in India***

Although forestry research in India began sometime in 1878, it took an organized shape only in 1906 with the establishment of the Imperial Forest Research Institute (IFRI) at Dehradun. The facilities at the Institute were upgraded from time to time. After 1945, the Forest Research Institute, Dehradun had as many as twenty-four research disciplines. Later, regional research centres were also established at Coimbatore, Bangalore, Jabalpur and Burnihat to handle forestry research in different agro-climatic zones (see Chapter 14 for details).

The forestry research organizations were reviewed time and again, and ultimately, the Government of India established the Indian Council of Forestry Research and Education (ICFRE) in December, 1986, for bringing forestry research and education under the umbrella of an apex body. The ICFRE was granted autonomy in June 1991 and functions under the Ministry of Environment and Forests. The mission of the ICFRE is “to generate, preserve, disseminate and advance knowledge, technologies and solutions for addressing issues arising out of interactions between people and forests and environment on a sustained basis through research, education and extension”.

The ICFRE fills the vast gap of research needs of the States, particularly in the disciplines of forest genetics, forest engineering, entomology and pathology, wood anatomy, systematic botany, wood preservation, forest utilization, etc. The ICFRE also collaborates with the State forest departments for solutions to problems which are difficult for State research wings to handle. It provides support to State research institutes and involves in their research endeavours.

### ***13.2 National Forestry Research Plan***

A perspective plan for forestry research was prepared in 1993 to meet the requirements of the National Forest Policy of 1988, with the following priorities: Improvement of productivity, Conservation and Management of eco-system, Utilization of timber and NWFP, and Socio-economic implication of policies. The programme was, however, less integrative and over ambitious in the light of available funds, equipment and staff, but later led to the development of a detailed medium term research programme based on

participatory and transparent system with modified bottom-up approach. The resulting National Forestry Research Plan (NFRP) was dynamic and closely linked with the National Forestry Action Programme (NFAP) of the MoEF and the Five Year Plans of the country. It was basically a bottom-up approach with priorities being first decided at State level, followed by institute and national level. Each State has a State Forestry Research Plan and each ICFRI institute prepares an institute level research plan. On the basis of State and institute priorities, national level priorities are decided, and research projects developed. The prioritized projects constitute the dynamic National Forestry Research Plan.

### ***13.3 International Research Needs***

There has been a growing concern about conservation and sustainability of resources and the rise in environmental problems, such as global warming, biodiversity loss, pollution of water, depletion of the ozone layer, desertification and carbon sequestration. These concerns and related research obligations were manifest through international conventions and agreements including the Rio Conference. The international forestry-related instruments are discussed in Chapter 18.

The International Forestry Research organization based on CGIAR (Consultative Group on International Agricultural Research), CIFOR (Centre for International Forestry Research) and ICRAF (International Centre for Research in Agroforestry) have identified the following forestry research priorities on international basis: causes of deforestation, forest degradation and poverty in forest margin, landscape conservation and management of forest ecosystem, multiple resource management of natural forests, and agroforestry research under the natural resource strategies and policy.

### ***13.4 National Research Needs***

In the National Forest Policy document, priority areas of research and development, needing special attention, have been identified for achieving the objectives of the National Forest Policy: Increasing the productivity of wood and other forest produce per unit of area per unit time by the application of modern scientific and technological methods, Re-vegetation of barren/marginal/ waste/ mined lands and watershed areas and Effective conservation and management of existing forest resources, mainly natural forest ecosystem, etc.

Some of the important areas where research input is vital are: homestead forestry/agroforestry, watershed management, coastal area management and protective afforestation, high yield plantations, technological factors that limit yields, wildlife conservation and management, multipurpose forest management, genetic resources conservation, and forestry interaction at interfaces with other sectors.

A major part of research effort has been focused on single species or has considered forests as commercial entities and not as ecosystems. Grassland and wetland ecosystems have been largely left out from the gambit of forestry research, although they are very important landscape components of forest biomes (vide Chapter 9). There is a need to adopt a more integrative approach instead of the current disciplinary fragmentation of the forest science community located in forestry institutes as well as universities. Scientific

efforts need to be integrated to deal with the large-scale changes taking place in the land system. Research is needed to identify species, which have key ecological functions that affect productivity, diversity and sustainability of forest communities. Effects of chronic and acute disturbances (e.g. periodic vs. accidental fire, head load removal of biomass vs. deforestation), and those of invasive alien species on structure, functioning and regeneration of forests need to be examined through long-term field experiments. Economic evaluation of ecosystem services and their delivery in response to disturbance and global change across social groups need to be focused in future researches. Urban forestry is another emerging area needing attention of forest scientists.

While the Commission endorses the research activities as outlined in the National Forestry Research Plan, the following areas are recommended for focus.

### **13.5 Recommendations**

- [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, ICFRI 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

# Forestry Institutions

### **14.1**     *Status of Forestry Institutions*

#### **14.1.1**         **Forestry Institutions at National Level**

The forest and wildlife resources of the States/Union Territories cannot be administered and managed efficiently in isolation by the State Forest Departments (SFDs) without the support of various training and research institutes. For this purpose, there exist many institutions whose role, mandate, weaknesses and requirements are described below.

##### **14.1.1.1**     **Indira Gandhi National Forest Academy, Dehradun**

The erstwhile Indian Forest College, Dehradun, established in 1938 to train officers of the superior forest service in India, was upgraded as the Indira Gandhi National Forest Academy (IGNFA) in May 1987, to function as a staff college for the Indian Forest Service (IFS). The Academy is directly under the administrative control of the MoEF. It is headed by a Director assisted by an Additional Director and other staff. The academic faculty includes two Professors, twelve Associate Professors, two Assistant Professors and a Sports Officer. The IFS officers are appointed as the Director, Additional Director and to faculty positions, by the MoEF under the Central Staffing Scheme (CSS) for IFS officers, for fixed tenures. Assistant Professors and the Sports Officer are recruited through the Union Public Service Commission, or on a deputation basis. The other administrative staff constitutes the permanent staff. The Academy also invites guest faculty as having expertise in various fields. It is funded by the MoEF through an annual budget of about Rs. 5.00 crores under the Plan and Rs. 3.00 crores under non-plan budget heads.

The objectives of the Academy is to prepare a cadre of competent forest officers to manage India's forest resources and serve as an apex institution for capacity building among forestry personnel. To address these needs, the Academy conducts the following training courses:

- 12 Forestry induction training for IFS probationers.
- 13 Professional skill upgradation course for SFS officers inducted into the IFS.
- 14 Advanced Forest Management (AFM) courses for the IFS officers in their 10th, 17th and 21st years of service
- 15 Organizing workshops and seminars on various emerging issues in forestry, wildlife and environment.
- 16 Theme-based short-term refresher training courses

#### **Perceived Weaknesses**

Selection of faculty personnel is not appropriate. No special efforts are made to select officers having special aptitude and interest for teaching and training. Teaching requires a special aptitude and a good DFO or CF are not necessarily good teachers, a fact that is

overlooked in the selection of candidates for the posts. The major percentage of faculty positions is at the DCF level (Associate Professor). Adequate number of willing IFS officers at the DCF level are not available. During the last one decade, intake to the service has been reduced to about 25-40 officers per year. The officers of this level are also required for managing divisions in the field. The maximum number of willing officers is available at the CF level, who cannot be selected for want of posts at that level.

There is inadequate support staff for managing a number of activities in the Academy i.e. inter-alia managing tour programmes of probationers, running of AFM courses, short term refresher courses, maintenance of assets, etc.

The amount of honorarium is also not commensurate with the status of the resource persons.

#### **14.1.1.2 Directorate of Forest Education, Dehradun**

After reorganization of the Forest Research Institute and Colleges and the creation of an Indian Council of Forestry Research and Education (ICFRE) under the MoEF in the year 1987, the Directorate was de-linked from the Forest Research Institute and Colleges. It now functions under the direct administrative control of the MoEF and is funded through regular budgetary provisions. The average annual budget under the Plan is Rs. 01.50 crores and Rs. 2.00 crores under non-plan. The Directorate is responsible for:

- 17 Conducting induction training for the direct recruits to the State Forest Service (SFS) and in the Eastern Forest Rangers College, Kurseong, for Forest Range Officers (FROs) and exercising technical control over the induction training for the FROs being organized by the colleges under the State Governments.
- 18 Conducting in-service training for SFS officers and FROs, and organizing courses for the frontline staff, (Deputy FROs, Foresters and Forest Guards), in the form of short term refresher and theme-based courses.

