

Chapter 16

Personnel Management

The success of an organization depends on the capacities and capabilities of its personnel. Unless an organization devotes enough resources on the development of its human resource, it would not get the required output from its personnel. An organization's commitment to the development of human resource has to be reflected in its policies, procedures, practices, customs and ideals.

16.1 Recruitment, Induction and In-Service Training at National Level

16.1.1 Indian Forest Service

16.1.1.1 Recruitment

Regular annual recruitment to the service is done through a separate all India competitive examination conducted by the UPSC, open to only graduates from science and technology backgrounds, but not to MBBS and allied health sciences. The number of candidates recruited fluctuates from year to year. There had been heavy intake to the service during the years from 1984 to 1987, when about 600 candidates were selected for appointment.

16.1.1.2 Induction Training

The induction training of IFS probationers is conducted at IGNFA, Dehradun. The syllabus and pattern of training is reviewed after about a decade. The present 'sandwich pattern' of training was introduced during 1994 and which consisted of the five phases during the probation period of three years. The five phases included are: the foundational course at LBSNAA, Mussoorie, 'on-the-job training' in the cadre State of the probationer, an advanced management phase at IGNFA, Dehradun. During the course 34 subjects with 1418 classroom lectures, and field exercises are covered. About 180 days are spent on field tours to different parts of India. Resource persons include IGNFA faculty as well as guest faculty drawn from institutes at Dehradun and outside.

16.1.1.3 In-service Training

Since 1986, the Government of India has been enhancing the efforts of the State Governments for capacity building of IFS officers through sponsoring of short-term refresher courses for officers of various seniorities. State governments also organize courses or depute officers for participation in various short-term refresher courses within India and abroad. Under the DFID assisted project implemented by the IGNFA from 1998 to 2004, Government of India have decided to regularly organize short duration (2-3 weeks) promotion linked training courses on 'Advanced Forest Management' (AFM) for the officers in their 10th, 17th, and 21st years of service.

Perceived Weaknesses

- There is no proper recruitment strategy for the service and there has been a skewed intake of officers, which has resulted in stagnation in the service at various levels.

- Too much emphasis is given on classroom teaching and on basic subjects in which the probationers should have got adequate inputs at the school level. This is perhaps due to the fact that many recruits do not have basic education in forest related subjects. Inputs on forestry and wildlife related global issues and international conventions, environmental and social development and emerging issues, are inadequate.
- During tours, in many cases, the same type of activities are shown to the probationers at different places
- Participation in short-term refresher courses sponsored by the MoEF is quite low
- Even in the promotion- linked Advanced Forest Management courses being conducted at the IGNFA for IFS officers, there is no full participation.
- MoEF does not have any power to ensure full participation of the nominated officers.
- Support staff in the MoEF to deal with matters connected to in-service training, is quite inadequate

16.1.2 State Forest Service

16.1.2.1 Recruitment

State Forest Service (SFS) is the premier forest service of the State/ Union Territory governments. Recruitment is made by the concerned States/Union Territories under the provisions of the recruitment rules of each State/ Union Territory government, through the respective State Public Service Commissions (SPSCs), by conducting competitive examinations. Recruitment to the service is fairly irregular. Some States have discontinued direct recruitment. SFS is a feeder service to the IFS, as one-third of the posts in the IFS cadre in any State/ Union Territory cadre are filled up by promotion from the SFS through selection on merit-cum-seniority basis by a board constituted by the UPSC.

16.1.2.2 Induction Training

Induction training of SFS officers is conducted by DFE, in the SFS colleges at Coimbatore, Dehradun and Burnihat, governed by the 'Entrance and Training Rules for SFS officers'. The rules and syllabus for training are reviewed every ten years. The new syllabus and rules notified by the MoEF during July 2004 has come into effect from April 2005. The training of SFS officers at the entry level is for a period of two years, consisting of course modules on various forestry subjects. Six field tours covering major forestry zones spread over the entire country, are included in the course curriculum.

16.1.2.3 In-service Training

High priority is not accorded to in-service training of SFS officers, by the State Governments. However, under the EAPs implemented/being implemented by some State forest departments, a substantial number of SFS officers have been exposed to new trends and techniques in forestry through short-term and long-term courses/study tours. For the last 15 years, MoEF have also been organizing theme-based short-term refresher courses in the SFS colleges.

Perceived Weaknesses

- In most States, directly recruited SFS officers stagnate as Assistant Conservators of Forests (ACF) in the junior scale, of the State service and as Deputy Conservators of Forests (DCF) in the senior scale, for long periods. Many States have not even granted selection grade to SFS officers, although similar grades have been granted to their counterparts in administrative and police services.
- The States do not seem to have any recruitment strategy for the SFS and in most cases vacancies are being filled through promotion from the level of FROs. Because of various considerations and pressure groups, direct recruitment to the SFS has almost stopped in most of the States.
- Participation in the in-service training courses organized by the MOEF, is very poor. Main reasons include inability of the States to bear to and fro travel expenses of officers and the officers themselves, if posted to coveted posts, avoid participation in such courses.
- Forestry personnel in the State forest services in almost all the States are facing acute stagnation, which is resulting in frustration, lowering of efficiency and erosion of discipline. The recruitment and career progression policies of various forestry services i.e. SFS and subordinate forestry services, should be reviewed by the States to ensure that the personnel get at least four pay scales after completion of a fixed number of years of service and minimum two promotions in their careers, irrespective of availability of posts/vacancies at higher levels.
- The State Governments should come out with detailed action plans for recruitment to the SFS, other subordinate forestry services and the ministerial staff for the SFD, for the next twenty years, keeping in view the availability of personnel, future requirements and stagnation in the forestry services.
- There has to be a full-fledged division with competent and adequate staff in the office of the PCCF for management of State forest services, and ministerial staff including their career, placements, promotions and for organizing regular in-service training courses. The State Government should have detailed 'placement policy' for various categories of officers and staff, so as to provide security of tenure and continuity on a post.

16.1.3 Forest Range Officers

16.1.3.1 Recruitment

The respective State/Union Territory governments are responsible for management of the cadre of Forest Range Officers. Selection to this level is made by the State Public Service Commissions (SPSCs) by conducting a competitive examination. Only graduates having science subjects can compete. A few States have temporarily discontinued direct recruitment to this cadre.

16.1.3.2 Induction Training

Induction training of FROs is still the responsibility of the MoEF, being conducted through the DFE and governed by the 'Entrance and Training Rules' notified by MoEF

from time to time. A new syllabus and rules notified by the MoEF, are applicable from April 2005.

16.1.3.3 In-Service Training

In most of the States no regular refresher courses are organized by the State Governments for the FROs. Only in the States where the EAPs have been implemented, they have been exposed to some new techniques and the latest trends in forestry and wildlife management. For the FROs, the MoEF also organizes a few theme-based short-term courses in the colleges under the DFE.

Perceived Weaknesses

- There seems to be no proper long-term strategy for recruitment to this cadre, which is the most important executive level in the SFDs.
- Recruitment to the service is not regular, with the result young blood is not easily available at this level.
- In spite of the initiative taken by the Government of India in enhancing the efforts of the States in capacity building of its officers, State Governments do not take these courses seriously and participation of FROs in the short-term courses is quite unsatisfactory

16.1.4 Subordinate Forestry Services (Dy. ROs, Foresters and Forest Guards)

16.1.4.1 Recruitment

Dy. ROs: Recruitment to this level is done by the State/Union Territory governments. In most States, where this level exists, recruitment is done through promotion from the level of a Forester. In some States, the Dy. ROs are given special assignments in the offices of ROs/DFOs before they are promoted as FROs. In Kerala, they are posted as in-charge of important functional units in a range called 'forest stations,' established on the pattern of 'police stations'.

Foresters: Direct recruitment to this level is done either through competitive examination organised by the State Public Service Commissions or through an examination conducted by the SFDs. The second source of recruitment is through promotion from the level of Forest Guards.

Forest Guards: The Forest Guard is the grass root level functionary in the forest management and the posts are filled up by direct recruitment except for a minor percentage wherein an opportunity is given to forest watchers, peons and even ministerial staff for entry to this level, subject to the eligibility criteria. In some States, a Forest Guard gets promotion as Assistant Forester, in some they are designated as Head Guards. In some States selection is done by the SPSC through a competitive examination whereas in others selections and recruitment is done by the SFD itself. The recruitment is quite irregular. As most of the States are facing financial crunch, they have put a virtual ban on the new recruitment and the posts remain vacant for long periods. In many States, as the incumbents superannuate, the posts are abolished. As a result, not only there is a pressure on forests for the lack of grass-root staff but the average age of present incumbents also goes very high, which is not in keeping with the physical stamina required for protection

activities at this level. As a result of all this, protection of forests, which is the very basis of all forestry, suffers seriously. It has already been mentioned earlier that the size of the beat of the Forest Guard has remained constant despite mounting demographic pressures, even while there has been an overall increase in the number of posts above the level of R.O.

16.1.4.2 Induction Training

There is no induction training at the level of Deputy Rangers promoted from the level of Foresters. The duration of training of Foresters at the entry level differs from State to State, varying from six months to one year. The course contents consist of various forestry subjects and practicals. It is being administered by the concerned State Governments. However, in order to bring uniformity in the course contents and to raise the standard of training of Foresters, MoEF have formulated model course contents and certain selection criteria for entrance level, and issued them in the form of guidelines to the State Governments in August 2004 requesting them to follow the same. The training of Forest Guards is normally for a period of six months. The course consists of various forestry subjects and practicals. Tours covering major forestry operations of the State are included in the course curriculum

16.1.4.3 In-service Training

In the case of Dy ROs, Foresters and Forest Guards, no regular refresher courses are organized by the State Governments. Only in the States where the EAPs have been implemented, the FROs and other staff have been exposed to some new techniques and latest trends in forestry and wildlife management. From the year 2003-04, MoEF, have started organizing short-term refresher courses for the frontline staff of the SFDs in the SFS/ranger colleges under its administrative control. The number of such courses has been increased during 2004-05. From 2004-05 onwards, MoEF has also been sponsoring such training courses in the forest training schools of some of the SFDs and meeting all the expenses

Perceived Weaknesses

- There is no proper long term strategy for recruitment to the subordinate services in the SFDs
- Career development plans for the subordinate services are totally lacking. They stagnate at junior levels in the cadres, which breeds frustration and demoralization.
- The recruitment of Foresters done by the SFDs is quite irregular. Since Foresters are appointed to service first and then sent for induction training, many a times after appointment they are directly posted to field. Once they are posted, it becomes difficult to withdraw them and send them for training. Many Foresters also try to avoid attending the induction training.
- The intake capacity of many schools in the States is inadequate and there is a considerable backlog in the completion of induction training.

16.1.5 Ministerial Staff

Most of the ministerial staff in the SFDs is recruited by the State Public Service Commission/ Staff Selection Board or Commission, of the concerned States except for a few personnel who are drawn on deputation from other departments. The ministerial staff is also not imparted any special initial induction training for handling technical matters at their level. Even during their careers, hardly any training opportunity is given, except for a few States where, under the EAPs, ministerial staff also has been provided learning opportunities.

16.2 *Cadre Management of the IFS*

The three All India Services (AISs) i.e. IAS, IPS and IFS created under the central All India Services Act, 1951 are jointly managed by the Government of India and the cadre State/Union Territory governments to which the AIS officers are allocated. Previously, cadre management of all the three AISs used to be with the Ministry of Home Affairs (MHA), Government of India. On formation of a separate ministry in 1985, cadre management of the IFS was transferred to the MoEF.

A whole gamut of cadre management matters is being handled by the IFS Division (except the ACRs), headed by a Director with two Under Secretaries, two Section Officers and a total of five dealing hands. They report to a Joint Secretary who also deals with a number of other subjects in the Ministry.

MoEF as the cadre controlling authority for the IFS is responsible for processing cadre review proposals of the State cadres, operation of CSS of the MoEF for IFS officers, recruitment and in-service training of the IFS officers, allocation of cadres to the probationers as per the guidelines issued by the DoPT for all the three AISs, formulation and amendment to the IFS Rules, promotions of SFS officers to the IFS, maintenance of ACRs of officers, cadre clearance for different assignments, establishment matters and related litigations.

At the level of State/Union Territory governments, usually the office of the chief secretary, and in some cases the general administration department or the forest department in the secretariat, manage the IFS cadre. While serving in the State, all personnel matters of the IFS officers are administered by the State Government as per All India Services Rules and other executive instructions, issued by the Government of India from time to time. The transfers, postings and promotions of officers within the cadre are done by the State Government. The chief minister of the State is in-charge of the All India Services in the State.

16.3 *Cadre Management of SFS/FROs and other Subordinate Services*

The cadre management of the SFS, FROs and the frontline staff is the responsibility of the concerned State/Union Territory governments, ranging from recruitment, induction training (except of the SFS and FROs which is administered by the Government of India), placements, in-service training and welfare activities, etc. In most of the States in the SFDs, an officer of the level of CCF is in-charge of cadre management of the SFS and other services. In some States, separate officers are assigned duties of cadre management of gazetted and non-gazetted staff.

16.4 Placements, Transfers and Postings

At present there is no clear-cut policy regarding placement of officers and staff on various jobs except for some norms for the transfers and postings of the ministerial and the protection staff in the States. Transfers and postings of these are done as per the administrative convenience of the authorities empowered to effect such placements.

16.5 Specialization in Forestry Personnel

There is an increased realization in society, corporate bodies and indeed, even in government, of the virtues of specialization, the importance of which will increase as the society and its needs become even more numerous and complex. An employee not only must be allowed to specialize if he so chooses, but the employer also must facilitate his task and structure its personnel policies to achieve this. Even “general” services like the administrative and the police have allowed specialization to evolve. The police and paramilitary forces like RAW, BSF, ITBP, CBI, CRPF, CISF etc, have provisions where the police officers can get permanently absorbed or go on deputation for long tenures.

The State/Union Territory Forest Departments have almost the sole jurisdiction over one-fourth of the country’s landmass. They have, therefore the task of not merely managing the existing forests and propagating others, but to perform numerous other duties related to efficient management of these natural resources that have evolved with the emergence of a welfare State. Besides, with the progress of the nation’s economy and the aspirations and needs of the society on the one hand, and the increasing understanding of the importance and complexity of forests and the natural environment and the threats faced by them, on the other, the role of the personnel who manage these natural resources and heritage has become much more onerous, diverse and complex.

A Forester, say in-charge of a division, has to perform diverse functions ranging from protection and conservation of existing forests, raising nurseries and plantations, managing natural forests, harvesting and marketing of forest produce, close liaison with the people living in close vicinity of forests, undertaking developmental activities for the tribals managing non-timber forest produce and habitats of wild animals, to managing finances, personnel, etc. The intention of having specialization should not be to narrow down his horizon of capabilities in a particular sphere only, but to equip him to excel in a specialized job besides having adequate knowledge and skills to handle other assignments related to forestry

In the forestry services, efforts have not been made to encourage interested officers to specialize in the area of their interest. The FD has established divisions and wings for Social Forestry, Research, Wildlife, Training, Working Plans, Soil Conservation, etc. But postings and transfers are not on the basis of suitability or training, but cadre management. Unwanted people are dumped in branches, which are not deemed to be of importance, from where the officers in question use all their lobbying powers to escape to more desirable posts. While there needs to be a debate over this emotive subject, the following broad subject areas for specialization are recommended

1. Forest conservation (including protection, harvesting and sale of forest produce);
2. Extension forestry (including plantations and nurseries), JFM, grassland and watershed management and eco-development outside of reserve forests;

3. Wildlife management (including management of PAs and their buffers and corridors, collection of basic data, control of wildlife trade and taxidermy, implementation of international conventions, etc.);
4. Research, Training, Working Plans, Technical support to Agro- and Farm Forestry.

All the four branches/fields of specialization would be territorially exclusive and this would reduce the dangers of overlapping, dyarchy and “turf” battles. Category one can continue with the traditional role of forestry. Category two requires a great interface with the local people and the expertise of sociologists, as well as the specialized management of rangelands which has been hitherto ignored and this would mostly be in the forest areas outside of PAs and Reserve Forests. The wildlife personnel would have full jurisdiction of the PAs and the buffers and corridors, as well as over the neglected areas such as control over illegal trade. Research would have its own identity in the fourth category. The trainers would also be mainly from this category and the making of Working Plans would at long last have a scientific angle and given importance. In any case, it is a posting abhorred by the forest service.

It could be argued that specialization on the lines mentioned above or any other, could be achieved under the current set-up without amending any rules or procedures for recruitment, training or service. In reality, if past record is any indication, it will not happen unless certain fundamental changes are brought about. Specialization, as envisaged, must have four prerequisites:

1. Recruitment of personnel having both commitment to and training/education in the specific specialized field, he or she is being inducted into.
2. Longevity of tenure in the individual specialized branch.
3. In-service training in the individual field of specialization
4. Prevention of “dumping” of unsuitable and untrained people in the individual specialized branches.

It may be argued that it would not be feasible to manage the forest services in watertight compartments and that amongst the upper echelons of the IFS it would lead to stagnation. It may be said here that the feasibility of having one or more sub-cadres of the IFS was examined in the 1970s by the Department of Personnel, Government of India, and found to be feasible. The IFS itself, however, has been steadfastly against this. The Government has to decide how to achieve a definitive long-abiding specialization and not provide a façade of it with a fluidity which will allow “birds of passage” to flit from post to post, as is the practice today.

Sub-cadres of the above or more categories could be created for all services of the SFD. Provision would have to be made that at the senior level of the IFS and SFS, whereby there would be an opportunity of shifting from one to the other to allow for both change in professional preference and prevention of stagnation, if any. A feasibility study as to the details of cadre management in this respect should be commissioned.

Specialization envisaged above would require changes also with regard to recruitment and in-service training. If during the initial phase or even later, sufficient number of appropriate officers are not available for a particular job requirement, they should be

acquired from the open field and for this purpose, a provision could be made of a sufficient number of ex-cadre posts.

Forest service from the level of the Ranger upwards, is a scientific service. The IFS is the only All India Service of this category. It is open to all the graduates with science and technology degrees except Medicine. If JFM has to make a headway and a real rapport is to be established with the people to save and extend forests, a different outlook and educational background would be required, the absence of which today is increasingly realized. Thus, category two sub-cadres for Social Forestry, JFM etc, would inter-alia require the services of some sociologists.

In the SFS and IFS as well, recruits come in with an engineering degree or with a scientific background like Physics and Chemistry which has little relevance to forestry, but no knowledge of life sciences which forests and forestry are all about. These candidates are then briefly trained at Dehradun, undergoing the same courses and for the same period as those who may have done a B Sc or M Sc in Botany, Biology, Zoology or Ecology, and are then sent-off to the field to manage the forests as fully trained scientists and experts. It may be argued that these recruits learn the basics of life sciences at school. Is this good enough? Can they come to the ICFRE and learn the science of forestry at the level it should be taught to the graduates in Botany and other life sciences, or has the level of teaching to be brought down so that they can make some headway? At the present moment the latter is the case, the result of which is that there is no incentive to take a degree in life sciences and those who have them are bored with the sub-standard teaching that is being imparted for the benefit of those who do not have this educational background. It is also the reason why the officers who go into the field are technically not adequately equipped. Even in the Army, the period of training – at two different institutions – varies with the level of the education of the candidate. The IFS and the SFS must be the only scientific/technical services in the country where the recruit with no graduate educational qualification in the required scientific field, is trained in it for so brief a period before being asked to function.

And there are other ramifications of this, which are deleterious. Firstly, the universities, which should be providing the recruits with degrees in the relevant scientific fields are finding no takers for these degrees, as they are not essential or even preferred for a job in forestry. The result is that some universities have stopped such degree courses or allowed the standard to deteriorate drastically. Secondly, the training faculties at Dehradun and elsewhere are now very largely manned by IFS and SFS officers who themselves may not have had an educational grounding in the subject matter and hence may not be true scientists or may not be suited to the teaching profession and have obtained the job either because they want a posting in Dehradun or want to escape from their respective States. A good IFS or SFS officer need not be a good teacher. This is one important reason for the falling of the standard in training, the failure of research findings being transferred to the trainee officers and the overall lack of enthusiasm on the part of the trainees to undergo a training course. Research and training require a different aptitude and approach and the two could be combined as one category of specialization.

It is hence recommended that the recruitment rules be changed not only to provide for the category-wise induction of different specializations, but also to differentiate between those recruits who have a degree in specified life sciences like botany, biology, zoology,

ecology, forestry, ethology or any other environmental science subjects, and those who do not. For instance, those who have a science degree but not in the designated life science related to forest, he or she may have to undergo a period of 3 years training; One who has a BSc in any of the designated fields, a 2 year training course and those who have an MSc or PhD in them, a one year training course. Such “weightage” to educational background will not only encourage relevant education in universities which would be beneficial in itself and reduce the burden of the government training institutes, but it will also induct people who have opted for forestry and related subjects and shown some preference for the subject from the start of their educational careers, rather than those who would have become engineers etc., but have become Foresters, perhaps by default. Those who would choose a career in forestry from the outset are more likely to have interest in forests and be committed to their conservation. Interest and commitment are crucial concomitants of any service, especially a scientific one.

16.6 Recommendations

- [301] *Forest administration should take advantage of forestry education in the universities by at least giving preference in selection for the posts of forest officers.*
- [302] *Recruitment to forest rangers should be from amongst B. Sc. Forestry graduates produced by universities imparting forestry education. Induction training in the forest rangers colleges will, however, still be necessary for trainees who might already be forestry graduates.*
- [303] *Forestry should be recognized as a subject for competitive examinations in state and All India Administrative Services.*
- [304] *In view of the serious shortage of forest staff at the field level, the general ban by the State Governments on filling up of vacant posts should not apply to the field posts of wildlife guards, forest guards, foresters and others up to the level of forest range officers. Tribal and other backward communities need to be given preference in the filling up of the vacant posts of Forest Guards, and educational qualifications need to be relaxed in the case of such recruits.*
- [305] *The number of beat guards needs to be substantially increased and a revision of beat areas needs to be done state-wise. No change has been done in this regard since before Independence. Each State needs to appoint a committee to go through the exercise of re-delineating beat boundaries.*
- [306] *The field staff is also poorly provided for by way of transport, communication and other facilities required in the better exercise of their duties. A state-wise assessment needs to be carried out and these basic requirements have to be provided to make the field staff more effective for protection work, on a priority basis.*
- [307] *Specialization is a prerequisite in forestry to enable the service to fulfill its role in conserving the forest ecosystems and its biota, in extending forestry within and without existing forests, and in fulfilling the needs and aspirations of the people vis-à-vis forestry. Experience has shown that specialization in real terms can only be achieved by restructuring the personnel setup and setting up specific sub-cadres, by changing recruitment rules and by providing the complementary*

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

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

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

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

[310] It is a regrettable fact that very few amongst the present personnel of all cadres of forest services would opt for the proposed sub-cadres of categories b, c and d mentioned in the recommendation 307 above. They would vie to remain in the traditional work sphere of the service – territorial forest divisions and in the harvesting and marketing of forest produce. This mindset and the lack of specialization that emanates from it, is one of the main reasons for the setting up of specialized sub-cadres. The needs and interests of forestry and forestlands are paramount and hence the services at all levels must be organized to suit the current job requirements, and not the other way around. Once the cadre strength at various levels for categories b, c and d of the proposed sub-cadres are worked out, a certain number of ex-cadre posts would have to be kept in each sub-cadre, so that if an adequate number of appropriate personnel from the existing forestry staff do not opt for them in the initial stages, the required manpower could be recruited from the open field, both through deputation and through competitive examinations. Once the recruitment for different sub-cadres begins and the recruits are imparted the requisite training, the problem of vacancies would not persist.

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

training at Indira Gandhi National Forest Academy should be of three years duration, followed by one year training in the State on different assignments.

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

Chapter 17

Forests and Industries

17.1 The Resource

India's forests are utilized by the people essentially for three purposes: (i) as fuelwood, leaf fodder and small timber; (ii) as wood for industrial purposes such as construction timber, plywood, veneer and pulpwood; and (iii) as semi-processed or processed non-wood forest resources such as rattan, bamboos, resin, gums, essential oils and medicinal plants and herbs, both for domestic consumption and exports. Although the major drain from the forest is the removal of wood for fuel estimated at 240 million cu. m annually - the removal of wood for industrial processing is about 12 million cu. m annually against a requirement of 27 million cu. m¹. As such, the current level of imports of forest-based raw material (logs, pulp, paper and paper and paper boards including newsprint) has reached a high level amounting to about \$ 868 million in 1997-98.

The general pattern of forest resources for industrial utilization has been for mechanical wood industries (match, sports goods, agriculture implements, furniture, toys and house construction and others) – 45 per cent; plywood, fiberboard and packaging – 30 per cent; and for the pulp and paper industries – 25 per cent. A notable feature in India is the growing dependence on import of logs for the plywood industry, sawn timber, waste paper and pulp as shown by the value of the import figure of 1997-98 above. Bamboo is an important forest resource in India. It is used for processing of furniture, basket making and in pulp manufacture. Majority of the pulp and paper mills in India still use bamboo as the most important forest based raw material furnish ranging from 50 to 70 per cent of the total fibre furnish. The new National Forest Policy has altered the government guidelines in respect of supplies of raw materials from government forests to wood based industries.

17.1.1 Demand and Supply of Wood Raw Material

India is facing a severe scarcity of wood (Table 17.1). The paper industry in particular is plagued by raw material shortage in the face of continually increasing demand. The supply of timber from natural forests has also declined drastically. However, there has been a major shift to plantation-grown wood and it is expected that future demands will be met. At present, imports of forest raw material, promoted by industrial and trade liberalization, are meeting the need. Farm forestry is also playing an important role. The table below indicates a significant deficit between the wood requirement and supply. No significant supply from natural forests is possible in the future. Therefore, plantation timbers under social forestry, agroforestry and imported wood would be the two means to fill the gap. Wood based industries are procuring raw material from the open market and

¹ It is estimated that recorded removal of fuelwood from the forest is about 40 million cu.m. The rest is unrecorded.

the average percentage mix are as follows: from government forests (30 %); from farmers/social forestry (10%) and from open market(60%) which also includes imports. Similarly, current paper demand in India is 5.55 million MT, projected to be 11 million MT by 2011-2012². This would require additional 15-20 million MT of wood. Raw material is the largest cost component for paper industry and accounts about 32 % of the total cost of production. The cost of wood per MT in India is higher than in USA, Canada, Brazil, and Indonesia.

Table 17.1 Demand and Supply of Wood (in million cu. m)

Year	2000	2010	2020
Demand	58	950	153
Supply	29	70.55	100.7
Gap	29	24.45	52.3
% of demand gap	50	25.70	34

(Source: Ganguly, 2003)³

17.2 Government Policy Towards Forest-based Industries

The National Forest Policy, 1988 directed State Forest Departments to stop the practice of selling forest raw material at concessional prices. The industries are also advised to obtain their raw material as far as possible, from farm forestry resources. It also provided for a special section 4.9 (Box 3) for adoption of a new approach for growing raw material for industry, obviously of fast growing species, through an industry-farmer nexus and by the forest corporations in degraded forest areas not required for regeneration.

In 1997, the Supreme Court of India placed restrictions on the felling of any tree in natural forest areas and harvesting in natural forests might only be carried out in accordance with the Working Plans of State Governments. The National Forest Policy, 1988 has thus altered the strategy of the government in respect of supply of raw materials from government forests to wood-based industries. Similarly, the Land Ceiling Act provides that a company, institution, trust or industry cannot hold agricultural land including forestland beyond the limit of 54 acres. As a consequence of the Policy and the enactment of Forest (Conservation) Act, 1980 : (i) presently there is a ban on felling of trees in all forests at an altitude of 1000 meters ; (ii) high priority has been given for raising fuelwood and leaf fodder producing trees in the government forests, almost to the exclusion of raising industrial trees; (iii) industrial wood production has been restricted only on farm lands or on waste lands; (iv) a ban on all felling operations in national parks

² Chaurasia, R. (2004): Perspective of private sector on Public Private Partnership, Proceedings of the National Workshop held on Developing Modalities for Involving Private Sector in the Public Private Partnership (PPP) for Afforestation of Degraded Forests, held on October 18-19, 2004, at IIFM, Bhopal.

³ Ganguli B N. 2003. *Private sector participation on public forestlands: challenges and policy issues*. In: Forest policy for private forestry: Global and regional challenges. CAB International.

and sanctuaries have been imposed; and (v) stoppage of green felling in forests in some States, leading to drastic reduction in wood yield.

Box 4

Policy governing the supply of wood raw material to the forest-based industries in National Forest Policy 1988 (sec. 4.9)

(i) As far as possible , a forest-based industry should raise the raw material needed for meeting its own requirements preferably by establishment of direct relationship between forestry and the individuals who can grow the raw material by supporting the individuals with inputs including credit, constant technical advice and finally harvesting and transport services;

(ii) No forest-based industries, except that at the village or cottage level, should be permitted in the future unless it has been first cleared after a careful scrutiny with regard to assured availability of raw material. In any case the fuel, fodder and timber requirements of the local population should not be sacrificed for this purpose;

(iii) Forest-based industries must not only provide employment to local people on priority basis but also involve them fully in raising trees and raw material

(iv) Natural forest serves as a gene pool resource and help to maintain ecological balance. Such forests will not, therefore, be made available to industries for undertaking plantations and for any other activities;

(v) Farmers, particularly small and marginal farmers, would be encouraged to grow, on marginal/degraded lands available to them, wood species required for industries. These may also be grown along with fuel and fodder species on community lands not required for pasture purposes, and by Forest department /corporation on degraded forests not earmarked for natural regeneration;

(vi) The practice of supply of forest produce to industries at concessional prices should cease. Industry should be encouraged to use alternative raw materials. Import of wood and wood products shall be liberalized .The above considerations should however be subject to the current policy relating to land ceiling and land-laws.

17.3 Expansion of Plantation Programme

Since the 1980's, Government of India, has promote plantations of trees under different agroforestry and social forestry plantation schemes, as well as promoted investment for industrial plantations. Forest Plantations area in India is 32.57 mill ha, which accounts for 17 % of the global forest plantation and which is the second largest in the World after China. It also has the largest share in the global plantation of teak (44%) and rosewood⁴. Eucalypts, acacias and teak are the most common plantation species of the country. Most of the plantation species were introduced for non-industrial purposes. But in the current scenario, plantation timbers are increasingly being looked upon as a substitute of

⁴ GFRA (2000) Global Forest Resource Assessment 2000- Main Report, Forestry Paper 140, Food and Agricultural Organization, Rome, Italy.

traditional wood species. However, harvest of immature fast growing plantation trees turns them susceptible to degradation and a variety of processing defects. Industrial plantations account for 37% of total plantation (refer to table) and will play a major role in supplying raw material to the wood-based industries. The most prominent plantation species from the industrial point of view are eucalyptus, poplars, acacias, silver oak and rubber wood. It is estimated that 1.5 million cu. m of rubber wood is available in India and by 2020 the annual output of rubber wood will reach to 14 million cu. m of usable logs⁵. Several projects are running in different research Institutes of the country to overcome the processing problem of the species and to develop a cheap technology suitable for India.

Table 17.2 - Distribution of Forest Plantations in India (million cu. m)

	Industrial plantations	Non-industrial plantations
Public	8.25	11.37
Private	3.74	8.64
Other	-	0.56
Sub-total	12	20.57

(Source: GFRA, 2000)

17.4 Import Liberalization

Since 1995, India has been allowing imports of logs and other wood for use in the domestic market. Earlier, wood imports were allowed against advanced licenses or special import licenses for re-export of finished wood-products. Tariff reductions on logs (from 100% to 5%) and wood chips (from 100% to 10%) have enhanced imports and compensated shortages in raw material requirements⁶ wood based panels in comparison to round logs.

Due to liberalization of the import policy to help save natural forests the volume and value of wood import increased during the last decade. India's import bill for timber and forest products has increased from about US\$195 million in 1985, to approximately US\$ 450 million in 1997. India is now the third largest importer of tropical logs (1.8 million cu. m in 2000, up 3 % from 1999), mostly from Malaysia and Indonesia but with an increasing component of African logs⁷. During 2000-2001, the import value of pulp and paper in India was Rs 4,000 crores and projected to be Rs 20000 crores by 2010-2011. India along with Chile, Ireland and Malaysia are placed under high growth group for furniture import markets.

⁵ Murthy, K.N. (2003) International timber trade –Indian imperatives, Wood News, 13 (3), 8-11.

⁶ CBEC (2002) Import tariff, Chapter 44 Wood and wood products, Central Board of Excise and Customs, Govt. of India, New Delhi, available at <http://www.cbec.gov.in/cae/customs/cs-abc.html>

⁷ ITTO (2001) Annual Review and Assessment of World tropical Timber Situation, 2001. International Tropical Timber Organization, Yokohama, available at <http://www.itto.or.jp/inside/review2001/download/AnnualReview2001.pdf> .

Malaysia, Myanmar, Indonesia, Nigeria, Togo, Gabon and Ivory Coast are the major exporters of timber to India. Most of the timber is coming to Mangalore, Tuticorin, Kandla and Mumbai ports (Murthy, 2003). New Zealand Pine has become one of the most important species to the wood based industries and Import of New Zealand Pine into India is expected to reach the 1 million cum mark in 2007⁸. Due to its competitive price and sustain able supply the species is now well accepted in North and Western India. Currently, it is mostly used in construction and packaging and can be used for value-added products after appropriate treatment.