At present there are three SFS colleges at Burnihat, Coimbatore and Dehradun and one Forest Rangers College, namely, the Eastern Forest Rangers College, Kurseong, under the control of the Directorate. Besides, the technical control over the State-run Rangers colleges vests with the Directorate. The IFS officers are appointed as Director, Forest Education (DFE), principals of colleges and lecturers by the MoEF under the CSS for the IFS officers on central deputation basis for fixed tenures. Some of the faculty positions are filled from among the SFS officers and FROs and other permanent faculty posts for fixed tenures and on a permanent basis. The Directorate also invites guest faculty for imparting lectures to trainees on specific topics.

#### **Perceived weaknesses**

- 19 The faculty positions in the colleges remain vacant for years together and do not get filled up as willing officers are not available for being posted in colleges at Burnihat and Kurseong, which are considered as 'hard posting' stations.
- 20 The post of the Director, Forest Education (DFE) is of the level of CF, equivalent to that of the principals of SFS colleges. The DFE incumbent does not have higher delegation of powers and has to obtain orders from the MoEF on most of the matters.

- 21 Because of very low recruitment at the level of SFS, the infrastructure of the colleges is not being optimally utilized for the purpose it was created.
- 22 Infrastructure facilities, including teaching aids, are also inadequate.

#### **14.1.1.3 Indian Council of Forestry Research and Education , Dehradun**

The Indian Council of Forestry Research and Education (ICFRE ) was constituted in December 1986 and has eight research institutes and three advanced research centres. It was subsequently granted autonomy during June 1991. The institutes are located at Dehradun, Shimla, Ranchi, Jorhat, Jodhpur, Bangalore and Coimbatore and the research centres at Allahabad, Chhindwara and Hyderabad. MoEF has also approved establishment of a new Advanced Research Centre for Bamboos and Rattans at Aizawl, Mizoram under the Regional Forest Research Institute (RFRI), Jorhat.

The objectives of the council are to undertake, aid, promote and coordinate forestry education, research and its applications; develop and maintain a national library and information centre for forestry research and allied sciences; act as a clearing-house for research and general information, and develop forestry extension programmes and propagate the same and to provide consultancy services in the field of forestry research, education and training and allied sciences.

The activities of the Council are governed by the ICFRE Society and a Board of Governors (BOG), which oversees planning, administration and financing of the Council. The DG, ICFRE is the chief executive of the Council. The scientific, technical and administrative personnel of the Council include a permanent cadre of scientists, technical staff and the IFS officers/SFS officers appointed for fixed tenures. The recruitment is made on the recommendations of the various selection committees constituted for the purpose.

The vision of the Council is to assist in efforts to increase the forest cover and enhance forest productivity through operationalising the National Forestry Action Programme (NFAP) and the National Forestry Research Plan (NFRP). The NFRP launched in May 2000, has plan component of five years and a vision of 20 years. There are 588 prioritized research projects for the current action plan and the cost implications are to the tune of about Rs.234 crores.

The FRI, Dehradun has been granted the status of a 'deemed university' in December 1991. The university at present conducts three postgraduate degree and three diploma courses, apart from awarding doctorate degrees.

The main source of funding of the Council is through grants-in-aid by the MoEF. The levels of annual grants-in-aid are on an average of about Rs.35 crores under plan and Rs.12 crores under non-plan. In addition, the Council generates its own resources through undertaking projects from user agencies, including a few externally aided projects.

#### **Perceived Weaknesses**

- 23 The research institutes were created for carrying out research on specific themes like genetics, wood technology, forest productivity, tropical forests, etc. However, now almost all the institutes are carrying out research on all aspects of forestry and the focus is thus lost.
- 24 Inadequate staff due to abolition of a number of scientific and technical posts acts

- as a constraint in pursuing the research activities as per the NFRP.
- 25 There is inadequate funding in the form of grants-in-aid from the MoEF, a major component of which goes in payment of salaries. As the major clients for the forestry research are the SFDs, not many projects are funded by them for carrying out research specific to the needs of the States, as the SFDs themselves face financial crunch.
  - 26 The deputation posts remain vacant for long periods and continuity in administration and research is lost, which adversely affects the achievement of objectives.
  - 27 Research results are not being transferred into field applications. The general perception is that enough field-oriented research is not being carried out.
  - 28 There are lacunae in procedures for selecting appropriate personnel from the IFS as well as scientists from the open field, according to the requirements of the Council.
  - 29 A conviction on the part of many SFDs that they are not being adequately consulted in the deciding of the subject areas of research, and that therefore, the research in ICFRE has little relevance to their own problems.

#### **14.1.1.4 Indian Institute of Forest Management, Bhopal**

The Indian Institute of Forest Management (IIFM), was established as an autonomous institution in 1982 under the MoEF. The objectives of the Institute are to provide training in management and related subjects to persons and personnel of forest related industries with a view to equip them to practice the profession of forest management, prepare outstanding talented persons for careers leading to management responsibilities in forestry and forest-related systems, to provide up-to-date information on forest management and to carry out research in matters concerning management and in allied techniques and methods conducive to the development of forestry.

Activities of the Institute are governed by the IIFM Society and a Board of Governors (BOG) which oversees planning, administration and financing of the Institute. The Institute is headed by a Director on deputation for a fixed tenure. The personnel of the Institute include administrative staff, a permanent faculty and IFS officers on deputation. The level of annual grant-in-aid from the MoEF is approximately Rs. 04.00 crores under Plan and Rs. 80 lakhs under non-plan. The Institute has established two corpus funds, one SIDA corpus fund for payment of stipends to candidates undergoing post-graduate programme in forestry management and the other with the revenue generated through various sources, to be utilized for self-sustenance of the Institute once an adequate corpus is built.

Major activities include organizing courses on post-graduate programmes in forestry management, courses in natural resource management, programmes in general management, sectoral management and functional management; research projects of interdisciplinary nature and consultancies of multi-disciplinary nature

#### **Perceived Weaknesses**

- 30 Senior faculty positions have not been filled for long periods.

- 31 In the absence of a perspective faculty development plan, promotions of the faculty have not taken place and this is a cause of frustration. Under the guidelines of the Government of India, the posts lying vacant for more than a year are deemed abolished.
- 32 Due to various administrative problems, the Institute could not sell its expertise and generate resources for its development.
- 33 The Institute has had to face staff problems and confrontation with the staff union, with indiscipline emanating therefrom.

#### **14.1.1.5 Indian Plywood Industries Research and Training Institute, Bangalore**

The Indian Plywood Manufacturers' Research Association (IPMRA) was formed in 1962 as a co-operative research laboratory under the umbrella of the CSIR, for undertaking applied research on plywood. It was re-designated as Indian Plywood Industries Research Institute (IPIRTI) in 1970. Its administrative control was transferred to the Ministry of Industries in 1978. Recognizing its greater role in conservation of a natural resource, its administrative control was further transferred to the MoEF during 1990.

The activities of the Institute are governed by the IPIRTI Society and there is a Board of Governors which oversees its planning, administration and financing. The Institute is headed by a Director on deputation for a fixed tenure. The other personnel of the Institute include permanent administrative, technical and scientific staff. The level of annual grant-in-aid under plan is Rs. 02.50 crores and under non-plan is Rs. 01.00 crore approximately. The Institute has been established with the objective to undertake research on all aspects of production of sawn timber, manufacturing of plywood and other allied engineered products.

#### **Perceived Weaknesses**

- 34 The present infrastructure of the Institute is inadequate and it does not have the stature and wherewithal of an institute of national standard.
- 35 The Institute lacks a long-term vision and the extent of consultations with the plywood industries about the type of research required by them, seem to be inadequate.
- 36 The extension of the research work done and the scope and dimensions of the activities being carried out are not adequate.

#### **14.1.1.6 Wildlife Institute of India, Dehradun**

The Wildlife Institute of India (WII) was set up at Dehradun in 1982 and was accorded autonomy in April 1986. It has a mandate to produce a cadre of trained wildlife managers and field biologists who could collect scientific information on wildlife and PAs for their effective management, and to train personnel at various levels for nature conservation. It advises governments on matters of conservation and management of wildlife resources and PAs. In more than 20 years of its existence it has trained 756 wildlife managers. Sixty-eight students have done their post graduation in wildlife sciences.