Despite freight and internal transportation costs the imported timbers are 20-30 % cheaper than local ones. For example in the 1998 price of Indian teak was about £270/cu. m, compared to 206£/cum of imported Nigerian Teak (Rao, 2002)]. State forest departments are facing difficulties in selling their timber on price parity grounds. The industry is also pressing for upward revision of duties.

Exports on the contrary, have been gradually declining. India is losing its primacy as exporter even in traditionally strong areas like teak and sandalwood export. The main reasons for decline are export restrictions, poor product quality, reduction in production and requirement of forest product certification (to date no forest area of the country has been certified). Though India is a major tropical timber producing country, it has become a net importer due to decrease in production and increased timber demand in the country.

17.5 Role of Corporate Sector in Forestry

Private forests are characterised by small-scattered plots but are an important source of timber and NTFP for domestic consumption. The use of private forests for timber for industry increased firstly through its promotion of farm forestry and also since 1988 when the government reduced the area of State forest available for timber extraction. Private forest ownership amounts to only 4% of the total forest area, as compared with the State's 85% and of the communities 11%⁹. Private sector is not permitted to own natural forest, and its ownership of planted forests is limited by the Private Forests (acquisition) Act of the 1950s and the Land Ceiling Act of the 1960s. The former provided for the nationalisation of private forests and led to much felling, while the latter specifically limits the area private enterprises can own for tree plantations (except in the case of plantation crops such as rubber or tea). Land ceilings vary from State to State, but are normally set so low that they effectively bar commercial investment in plantation forestry.

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

⁸ Rao, S.K. (2002) Current trends of wood use: an Indian perspective, Wood News, 12 (2), 24-28.

⁹ FIPPI: Federation on Indian Plywood and Panels Industries (2000) Annual Circular, 2000, New Delhi.

years a large number of wood-based industries have attempted to promote tree cultivation among farmers in order to secure their raw material supplies. Sporadic efforts by individual companies started in the mid-1980s, but most initiatives began in the 1990s. The driving force behind these initiatives were the declining supply of cheap raw material from government forests on account of policy changes, and increased competition due to economic liberalisation.

17.5.1 Corporate Sector and Community Partnerships

Company-farmer partnership schemes may be perceived to have failed in terms of the original objectives of companies, but they have demonstrated the potential for farmers participating in such schemes, to produce timber for industry and to sell it in the open market. These schemes have clearly contributed to the expansion of farm forestry. Several companies encourage tree planting by farmers by simply supplying free or subsidised seedlings. Many companies have attempted direct partnerships with farmers.

The wood-based industry, especially the pulp and paper units, have been lobbying for past several years to get degraded forestlands on lease for raising captive plantations. This is being strongly opposed by some NGOs and environmental action groups. The debate has reached a stalemate.

Several companies are currently focusing on tree improvement activities to make farm forestry more attractive. This requires considerable investment of time, money and effort into research and development (R&D) in order to identify suitable species and develop and multiply improved clones. The two most significant contributions of the corporate sector are the development of poplar clones by Wimco Limited in north-west India, and eucalyptus clones by ITC Bhadrachalam Paper Boards Limited in Andhra Pradesh. That private sector R&D is successful is reflected in the popularity which improved clones have gained with farmers, even when commercial rates are charged for them. Another recent example of an apparently successful industry-community initiative took the form of block plantations on private degraded lands in Chhattisgarh (Raipur district) and Uttar Pradesh (Haldwani and Rudrapur).

17.5.2 History of PPP for Reforestation of Degraded Forestlands

In 1993, the Ministry of Environment and Forest (MOEF), Government of India, after holding discussions and workshops involving the different stakeholders prepared a policy paper. However, a large number of leading NGOs strongly opposed the proposal on the ground that it was against the spirit of 1988 Forest Policy of India and that it will deprive the local people of their livelihood requirements of fuel, fodder and small timber. Their opposition was further supported by the outcome of the case of Karnataka Pulpwood Limited- a joint venture of Harihar Polyfibers Ltd and the Karnataka Forest Department for growing eucalyptus on forest and village common land (Kanwali, 1993)* .

In 1997, the Planning Commission set up a working group chaired by Dr. N.C. Saxena to study the proposal of involving industries in the afforestation of degraded forestland. This

report opposed the participation of industry for plantation on degraded forestland on the grounds mentioned in .Box 4

Box 5

Objections of the Saxena Report to the involvement of industries in reforestation of degraded forestlands

- *Adverse impact on the rights being enjoyed by the local communities on forestlands*
- *Industries not willing to rehabilitate non-forest wastelands*
- *Adverse effect on farm and social forestry movement in the country*
- *JFMC's should be preferred over industries for reforestations of degraded forests.*
- *Raw material requirement of pulp and paper industry was only a fraction of the total output of forests and the problem was not that of availability but of location.*

The Saxena Report¹⁰ considered the potential extension of the principle of participation in company ventures to rehabilitate wastelands, the idea being to encourage private investors to invest in afforestation of degraded areas by forming partnerships with local farmers. However the Planning Commission, did not endorse the involvement of large industrial investors.

MoEF endorsed the Saxena Report in 2002. Meanwhile initiatives were taken by some of States, in particular Andhra Pradesh and Chhattisgarh on their own for the involvement of industries in the plantation of degraded forestland.

Subsequently, the Government of India issued guidelines for participation of the private sector through involvement of NGO and Forest Department in afforestation / rehabilitation of degraded forests. The MoEF, has shown great concern over the rate of slow rehabilitation owing to financial and other constraints. It is also an accepted fact that no Government is in a position to restore the existing degraded forests with available resources. Therefore, Government of India advised the States to adopt innovative policy decision with regard to rehabilitation of degraded forests. It has been found by Government of India that a large number of environment friendly industrial houses are willing to participate in this movement through NGOs and under the supervision and guidance of the Forest Departments without obtaining any rights on the forestland or on the usufructs. Towards this end, the Government of India has issued guidelines for participation of the private sector through involvement of NGOs and Forest Departments in the afforestation / rehabilitation of degraded forests.

17.6 Recommendations

[316] A strategy is required for improving productivity of degraded forests (10-40% crown density) by assisted regeneration and afforestation through joint forest

¹⁰ Planning commission (1998) Working Group's report on the prospects of making degraded forests available to private entrepreneurs for Planning Commission, Government of India, New Delhi.

management in forest areas near villages, and by the Forest Departments in areas away from the villages. This would involve prevention of fire and effective reduction/elimination of biotic pressures.

- [317] *A strategy is needed for meeting the needs of construction timber, panel, pulp paper, packaging and particle board panel and chip board industries, through quick growing high yielding plantations of softwoods*
- [318] *A new strategy for social and agroforestry be evolved, which would include planned involvement of forest-based industries in the distribution of high quality seedlings, with buy-back guarantee to the farmers, to ensure qualitative support to the planting programme and market support for the produce. This is to help bring about an additional 10 million ha. under farm forestry/agroforestry and to meet substantially the needs of industry*
- [319] *In order to promote tree plantation on government revenue wastelands, a survey on the availability of such areas be carried out and at the same time some pilot projects involving van panchayats / village communities, government departments and the investor in such plantations, be formulated in states where such land is available.*
- [320] *Establishment of a forum for periodic discussion between Ministry of Environment and Forest, Ministry of Industry and Commerce and recognised associations of wood-based industries, to review and evolve a rational import export policy and review tariff rates keeping in view local demand , supply and market conditions, would be useful.*
- [321] *It is necessary to assess the demand and supply scenario of forest products, including exports and imports, to make projections for 2020 A.D. and to suggest strategies to bridge the gap between demand and supply of raw material for forest based industries*
- [322] *The efforts to develop cottage industries should be concentrated in farm forestry areas. It is also necessary to evolve a strategy to ensure availability of raw material in adequate quantity and quality at a competitive prices to the small entrepreneur. The Khadi and Village Industries Commission, Council of Scientific and Industrial Research and non-government organisations have a major role to, play. Linkages with such organizations /institutions need to be established and strengthened.*
- [323] *Cooperation between forests authorities, community groups and industry is required.*

Chapter 18

International Forest-related Instruments

18.1 Introduction

Where there are issues of international concern that can potentially be addressed through a legal instrument, there is generally a need to attempt to strike a balance between cooperation and regulation to recognize State sovereignty. It is also important that there is strong political commitment to the development of a legal regime.

International instruments (or agreements) frequently contain an articulation of general principles and frameworks for action to address specific problems. They often call for specific national level actions, such as the adoption of national regulations, standards and implementation strategies. Other common provisions of such instruments include international cooperation, monitoring and reporting, research, exchange of information, well established dispute resolution processes, coordination among related agreements, and establishment of independent secretariats.

There are already a considerable number of instruments directly and indirectly affecting aspects of forest. There is also a growing understanding that at present the global aspects of forest issues are being addressed in fragmented and uncoordinated manners by the existing large number of international and regional legal instruments, whose main focus are environment, biological diversity or international trade. Notwithstanding the international commitments and action to promote Sustainable Forest Management (SFM), deforestation and forest degradation still continue, and the problems associated with forests remain pressing.

18.2 The Stack of Instruments

There are numerous instruments (both legally binding and non-legally binding), agreements and processes. They involve governments, organisations and civil society. Table 18.1 lists many of these instruments, agreements and processes. This listing does not pretend to be comprehensive, but it illustrates the complexity and the multifaceted way in which forests have been treated over the years.

Approximately 40 legally binding instruments related to forests are listed in Table 18.1. Six are protocols to framework conventions and another three are complementary stand alone agreements to other framework conventions.

Of the five global non-legally binding forest-related agreements and processes listed in Table 18.2, those most closely linked to the work of the United Nations Forum on Forests are the Millennium Development Goals (MDG) and the Johannesburg Plan of Implementation (JPOI) of the World Summit on Sustainable Development (WSSD). Most of the remaining non-legally binding processes, apart from the Ministerial Conference for the Protection of Forests in Europe, tend to be comprised of a set of negotiated proposals of an advisory nature to countries and international organizations. This is particularly so for the nine Criteria and Indicators processes, which have contributed substantially to voluntary efforts to attain SFM.

What follows are descriptions of some of the instruments, agreements and processes that directly concern India.

Table 18.1: Forest-related Legally Binding Instruments

Instrument	Forest-related focus	Date adopted	Secretariat
Global			
1. Stockholm Convention on Persistent Organic Pollutants	Protects human health and the environment from persistent organic pollutants (POPs). Two of 12 POPs are relevant to wood products: Heptachlor and Chlordane are used extensively to control termites. A third, Mirex, is also a termiticide and can be relevant for protection of trees and plantations against ants.	2001	UNEP
2. Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	Promotes shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm and to contribute to their environmentally sound use, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export. Heptachlor and Chlordane are listed in Annex III.	1998	UNEP and FAO jointly
3. International Tropical Timber Agreement	Promote international trade in tropical timber, the sustainable management of tropical forests and the development of forest industries through international consultation and cooperation, policy work and project activities	1994	ITTO
4. World Trade Organization (WTO) agreements consisting of approximately 60 agreements, annexes, decisions and understandings	Rules of trade covering goods, services and intellectual property, including timber and non-timber forest products	1994 post-1994	WTO
5. Convention on Biological Diversity	Conservation and sustainable use of forest biological diversity and the fair and equitable sharing of the benefits from the use of forest genetic resources.	1992	UNEP

6. Cartagena Protocol on Biosafety to the Convention on Biological Diversity	Biosafety related to genetically modified forest species.	2001	UNEP
7. United Nations Framework Convention on Climate Change (UNFCCC)	Aims at stabilizing the concentration of greenhouse gases in the atmosphere so as to prevent dangerous human-induced changes to the global climate system, and in so doing is considering the role that could be played by forests.	1992	UN
8. Kyoto Protocol to the United Nations Framework Convention on Climate Change	Considering flexible implementation mechanisms, including, Joint Implementation and the Clean Development Mechanism, which will include forestry projects that address climate change.	1997	UN
9. United Nations Convention to Combat Desertification	Forests are addressed as an important element for the prevention of drought and desertification, at the same time that deforestation is acknowledged as a contributor de desertification and land degradation.	1992	UN
10. Convention Concerning Occupational Health Services	Providing health services and a healthy working environment for workers in all economic branches, including forestry.	1985	ILO
11. Convention Concerning Occupational Safety and Health and the Working Environment	Safety and health and the working environment for workers in all economic branches, including forestry.	1981	ILO
12. Convention Concerning the Protection of Workers against Occupational Hazards due to Air Pollution, Noise and Vibration	Occupational health hazards for workers in all economic branches, including forestry	1977	ILO
13. Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention)	Protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. Natural heritage refers to outstanding physical, biological and geological formations, habitats of threatened species of animals and plants and areas with scientific, conservation or aesthetic value, several of which include forests.	1972	UNESCO

14. Convention on Migratory Species (CMS)	Protected forest habitats for endangered migratory species	1979	UNEP
15. Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) ² under CMS	Protected forest habitats for endangered migratory waterbirds.	1995	UNEP
16. Convention on International Trade in Endangered Species	Endangered forest species subject to international trade.	1973	UNEP
17. Ramsar Convention on Wetlands	Protection of wetlands of international importance especially as waterfowl habitat, including mangrove forests; guidelines for river basin management taking into account the role of forests	1971	IUCN
18. Convention Placing the International Poplar Commission within the Framework of the Food and Agriculture Organization of the United Nations	Promotes the cultivation, conservation and utilization of members of the family Salicaceae, which includes poplars and willows that are native to temperate and subtropical areas	1959	FAO
19. International Plant Protection Convention (text revised in 1979 and 1997)	Protection against pests affecting plants and plant products, including forest products; phytosanitary measures.	1951	FAO
Regional			
36. ASEAN Agreement on the Conservation of Nature and Natural resources	Addresses several subjects including soil, water, sea, air, flora, forests, fauna, lands, protected areas, natural resources and nature conservation.	1985	ASEAN Secretariat

Table 18.2: Forest-related Non-legally Binding Agreements and Processes

Agreement or process	Forest-related focus	Date Adopted/ established	Secretariat/ responsible body
Global non-legally binding instruments			
1. Global Programme of Action for the Protection of the Marine Environment from Landbased Activities	Two of 9 land-based sources of pollution are relevant to forests: sedimentation and physical alteration and destruction of coastal ecosystems, including mangrove and other coastal forests	1995	UNEP

Global intergovernmental processes			
2. Johannesburg Plan of Implementation of the World Summit on Sustainable Development	The achievement of sustainable forest management through partnerships involving Governments and stakeholders, including all major groups, is an essential goal of sustainable development. To this end, several key actions were adopted.	2002	UN
3. The United Nations Forum on Forests	Intergovernmental policy forum to promote the management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment to this end.	2000	UNFF Secretariat
4. G8 Action Programme on Forests (Canada, France, Germany, Italy, Japan, the Russian Federation, the United Kingdom and the United States)	Focuses on 5 elements: monitoring and assessment of forests, national forest programmes, protected areas, the private sector and illegal logging. Actions are directed both nationally and internationally through bilateral assistance programmes and support to international processes.	1998	
5. Commission on Sustainable Development	Monitoring and assessment of the implementation of Agenda 21, including Chapter 11 on Combating Deforestation, and the Johannesburg Plan of Implementation, including paragraph 45 on sustainable forest management.	1992	Division for Sustainable Development,
6. FAO Committee on Forestry	Comprised of senior government representatives, the Committee advises FAO on its work related to forests, including reviewing international forestry problems and FAO's work programme on forestry. Region (vegetation zone/geographic area)	1973	FAO Supporting body
SFM Criteria and Indicators Processes			
1. Dry Forest Asia Initiative	South Asia and Mongolia, China, Myanmar, Thailand	1999	FAO/UNEP/ITTO
2. Lepaterique Process	Central America	1997	CCAD/FAO
3. African Timber Organization	Tropical forests of Africa	1996	ATO

4. Near East Process	Near East	1996	FAO/ UNEP
5. Montreal Process	Mainly temperate and boreal forests in North and South America, Asia and Oceania	1995	Liaison Office hosted by Canada
6. Tarapoto Proposal	Amazon basin	1995	ACT Pro Tempore Secretariat
7. Dry-Zone Africa Process	Sub-Saharan Africa	1995	UNEP/ FAO
8. Pan-European Process	European boreal and temperate forests, including the portion of Russia's forests in Asia	1994	MCPFE
9. Sustainable management of natural tropical forests	Tropics	1992	ITTO

18.3. Legally Binding Instruments

18.3.1. International

18.3.1.1 United Nations Framework Convention on Climate Change

Background

Forests are an important component of the global carbon cycle. They both influence and are influenced by climate change, and their mismanagement would have a significant impact on the course of global warming in the twenty-first century. Forests contain more than half of all terrestrial carbon. They account for much of the exchange of carbon between terrestrial ecosystems and the atmosphere. Sustainable Forest Management can contribute towards emissions reductions and to carbon sequestration. When secondary forests and degraded or other lands are restocked or planted, and sustainably managed, they start absorbing carbon dioxide from the atmosphere and storing it in trees and soil.

The United Nations Framework Convention on Climate Change (UNFCCC) which was adopted in 1992 at UNCED, aims at stabilizing the concentration of greenhouse gases in the atmosphere so as to prevent dangerous human-induced changes to the global climate system. Parties to the UNFCCC committed themselves to carrying out national inventories of greenhouse gas emissions and carbon sinks. Industrialized countries and countries with economies in transition (Annex I Parties) committed themselves to working towards voluntary goals in the reduction of emissions. These obligations were intensified and specified in the Kyoto Protocol, which was adopted at COP-3 of the UNFCCC, held in Kyoto, Japan in December 1997. As of 15 April 2004, 84 Parties had signed and 122 Parties have ratified or acceded to the Kyoto Protocol. The Protocol entered into force on 16 February 2005.

Recent Developments

There are mechanisms under the Kyoto Protocol which allow for some flexibility in how countries make and measure their emissions reductions. These include the Joint

Implementation and the Clean Development Mechanism (CDM) which includes forestry projects.

The Subsidiary Body for Scientific and Technical Advice (SBSTA) to the UNFCCC examined, with the Intergovernmental Panel on Climate Change, the state of scientific and technical understanding of land use, land use change and forestry (LULUCF) issues, and an agreement was reached on forests in 2001.

The Marrakech Accord (signed at COP-7 in November 2001) acknowledged four major roles of forests in climate change: 1) as a source of carbon dioxide when destroyed or degraded; 2) as a sensitive indicator of a changing climate; 3) as a source of bio-fuels to replace fossil fuels; and 4) as a carbon sink, when managed sustainably. The use of forests and trees as carbon sinks and other forest-related issues were discussed further at both the COP-8 (2002) and COP-9 (2003). Parties reached an agreement on the inclusion of afforestation and reforestation in the CDM, as well as on a common reporting format for land use, land-use change and forestry in national communications.

During the commitment periods from 2008 onwards, all industrialized countries will accumulate credits and debits for carbon stock changes from afforestation, reforestation and deforestation since 1990. They will also be able to accumulate an allowance of 1 per cent of 1990 emissions for undertaking reforestation or afforestation initiatives in developing countries under the Clean Development Mechanism. These credits could be retroactive from 2000, providing the projects meet certain pre-requisites pertaining to environmental, social and development concerns. During the first commitment period, special waivers apply to debits from harvesting short-rotation forests, and also to net debits that occur for many parties when newly established young forests cannot offset debits from the clearing of established, usually older, forests.

Negotiations for the next commitment period have recently begun. Issues include the treatment of carbon stored in harvested wood products, forest-related definitions and differentiation between direct human-induced carbon stock changes and those from other causes. Countries will have to establish domestic regimes for climate change mitigation and to decide how these will integrate forests and their owners. Aiding this process, the harmonization of definitions and methods for measuring forest carbon stocks and their changes are rapidly becoming new fields in forest resources assessment.

18.3.1.2 Convention on Biological Diversity

Background

Although many of the articles of Convention on Biological Diversity (CBD) apply to forest ecosystems, the convention itself does not make specific mention of forests. In 1996, the Conference of Parties recommended that CBD develop a work programme in this regard. At the same time, it also discussed developing a protocol that could obviate the need for a global forest convention.

In 1998 CBD adopted the CBD Work Programme for Forest Biological Diversity, which focused on research, cooperation and technology development. It established an ad hoc technical expert group on forest biological diversity to make further progress on the issues.

Recent Developments

CBD has expanded the focus of the Convention's programme of work on forest biological diversity from research to action-oriented activities. CBD has encouraged the application of the ecosystem approach and noted the importance of supporting work on taxonomic, ecological and socioeconomic issues for the restoration of forest ecosystems and forest resources. It has also made reference to the IPF and IFF proposals for action, in particular those concerning the valuation of forest goods and services, and it stressed the need to harmonize the Convention's work with the IPF and IFF proposals for action on traditional forest-related knowledge.

In 2002, CBD adopted an expanded Programme of Work on Forest Biological Diversity, composed of three elements: conservation, sustainable use and benefit sharing; an enabling institutional and socio-economic environment; and knowledge, assessment and monitoring. It also refers to strategies on *in situ* and *ex situ* conservation, sustainable resource use, the need to establish, evaluate and strengthen protected area networks, forest law enforcement, national coordination and the need to facilitate the participation of local and indigenous communities in the management of protected areas. The CBD work programme on forest biological diversity is voluntary and not binding, there are no time-bound commitments or targets in its programme of work.

CBD has highlighted the need to consider forest biological diversity in programmes concerning global forest resources assessment, forest fires, climate change and pollution abatement. Implementation of the work programme should be based on national priorities and needs. It has been particularly emphasizing the need for the CBD Secretariat and parties to it to cooperate with UNFF, CPF and their partners to ensure better implementation of common objectives contained in national forest programmes and national biological diversity strategies and action plans.

When incorporating relevant indicators into the forest work programme, it encourages regional-level cooperation, and invites enhancement of cross-sectoral integration and inter-sectoral collaboration. CBD has closely collaborated with other members of the CPF on harmonizing and streamlining national reporting; and facilitate the full and effective participation of indigenous and local communities and other relevant stakeholders. A concern has been expressed on the effects on forest biological diversity as a result of insufficient forest law enforcement.

18.3.1.3 United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa

Background

Forests are an important element to the United Nations Convention to Combat Desertification (UNCCD). Forests and trees perform important ecological functions that prevent desertification and arid conditions, stabilizing soils and water resources. Conversely, deforestation can foster both desertification and land degradation, particularly in arid, semiarid and sub humid regions. In addition to this ecological link, forest loss and desertification are inter-connected in that the underlying socio-economic conditions and causes are very similar. Strategies to deal with desertification are likely to mitigate forest loss and vice versa.

The UNCCD, which entered into force in 1996, aims to combat desertification, mitigate the effects of drought and contribute to the achievement of sustainable development. This involves long-term strategies that focus on improved productivity of the land and its rehabilitation, conservation and sustainable management of land and water resources, and work leading to improved living conditions. Forests, and trees outside of forests, are relevant to all these strategies. The UNCCD has adopted an integrated approach which addresses the physical, biological and socio-economic aspects of the processes of desertification and drought. Combating desertification requires a broad approach, incorporating most aspects of environmental management in the dry lands which comprise one third of the earth's land surface.

Recent Developments

The most important recent development for this instrument is the designation of the GEF as a financial mechanism to the UNCCD. In May 2001, the GEF Council decided to pursue the designation of land degradation as a focal area, and the second Global Environment Facility Assembly adopted this in October 2002. This led in 2003 to the allocation of more than US\$18 million by the GEF to new projects under the category of land degradation.

The UNCCD has adopted a decision on “collaboration with the GEF”, which addresses the arrangements for establishing a working relationship with the GEF. COP-6 paid attention to the issue of synergies and to promote such synergies, UNCCD is supporting, with the UNFF, the UNFCCC and the CBD, the activities with Low Forest Cover Countries (LFCCs) for a joint approach on forests.

18.3.1.4 Convention on International Trade in Endangered Species of Wild Fauna and Flora

Background

Several threatened and endangered tree species have been listed for many years in the appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which place various levels of control or restrictions on their trade.

CITES Appendix III includes all species that any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation, and as needing the cooperation of other Parties in the control of trade. Appendix II includes: i) all species that, while not threatened with extinction, may become so unless trade in specimens of the species is subject to strict regulation; and ii) other species that must be subject to regulation so that trade in specimens of species referred to in i) above may be brought under effective control. Appendix I includes species threatened with extinction that are, or may be, affected by trade; trade in specimens of these species must be subject to particularly strict regulation in order not to endanger their survival further, and it must only be authorized in exceptional cases.

Controversy arose when attempts were made to list some major commercial tree species in the appendices. Considerable debate was generated by the listing in Appendix III of big-leaf mahogany (*Swietenia macrophylla*) by Costa Rica (effective 1995) and by Bolivia and Brazil (effective 1998), and by Bolivia's and the United States' subsequent

proposals at COP-10 (June 1997) to have the species moved to Appendix II, which would impose stricter trade restrictions. There also has been considerable debate and disagreement on allowing trade in African ivory, for the impact it would have on the Asian species.

In 1997 it was agreed that further discussions were needed, and the issue was addressed at an inter-sessional meeting, held in June 1998 in Brasilia, Brazil. Scientific information on the degree to which trade was influencing the status of the species was found to be insufficient to warrant a proposal to uplist] big-leaf mahogany to Appendix II. However, a resolution to establish a mahogany working group was adopted, which would review the effectiveness of the Appendix III listing of big-leaf mahogany, and analyse legal and illegal trade issues.

Recent Developments

The Big-leaf Mahogany Working Group reported its findings in November 2002. This report addressed the effectiveness of current and potential Appendix III listings, provided an analysis of legal and illegal trade, and reported on the status of the species in tropical America. COP-12 then decided to include the species (including logs, sawn wood, veneer sheets and plywood) in Appendix II; this amendment entered into effect 12 months later, i.e. on 15 November 2003.

18.3.1.5 Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)

Background

The Ramsar Convention, which is concerned with the conservation and wise use of wetlands and their resources, includes in its mandate a range of forested wetland. Parties have agreed to give priority to designating under-represented wetland types, including mangroves and peatlands. Guidelines for Global Action on Peatlands were adopted in 2002.

The Ramsar Bureau has formally established collaborative agreements with a number of secretariats and with a wide range of partners. A Joint Work Plan for 2000-2001, developed between the Ramsar Convention and the Convention on Biological Diversity, reflected an increased emphasis on the conservation of biological diversity in wetlands and continued the collaboration that was formalized between the two conventions in 1996. Forest ecosystems are one of the thematic areas identified for collaboration.

Recent Developments

In November 2002 the Convention took note of the “Progress report on the implementation of the second Joint Work Plan (2000-2001) of the Convention on Biological Diversity and the Convention on Wetlands” and of the “Third Joint Work Plan”, covering the period 2002-2006, of the CBD and the Ramsar Convention. The latter Plan includes Activity 4 on forest ecosystems, in which under ‘*Actions to be taken*’ it states that the CBD Secretariat will invite the Ramsar Bureau to explore ways and means on how Ramsar “can contribute to the implementation of the new programme of work on forest biological diversity”, particularly on issues related to peatlands and wooded wetlands.

Contracting Parties to this Convention have concluded, in its Strategic Plan 1997-2002, that mangrove ecosystems are under-represented in the List of Wetlands of International Importance; guidance on the identification and designation of mangrove ecosystems was also adopted.

A recent Resolution VIII.32 on the “Conservation, integrated management, and sustainable use of mangrove ecosystems and their resources” requests Parties to: modify their national policies and strategies that could have harmful effects on mangrove ecosystems; promote conservation, integrated management and sustainable use of mangrove ecosystems in accordance with SEAs of the potentially harmful activities; and designate mangrove ecosystems for inclusion in the Ramsar List. It also exhorts updating and exchanging information on mangroves and their integrated management and sustainable use of agricultural policies with trade-related agreements.

18.3.1.6 International Tropical Timber Agreement

Background

The International Tropical Timber Agreement (ITTA), 1994 came into force on 1 January 1997. It has 59 members divided into two caucuses: producing members (33 members) and consuming members (26 members). The ITTA is a commodity agreement under the auspices of the United Nations Conference on Trade and Development (UNCTAD). The ITTA also established the International Tropical Timber Organization (ITTO). Its member States account for 80 per cent of the world’s tropical forests and 95 per cent of world trade in tropical timber.

The ITTA 1994 aims to provide an effective framework for consultation, international cooperation and policy development with regards to the world timber economy, timber trade and Sustainable Forest Management. Among others, the ITTA 1994 contains the Objective 2000, under which all ITTO member countries committed themselves to export tropical timber and timber products only from sustainably managed forests by the year 2000. ITTO has played a catalytic role in supporting efforts in Sustainable Forest Management through its Criteria and Indicators, which broke new ground when they were published in 1992. They have stimulated initiatives by producer countries at the national level, as well as at the level of forest management units and have provided a focus for ITTO-funded fieldwork.

Recent Developments

Recent activities and issues receiving special attention include: training in applying ITTO Criteria and Indicators for Sustainable Management of Natural Tropical Forests; restoration, management and rehabilitation of degraded and secondary tropical forests; improved market access; means of assessing and combating illegal logging and illegal trade; encouragement of reduced-impact logging practices; forest certification; mangrove conservation and management; and the establishment and management of transboundary conservation areas.

Some of the new and emerging issues identified by a document prepared for the thirty-third session of the International Tropical Timber Council (November 2003), include the following:

- Continued increase in worldwide demand for forest products, with relatively greater demand for paper, composite panels, fine veneers, engineered wood products and a slower demand for lumber and plywood.
- The increasing importance given to domestic processing of logs and further manufacturing in tropical timber producing countries and declining trade in primary products from tropical forests and resulting in South-South trade in tropical timber and timber products, and of foreign investment in the forest sector by developing countries.
- Growing niche markets within some consumer countries for certified timber.
- Increased political attention on forest governance and law enforcement and commitment to combat illegal logging, associated illegal trade and corruption in the forest sector.
- Increased interest in monitoring and regulating international trade in high volume commercially traded tropical timber species through CITES.
- Increasing interest in managing natural forests as ecosystems, including maintaining environmental services (e.g. hydrological, aesthetic, biodiversity and carbon sequestration).
- Increasing recognition of the economic potential in developing national and international markets and market transactions for the environmental services provided by forests.
- Increasing interest in non-timber forest products in the context of timber production.
- Increasing awareness about the impact of invasive alien species and the possible impacts of genetic manipulation of forest species on tropical forest ecosystems and tropical timber production.
- The establishment of new public-private forest partnerships such as the Congo Basin Forest Partnership and the Asia Forest Partnership.

A successor agreement to the International Tropical Timber Agreement is being negotiated under the auspices of United Nations Conference on Trade and Development (UNCTAD) for deposit with the Secretary-General of the United Nations. UNCTAD held the first session of the United Nations Conference for the negotiation of a successor agreement to the International Tropical Timber Agreement, 1994, in Geneva from 26 to 30 July 2004. The negotiation will resume at its second session.

18.4. Non-Legally Binding Instruments, Agreements and Processes

18.4.1 International

18.4.1.1 United Nations Forum on Forests

Background

One highly significant development in recent years was the establishment of the international arrangement on forests in 2000, with the United Nations Forum on Forests

(UNFF) as the main body of that arrangement. In October 2000, the ECOSOC, through its Resolution E/2000/35, established the United Nations Forum on Forests, as a subsidiary body of the Council. The main objective, based on the Rio Declaration, the Forest Principles, Chapter 11 of Agenda 21 and the outcome of the IPF/IFF Processes is to promote "... the management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment to this end...". UNFF functions under the rules of procedure of the functional commissions of ECOSOC, and reports to General Assembly through ECOSOC.

As an intergovernmental policy forum, the UNFF is composed of all States members of the United Nations and specialized agencies, and meets in annual sessions. The UNFF is unique by being the only subsidiary organ of ECOSOC with universal membership.

ECOSOC, in its resolution E/2000/35, also invited the heads of relevant international organizations to form a Collaborative Partnership on Forests (CPF), to support the work of the UNFF and to foster increased cooperation and coordination on forests. Heads of agencies responded to the invitation positively and, in April 2001, CPF was created.

In order to achieve its main objective, the following principal functions have been identified for the UNFF:

- To facilitate implementation of forest-related agreements and foster a common understanding on sustainable forest management;
- To provide for continued policy development and dialogue among Governments, international organizations, including major groups, as identified in Agenda 21 as well as to address forest issues and emerging areas of concern in a holistic, comprehensive and integrated manner;
- To enhance cooperation as well as policy and programme coordination on forest-related issues;
- To foster international cooperation;
- To monitor, assess and report on progress of the above functions and objectives;
- To strengthen political commitment to the management, conservation and sustainable development of all types of forests.

The IPF/IFF processes produced more than 270 Proposals for Action towards SFM. These proposals formed the basis for the UNFF Multi-Year Programme of Work and Plan of Action. Country and Organization led initiatives are also contributing to the development of UNFF themes. Multi-stakeholder dialogues are an integral part of the agenda at UNFF sessions, allowing major stakeholders to contribute to the international forest dialogue.

As its objectives and principal functions illustrate, UNFF has a broad mandate on forests and it has been given the central policy forum role under the United Nations system.

Recent Developments

During its previous sessions, UNFF considered the progress made in the implementation of the IPF/IFF proposals for action under several broad categories (or elements) including deforestation; rehabilitation of fragile ecosystems; economic, social and cultural aspects

of forests; forest-related scientific knowledge and traditional knowledge; monitoring, assessment and review; C&I and forest health. Issues of trade, certification and labeling, cross-sectoral linkages, finance and transfer of environmentally sound technologies, have also been considered by the UNFF sessions.