The activities of the Institute are governed by the WII Society and there is a Board of Governors which oversees planning, administration, and financing. The Institute is headed by a Director. The faculty includes both wildlife scientists and IFS officers on deputation.

The Institute is funded through grants-in-aid by the MoEF and it also generates its own finances through consultancy services, organizing training and undertaking research projects. The level of annual support by the MoEF is about Rs.10.00 crores under plan and Rs.1.00 crores under non-plan. WII's research projects being conducted in the field are primary sources of scientific information.

#### **Perceived Weaknesses**

- 37 Many positions in the faculty remain vacant for long periods. Only two of the 14 vacant posts have been filled up and six posts have been abolished.
- 38 Much of the research being carried out by the WII does not find field applications.
- 39 Trainees do not get wildlife postings on their return to the respective States after receiving training.
- 40 States do not fully utilize the training facilities available at the WII.
- 41 Despite the mandate, the Institute has not devoted sufficient attention to the crucial matter of reduction of man-animal conflict, especially that pertaining to the development of techniques for capture, translocation and rehabilitation of problem animals.

#### **14.1.1.7 Forest Survey of India, Dehradun**

The Forest Survey of India (FSI) was created in June 1981 with the objective of monitoring, periodically, the changing situation of land and forest resources and present the data for national planning, for conservation and management of forests and the environment. After a critical review of its activities, the FSI was re-organized during 1986.

The revised objectives of FSI are to

- 42 Prepare a comprehensive State of Forest Report (SFR) including a National Forest Vegetation Map (NFVM) once every two years.
- 43 Collect, store and retrieve necessary forestry and forestry related data for national and State level planning.
- 44 Design methodologies for forest surveys and undertake their subsequent updating.
- 45 Undertake work with regard to preparation of forest inventories in selected States/Union Territories until the establishment of their own resource survey units
- 46 Impart training in modern forest survey techniques to Foresters at various levels.
- 47 Advise the States/Union Territories on the design and development of basic and regional national forest inventory systems and
- 48 Support and oversee related techniques and inventory work undertaken by the SFDs.

The FSI is headed by a Director with headquarters at Dehradun. It has four zonal offices, each headed by an Additional Director, located at Shimla, Kolkata, Nagpur and Bangalore. The IFS officers are appointed on deputation. One Deputy Director (Statistics) is drawn from the Indian Statistical Service on deputation. Other administrative and technical staff is appointed on permanent as well as on a deputation basis.

Major functions of each zonal office are to organize fieldwork to collect inventory data, interpretation of aerial photographs and to conduct wood consumption studies. The FSI is

directly under the control of the MoEF and funded through regular budgetary provisions. The annual budget is about Rs. 04.00 crores under plan and Rs. 05.00 crores under non-plan.

### **Perceived Weaknesses**

Field staff in zonal offices is quite inadequate, because of which it is difficult to carry out extensive field verification of the data interpreted through satellite imageries. The staff faces difficulties in reimbursement of travelling expenses for their field visits.

## **14.1.2 Forestry Institutions at the State Level**

### **14.1.2.1 State Forest Training Schools, Academies, and Institutes**

Twenty-six SFDs are having training schools/academies for imparting induction as well refresher training courses to the frontline staff (Forest Guards, Foresters and deputy rangers). Four States also have Forest Rangers College transferred by the Government to the respective States, during 1986. The duration of induction courses for Foresters and Forest Guards varies from State to State (six months to one year). The induction training of the FROs in forest rangers colleges is still being administered by the DFE under the provisions of the 'Entrance and Training Rules' for the FROs, revised from time to time. Some States like Uttar Pradesh, Rajasthan and Andhra Pradesh have forest training institutes/academies which conduct long and short-term refresher courses for officers at various levels and even organize courses sponsored by other agencies. Depending on the level of the post, the Principals/Directors and faculty are appointed by the State Governments concerned, and which generally do not have fixed tenures.

### **Perceived Weaknesses**

- 49 Financial resources available to run these schools/institutes are quite inadequate, which has resulted in poor infrastructure facilities
- 50 The training imparted is not of a high standard because of the lack of adequate training facilities and appropriate teachers in the schools.
- 51 Training is being given low priority by the States. Capable and willing officers are not available and are also not posted to manage these institutions, and hence the quality of training suffers.
- 52 Many a times the important post of Principal/Director is held as an additional charge for a long time by officers posted in adjoining divisions.
- 53 Also, because of poor facilities and incentives, not many officers are willing to be posted in schools. Similarly, the other administrative staff also avoids getting posted to these schools.
- 54 The induction courses are not held regularly and on schedule because of delay in the recruitment process.
- 55 Adequate attention is not being paid in structuring/reviewing the course contents for the induction as well as refresher courses according to the changing/emerging local needs of the sector.

To attend to the above mentioned weaknesses, the following recommendations are put forth:

### **14.1.2.2 Forest Development Corporations**

Based on the recommendations of the National Commission on Agriculture in 1976 to cater to the needs of forest based industries, to take care of marketing strategies, and to undertake agroforestry, the State Governments established Forest Development Corporations (FDCs) with varying objectives. As on today, 24 States have FDCs. These corporations have been leased forestland by the SFDs for undertaking commercial plantations. Some FDCs undertake harvesting and marketing operations for the SFDs, while others have diversified into various other fields like ecotourism, raising cash crops, etc. Most of the FDCs are incurring huge losses. In other cases, they survive financially because they harvest the forest produce, a function which can be carried out by the territorial divisions. Many of them have wantonly converted forests to monocultures. They have not fulfilled the purpose for which they were created. They have substituted existing forests rather than create or restore forests. They have not extended forestry to non-forest areas, nor have they raised institutional finance and they are also not financially viable in most cases. In Arunachal Pradesh, the FDC itself was subverted to undertake cash crops like coffee by clear felling climax evergreen and semi-evergreen forests and the whole tracts leased to the FDC have been invariably encroached upon and occupied, even by persons belonging to neighbouring States.

### **Perceived Weaknesses**

- 56 The FDCs are an outcome of the Forest Policy of 1952 which laid emphasis upon supply of forest material for industry and on the production of timber. This objective and priority has long been given up, with the present Forest Policy of 1988 bearing testimony to the changed approach and attitude. But the FDCs have not adapted themselves to the changed needs of society and are today anachronisms, which mainly serve the purpose of providing posts for senior forest staff.
- 57 They have mainly substituted existing forest instead of creating more forests or even restoring existing ones.
- 58 The corporations are not being managed as commercial organizations and most of them are incurring huge losses. In fact, they function almost like government departments. They are not fulfilling the primary functions they were created for and do not carry out any function which cannot be carried out by the FD itself.
- 59 Often, unwilling officers are appointed on deputation as Managing Directors and General Managers of the Corporations.
- 60 There is a considerable amount of political as well as bureaucratic interference in the affairs of the FDCs
- 61 Because of blurred objectives, lack of vision and mismanagement, most of the corporations are facing a financial crunch, many a times finding it difficult even to pay regular monthly salaries to the staff.
- 62 The staff does not have the professional approach, nor the training and skills to work the FDCs as commercial entities.

### **14.1.2.3 State Forest Research Institutes**

Only seven States namely Kerala, Madhya Pradesh, Uttar Pradesh, Jammu and Kashmir,



Karnataka, AP, and Uttaranchal have established their own forest research institutes which carry out research on local specific forestry and wildlife issues as it is not possible for the ICFRE, the apex forestry research organization, to undertake work on these local issues. In other States, a separate wing within the forest department exists which undertakes small research activities through laying of sample plots, seed orchards, observation plots, etc. In some States, the institutes have been granted partial autonomy whereas in others they are directly under the administrative control of the SFDs. The recruitment of scientific, technical and administrative staff is done by the institutes through different recruitment rules. The heads of the research institutes are appointed by the Government on deputation, which may or may not have fixed tenures.