As a part of its multi-year programme of work, UNFF has, at each of its session, examined ways of enhancing cooperation and policy and programme coordination.. This has provided a framework for greater coordination and cooperation with major actors involved in issues that are relevant or otherwise related to forests. The discussion includes members of CPF, other UN bodies, regional entities and civil society. In addition, the UNFF Bureau and the Secretariat continue to engage in the collaboration and coordination with functional commissions of ECOSOC. As a member of CPF and provider of secretariat service to it, the UNFF Secretariat also contributes substantially to the joint initiatives of CPF, for example, in developing a sourcebook on financing, in an initiative to streamline reporting and on work to foster a common understanding of forest-related definitions.

In order to strengthen political commitment towards SFM and mobilize greater resources and cooperation, UNFF holds high-level ministerial segments that include a one-day policy dialogue between the ministers and heads of CPF members. One such event was held during UNFF 2 in 2002 and another is scheduled at UNFF 5. The 2002 high-level segment also contributed to the preparations for WSSD in the form of a Ministerial Declaration. The Declaration was well received by WSSD and was reflected in the resulting JPOI.

To provide scientific and technical advice in its work, UNFF has established three ad-hoc expert groups. The outcomes of these ad hoc expert groups have been highly acclaimed for their contribution to the work of UNFF.

As a means of exploring the new and emerging issues and also to bring ground level realities to the intergovernmental policy process, UNFF hosted, during its third and fourth sessions, a number of special events such as panel discussions on various issues related to forests, forestry, sustainable livelihoods and regional perspectives. These interactive dialogues, which included representatives from governments, civil society and international organizations, resulted in non-negotiated Chairman's summaries, and helped advance understanding and consensus on sometimes controversial issues.

Country- and organization-led initiatives have been one of the highlights of UNFF. Such initiatives have greatly facilitated the clarification of issues and so advanced subsequent deliberations at UNFF sessions. These initiatives also illustrate the collaborative and constructive spirits of Member States, CPF members and other IGOs as well as members of civil society groups. UNFF has been supportive of WSSD partnerships on forests, such as the Asia Forest Partnership and the Congo Basin Forest Partnership.

18.4.1.2 Collaborative Partnerships on Forests

Background

The Collaborative Partnerships on Forests (CPF) supports the United Nations Forum on Forests and its member countries and reports annually on its progress. It is an innovative partnership, consisting of 14 major forest-related international organizations, both within

and outside the UN system. It was established in April 2001, in response to the invitation included in the ECOSOC resolution establishing the UNFF. The CPF supports the implementation of Sustainable Forest Management worldwide.

Recent Developments

Since the establishment of the Partnership, significant and increasing collaborative activities have been demonstrated. The organizations have worked closely together in assisting countries and cosponsoring and co-organizing meetings and workshops, on a variety of issues such as national forest programmes, Criteria and Indicators for Sustainable Forest Management, wildfires, mangroves, forest restoration and projects in low forest cover countries.

The members of the Partnership have embarked on a number of initiatives, including:

- Sourcebook on Funding Sustainable Forest Management: to make information accessible through an on-line searchable database
- Task Force on Streamlining Forest-Related Reporting: to reduce the reporting burden on countries
- Initiative on Forest-related Definitions: to foster a common understanding of terms and definitions

18.4.1.3 Millennium Development Goals

Background

The Millennium Development Goals (MDGs) summarize the development goals agreed on at international conferences and world summits during the 1990s. At the end of the decade, world leaders summed up the key goals and targets in the Millennium Declaration, which was adopted in September 2000. The MDGs, which includes 8 goals, 18 targets and over 40 indicators, have significantly focused the work of the United Nations over the last few years. The UN General Assembly has approved the MDGs as part of the Secretary-General's Millennium Roadmap. The UN strategy for the MDGs includes:

- The Millennium Project, which analyzes policy options and will develop a plan of implementation for achieving the Millennium Development Goals.
- The Millennium Campaign, which mobilizes political support for the Millennium Declaration among developed and developing countries.
- Country-level monitoring of progress towards achieving the Millennium Development Goals.
- Operational country-level activities, coordinated across agencies through the UN Development Group, which helps individual countries to implement policies necessary for achieving the Millennium Development Goals.

Recent Developments

The proportion of forest area is an indicator for environmental sustainability goal. In addition, forests are closely linked to many of the MDGs. Forests are an integral, dynamic resource that play a critical role in poverty alleviation, are vulnerable to the

effects of poverty and are a source as well as victim of conflict. According to the World Bank, forest resources directly contribute to the livelihoods of 90 per cent of the 1.2 billion people living in extreme poverty and who depend on forests to enrich their soil, provide food for their livestock and protect their water supply. For these people, forests are a source of food, energy, shelter, medicine, commerce and spiritual well-being. The ILO reports that sixty-three per cent of employment from forest based commerce lies in the informal economy, predominantly supporting the livelihoods of the poor. At the same time, it is poverty that is most often the root cause of increasing deforestation levels. The link between the health of the people and the health of the environment is undeniable - yet, it is only in the last decade that issues of land use, tenure, social and cultural importance of forests and the relationships between forests and conflict have begun to make their way to the forefront of research and political discussion

18.4.1.4 World Summit on Sustainable Development: Johannesburg Plan of Implementation

The World Summit on Sustainable Development (WSSD), held in Johannesburg, South Africa in September 2002, agreed on two main documents, the Plan of Implementation and the Johannesburg Declaration on Sustainable Development. The Plan of Implementation is a framework for action to implement Agenda 21, whereas the Declaration outlines the path taken from Rio to Johannesburg. Both documents emphasize the important linkages between poverty eradication, the protection of the environment and the sustainable use of natural resources.

Forest-related issues were highlighted at the Summit, particularly in the Plan of Implementation. Paragraph 45 focuses exclusively on forests and sustainable forest management and reflects the outcome of the Ministerial Declaration of the second session of the UNFF. The paragraph stressed, among other things, the key role of the United Nations Forum on Forests and the Collaborative Partnership on Forest to facilitate and coordinate implementation of SFM at the national, regional and global levels. It further identified SFM as essential in achieving sustainable development and as a critical means to eradicate poverty, to significantly reduce deforestation, to halt the loss of biodiversity, to prevent land and resource degradation, to improve food security and access to safe drinking water, and to provide affordable energy. In addition, it recognised the multiple benefits of both natural and planted forests and trees to contribute to the well-being of the planet and humanity.

In addition, the Summit was the occasion for several countries to launch official WSSD partnerships. These so called type II initiatives included three major forest partnerships with regional focus, namely the Asia Forest Partnership, the Congo Basin Forest Partnership and the Model Forest Network in Latin America and the Caribbean.

18.4.1.4.1 *Asia Forest Partnership*

The Government of Japan and its partners, including several other governments, intergovernmental organizations and NGOs, launched the Asia Forest Partnership to promote sustainable forest management in the region. The collaborative arrangement addresses issues related to good governance and law enforcement, capacity building, illegal logging, forest fires and degraded lands. Building on current international and regional activities, cooperation will extend to such areas as the development of forest

policies, plans and programmes; the use of satellite data and mapping; participatory management; human and institutional development; and inter-sectoral coordination within governments. The Partnership expects to enhance ongoing sustainable forest management initiatives by providing a framework for conducting research.

18.4.1.5 Commission on Sustainable Development

Background

The United Nations Commission on Sustainable Development (CSD) was created in December 1992 to ensure effective follow-up of the Earth Summit in 1992. The Commission aims to monitor and report on implementation of the Earth Summit agreements at the local, national, regional and international levels. The CSD is a functional commission of the ECOSOC, with 53 members. A five-year review of the Earth Summit progress took place in 1997 by the United Nations General Assembly meeting in special session, followed in 2002 by a ten-year review by the World Summit on Sustainable Development.

The Summit reiterated the initial mandate and functions of the CSD as a high level forum on sustainable development, and deliberated to enhance its role so that it can respond to the new demands emerging from the WSSD Plan of Implementation.

Both the IPF and the IFF (1995-2000) were ad hoc forest processes under the auspices of the CSD, with the main objectives to follow up on the Forest Principles and Chapter 11 of the Agenda 21 adopted at the Earth Summit.

Recent Developments

In the follow-up to the WSSD, the Commission on Sustainable Development decided at its eleventh session that its multi-year programme of work beyond 2003 would be organized on the basis of seven two-year cycles, with each cycle focusing on selected thematic clusters of issues. Among others, it identified the thematic cluster “Forests, Biodiversity, Biotechnology, Tourism, Mountains.” Forests will remain as part of the Multi-Year Programme of Work as scheduled; unless otherwise agreed by the Commission forests will be reviewed in 2012-2013.

CSD has also been mandated to follow up on the WSSD Partnerships. At each session of the CSD a Partnership Fair is held, which provides a venue for showcasing progress in existing Partnerships for Sustainable Development, launching new partnerships and networking among existing and potential partners.

18.4.1.6 FAO Committee on Forestry

Background

Foremost among the FAO Forestry statutory bodies is the Committee on Forestry (COFO). Heads of forest services and other senior government officials meet at FAO headquarters every two years to identify emerging policy and technical issues, to seek solutions and to advise FAO and others on appropriate action in forestry.

Recent Developments

FAO provides strong support to the UNFF process and in collaboration with other CPF members assists the UNFF in its work related to monitoring, assessment and reporting on

progress towards IFP and IFF proposals for action. Considerable efforts have been made in harmonizing national inventory information in a global synthesis for the Forest Resources Assessment 2000 (FRA 2000). FRA 2000 findings are of utmost importance when carrying out policy development and planning.

FAO also supports countries in their implementation of the IPF/IFF plan for action and is to report about it at the next COFO session. FAO also collaborates with other agencies and key international conventions related to forests, such as the UNFCCC, IPCC, CBD and UNCCD in providing technical input regarding elaboration and reconciliation of terms and definitions.

COFO has focused on the role of the Regional Forestry Commissions in implementing the IPF/IFF proposals for action. Regional Forestry Commissions have recently facilitated an assessment of implementation of IPF/IFF proposals for action and other internationally agreed actions in countries, and is about to establish a roster of persons familiar in each country with the IPF/IFF proposals for action to assist countries in prioritizing them. FAO and other CPF members have been asked to help fund such an approach.

18.4.1.7 The Global Programme of Action for the Protection of the Marine Environment from Land-based Sources of Pollution

Background

The Global Programme of Action for the Protection of the Marine Environment from Land-based Sources of Pollution (GPA) was adopted as a non-legally binding, “soft legal” instrument in 1995. Negotiated by 108 governments and the European Commission, it was established to strengthen regional and national efforts to tackle the most important threat to the marine environment: the flow of chemicals, wastes and other materials into the sea via air, rivers and coastal areas. It targets pollution from entire catchment areas, taking in sources such as agriculture and forestry, among others. Of the nine land-based sources of pollution addressed by the GPA, two are forest-related: sedimentation and physical alteration and destruction of coastal ecosystems, including mangrove and other coastal forests. Given that most sedimentation is transported by rivers and streams, the GPA promotes the integrated management of river basins, including their forests.

While it is a non-legally binding, soft legal instrument, the GPA has an unusual broader legal framework through which it operates. It is based on the provisions contained in articles 207 and 213 on the protection and preservation of the marine environment from all sources of pollution, including land-based activities, of the United Nations Convention on the Law of the Sea (UNCLOS); and it is largely implemented through 16 regional seas programmes, of which 12 have legally-binding conventions and 4 have action plans that are soft legal instruments.

Recent Developments

The First Intergovernmental Review of the Implementation of the GPA took place in 2001. While it was recognized that there had been significant progress in its implementation since 1995, it was also concluded that the pace of implementation, particularly in developing countries, had been constrained by a lack of new and additional

financial resources. The meeting did recognize the financial contributions of the GEF and the World Bank. Nevertheless, although the GPA has institutional arrangements and strategies for its implementation, it lacks the supportive financial mechanisms at the global level.

Most of the progress in the implementation of the GPA was due to the efforts of the Regional Seas Programmes, which have all prioritized the problems of marine pollution from land-based activities.

18.4.1.8 International and Regional Criteria and Indicators for Sustainable Forest Management

Background

Stakeholders at the international, regional, national and sub-national levels increasingly acknowledge the importance of Criteria and Indicators as a framework for policy formulation and monitoring Sustainable Forest Management and national forest programmes. At present the nine major international criteria and indicators processes (African Timber Organisation, Dry Forest Asia Initiative, Dry-Zone Africa Process, ITTO, Lepaterique Process, Montreal Process, Near East Process, Pan-European Process, Tarapoto Proposal) involve 149 countries and 85 per cent of the world's forests. International organizations, including several members of the CPF, as well as non-governmental organisations have provided support to the development of these processes and have assisted countries in testing and implementing criteria and indicators at the national and sub-national levels.

As might be expected with such extensive coverage, the degree of implementation varies both among processes and among member countries within them. In this regard, it is encouraging to note that some processes, notably the Pan-European (MCPFE), and the Montreal process issued a report on the status of Sustainable Forest Management in their member countries in 2003 and ITTO did so in 2004. Other processes are also working towards this end. While action was originally directed to the national level, efforts to develop and implement Criteria and Indicators at the forest management unit level have recently been intensified, with governments continuing to involve a range of partners, including forest owners, NGOs and the private sector.

Recent Developments

Following a recommendation from the Expert Consultation on Criteria and Indicators for Sustainable Forest Management, held in Rome in November 2000, the International Conference on the Contribution of Criteria and Indicators for Sustainable Forest Management was held in Guatemala City from 3-7 February 2003 (CICI-2003). The main objectives were to improve development and implementation of Criteria and Indicators, foster political commitment, strengthen institutional capacity and stakeholder participation, and contribute to the work of UNFF. One of the most important outcomes of the Conference was the identification of the seven thematic areas of Sustainable Forest Management, which were later noted by the FAO Committee on Forestry in 2003, and most recently acknowledged by the fourth session of UNFF in 2004. The Global Forest Resources Assessment update in 2005 was built around six of the seven thematic elements, thus contributing in a harmonised way to the global overview of progress towards Sustainable Forest Management to be conducted at UNFF 5.

Based on the CICI-2003 recommendations, a follow-up Expert Consultation on Criteria and Indicators for Sustainable Forest Management was conducted on 2-4 March 2004 in Cebu City, Philippines with the focus on Communication and information management for enhancing the implementation of C&I, terms and definitions and strengthening the C&I processes for better implementation.

18.4.1.9 Convention On Migratory Species Of Wild Animals

Under the Convention on Migration Species of Wild Animals (CMS), a draft Memorandum of Understanding on the conservation of marine turtles has been prepared. Five out of six marine turtles are found in Indian seawaters and have been provided protection under the Wildlife Protection Act, 1972. During the last Conference of Parties held in 2002, India succeeded in getting international support for inclusion of Gangetic dolphin in Appendix II of the CMS.

18.5 Regional

18.5.1 South Asian Cooperative Environment Programme

Background

South Asia Cooperative Environment Programme (SACEP) is an inter-governmental organization, established in 1982 by the Governments of South Asia to promote and support protection, management and enhancement of the environment in the region.

Since its inception, SACEP has promoted sustainable development in the region by implementing a number of projects and programmes in the fields of environment education, environment legislation, biodiversity, air pollution, and the protection and management of the coastal environment with the assistance of various bilateral and multilateral funding agencies. Furthermore, UNEP's Environment Assessment Programme for Asia Pacific has made use of SACEP as a sub-regional partner in the field of environment assessment, reporting, data management and capacity building by establishing the South Asia Environment and Natural Resources Information Centre (SENRIC) with the assistance of the Asian Development Bank.

Recent Developments

The adoption of the Malé Declaration by its member States, in 1998, has enhanced the role of SACEP to encourage intergovernmental cooperation to address the increasing threat of trans-boundary air pollution and its impacts. It is expected that within the next few years, there will be a substantial increase in sub-regional environmental programmes, including environmental law, legislation and monitoring, biodiversity and land management.

18.5.2 Group of Eight

Background

The Heads of State of the G8 countries (Canada, France, Germany, Italy, Japan, the Russian Federation, the United Kingdom and the United States) approved an action programme on forests at its summit in Birmingham, the United Kingdom in May 1998. The G8 Action Programme on Forests has five elements: the monitoring and assessment of forests, national forest programmes, protected areas, the private sector and illegal

logging. An initial report on the implementation of the programme was presented at the G8 Summit in Miyazaki, Japan on 12 and 13 July 2000. At Miyazaki, the countries reaffirmed their commitment to and practice of Sustainable Forest Management, agreed to take initiatives to implement the IPF and IFF proposals for action, and reaffirmed their commitment to combating illegal logging. The FLEG process is closely associated with the G-8 process.

Recent Developments

A final progress report was provided to the G8 in 2002, which highlighted that the Action Programme on Forests launched in 1998 represented the first consolidated experience for the G8 members in working together on the world's forests. It focused on individual G8 member's experiences and was characterized as complementing an extensive range of actions that had been undertaken by the international community in various regional and international processes during that time. The report also illustrated where the G8 members had capitalized on their strengths and worked cooperatively on a number of issues as opportunities arose, including in support of the IFF. The report concluded that while the actions taken had been important contributions towards Sustainable Forest Management and in turn sustainable development, further efforts are needed by all G-8 members.

During its meeting in 2003 in Evian, France, the G-8 confirmed their determination to strengthen international efforts to tackle the problem of illegal logging from the perspective of Sustainable Forest Management.

In the G8 meeting held in 2004 on Sea Island, the USA, in describing some of its activities in agriculture and biodiversity, made particular mention of the promotion of SFM and control of illegal logging through Asia Forest Partnership, Congo Basin Forest Partnership, and others as well as the Paris Conference on Biodiversity.

18.5.2.1 Ministerial Processes for Forest Law Enforcement and Governance (FLEG)

Background

In May, 1998, the G-8 launched an action programme on forests, which gives high priority to eliminating illegal logging and illegal timber trade. The action programme sought to complement actions undertaken at regional and international levels, and States the G-8's commitment to identifying actions in both producer and consumer countries. Several FLEG processes are now running in parallel.

Recent Developments

The issue of illegal logging has come to the fore in international forest policy debates since 2000, highlighting much wider issues such as appropriate forest governance, effective law enforcement, sustainable trade, and ethical investment.

The G-8 action programme motivated a partnership on forest law enforcement for East Asia between the World Bank, the UK and the US, which led to the FLEG East Asia Ministerial Conference in September 2001. The Conference adopted a Ministerial Declaration, whereby participating countries committed themselves to, *inter alia*, intensify national efforts and strengthen bilateral, regional and multilateral collaboration

to address forest crime and violations of forest law. The Declaration also contained a commitment to create a regional Task Force on FLEG to advance the Declaration's objectives. The Task Force held a follow-up meeting on the Declaration's implementation in Bali, Indonesia, in May 2002. The first working meeting of the FLEG Task Force and Advisory Group was held in Jakarta in January 2003. The participants – who represented a broad range of governments, NGOs and private sector organizations – cooperated to produce action plans for initial actions in four key areas to be undertaken to curb illegal logging. Moving forward, the participants are committed to continuing to push for specific national and regional actions to combat forest degradation.

18.6 Financial and Trade Institutions

18.6.1. World Bank

Background

The World Bank Group's mission is to fight poverty and improve the living standards of people in the developing world. It is a Development Bank which provides loans, policy advice, technical assistance and knowledge sharing services to low and middle income countries to reduce poverty.

The World Bank is one of the United Nations' specialized agencies, and is made up of 184 member countries. These countries are jointly responsible for how the institution is financed and how its money is spent. Several Banks make up for the World Bank Group: these are the World Bank itself; the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) which provide low-interest loans, interest-free credit, and grants to developing countries; the International Finance Corporation (IFC), which promotes private sector investment by supporting high-risk sectors and countries; the Multilateral Investment Guarantee Agency (MIGA), which provides political risk insurance (guarantees) to investors in and lenders to developing countries; and the International Centre for Settlement of Investment Disputes (ICSID), which settles investment disputes between foreign investors and their host countries

Recent Developments

In October 2002, the Board and Executive Directors of the World Bank approved its new Forest Strategy and operational policy for the forest sector. These recognize that forests are critical in alleviating poverty and developing sustainable economies and environments. The policy is based on three interdependent components: harnessing the potential of forests to reduce poverty; integrating forests into sustainable economic development in client countries; protecting vital local and global forest services and values.

In broad terms, the Bank will focus on economic policy and rural strategies that embrace both conservation of vital environmental services and sustainable use. It will provide institutional and policy support for community and joint forest management, governance and control of illegal activities, building markets, and financial instruments in support of private investment in sustainable forest conservation and management. It will emphasize the development of new markets and marketing arrangements for the full range of goods and environmental services available from well-managed forests.

Forest governance is one of the areas emerging from the World Bank's Forest Policy Implementation Review and Strategy process. Consequently the World Bank Group launched its Forest Governance Programme and it has contributed to establishment of several partnerships on forest law enforcement (see section on FLEG). Some of the other priority areas have been investments in forest sector (Forest Investment Forum 2003), Institutional changes in forest sector (International Workshop on Institutional Changes in Forest Management in Transition Economies, 2003) and forest fiscal systems (International Workshop on Reform of Forest Fiscal System 2003).

18.6.2 Global Environment Facility

Background

The Global Environment Facility (GEF) was formally established as a mechanism in 1994 by the Instrument for the Establishment of the Restructured Global Environment Facility. GEF is a financial mechanism of CBD and UNCCD. It provides funding to eligible countries for incremental costs of measures to achieve global environmental benefits in four focal areas specified in the Instrument: climate change, biological diversity, international waters, and ozone layer depletion. GEF projects are implemented by the United Nations Development Programme, the United Nations Environment Programme, and the World Bank.

The Global Environment Facility has provided support for protected areas and mainstreaming biodiversity in forest management systems and landscapes through its forest ecosystem operational programme. From its inception in 1991 to June 2003, the GEF has committed \$777.6 million for environmental projects that address threats to forests, with nearly \$2 billion in co-financing being leveraged from national, bilateral and multinational partners. These projects focus on promoting sustainable livelihoods by integrating best practices in the conservation and sustainable use of forest resources. Nearly 150 projects have been implemented in 76 countries. GEF projects provide support to more than 741 protected areas worldwide. Strong emphasis is also placed on the sustainable use of non-timber forest products.

Recent Developments

Perhaps the most significant recent development in the area of forests is the new mechanism under GEF's function for the implementation of SFM, as part of the sustainable land management focal area. The Second GEF Assembly in Beijing in October 2002, designated land degradation, primarily desertification and deforestation as a focal area of the GEF. Strategic considerations include the need to guide the development and implementation of programmes, and to promote synergies among the programme priorities on sustainable land management of the UNCCD, CBD, UNFCCC, and other relevant conventions in projects developed with GEF funding, as well as with the CPF. Total GEF allocation to land degradation focal area in 1993 was \$19.2 million.

18.6.3 World Trade Organization

Background

The World Trade Organization (WTO) is the only global international organization dealing with the *rules* of trade between nations. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their

parliaments. The goal is to help producers of goods and services, exporters, and importers conduct their business.

The WTO has no specific agreement dealing with the forests. However, a number of WTO agreements include provisions dealing with environmental concerns. Furthermore, the objectives of sustainable development and environmental protection are stated in the preamble to the Agreement Establishing the WTO.

Recent Developments

The increased emphasis on environmental policies is relatively recent. At the end of the Uruguay Round in 1994, trade ministers from participating countries decided to begin a comprehensive work programme on trade and environment in the WTO. They created the Trade and Environment Committee. This has brought environmental and sustainable development issues into the mainstream of WTO work. This work is potentially relevant to forests.

18.6.4 Regional Development Banks

18.6.4.1 Asian Development Bank

Asian Development Bank is a multilateral development finance institution, dedicated to reducing poverty in Asia and the Pacific. Established in 1966 under the auspices of ECAFE (today ESCAP), the Bank fosters economic growth and cooperation, uses its resources for financing development and provides loans for the economic and social advancement of the developing member countries (DMCs). The Bank is represented by 61 members, mostly from the region.

In 1995 the Bank prepared a document on ‘Guiding Principles for Assistance to the Forestry Sector’. These principles stress the multiple and complimentary uses of forests for their economic, environmental, and social values; the renewable character of forest resources; forest development strategies; identity, culture and rights of forest-dwelling communities; and the role of forests in maintaining biodiversity, global carbon storage and air pollution.

In 2002 a regional workshop on ADB’s Forest Policy Review was undertaken. The review presented the results of the Bank’s forestry portfolio, including the effectiveness and impact of past ADB forestry activities. It identified forest sector policy, legal and institutional constraints and the macro-forest resource demand and supply trends, and technological challenges in Asia. This workshop resulted in a draft of the Bank’s forest sector strategic framework and areas of priority which cover: forest governance, forest resources security and development, poverty reduction and environmental protection, and global environmental aspects.

18.7 Non-governmental Processes

18.7.1 World Business Council for Sustainable Development (WBCSD): Forestry Working Group “Sustainable Forest Products Industry”

In its report titled *Towards a Sustainable Paper Cycle*, the International Institute for Environment and Development (IIED) emphasized the need for increased dialogue among forest industry, environmental, governmental, and private stakeholders regarding forest management. Drawing from an array of existing proposals, IIED urged the forest

industry to synthesize a globally acceptable set of guiding principles for SFM that involved these stakeholders. In the beginning of 1998, the Working Group Towards a Sustainable Forest Industry, an international group of individual forest companies within The World Business Council for Sustainable Development, began discussions.

In June of 1999, individuals from the WBCSD, WRI, WWF, and IIED invited representatives of private forest owners to join a discussion group in London that was facilitated by the Environmental Council. This meeting led to a second facilitated dialogue in August of 1999 that included private industry representatives, environmental groups, and private forest owners. As a result of this meeting, the group recommended the creation of a steering committee, which would initiate dialogue among individuals from forest products businesses, social and environmental groups, and private forest owners from around the world. The members, who perceived opportunities to reduce conflict and find common cause, created an ad hoc dialogue group to pursue this objective. Originally called The Continued Dialogue on Sustainable Forest Management, the group changed its name to The Forests Dialogue when it met in June of 2000.

Recent Developments

In 2001, leaders of the world's largest forest companies formed The Global Forest Industry CEO Forum, further expanding the platform for discussing forestry issues. In January 2003, the WBCSD signed a Collaborative Framework agreement with WWF International to undertake joint efforts to improve Sustainable Forest Management outcomes. At the "4th Certification Watch Conference" conference in Quebec City in September 2003, the WBCSD presented a discussion paper Forest certification systems and the "Legitimacy" Thresholds Model (LTM). The paper urges the creation of a core alliance of stakeholders to establish an independent assessment framework.

18.7.2 The Forests Dialogue (TFD)

Background

In 1999, in cooperation with the World Resources Institute (WRI) and the World Wide Fund for Nature (WWF), the Forest working group convened The Forests Dialogue, involving a wide range of stakeholders from both developed and developing countries – forest representatives, labour, academics, the World Bank, NGOs and Yale University's Global Institute of Sustainable Forestry.

Recent Developments

TFD launched a dialogue between the different forest certification systems (2002 and 2003) and further dialogues on high conservation forests, intensive forestry, illegal logging and forests and social development during 2003-2005.

18.8 Scope for Further Analysis

18.8.1. Extent of Forest Resources

Forest resources are affected by a complex web of policies and circumstances. A varied set of policy developments can all have very significant direct and indirect impacts on changes in the level of forest resources. Over the last ten years, policy and decision-making has been increasingly moving toward integrated and holistic assessment of economic, social and environmental issues. As such, the multiple aspects and potential

benefits of forest resources are being directly considered by a rather large number of inter-governmental processes.

The importance of forests as tools to ensure economic, social and environmental products and services are highlighted in a number of instruments and the critical need for ensuring forest resources grow, is increasingly recognized as a priority. Both the UN Millennium Declaration and the Johannesburg Plan of Implementation (JPOI), agreed during the WSSD, explicitly recognize the link between Sustainable Forest Management and development. Both place emphasis on the rapid rate of deforestation, especially in tropical countries, and call for new commitment to be made by both governments and stakeholders to finding ways to address this complex problem. There are a number of international and regional instruments and processes that address the issue of deforestation from different perspectives. In this section only those dealing with afforestation and conservation are briefly considered.

18.8.1.1 Afforestation

There are a number of inter-governmental bodies that have recently turned to forests as a tool for mitigating other environmental problems and thus see afforestation as increasingly important to sustainability. Governments that are party to the UNFCCC see expanding forest resources as a means to decreasing the level of carbon in the atmosphere.

Although formally linked to implementation of the UNCCD, the US\$18 million allotted to combating land degradation can be used for a wide range of forest related activities. Small scale reforestation and afforestation activities are also a part of the Clean Development Mechanism of the Kyoto Protocol.

These are all positive developments and indicate a clear strengthening of political commitment on forest issues. At the same time, there exists a potential for a certain lack of coherence and even some duplication of efforts. For example, discussions taking place at the UNFCCC on land use and forests have resulted in reporting guidelines for countries and will continue to produce definitions and recommendations that may not be in line with those created under the framework of the UNFF.

18.8.1.2 Conservation

There is also a very wide array of instruments and processes that address aspects of conservation of existing forest resources. International legally binding instruments such as the CBD, the Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention), the Convention on Migratory Species (CMS), the Ramsar Convention on Wetlands, CITES, the Convention Placing the International Poplar Commission within the Framework of the Food and Agriculture Organization of the United Nations, and the International Plant Protection Convention all consider conservation as a means toward an alternate end of preserving natural habitats or ecosystems. Organizations indirectly concerned with the implementation of forest principles (management, conservation and sustainable development of all types of forests) are also placing increased emphasis on restoration, management and rehabilitation of degraded and secondary forests. While most instruments kept to this narrow scope in the early years of their adoption, many have since expanded their mandate of negotiations to include issues related to access and benefit sharing and

stakeholder participation. Many also now include discussions of socioeconomic aspects of forests as critical to conservation efforts, very often duplicating discussions in other fora, such as the UNFF. Most of the resolutions adopted by these bodies on these tangential elements remain voluntary.

Regional instruments and processes that have a direct mandate for conservation include the Illegal Trade in Wild Fauna and Flora and the ASEAN Agreement on the Conservation of Nature and Natural resources.

18.9 Conclusions

Of the 19 international forest-related legally binding instruments, 18 deal with forests only as part of another issue; 16 focus on sectoral or very specific issues and two deal only with specific forest types. Only one is dedicated exclusively to forests, namely the International Tropical Timber Agreement, focusing on tropical timber.

However, of the 21 regional forest-related legally binding instruments, few limit themselves to narrow aspects of forests, even if they are addressing other subjects. Three deal exclusively with forests, while several of the others treat forests in a more holistic manner than many of the global instruments. In this regard, it should be noted that the United Nations Forum on Forests is the only one intergovernmental body that is addressing, in a comprehensive manner, all policy and management aspects of all types of forests.

An examination of the institutional arrangements for both legally binding and non-legally binding instruments, agreements and processes reveal that forestry issues are being addressed by a large number of organizations. Nine different organizations, 6 of which are members of the CPF, provide the secretariats of the 19 global conventions and instruments. As would be expected, the number of organizations providing the secretariats of regional legally-binding instruments is greater, in this case numbering 16 organizations. A total of 33 organizations serve as the secretariats or principal responsible bodies for the 60 forest-related legally binding and non-legally binding instruments, agreements and processes examined.

Significant strides have been made in coordination and collaboration at an organisational level, in particular through the work of the International Arrangement on Forests, namely the UNFF and the CPF. Greater attention now needs to be given to the issue of improved coordination of international bodies at the global, regional and sub-regional levels in support of Sustainable Forest Management and control over illegal trade in flora and fauna. International efforts on forests and wildlife conservation should attempt to build on the work and experiences of existing forest and wildlife related agreements and processes, devising enhanced mechanisms for coordination at the intergovernmental policy level, so as to avoid duplication and conflict, as well as to fill gaps.

18.10 The Indian View

India has been participating actively in the international dialogue on Forests and Wildlife in different processes. India is committed to the forest principles evolved at the United Nations Conference on Environment and Development held in Rio in 1992. Forestry management in India falls under the concurrent responsibility of federal and State Governments. The National Forest Policy of 1988, formulated four years before the Rio

summit, embodies the principles of Sustainable Forest Management, involvement of local communities, empowerment of women and increase in forest and tree cover.

A significant development at the global level has been the establishment of United Nations Forum on Forests and the Collaborative Partnership on Forests, as the international arrangements on forests aimed at addressing forest-related issues in a holistic, comprehensive and integrated manner. UNFF and CPF have been successful in promoting better understanding of Sustainable Forest Management-related issues, as well as facilitating coordination among forest-related instruments and processes.

National Forest Programmes (NFPs) have been formulated in many countries in response to international commitments and in conformity with the IPF/IFF proposals for action. With limited financial resources at their command and with competing demands for developmental programmes, many of the developing countries have not been in a position to allocate adequate resources for NFPs. It is imperative that this aspect is given due consideration in the deliberations on actions for the future.

There are approximately 40 legally-binding forest-related instruments. Greater efforts are required, mainly in mobilizing adequate financial resources and promoting transfer of technology, for the achievement of the objectives of these instruments. The core challenge, is to collectively renew the commitment towards Sustainable Forest Management and take necessary steps to build on the progress achieved so far.

India should support strengthening of the existing international arrangement on forests to address the gaps and facilitate action. The principal task is to identify priority areas and focus attention on such issues at the international level that would facilitate action at the national level to achieve Sustainable Forest Management and the conservation of forests, grasslands and biodiversity and at the same time promote support to developing countries in capacity building, as well as in meeting the financial gaps.