### **Perceived Weaknesses**

- 63 Inadequate financial resources resulting in poor infrastructure in the institutes
- 64 Because of inadequate finances, the institutes are not able to pursue their research programmes
- 65 Being a low priority area, the posts in the research institutes/research wings of the SFDs either remain vacant for a long time or are filled with officers who do not have much interest or expertise in research activities.
- 66 The State Forestry Research Institutes do not have long term research action programmes drawn up according to the needs of the SFDs.
- 67 The silviculture research wings of the SFDs are poorly equipped to carry out research work.
- 68 Absence of SFRI's even in major States leads to neglect of field research.
- 69 More attention is paid in publishing papers than on undertaking field oriented research and applications.
- 70 Publicity and extension of application and use of research by the stakeholders, is inadequate.

### **14.2 Recommendations**

[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 'headload' 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**

# **Forest Administration**

### **15.1 Status of Forest Administration and Perceived Needs**

#### **15.1.1 Historical Background of Forest Services**

##### **15.1.1.1 Indian Forest Service**

Forest administration in India is more than a century old. It was established towards the middle of the 19th century with the need to exploit forests for the construction of railways and other requirements. A Forest Department under the Government of India (GOI) to deal with all matters related to forests in the Provinces, was created in November 1864 and Dietrich Brandis was appointed as the first Inspector General of Forests (IGF). The IGF was not vested with any power of control over forest management under the Provincial governments. Initially, appointments to the forest service were made from amongst the police, army or other branches of public services. The Indian Forest Service (IFS) was created and the first batch of IFS officers was deputed for training to France and Germany in 1867. Training was continued in Europe up to 1886 and thereafter it was arranged in the United Kingdom. From 1926 to 1932, IFS probationers were trained at Dehradun. With the Indianisation of the IFS in 1922, 40% of the vacancies were reserved for Indians. In a period of 65 years, 860 IFS probationers were trained giving a yearly average of nine officers; abnormal recruitment of 178 officers in five years (1921-25) took place to meet post-war requirements. Recruitment to IFS was discontinued in 1930 and the last batch completed training in 1932. The IFS was constituted again in 1966. Its recruitment is done by the Central government, but each State has a separate cadre. Joint

cadres also exist in respect of Union Territories and some States.

#### **15.1.1.2 Provincial Forest Service**

The Provincial Forest Service (PFS) was created in 1891 to provide a link between the IFS and the subordinate executive service. During initial years, recruitment to this service was made from amongst Forest Rangers with Honours or with a high standard with two and five years service respectively. Direct recruitment to this service was started in 1905 and training for the PFS was started in 1906 at the Imperial Forest College (the Imperial Forest School at Dehradun was raised to college status on establishment of the FRI) by adding a third year course to the Forest Rangers (FR) training. Direct recruits were thus required to undergo three years training while FRs were eligible for appointment after undergoing an extra year of training. A separate two year course for the PFS was started in 1912 and graduates in science were made eligible. After starting such separate training for the PFS, FRs could not be appointed to the PFS after undertaking an extra year of training. It resulted in considerable hardship and frustration among FRs who constituted the backbone of the staff at the district level and the restriction to promote Rangers was withdrawn later. The PFS consisted of two grades, viz., Extra ACFs and Extra DCFs. In 1920, the cadre of Extra ACFs was abolished and all Extra DCFs were absorbed in the IFS, except for those who were to retire within 5 years. Thereafter, PFS consisted of only Extra DCFs who were eligible for promotion to the IFS up to a limit of 12.5% of the cadre strength. From 1921 to 1926, recruitment to the PFS rested with the Provincial governments and training for the PFS was discontinued, consequent upon the training of the IFS having started in India. In all, 199 PFS officers were trained. The Superior Forest Service was created to replace the IFS and training for the same was started in 1938 at the Indian Forest College established for the purpose at Dehradun. After 1947, the Superior Forest Service was designated as the State Forest Service (SFS). After the recreation of the IFS, the training for SFS continued in the SFS colleges under the Government of India.

#### **15.1.1.3 Subordinate Executive Service**

During the initial years, recruitment to the subordinate executive staff (Forest Rangers, Foresters and Forest Guards) rested with DCFs and CFs and there was no proper arrangement for their training. The officers were expected to train their subordinate staff. A forest school was started in 1878 at Dehradun (renamed as Imperial Forest School in 1884 and Imperial Forest College in 1906) to train Forest Rangers and Foresters. The organization for executive and subordinate services on a Provincial/State basis was approved in 1896 and it included the ranks of Forest Ranger (FR), Deputy Ranger (DR), Forester (Fr), and Forest Guard (FG). Forest Rangers' course was discontinued in 1933, when the college was closed because of the general economic depression. The college under its new name as the Indian Forest Rangers College was re-opened in 1935. The training for forest rangers was for two years, and the intake was biennial till 1942, and thereafter it was annual to meet with the increasing demand. The Madras Forest College to train Forest Rangers for southern India was established at Coimbatore in 1912. It was closed from 1939 to 1945 for want of funds and in 1948 it was taken over by the Government of India.

Training of the lower subordinate executive staff (Foresters and Forest Guards) remained the responsibility of the Provincial/State Governments, except for a brief period from 1952

to 1960, when a Regional Foresters School was run by Government of India at the Forest Rangers College, Coimbatore, to meet the requirements of the southern States.

### **Analysis**

Direct recruitment to the SFS even after the creation of IFS is creating some problems in the forest service, including under-utilization of the services of, and serious stagnation in service, for the SFS officers. Presently, direct recruitment to the SFS is insignificant when compared to cadre strength of the SFS and the training capacity of the SFS colleges is not being utilized. Cadre management, recruitment and training for the SFS need serious consideration.

During the early eighties, there has been excessive recruitment in the IFS to cope with increased work, resulting in stagnation in promotion and consequent frustration. Proper planning is necessary to assess vacancies for the next 15 years and for a rational recruitment and appropriate training.

Lately, the quality of training of non-IFS staff has suffered in the absence of proper infrastructural facilities in training schools and because of the practice of posting not very suitable training faculty. The Foresters and Forest Guards constitute the cutting edge of the service and their training deserves the highest priority. Highly qualified persons are now joining as Forest Guards with aspirations to rise in service. Forest Guards may receive in-service training to upgrade their knowledge and skills at the time of promotion to a Forester's rank. Promotional avenues for all categories of executive service need to be improved to provide at least two promotions in a service career.

### **15.1.2 Evolution of Forest Administration**

Forest service at the outset remained occupied mainly with exploration, demarcation and reservation of forests and their protection and exploitation to meet the national demands for timber. During the period 1871-1900, preparation of Working Plans was started and scientific forest management commenced. As the work relating to Working Plan preparation increased, posts of Working Plan Conservators with other staff, were created. Forestry research and description of flora and fauna also engaged the attention of forest officers during the latter half of the nineteenth century. During this period, construction of buildings and development of communications were also taken up. Forest settlement work was actively undertaken during 1880-1900. Consequent upon more intensive management of forests according to the Working Plans, the work load of silvicultural and management operations increased and the forest service was gradually strengthened to handle the increasing work. The idea of re-organizing the IFS and of having a Chief Conservator of Forests in each Province crystallized in 1903, but appointments of Chief Conservators of Forests could be done only after the First World War.

In the 1920s, afforestation work on degraded areas outside forests (ravines and wastelands) was undertaken to meet the demands of the rural population and further enhancement of the FD was done. After World War I, interest further began in wildlife management and a few sanctuaries were established in different parts of the country.

Forests became a transferred subject in 1921 and their administration was transferred to the Provincial governments. Consequently, the importance of the IGF's post was diminished and this post was amalgamated with the post of President, FRI, Dehradun.

This position continued for the next two decades. Consequently, Chief Conservator of Forests (CCFs) in the Provinces became independent heads of their forest departments, responsible only to their respective Provincial administrations. The IFS cadre was set out for each Province with a provision for deputation to Government of India. The unified system of recruitment, training and service conditions, however, continued.