The UNFF may be strengthened to evolve as the leading high-level inter-governmental forum on forests, to promote actions at the global level in accordance with the Rio Principles adopted at the Rio Declaration on Environment and Development and the 'Forest Principles', which underscore that States have common but differentiated responsibilities regarding collective global interests and concerns related to forests; that States have sovereign right to utilise their resources to meet their national policy objectives, and, at the same time, emphasize that international cooperation should focus on building human and institutional capacity in the developing countries to conserve and manage their forests.

Any number of programmes or plans will not help achieve the goal of sustainable development unless we devise effective financial arrangements to implement them. India supports establishment of financial arrangements that would assist developing countries in the implementation of proposals for action. Setting up a Global Forest Fund and earmarking resources for forestry projects in GEF could be some of the options. National forest programmes, where existing, should be the basis for channelising and prioritising financial assistance for the forestry sector in developing countries by donor communities including the Collaborative Partnership on Forest (CPF). Furthermore, the mandate of CPF members for the forestry sector should be in consonance with the objectives of UNFF.

The UNFF can play a key role in creating complementarities among the forest related conventions and relevant forest organizations, bodies and processes for the better use of resources, expertise, less likelihood of duplication of work, better communication and dissemination of information, as well as broader political attention. Collaboration between national focal points of the UNFF and forest related instruments and processes is also important in order to foster national level collaboration, particularly through the use of existing policy and planning mechanisms, such as the national forest programmes. The forum should also guide members of the CPF to focus their mandate on financial resources, transfer of technology and capacity building needed for the implementation of proposals.

18.11 Recommendations

- [324] *There needs to be a detailed advance planning and more attention given to the formulation of any new international arrangements and agreements at both global and regional levels, pertaining to forests and wildlife, so that interests and needs of the country are well safeguarded.*
- [325] *There also need to be a far more concentrated effort to implement in both letter and spirit, the national duties and obligations envisaged in international agreements to which India is a party, and not just merely participate in the periodic meetings related to these instruments and to give vocal support. Many of these international instruments and agreements including those related to suppression of illegal trade, have a direct bearing on the conservation of the country's biodiversity and natural resources and it is in India's interests to give full cooperation and seek the same, at both regional and international levels.*
- [326] *There needs to be greater financial inputs provided to fulfil these international obligations, and there needs to be a nodal cell to monitor the follow-up action and implementation of each instrument, within the Forest and Wildlife Wing of the Ministry of Environment and Forests.*
- [327] *We may also learn lessons from other regional instruments such as the Amazonian and Central African and establish regional instruments, at least at the South Asian regional level, for the purpose of achieving cooperation and collaboration of the countries concerned vis-à-vis international commitments and obligations pertaining to wildlife and forests in the Asian region.*
- [328] *The views of India should be framed well before international negotiations and after wider consultation from all stakeholders.*
- [329] *The size of the delegation for the participation in different conventions and international meetings is very small. Since almost one fourth the land mass in the country belongs to the forestry sector and around 28% population of the country have dependence on forests, there is need to have an adequate delegation representing all sectors of the country, including industry, non-government organisations and individual experts.*
- [330] *It was observed that many forest-related international instruments such as the Convention on Biological Diversity, United Nations Convention to Combat Desertification and Commission on Sustainable Development are not dealt with by the Forest and Wildlife Wing of the Ministry of Environment and Forests. This needs to be rectified.*

Chapter 19

Forest in National Resource Accounting

19.1 Introduction

19.1.1 Importance of Forests as Natural Capital

Forests are natural resources and considered as the wealth of nations or a natural capital. Traditionally, these resources are taken as “free gift of nature”. The neoclassical economists introduced “natural capital” with “man-made capital” and recognized the changes in natural capital such as depletion, degradation or regeneration as a result of human interference in assessing the value of the resource. Unlike man-made capital, natural capital is strongly linked with the habitat and ecology and provides multiple and interrelated benefaction to human well-being. The nutrient cycling services of forests promote the growth of forests itself. Man-made capital is typically unidirectional and also has established markets. However, most of the goods and services provided by forests do not have markets. As a result, the intangible services of forests such as recharging of ground water, regulation of stream flows, flood control, prevention of soil erosion, nutrient cycling, water purification, carbon storage, pollution control, micro-climatic functions, biodiversity, evolutionary processes, human habitat, recreational, spiritual and aesthetic values are grossly underestimated or ignored during development planning. The situation has changed considerably post Rio Earth Summit due to increased awareness on the value of forests as a natural capital. Policy makers all over the world are increasingly realizing the need for valuing both the economic and ecological contributions of forests to society, so as to assess the true significance of forests and their contribution to the nation’s well being.

Millennium Ecosystem Assessment, which was carried out between 2001 and 2005, placed human well-being as the central focus for assessment, while recognizing that biodiversity and ecosystems also have intrinsic value. “Tools now exist for a far more complete computation of the different values people place on biodiversity and ecosystem services. However, some ecosystem services are more difficult to value, and therefore many decisions continue to be made in the absence of a detailed analysis of the full costs, risks, and benefits” (Millennium Ecosystem Assessment, 2005)¹¹

19.1.2. Current Contribution of Forests in GDP of India

The present system of national accounts (SNA) is primarily focused on growth rates of Gross Domestic Product (GDP) and it fails to capture several important elements of natural wealth – both qualitative and quantitative. Despite making significant contribution to India’s economic and ecological systems, forests of the country do not get proper recognition in the national income (GNP) of the country. In 2002-03, forests contributed Rs.27,013 crore to India’s GDP at the current prices, which was 1.2 % of the GDP. The contribution of forests to India’s GDP has varied from 1.0 to 1.5 per cent during the nine-year period from 1993-94 to 2002-03. Similarly, the contribution of

¹¹ Millennium Ecosystem Assessment. 2005. New York, United Nations.

forestry and logging to India's Net Domestic Product (NDP) also varied from 1.6 per cent to 1.3 per cent during the same period. The year wise contribution to GDP and NDP is shown in Tables 19.1 and 19.2

Table 19.1: Contribution of Forestry and Logging to Gross Domestic Product at Current Prices and 1993-94 Prices in India

Year	Current prices			1993-94 prices		
	Total GDP (Rs. in crores)	Contribution of Forestry (Rs. in crores)	%	Total GDP (Rs. in crores)	Contribution of Forestry (Rs. in crores)	%
1993-94	781345	11454	1.5	784513	11454	1.50
1995-96	1073271	13390	1.2	899563	11701	1.30
1996-97	1243546	14493	1.2	970083	11865	1.20
1997-98	1390148	16249	1.1	1016595	12114	1.20
1998-99	1598127	17840	1.1	1082748	12301	1.10
1999-00	1761838	19555	1.2	1148368	12753	1.10
2000-01	1902998	22422	1.2	1198592	13064	1.10
2001-02	2090957	24341	1.2	1267833	13244	1.00
2002-03	2249493	27013	1.2	1318321	13573	1.00

Source: CSO (2004)¹²

Table 19.2: Contribution of Forestry and Logging to Net Domestic Product at Current Prices and 1993-94 Prices in India

Year	Current prices			1993-94 prices		
	Total NDP (Rs. in crores)	Contribution of Forestry (Rs. in crores)	%	Total NDP (Rs. in crores)	Contribution of Forestry (Rs. in crores)	%
1993-94	69972	11166	1.6	697992	11166	1.6
1995-96	955345	12999	1.4	800411	11392	1.4
1996-97	1107043	14042	1.3	862808	11546	1.3
1997-98	1238151	15736	1.2	901735	11785	1.3
1998-99	1430061	17260	1.2	960555	11960	1.2
1999-00	1579497	18919	1.2	1019297	12400	1.2
2000-01	1705103	21762	1.3	1062492	12702	1.2
2001-02	1873203	23629	1.3	1125286	12870	1.1
2002-03	2014450	26267	1.3	1168224	13194	1.1

Source: CSO (2004)¹³

¹² Central Statistical Organisation. 2004. *National accounts statistics*. New Delhi. CSO.

¹³ Ibid.

19.1.3. True Value of Forests

The economic value of natural resource as natural capital or asset can be defined as the sum of the discounted present values of the flows of all goods and services from the resource. The economic concept of value is based on a premise of neo-classical welfare economics that the purpose of an economic activity is to increase the well being of individuals who constitute society and that each individual is the best judge of what is good or bad for him or her. The basis of estimating economic value of a resource or an environmental amenity, is its probable effect on human welfare. However, the anthropocentric focus of economic valuation does not preclude a concern for the survival and well being of other species of the ecosystem. People do value other species not only because of their direct utility to them but also because of altruistic or ethical concerns (Agarwal, 1992¹⁴; IIED, 1996¹⁵). The estimation of economic values of natural resources, environmental amenities and ecological services is necessary, as there are no markets for most of them and as there are externalities in their use. Such values would help in determining the trade-off between economic development and quality of environment and in determining the extent of financial liability of firms and households, who degrade natural resources and pollute the environment. Further, it helps in preparing green national accounts, i.e., accounts that incorporate national income accounts, the benefits and costs of natural resources and environmental amenities and services.

On account of absence of any framework for estimation of such values, the present system of income accounting in the forestry sector only takes note of contributions such as industrial wood, fuelwood and minor forest products. In India, forests meet nearly 40 per cent of the energy needs of the country, of which more than 80 per cent is utilized in rural areas. Forests also provide about 30 per cent of the fodder needs of the cattle population. Forest products play a very important role in rural and tribal economy as many of the non-timber forest products (NTFP) provide sustenance to the rural poor. For landless families and marginal farmers forest related activities often provide the primary source of income. It is estimated that about 270 million tonnes of fuelwood, 280 million tonnes of fodder, over 12 million cmt of timber and countless non-timber forest products are removed from forests annually. At a conservative level of pricing (Rs.500 per tonne of fuel/fodder), the value of these commodities will approximately aggregate to over Rs 27,500 crore per annum (MoEF, 1999)¹⁶

Some of the key goods and services provided by forests which are not accounted for in the GDP include:

- Provisioning of water and its recharge and purification
- Prevention of soil erosion,
- Regulation of flood control
- Provisioning of nutrients through rivers and streams to enhance agriculture productivity

¹⁴ Agarwal, Anil. Ed. 1992. *Price of forests*. New Delhi. Centre for Science and Environment.

¹⁵ International Institute of Environment and Development, World Conservation Monitoring Centre. 1996. *Forest resource accounting: Strategic information for sustainable forest management*.

¹⁶ India. Ministry of Environment and Forests. 1999. *National Forestry Action Programme*. Vol. 2. Executive summary.

- Storm protection services, particularly by mangroves
- Safeguards against natural disasters
- Provisioning of oxygen
- Provisioning of grass and fodder
- Provisioning of fruits, tubers and honey
- Provisioning of medicinal plants
- Provisioning of livelihood factors such as Kosa silk, kendu/tendu leaves, sal seed and even salt and minerals
- Provisioning of fish and other aquatic resources and safe havens for propagation of such resources
- Microclimatic functions
- Carbon store and carbon sequestration
- Nitrogen fixing
- Biodiversity
- Recreational, cultural and aesthetic services

For reflecting the true value of forests to the nation's national income, it is imperative to conduct natural resource accounting (NRA) in India. NRA is a revaluation of the National Income Accounts of a country, adjusting for the values of natural resources used in various economic activities during the past "fiscal year". The changes in both "stock" and "flow" of forests need to be accounted for. Forests get degraded in quality and quantum due to economic and human activities. They also go through natural decay and regeneration. Forests may also have been enhanced due to plan interventions, forest conservation and management of Protected Areas (NBSAP,2002)¹⁷.

There are three alternate methods to NRA. First is the UNSTAT proposed satellite system for environmental accounting (SEA). It does not make any change in the core System of National Accounting (SNA), but proposes establishing linkages between the SNA and the integrated economic and environmental accounting. The second method is to treat natural resources as a separate set of activities in an Input-Output table. Then the outflows from such natural resource sectors will have been absorbed by other sectors of the economy. For example, water production from the Water Resource Sector would flow to many industrial sectors, household sectors and of course, to the agriculture sector as irrigation. The third method of arriving at the Green GDP is to account for depletion of natural resources using either the Use Cost method or Depreciation or Net Price method (NBSAP,2002¹⁸, Parikh et. al,1992¹⁹)

19.1.4. System of Environmental and Economic Accounting Framework

Improvements in the methods of the existing System of National Accounting (SNA) were debated in 1992 during UNCED held at Rio de Janeiro, which recommended the System

¹⁷ India. National Biodiversity Strategy and Action Plan. 2002. *Economics and valuation of biodiversity – Thematic Working Group report*. New Delhi, Ministry of Environment and Forests.

¹⁸ *Ibid.*

¹⁹ Parikh K. S., Parikh, J. K., Sharma, V. K., Painuly, J.P. 1992. Natural resource accounting: A framework for India. Mumbai, Indira Gandhi Institute of Development Research.

of Integrated Environmental and Economic Accounting (IEEA). UN Statistical Division in 1993 suggested a satellite system of environmental and economic accounting (SEEA), showing environment related sectoral activities along with their physical accounts of flow changes, valuation and links to the main SNA (Table 19.3)

The main objectives of integrated environmental accounting are segregation and elaboration of all environmental and economic accounting, linkage of physical resource accounts with monetary environmental accounts and balance sheets, assessments of environmental costs, benefits and accounting for the maintenance of the tangible wealth.

Table 19.3 Satellite System of Integrated Environmental and Economic Accounting

Core System	Satellite Systems		
System of National Accounts (SNA)	Environment-related aggregation of conventional national accounts	Dis-Valuation of the Economic Use of the Environment	Framework for the development of Environmental Statistics (FDES)
Description of Economic Activities	Physical data on environmental economic interrelationships	Extension of the production boundary of the SNA	Description of Environmental and Interacting Socio-demographic and economic activities

Source: United Nations (1993)²⁰

19.2. Scope of Forest Resource Accounting

19.2.1 The Functioning of Forest Resource Accounting

Forest resource accounting (FRA) helps to understand the real contribution of forest to the GDP of the economy. Presently, the budgetary allocation in India is nearly following the *quid pro quo* technique of budgetary allocation in relation to the contribution to GDP. Therefore, States with a large forest areas such as Madhya Pradesh, Himachal Pradesh, Arunachal Pradesh, Uttaranchal, Chhattisgarh, etc could make a strong case for higher budgetary allocations for their forestry sector. Forest resource accounting would help to improve identification of the contributing factors of the forestry sector in GDP and thereby securing the required allocation for forests. If a regular system of FRA is established, it will strengthen the management of India's forests.

India in fact could learn a lesson from Brazil and consider levying an ecological value added tax to compensate for the loss of revenue to those Indian States which have done a good job of protecting their forests.

19.2.2 The Beneficiaries of FRA

The FRA could be of immense use to national and state legislations, governments, natural resource management agencies, forest owners and concessionaires, forest industry

²⁰ United Nations. Department of Economic and Social Information and Policy Analysis. 1993. *Integrated environment and economic accounting*. Studies Method Series F, No. 61. New York. UN.

and trade groups, local communities dependant on forests and supporting NGOs, international fora, secretariat to conventions and donor agencies, etc. (IIED, WCMC, 1996)²¹. Depending on need, the particular FRA selected for a given location may contain State of the forests Report (baseline data and maps, selected criteria and indicators), balance sheet of forest stocks and flows (including non-timber forests products), concession monitoring and forest investment by different stakeholders and administration, forest sustainability, assessment (according to national standards/international principles), country level forest management certification, etc. FRA can also play a key role in cross-sectoral initiatives such as land capability information system, national environmental management system, national biodiversity database and national resource accounts (monetary or physical).

19.3. Studies on Valuation of India's Forest Resources

Several studies on forest valuation and resource accounting in India are available and most of them are case studies. These studies provide useful insights to different approaches to valuation of forest resources. Table 19.4 shows selected studies:

Table 19.4: Selected Studies on Valuation of Forest Resources in India

I Goods and services valued	II Annual value	III Location	IV Methodology applied	V Source
Recreation/ Ecotourism	Rs.16197 per ha (Rs 427.04 per Indian visitor Rs 432.04 per foreign visitor)	Keoladeo National Park, Bharatpur	Travel Cost Method	Chopra (1997) ²²
Recreation/ Ecotourism	Rs.20944 per ha (Rs. 519 per Indian visitor and Rs. 495 per foreign visitor)	Keoladeo National Park, Bharatpur	Contingent Valuation Method	Murty and Menkhuas (1994) ²³
Recreation/ Ecotourism and Other Benefits	Rs.23300 per ha (Rs.90 per household Rs.7.5/month/household): Rs240 million/year	Boriveli National Park Mumbai	Contingent Valuation Method	Hadler et.al.(1995) ²⁴
Ecotourism	Rs.676 per ha (for locals) Total Rs3.2 million per year	Periyar Tiger Reserve Kerala	Contingent Valuation Method, Travel Cost Method	Manoharan (1996) ²⁵

²¹ Op. cit.

²² Chopra, Kanchan; Kadekodi, Gopal. 1997. Natural resource accounting in the Yamuna basin: Accounting for forest resources. Delhi, Institute of Economic Growth.