With the promulgation of the Government of India Act, 1935, "forests", which became a transferred subject in 1921, became entirely the concern of Provincial Governments. Changes in forest administration took place after Independence in 1947. Most of the British forest officers left and the responsibility, consequently, passed on to Indian officers. As a result of taking over of the princely states / zamindari forests, forest administration had to be strengthened to manage the increased area under forests and also to handle reforestation and improvement of degraded forests. Recruitment to different cadres was increased to handle enhanced work. Forest administration in many States had to be re-organized as a result of re-organization of States in 1956. The Wild Life (Protection) Act, 1972 led to greater emphasis on wildlife conservation and management and to the creation of appropriate structures in different States to handle this work. The recommendations of the National Commission on Agriculture (NCA 1976) regarding production and social forestry were also a turning point, resulting in the establishment of organizations to handle harvesting and marketing of forest produce (Forest Development Corporations) and social forestry works (Social Forestry Directorates/Wings). Implementation of the Joint Forest Management (JFM) programme necessitated creation of suitable structures in the service to handle this work. In some States, separate Ranges and Divisions for JFM were created. Forest administration in some States has also been re-organized to implement donor-funded projects. Details of the present set up of forest administration are given under "Forest Administration Structure in the States".

Forest administration structure in the Government of India also underwent changes to meet emerging requirement. Forests were brought on the concurrent list in 1976, whereby Government of India formulates broad policy, can legislate on forestry matters and issue guidelines to the States. The Forest (Conservation) Act, 1980 was enacted by Government of India with a view to regulate transfer of forestland for non-forestry purposes. Forest administration at the level of Government of India remained a part of the Ministry of Agriculture till 1985 when the Ministry of Environment and Forests (MEF) was created. To provide funding for plantations on a large scale, particularly on wastelands, National Wastelands Development Board (NWDB) was created in 1985 in the MoEF which was later on bifurcated into two. While the NWDB was made part of Ministry of Rural Development, and a new body known as the National Afforestation and Eco-development Board (NAEB) was created in the MoEF in 1991. Two posts of Addl. IGF (now Addl. DGF), were created to look after matters relating to forest conservation and wildlife protection.

### **Analysis**

After Independence, the functions of forest administration got diversified and enhanced. These new and increasing demands required appropriate strengthening of SFDs through increase in staff strength, reorientation in training, capacity building measures and improved infrastructural facilities. Such measures to strengthen SFDs have not been taken. The workload has increased beyond the capacity of the present staff of the SFDs. The



increased pressure on the biota requires more stringent protection. But, while the posts at the high echelons have increased, there is no increase at the level of the Forest Guards and Forester and the average size of the Forest Guards beat remains the same for a century or more, about 15 to 20 sq km per beat at an average. Foresters are now required to interact with the people for JFM and for forest extension outside forestlands. The staff is not geared as yet for these new tasks and duties, either at the level of recruitment or in training. The expenditure on works has increased several fold without corresponding increase in staff strength. The annual budget of a Range was much more than the annual budget of the whole Forest Division about three decades ago. The performance has consequently been adversely affected. There is a growing feeling in the forest service that the work is thrust upon it without involving it in decision taking. Under such circumstances, the forest administration does not feel accountable for the success of the programmes thrust upon it. Restructuring of the forest service in the States needs to be undertaken on priority to provide adequate staff at different levels. Powers, both administrative and financial, need to be decentralized to improve efficiency at all the levels. There is also a need to a changed regimen in training, recruitment and in cadre management to meet with the current requirements and milieu.

### **15.1.3 Functions of Forest Administration**

Forest administration handles protection, management and utilization of forest resources (land, forests, wildlife, water etc) to produce various goods and services to meet ever-increasing and at times conflicting demands from a shrinking resource base subjected to constant increasing biotic pressures. Functions of the forest administration are consequently varied in view of its varied duties and forestry is of concern and interest to a large section of society. The functions of the forest administration broadly include the following: i) Forest protection, ii) Silviculture, and management, iii) Survey, demarcation and Working Plans, iv) Harvesting, transport, processing and marketing, v) Supervision, budgeting, policy formulation and legislation, vii) Research, training and extension, viii) Wildlife management ix) Social forestry, x) Joint forest management, xi) Watershed management, including soil and water conservation, and xii) Non-wood forest product collection and marketing.

#### **15.1.3.2 Forest Protection**

The strategy adopted by the forest department for protecting forest resources is of policing and persuasion. Patrolling is done by the SFD staff and offences are dealt with in accordance with various enactments, rules and orders. The SFD is generally ill-equipped to fight against forest offenders. The SFD is required to take protection measures against illicit felling, encroachments, forest fires, grazing in areas closed for regeneration / plantation purposes, poaching of wild animals, illegal quarrying and mining, theft of gene pool material, unauthorized removal of medicinal and aromatic plants, etc.

Protection against illicit fellings and poaching is becoming increasingly difficult. Organized gangs of offenders sometimes use faster means of communication and lethal weapons. The Forest Department (FD) has been following traditional approaches in protecting the forests. A Beat Guard is supposed to patrol his beat for prevention and detection of offences spread over an area ranging from 11 to 200 km<sup>2</sup>. It is noteworthy that while the upper echelons of the FD has had a very sizeable increase in strength over the years, there has been no increase in the overall number of Beat Guards. Apart from

protection responsibility, a Beat Guard is required to handle other forestry operations such as nursery and plantation work, construction and maintenance of forest paths, fire lines and boundary pillars, soil and water conservation works, silvicultural operations, arranging labour, maintenance of muster rolls, etc. The beat guard is ill-equipped to handle all these works. In case of JFM areas, lot of his time is taken by activities relating to community participation. The area of the beat is vast and the beat guard has not been provided with any means of transport. The protection work consequently suffers. He also has the responsibility of seeking peoples' co-operation and participation in protection activities. He mainly deals with compounding of offences under the Forest Acts, and has not been trained to make search, seizure and gather evidence necessary for the prosecution of offences. As a result, a large number of cases fail due to procedural faults and weaknesses.

Likewise, the jurisdictions of other SFD executive staff members senior to the Beat Guard are very large and in the absence of transport facilities, effective forest protection is not possible. It is not uncommon to find one Forest Guard manning a check-post all the 24 hours without proper facilities for quick communication or of arms to confront organized gangs of offenders. Compared to the magnitude of protection problems and other responsibilities, the staff and facilities provided at all the levels in forest administration are too meagre and primitive. At times, SFD staff members risk their lives in protecting the forests. There have been several incidences of murder of forest staff by forest offenders. Staff strength needs to be considerably increased and modern facilities need to be provided to fight forest offenders to ensure effective protection to forests. People's participation is essential in protecting forests as there have been few cases of illicit fellings, fire, and encroachments in JFM areas.

Besides protection against illicit cutting and encroachments, protection against forest fire is becoming increasingly important. Forest fires are quite frequent and do considerable damage to forests. The methods of fire control adopted by the SFDs are obsolete and old, involving cutting and burning of fire lines and beating fires manually. Fire incidences are deliberately under-reported because the staff would be held responsible for the occurrence of fire. The assessment of damage due to fire is not given any importance and, in fact, knowledge in this regard is also very scanty. The loss due to fires includes destruction of humus including micro-organisms, leaf litter, regeneration, herbs and shrubs, and wildlife, decrease in annual increment, physical burning of felled wood, increased soil desiccation and resultant increase in soil erosion and run-off, susceptibility to diseases and pests, change of forest community structure, replacement of more valuable tender species by less valuable hardy species etc.

### **15.1.3.3 Forest Management**

Forest management including silvicultural operations and harvesting still constitute the main functions of the forest administration. Silvicultural operations include all operations from regeneration to final fellings in the forests and establishment of nurseries and plantations. Forest management activities include regulation of rights and concessions, grazing, fuelwood collection, fire control measures, construction and maintenance of paths and boundary pillars, implementation of Acts and laws concerning forest conservation, etc. Most of these operations are handled by the field executive staff with the help of labour employed for the purpose.

#### **15.1.3.4 Survey, Demarcation and Working Plans**

Forest administration undertakes survey and demarcation of areas required to be notified as forests or the areas to be taken up for plantation or for some other specific work. Inventory of the forest resource is undertaken at the time of Working Plan preparation. Working Plans are revised normally at 10-year interval; in some States this interval may be longer. Each State has a Working Plan Organization to undertake this work. Working Plans have lost their sanctity and their prescriptions are too general and at times vague. Working Plans are not being regularly revised in some States and the work is in arrears. The lack of priority given to this work has attracted the attention of the Supreme Court as well. Funds are normally not available to carry out the Working Plan's prescriptions, which are at times too ambitious to be feasible within the financial resources available. Age-old methods for inventory and mapping are being used and modern tools and techniques are not being adopted. Inventory methods for assessment of biodiversity have not been standardized and management is consequently not being geared towards sustainable management for biodiversity conservation. The lack of facilities provided to the officer and staff assigned this task and the lack of importance and hence of status attached to this work, causes officers and staff to shirk this work and to avoid a posting here at all costs.

Working Plans must be revised as per schedule, by competent officers of the requisite seniority and the prescriptions therein must be implemented with the required financial and infrastructural support. No officer at the level of DFO/Ranger should be promoted till he has successfully prepared a Working Plan.

#### **15.1.3.5 Harvesting, Transport and Marketing**

Forest administration is required to handle extraction of various forest products. Timber extraction is now handled by Forest Development Corporations (FDCs) in most of the States and in some cases by Production Divisions and similar structures. The FDCs draw most of their staff on deputation from SFDs. The forest administration regulates collection of NWFPs in accordance with Working Plans and rules and regulations applicable to their collection. The collection and sale of nationalized NWFPs is handled by FDCs. The level of extraction of timber has been considerably reduced as a result of ban on fellings or because of forest degradation. The FDCs created for these purposes are finding it difficult to sustain on the reduced out-turn. The continuance of FDCs has been dealt with in Chapter 14. Nationalization of NWFPs goes against the interests of local communities entitled to collect them. The whole question of collection and sale of NWFPs needs to be examined in the light of giving ownership rights of NWFPs to local bodies in specified areas.

#### **15.1.3.6 Supervision, Budgeting, Policy Formulation and Legislation**

The Divisional Forest Officer (DFO) is required to handle general administration and budgeting and makes contributions to policy formulation and legislation. The administrative work has very much increased. The work of interaction with a number of stakeholders in forestry, both public and private, is increasing. The DFO is required to attend several meetings; attend to the visits of VIPs and inspecting senior officers, and to carry out a number of other miscellaneous jobs. In the present scenario of developmental activities, public awakening, multiplicity of development schemes, the DFO does not find

time to do justice to each of these assignments. A study shows that to attend to professional work relating to silviculture and management, a DFO is able to invest only about half of his time, the remaining half being used in attending to various other jobs.

#### **15.1.3.7 Research, Education and Training**

The research units under SFD are generally manned by SFD staff. In case of State Forest Research Institutes, the staff consists of forestry officials from SFDs as well as scientists recruited from concerned institutions. In the ICFRE institutes also both forest officials and scientists constitute the research staff. Details of staffing and work of research institutions are provided under “Forestry Institutions” in Chapter 14.

#### **15.1.3.8 Wildlife Management**

Forest administration handles wildlife management both in protected areas (PAs) as well as in forest areas outside PAs. A separate structure or Wildlife Wings have been created to handle the work of wildlife management. In other forest areas, the territorial staff of SFDs handles wildlife work. The staff between the wildlife wings and territorial wings in a SFD is interchangeable and frequent transfers, hinder specialization. There is also the tendency to post unwanted and inefficient personnel in the Wildlife Wings, in keeping with the low priority that is accorded to this work within the SFDs. The personnel therefore have neither the aptitude nor the training and skills for the specialized work and try to get themselves posted back to the so-called “mainstream” forestry jobs.

#### **15.1.3.9 Social Forestry**

Separate directorates/wings were created in most of the States to handle social forestry work. After switching over to Joint Forest Management (JFM), social forestry directorates/wings have been amalgamated with territorial divisions. In some States, separate social forestry staff still continues to handle plantation work outside forest areas and extension support to farm forestry / agroforestry. The social forestry work is continuing at a low key now because of the shift to JFM and also because of paucity of funds. It is surprising that the social forestry programme which was considered very important to meet the requirements of fuelwood, fodder and small timber of rural population, has been quietly given up without making any alternative arrangements to meet the demands of two-third of the rural population that live in areas where there are no forests and where JFM cannot help.

#### **15.1.3.10 Joint Forest Management**

The Joint Forest Management (JFM) programme has been undertaken on an ambitious scale and already an area of 14 million ha is reported to have been brought under JFM. The work of JFM is handled by the territorial staff. Special units created to handle this work, as in Karnataka, were not found to be practical and had to be abolished. JFM work requires working with village communities very closely and results in an increase of workload for the field staff. No reorganization in SFDs has, however, been done to provide more staff for this work at the field level and the work is suffering. With the increase in targets and inadequate attention for dialogue and interaction with village communities because of shortage of staff, JFM is gradually becoming a government-driven programme like any other forest activity. Restructuring of forest administration is necessary to handle JFM and to restructure the infrastructure staff training and orientation.

JFM requires a very different approach and handling, tasks which the present Forest Guards, Foresters and Rangers are not trained for.

#### **15.1.3.11 Watershed Management**

Soil and water conservation is an important activity of forest administration, particularly on erodible sites and in degraded forests. Soil and water conservation is taken up along with afforestation work by the territorial staff. In some States separate Forest Divisions for soil conservation have been created. Moisture stress being an important factor for failure of plantations, water conservation is important. Sustained water supply and improvement of water regimes is an important objective of forest management, and the significance of forests as regulators of water flows is being increasingly realised

#### **15.1.3.12 Non-Timber Forest Products**

The Non-Timber Forest Products (NTFPs) are assuming increasing importance because of their contribution to the livelihood of communities living in and around forests. The National Forest Policy of 1988 rightly emphasizes on improving production of NTFPs. Silviculture and forest management practices must also aim at biodiversity conservation and increased production of NTFPs, instead of concentrating on only commercially important timbers. No special silvicultural and management measures are, however, taken to increase production of NTFPs. In some States, Forest Corporations have been created to handle collection and marketing of nationalized NTFPs. Forest administration in most of the States regulates collection of NTFPs in accordance with rules and regulations applicable in that State. In JFM areas, the JFM resolutions and MoUs signed govern the collection of NTFPs by the participating communities.

#### **Analysis**

The functions of forest administration are multiple and very varied. All the functions are, however, carried out by the same staff. One may be transferred from the territorial wing to the wildlife wing, social forestry wing, FDC or research and training assignment. The philosophy of working in the forest administration is that one can handle all types of jobs and specialization in any work does not make a difference. In view of frequent transfers and with no facilitation for specialization, expertise in the diverse fields does not occur. Launching of social forestry programme did not, therefore, require any special training for staff. So was the case with the establishment of Forest Development Corporations and no training for harvesting, sorting and marketing were arranged for the staff. While embarking on JFM, some re-orientation training for the staff was arranged, but no training was considered necessary in silviculture and management even though silvicultural systems for JFM areas should have been different from that of forests managed for commercial timber production. Restructuring the service and measures for capacity building to undertake specialized programmes need serious discussion in the forest service.

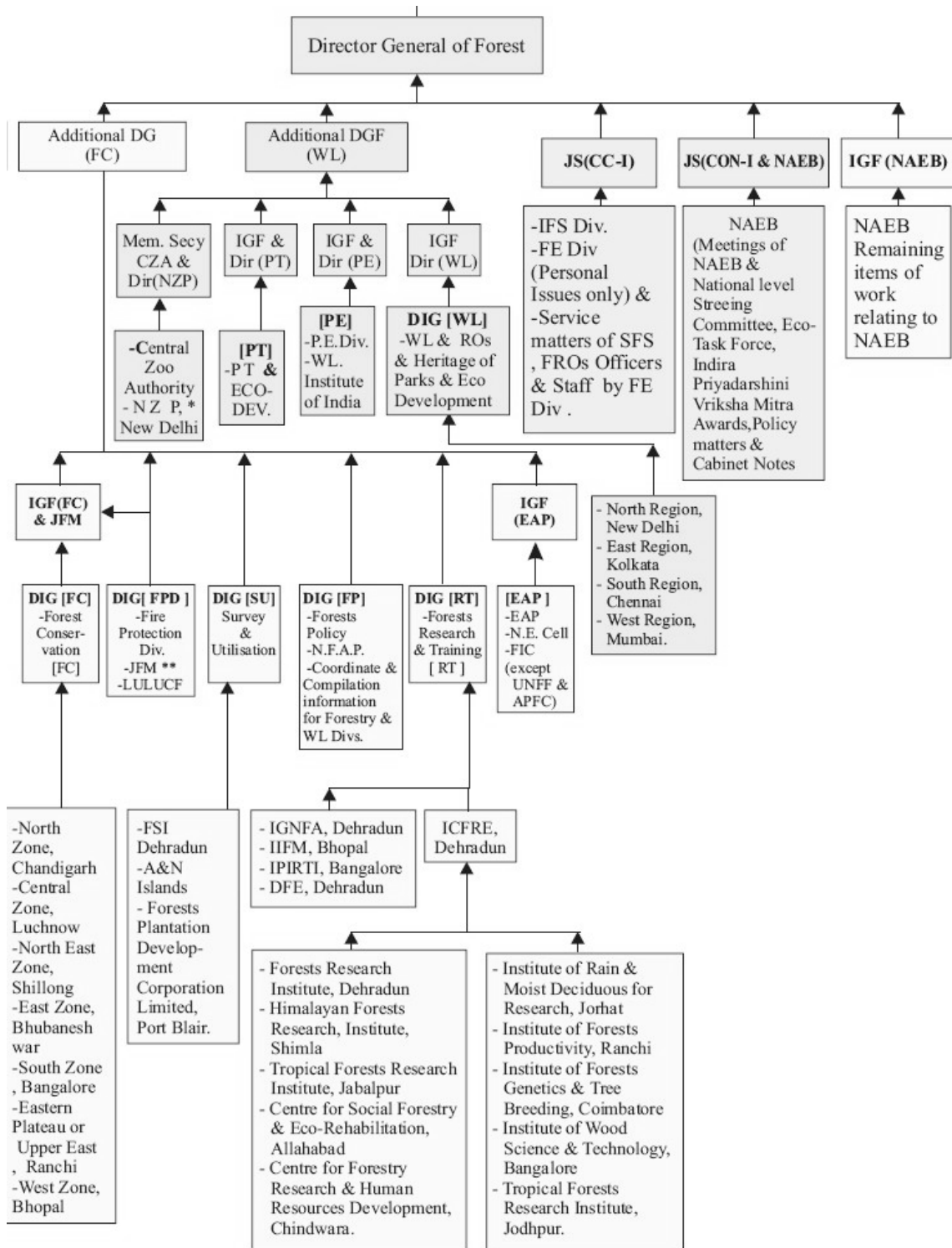
Forest personnel are required to handle diverse jobs, which need specialized training and skills. Willing and interested forestry personnel of all categories from Forest Guard to IFS officers should be encouraged and provided opportunities to upgrade their skills and knowledge through undergoing specialized training and advanced studies. The personnel with specialization should be posted to such specialized jobs. There also need to be

changes in the recruitment processes to facilitate specialization and sub-cadres are advocated as dealt with under Chapter 16.

## ***15.2 Present Forest Administrative Structure***

### **15.2.1 At National Level**

The set-up dealing with forests and wildlife was separated from the Ministry of Agriculture in 1985 and was constituted as a part of the Ministry of Environment and Forests (MoEF). The organizational structure of the 'Forests and Wildlife Wing' of the MoEF is as in Figure 15.1. The Director General of Forests and Special Secretary (DGF & SS) is the chief adviser to the Government on forestry and wildlife matters and discharges all administrative and executive functions delegated to him.



**Fig. 15.1 Organizational Structure of the 'Forests and Wildlife Wing' in the MoEF**

MoEF is the cadre controlling authority for the Indian Forest Service. It also operates the

central staffing scheme of the MoEF for the IFS for appointments to forestry posts in the Ministry, as well as to forestry institutions on a deputation basis.

There are four zonal offices at Delhi, Kolkata, Mumbai and Chennai under the Director, Wildlife Preservation, i.e. Addl. DGF (WL), for handling matters relating to the Wild Life (Protection) Act, 1972 and CITES and other international conventions to which India is a party. The Ministry has six regional offices headed by CCFs (except the northern regional office which is headed by a CF) having a mandate to scrutinize proposals for regulation of diversion of forestland for non-forestry purposes under the Forest (Conservation) Act, 1980, and for monitoring and implementation of centrally sponsored schemes. Due to inadequacy of manpower, the regional offices of the MoEF are presently handling matters relating to the Forest (Conservation) Act, 1980, and environment impact assessment (EIA) of projects. They do not find time for monitoring and evaluation of centrally sponsored schemes being implemented in the States for which funds are released by the MoEF, and which is also the mandate of the regional offices. Presently, some of the subjects in the Forest and Wildlife Wings are not specifically allotted to any of the divisions i.e. issues relating to service matters of SFS officers, FROs, and other subordinate staff of the SFDs.

The subjects of wetlands, biosphere reserves, mangroves, combating desertification, biodiversity, medicinal plants and animal welfare, although part of forestry and wildlife in the States, are dealt by the Environment Wing of the Ministry.

Budgetary allocation for forests and wildlife at the Government of India level, is inadequate. The technical and support staff is also insufficient. IFS officers selected for posts other than in the Forestry Wing are generally not assigned the jobs for which they are selected

The forest and wildlife sector does not get the priority, focus nor the funds it deserves, in the present dispensation. Indeed, it appears to be a subservient branch of the Environment Wing, within the MoEF. Even subject areas, which should be more appropriately handled by the Forest and Wildlife Wing, are being dealt with by the Environment Wing.

### **15.2.2 At State Level**

The Forest service structure is broadly similar in the different States, with minor variations to suit specific requirements. In most of the States, the forest organizations broadly structured in two parts, viz., the State Forest Department (SFD), and the Forest Development Corporation (FDC). The forest service structure in the States is shown Fig. 15.2.

IFS officers are appointed as Managing Directors of the Forest Development Corporations (FDC) and the Forest Department is represented on the board, either by the PCCF or CCF (s).

#### **Fig. 15.2: State Forest Administrative Structure**

The Department of Forests and Wildlife in the State is headed by a minister, assisted by a



principal secretary (forests and wildlife) who for administrative matters generally acts as a link between the forest department and the political executive. The present forestry administration and set-up in the States, with a few exceptions, is given in Table 15.1.

**Table 15.1 – Forestry Administration Set-up in States**

Sl. No.	Designation	Responsibilities
1.	PCCF	Head of the forest department or special assignment/forest development corporation.
2.	Addl. PCCF	Either entrusted with the supervision of two or three wings of the department or entrusted with duties and responsibilities separately like that of a CCF.
3.	CCF	Heads a wing of the department like territorial, wildlife, social forestry, development, planning, Working Plans, research, training, vigilance, JFM, administration, etc. /special assignment.
4.	CF	Heads a circle at regional level/non-functional circle/special assignment.
5.	DFOs/ DCFs/ WL Warden /WPO/ Research M&E.	In-charge of a forest division which can be a territorial or a functional division/special assignment in the department.
6.	ACF	Either holds charge of a subdivision or a division or functional post/assignment.
7.	FRO	Heads a forest range/special assignment.
8.	Dy.RO	Given special assignment or charge of a block/forest station.
9.	Forester	In-charge of a section/block/circle/special assignment.
10.	Forest Guard	In-charge of a beat/special assignment.
11.	Forest Watchers	Generally employed to assist the field staff in protection matters.

Administration in SFDs has to take into account the requirements of forestry such as the organizational structure, administrative units, number and strengths of different cadres, inter-cadre linkages, co-ordination with other departments and dealing with the public and politicians.

The size of the organization in different States/Union Territories is not necessarily proportional to the forest area, but may vary with various types of work to be handled. Protection of forests is a major consideration in deciding the strength of forestry staff. However, the strength of forest staff has not increased to cope with the increasing work load and biotic pressures, and the size of the beat, the lowest protection unit in the department, has remained constant as noted earlier. The number of posts (from PCCF down to Forest Guards) in 1985 was 132,385 and the same in 2004 is about 140, 000, the increase being mainly at senior levels and its supportive administrative staff.

### **Analysis**

Even though the problems related to forest protection and management have increased manifold, the strength of the frontline staff that has to actually handle these matters at the grass root level has not increased. A large number of posts have been abolished under the down–sizing policy of the government, or are lying vacant, with no prospects of their being filled up in the immediate future.

increasingly felt. Such a shift to more bureaucratic values and behaviour is not in the interest of forestry. The PCCF's office mainly confines its role to administration and supervision of the subordinate officers. No adequate steps are taken to promote professionalism in the personnel nor to inculcate research or the technical aspects of forestry. There is no dissemination of knowledge pertaining to forestry and forest-related problems, nor an inclination to publish papers or undertake field surveys and data collection. The unplanned growth of forest administration has in many cases resulted in multiplicity of reporting and control. Such a command system leads to confusion, inefficiency, frustration and conflicts.

The job of each level of functionary is not well defined, particularly of the attached officers and of the posts recently created / re-designated (CCF, Addl. PCCF). The job description of posts given in the old forest codes/manuals cannot hold good today because of changed roles and responsibilities of the SFDs.

The culture of not staying in headquarters and of avoiding field tours has very much adversely affected forest protection and management activities, and even field officers are frequently not fully familiar with the forests in their charge. This lacuna is further compounded by the frequency of transfers.

### ***15.3 Characteristics of Forest Organization***

Forest administration is distinguished by the following main characteristics.

- 71 Rigid hierarchical structure
- 72 Departmental discipline
- 73 Cohesiveness of organization
- 74 Centralized planning
- 75 Centralization of decision making
- 76 Lack of long-term planning
- 77 Target-oriented approach
- 78 One-way communication
- 79 Inadequate public contact
- 80 Inadequate interaction with other government departments

### ***15.4 Capacity of Forest Administration – Strengths, Constraints and Weaknesses***

The forest personnel undertake perhaps the most onerous task compared to any in the country. They have no help. Everyone in this country wants a share of the forest “pie” and the constituency they are trying to save – the forests – have no voice. There have been many failures, but the fact remains that there is no personnel in the country better organized or trained to save and manage the nation's most valued natural resources than the SFDs. Their shortcomings and failures, their professionalism and performance would have to be overcome and improved so that they can discharge their duties much better.

#### **15.4.1 Strengths**

Some of the strengths of the forestry administration are:

- 81 Well-organized structure
- 82 Discipline

- 83 Professional skills
- 84 Policy and legal framework
- 85 Scientific approach
- 86 Capacities to handle varied subjects
- 87 Employment provider
- 88 Conservative expenditure

### **15.4.2 Constraints**

Constraints in the forestry sector, which need to be overcome, include:

1. Ever increasing pressure (both of human and livestock populations) resulting in forest degradation
2. Declining forest productivity because of over use and degradation
3. Inadequate investment
4. Inadequate participation of local communities
5. Inadequacies and imbalances in forest policy (unclear goals, JFM, agroforestry etc)
6. Subsidies resulting in wasteful use of forest products
7. Low level of technology input
8. Inadequate research and extension support
9. Lack of private sector participation
10. Lack of proper database.
11. Inadequate training, especially at induction
12. Recruitment policy needs modification
13. Lack of specialization
14. Tenure of postings, short and ad-hoc
15. Lack of political and bureaucratic support

These constraints would have to be addressed while dealing with future forest administration.

### **15.4.3 Weaknesses**

#### **15.4.3.2 Emphasis on Bureaucratic Approach**

State Forest Departments are still considered as one of the most disciplined departments of civil administration. Though this is a positive aspect, at times it tends to develop certain weaknesses in the system. Orders of superiors are considered as final with very little opportunity or occasion for suggestions or amendments by the subordinates. This type of set-up develops concentration of powers at the higher level, though the field staff is held accountable for the success or otherwise of those orders. The pressure of increased administrative workload and the lack of delegation of powers has resulted in increase of routine administrative work and a decrease in professionalism, updating of technical know-how and field work.

#### **15.4.3.3 Lack of Vision, Goal and Mandate**

Forestry sector has no clear vision and goals. Indeed, there is a National Forest Policy and many States have also prepared their own forest policies and strategies. But these have not always transcended themselves to actions in the field and even the lower levels of the personnel of the forest departments are unaware of them., and have not been empowered and directed to implement them.

#### **15.4.3.4 Diffused Forest Management Objectives**

The conflict between biodiversity and environmental conservation and the practice of free grazing and fuelwood collection creates confusion in setting clear objectives of forest management. The ever-increasing quantum of rights and concessions, which in many areas exceeds the productive capacity of forests, is another problem adding to confusion about the objectives of forest management. There are several other conflicting issues required to be settled to set clear forest management objectives. The objectives of JFM are also not clear. Government of India guidelines issued on June 1, 1990, which form the basis for State Governments' resolutions on JFM, provide that SFDs and local village communities (LVCs) should work together "for revival, restoration and development of degraded forests". The JFM resolutions issued by the States do not, however, clearly State that restoration and development of degraded forests brought under JFM will aim at meeting LVCs' requirements for forest products. Nor does it clearly spell out the social contract that the JFM must be, i.e. that the devolution of rights and concessions to the local communities vis-à-vis the forests and forest produce is entirely dependent on the communities fulfilling their obligations and duties vis-à-vis the protection of the forests.

#### **15.4.3.5 Lack of Demarcation of Forest Boundaries**

The forest boundaries are not clearly demarcated, especially in revenue records. In case of boundary disputes between forest and revenue departments, the final word is with the revenue department, which is often contrary to forest boundaries and forest conservation interests. However, it is overdue that forest boundaries are mutated in revenue records by formal settlement and an undisputed demarcation is finalized. The Supreme Court interventions in the past in this regard could achieve success in the process only partially, as most of the areas are still to be notified by a joint settlement between the two departments.

#### **15.4.3.6 Link between Research and Field Practice Missing**

Achieving the objectives set out in the forest policy cannot be possible without a strong field-oriented research support. Weak research structure in forest administration and the inability to apply research results in the field are the most important weaknesses which need to be rectified.

#### **15.4.3.7 Lack of Documentation, Database and Maintenance of Records**

Forest administration suffers from poor documentation. Consequently, the institutional memory remains very much limited and weak. In the absence of proper database, planning and implementation of programmes suffer. Personnel management also suffers. Mistakes are repeated which affects efficiency and output. The practice of issuing inspection notes, maintenance of DFO's diaries and beat manuals have either been discontinued or are not being followed in letter and spirit, in most places. Forest administration is yet to fully realize the potential of the revolution, taking place in information technology.

#### **15.4.3.8 Lack of Expertise of the Subordinate Staff**

Executive staff at the field level does not get exposure to the latest developments in forestry. In-service training is arranged to cover only a small strength of the total staff. No professional discussions such as in seminars are arranged for staff at the field level. The practice of senior officers imparting on-job training to their junior staff no longer exists. The executive staff at field level constitutes the cutting edge of forest administration and their professional efficiency determines the efficiency of the Department.

#### **15.4.3.9 Lack of Coordination with People and Government Departments**

The experience of protecting and managing forests for more than a century led to the realization that: i) forests, today and in future, cannot be managed without the active participation of the people who are directly or indirectly dependent on forests, and ii) forestry is not the sole preserve of the SFD; there are an increasing number of stakeholders who have an interest in forestry and also the ability to influence government policy and decisions. The SFDs cannot, therefore, work in isolation and will have to build partnerships with different stakeholders in forestry. Extending forest/tree cover to achieve the goal set out in the National Forest Policy, 1988 and sustainable management of forest resources will require involvement of a number of organizations, both governmental and private, as well of the people.

### ***15.5 Inter- Sectoral Collaboration***

Attainment of inter-departmental and inter-sectoral cooperation and collaboration in practical terms, is a very difficult task. But it has to be achieved if forests are to be conserved, made more productive and especially so if forestry is to be extended to private lands. Such cooperation and integration of programme activities must manifest itself at both the State and Central Government levels, up to the level of the local bodies such as the Panchayat / Gram Sabha.

### ***15.6 Monitoring and Assessment***

The administrative set-up needs to evolve the following, with the infrastructure and funds to support the work:

- 89 Development of Criteria and Indicators for the assessment and evaluation of sustainably managed forest, at the optimum level of productivity.
- 90 Certification of forests on the basis of Criteria developed for the above mentioned Sustainable Forest Management.
- 91 Establishment of SFM cell at the National level, State level and District levels.
- 92 Assessment of forest cover in different categories of forests such as open forest, dense forest, very dense forest, climax forest, virgin forest.
- 93 Assessment of NTFP.
- 94 Assessment and correct tabulation of fire incidences in the country.
- 95 Institutional mechanism and budgetary support to the activities related to monitoring and assessment aspects of forests in the country.

### **15.7 Recommendations**

- [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.*