²³ Murty, M. N.; Menkhuas, S. 1994. Economic aspects of wildlife protection in the developing countries: A case study of Keoladeo National Park, Bharatpur, India. Delhi, Institute of Economic Growth.

²⁴ Hadler, N; Sharma, Sudhir; David, Ashish; Muraleedharan, T. R. 1997. Willingness to pay for Boriveli National Park: Evidence from contingent valuation. *Ecological Economics*. v. 21, pp 105-122.

I Goods and services valued	II Annual value	III Location	IV Methodology applied	V Source
Ecotourism	Total Rs.2.95 million (Rs.34.68 per visitor)	Kalakadu Mundanthurai Tiger Reserve, Tamil Nadu	Contingent Valuation Method	Manoharan and Dutt (1999)
Ecotourism/Recreational/Pilgrimage/Sacred grove	WTP for maintenance and preservation of the lake by the local community= US\$ 0.88 (Rs.36.08) local pilgrims = US\$ 2.2 (Rs. 90.2) Resident visitor = US\$ 2.5 (Rs.102.5) Non-Resident visitors = US\$ 7.2 (Rs.295.2) (Aggregate WTP = US\$ 46940 based on total visits per year (Rs.1.92 million) Per hectare value = Rs.1604	Recreational value of a sacred lake in Sikkim Himalaya (Khecheopalri Lake)	Travel Cost Method Contingent Valuation Method	Maharana et.al (2000)
Ecotourism	WTP for the management of the Park: By foreign tourists = \$8.84; By domestic tourist = \$1.91; By local community= \$6.20 per year WTP total for annual maintenance works out to \$87,777	Khangchendzong National Park, Sikkim	Contingent Valuation Method	Maharana et.al (2000)
Soil conservation	Cost of soil erosion: Rs.21583 per ha	Doonvalley	Replacement Cost Approach	Kumar, P (2005) ²⁶
Water supply	Rs.4745 per ha	Almora Forests	Indirect methods	Chaturvedi (1992) ²⁷
Ecological functions (Use Value) for local residence	Rs.624 per ha	Yamuna Basin	Contingent Valuation Method	Chopra and Kadekodi (1997) ²⁸

²⁵ Manoharan, T. R. 1996. *Economics of protected areas: a case study of Periyar Tiger Reserve*. [PhD thesis]. Dehra Dun. Forest Research Institute.

²⁶ Kumar, P. 2005. Market for ecosystem services: An overview of experiences and lessons learned. Discussion Paper Series No. 98/2005. Delhi, Institute of Economic Growth.

²⁷ Chaturvedi, A. N. 1992. Environmental value of forest in Almora. In Agarwal, Anil. *Ed. Prices of forests*. New Delhi, Centre for Science and Environment.

²⁸ Chopra, Kanchan; Kadekodi, Gopal. 1997. Natural resource accounting in the Yamuna basin; Accounting of forest resources. Delhi, Institute of Economic Growth

I Goods and services valued	II Annual value	III Location	IV Methodology applied	V Source
Carbon store	Rs.1,292 billion for total Indian forests and Rs.20125 per ha	Indian forests	Species wise forest inventory data	Haripriya (1999) ²⁹
Carbon store	Rs.1.2 lakh/ha	Indian forests	Biomass estimation	Kadekodi and Ravindranath (1997) ³⁰
Watershed Values (soil conservation)	Rs.2.0 lakh/ha metre of soil	Yamuna Basin	Indirect methods (reduced cost of alternate technology)	Chopra and Kadekodi (1997) ³¹
Forests in Himachal Pradesh	Total Economic Value of Forests in Himachal Pradesh is estimated as Rs.106664 Crores, which is 2.61 times the value of the growing stock. The contribution of forestry as a percentage of corrected GSDP is 92.40 % instead of recorded 5.26 %	Himachal Pradesh State	Total Economic Value (TEV) Approach	Verma (2000) ³²
Forests in Maharashtra	Contribution of Forests is estimated as Rs.35,245.65 Millions as against Rs.14,080 Millions shown in SNA. (i.e. It is 3.56 % of adjusted NSDP and not 1.46 % recorded) Value of depletion (Difference between the value of Opening Stock, Other volume changes and the Closing Stock in forest accounts) = Rs.6.989 Millions (This is 19.8 % of the estimated value added) Estimated asset values of forests = 28.6% of net fixed capital stock.	Maharashtra State	Physical accounting (Tools employed: Net Price Method; Present Value Method, etc)	Parikh and Haripriya (1998)

²⁹ Haripriya, G. S. 2001. Integrated environmental and economic accounting: An application to the forest resources in India. *Environment and Resource Economics*, V.19(1).

³⁰ Kadekodi, G; Ravindranath, N. H. 1997. Macroeconomic analysis of forestry options on carbon sequestration in India. *Ecological Economics*. v. 23, pp201-223.

³¹ Chopra, Kanchan; Kadekodi, Gopal. 1997. *Op. cit.*

³² Verma, Madhu. 2000. *Himachal Pradesh Forestry Sector review report annexes- Economic valuation of forests of Himachal Pradesh*. International Institute of Environment and Development et al.

I Goods and services valued	II Annual value	III Location	IV Methodology applied	V Source
Forests in Yamuna Basin	Use Value of Timber= Rs.8,279 to Rs.18,540 per cu. m of extracted timber Annual value of main non timber forest products = Rs.7509 per sq km in Hills and Rs.558 per sq km in plains. Use value of ecological functions and unrecorded production = Rs.176 per ha in HP Rs.3509 per ha in Haryana Average= Rs.624 per ha. Value of Preservation as contributing to National Output= Rs.576 lakhs per year Household willingness to pay in rural areas for use value of forests : Rajasthan= Rs.1072 per ha Uttar Pradesh= Rs.360 per ha Himachal Pradesh= Rs.176 per ha Haryana = Rs.3509 per ha	Yamuna Basin	Contingent Valuation Method; Direct Market Valuation, Multi-criteria Analysis and Travel Cost Method	Chopra and Kadekodi (1997) ³³
Iron Ore	user cost per tonne = Rs.8.63 per tonne	Goa	User Cost Method	TERI(2000) ³⁴ NBSAP ³⁵
Contribution of Forests in GDP	Calculated the contribution to be 2.37% of 1996-97 GDP (base year 1993-94) as compared to 1.2% as computed by CSO	All India		Chopra, Bhattacharya and Kumar (2002)**

The range of annual values of selected benefits (tangible and intangible) of Indian forests, derived from different studies, is shown in Table 19.5. The economic values of various kinds of forestland calculated on the basis of these, are shown in Table 19.6.

³³ Chopra, Kanchan;Kadekodi, Gopal. 1997.Natural resource accounting in the Yamuna basin; Accounting of forest resources. Delhi, Institute of Economic Growth

³⁴ The Energy and Resources Institute. 2000. Pilot project on natural resource accounting in Goa (Phase I). TERI Project Report No. 99RD61. New Delhi, TERI.

³⁵ India. National Biodiversity Strategy and Action Plan. 2002. *Economics and valuation of biodiversity – Thematic Working Group report*. New Delhi, Ministry of Environment and Forests.

**Chopra, K., Bhattacharya, B. and Kumar, P. 2002. *Contribution of forestry sector to gross domestic product*. Mimeo. New Delhi, IEG.

Table 19.5. Annual Value of Selected Benefits of Indian Forests³⁶

Sl.No.	Economic Benefit	Nature of Benefit	Value of annual flow of goods and services per hectare (in Rs.)	
			Minimum	Maximum
1	Timber	Tangible	2701	9270
2	Non Timber Forest Product	Tangible	538	2957
3	Ecological Functions (Watershed)	Intangible	624	2.0 lakh
4	Ecotourism	Intangible	676	20,444
5	Carbon store	Intangible	20125	1.2 lakh

Table 19. 6-Economic Values of Various Kinds of Forestland in India³⁷

Sl. No	Nature of forestland	Selected Economic Benefits	Annual value of goods and services per hectare (in Rs.)		Present value of goods and services per hectare (in Rs.)	
			Minimum	Maximum	Minimum	Maximum
1	Plantations/single species forests (teak, sal forests, etc) (crown density <40%)	Timber	2701	9270	33660	115525
2	Multi species plantations/Open forests (Crown density 10-40%)	Timber+ NTFP	3239	12227	40365	152375
3	Dense forests (Crown density >40%)	NTFP + Ecological Functions + Carbon Store	21287	322957	265283	4024758
4	Protected Areas	Ecotourism+ Ecological Functions + Carbon Store	21425	340444	267003	4242685

*at 5% rate for a period of 20 Years

Estimates show that the value of annual flow of goods and services of dense forests varies from Rs.21287 per hectare to Rs.3.2 lakh per hectare. In the case of Protected Areas the value is from Rs.12425 per hectare to Rs.3.4 lakhs per hectare. The Present

³⁶ Manoharan, T. R. 2000. *Natural resource accounting: Economic valuation of intangible benefits of forests*. New Delhi, Research and Information System for the non-aligned and other developing countries

³⁷. *Ibid.*

Values (PV) of the forests flows have been worked out at 5 per cent rate of discount for a period of 20 years. The PV of dense forests varies from Rs.2.65 lakh per hectare to Rs.40 lakh per hectare and that of Protected Areas varies from Rs.2.67 lakhs per hectare to Rs.42 lakhs per hectare.

Several states including Madhya Pradesh, Chhattisgarh and Bihar is charging Net Present Value (NPV) from the user groups who are clearing forests for alternate uses, at the rate of Rs.5.80 lakh per hectare to Rs.9.20 lakh per hectare, depending on the quantity and density of the forestland converted for non forest purposes³⁸.

Besides the above, it will be useful to mention the structure developed in the study on forest resource valuation and accounting for the State of Himachal Pradesh by Verma (2000), incorporating various estimates, both physical and monetary, of the contribution of forests to the state economy, as per Table 19.7:

Table 19.7: Economic Valuation of Forests in Himachal Pradesh- Summary of Findings³⁹

Economic Value of Direct and Indirect Benefits		
	Physical value	Monetary value (Rs. in crores)
Total growing stock	10.25 Crore cu. m	40860
I. Direct Benefits		
A. Direct Consumptive Benefits		
1. Salvage	3.50 lakh cu. m	32
2. Timber for right holders	1.06 lakh cu. m	60
3. Fuelwood	27.60 lakh tonnes	276
4. Fodder	92.0 lakh tonnes	690
5. Minor Forest Produce	1161.56 tonnes	25
Total Direct Consumptive Benefits		1083
B. Direct Non Consumptive Benefits		
6. Ecotourism	66.56 lakh tourists	6657
Total Direct Benefits (A+B)		7740
II. Indirect Benefits		

³⁸ Supreme Court Judgment dated 26 September 2005, Case No. Writ Petition(Civil) 202 of 1995 directed to set up an expert Group to suggest suitable NPV. The following issues are being examined by the expert group:

- (i) To identify and define parameters (scientific, bio-metric and social) on the basis of which each of the categories of values of forest land should be estimated;
- (ii) To formulate a practical methodology applicable to different bio-geographical zones of India for estimation of the values in monetary terms in respect of each of the above categories of forest values;
- (iii) To illustratively apply this methodology to obtain actual numerical values for different forest types for each bio-geographical zone in the country;
- (iv) To determine on the basis of established principles of public finance, who should pay the costs of restoration and/or compensation with respect to each category of values of forests and
- (v) Which projects deserve to be exempted from Payment of NPV.

³⁹ Verma, Madhu. 2000. *Himachal Pradesh Forestry Sector review report annexes- Economic valuation of forests of Himachal Pradesh*. International Institute of Environment and Development et al.

7. Watershed	6.77 crore cu. m growing stock in river basin forest circle and 36986 sq km entire forest area	73972
8. Microclimatic factors	969018 households	145
9. Carbon sink	14346 sq km area under tree cover and scrub forests	17645
10. Biodiversity/ endangered species	8966- Total number of species found in Himachal Pradesh and 125 endangered species	7137
11. Employment generation	48.40 lakh man days	25
Total Indirect Benefits (7 to11)		98924
Total Economic Value (I + II)		106664

It is evident from the table that except for some contribution by way of salvage removals, TD Rights and MFPS, all values go totally unaccounted, despite having enormous monetary worth.

The watershed values contribute the most (69%), followed by carbon sink values (16%) . When TEV in terms of Rs/ha contribution of forests is calculated for the legal forest area (36,986 sq km), it stands at Rs.2.89 lakhs whereas the actual cover (14346 sq km) it approximates to Rs.7.43 lakhs. If we take the contribution only in terms of intangibles, it stands Rs.6.90 lakhs against Rs 53,000 per hectare for direct values for actual forest cover and Rs.2.89 lakhs as against Rs21,000 for direct values, in the case of legal forests

The total contribution of forests amounts to Rs.1,06,664 crores, but what is accounted is only Rs.41 crores by way of revenue realized by the department. The total economic value so generated is compared with the value of growing stock, total expenditure incurred on forests (Annual Budget) and the revenue realized from forests, as per Table 19.8.

Table 19.8 Contribution of Forests vs Investments in Himachal Pradesh⁴⁰

Forest Resource Contribution vs. Investment (Rs. in crores)		
1	Value of Growing Stock	40,860
2	Total Economic value of Forests	1,06,664
3	Total Expenditure incurred in forests(annual budget)	109
4	Revenue realised by forest	41
Contribution of forests to the gross state domestic product (GSDP)		
1	Total GSDP	9258
2	Forestry as logging	487
3	Forestry as % of GSDP	5.26
4	Total Economic value of Forests (as per current estimation)	1,06,664
5	Corrected GSDP	1,15,434
6	Forestry as % of Corrected GSDP	92.4

⁴⁰ Verma, Madhu. 2000. *Himachal Pradesh Forestry Sector review report annexes- Economic valuation of forests of Himachal Pradesh*. International Institute of Environment and Development et al.

The table finds that the total economic value is 2.61 times the value of the growing stock 980 times the total expenditure incurred in the forestry sector of Himachal Pradesh and 2607 times the revenue realized from forests annually. This comparison proves the gross underestimation of forestry sector's contribution to the economy of the State. When GSDP of the States is corrected for total economic value calculated through the current study, the contribution of the forestry sector increases from 5.26% of GSDP to 92.40 % of the GSDP.

The framework adopted in the above study could be adopted for the Indian economy as a whole, to reflect the monetary value of contribution, and the opening and closing stock model would be useful to assess the net changes in a given year.

19.4. Proposed Framework for Forest Resource Accounting in India

19.4.1. Components of Forest Resource Accounting

Forest Resource Accounting (FRA) may be defined as a process of identifying and measuring various benefits and costs of forests, putting value tags on them, and recording them in appropriate sets of accounts/statements. NRA involves three steps:

- (i) Physical accounting
- (ii) Monetary valuation
- (iii) Integration with national income accounts

Physical accounting is to determine forest stocks, flows, changes in stock and factors affecting changes in stock. It is important to understand the state of the resource. The information is required on several parameters including:

- Taxonomic and ecosystem diversity (flora, fauna etc)
- Forest types and forest density classes, forest cover and annual change
- Standing crop biomass (primary productivity)
- Carbon sequestration
- Oxygen production
- Assimilative capacity of forests/vegetation
- Forest cover and correlation with hydrology and flood control
- Forest cover and prevention of soil loss
- Other direct benefits such as fuelwood, gases, fish, timber, medicinal plants, fruits, leaves, etc

The next step is the monetary valuation of these changes.

Box 6 - Components of the Forest Resource Accounts

Components of Forest Resource Accounts:

<p>1. Asset accounts (Two components)</p> <p>i) Wooded land: Land area and economic value of land by main species, natural and cultivated forestland available for wood supply/not available, etc</p> <p>ii) Standing timber: Volume and monetary value of the main species, natural and planted forestland available for wood supply or not available, etc. Depletion and Depreciation of standing timber.</p>
<p>2. Flow accounts: Forest goods and services (volume and economic value)</p> <p>i) Forestry and logging products: Market and non market production</p> <p>ii) Non timber products: Output of bamboo, edible plants, medicinal plants, etc</p> <p>iii) Forest ecosystem services: Direct intermediate inputs to other sectors, e.g.</p> <ol style="list-style-type: none"> 1. Livestock grazing 2. Recreation and tourism 3. Carbon sequestration 4. Protective services 5. Biodiversity and habitat preservation <p>iv) Supply and Use tables for wood products, forestry and related industries</p> <p>v) Degradation of forests due to forestry and non forestry activities</p> <p>vi) Environmental degradation caused by forest related activities</p>
<p>3. Expenditure on forest management and protection</p> <p>(i) Government expenditures</p> <p>(ii) Private sector expenditures</p>
<p>4. Macroeconomic aggregates</p> <p>(i) Value of forest depletion and degradation</p> <p>(ii) Measures of national wealth, national savings and net domestic product adjusted for forest depletion/accumulation.</p>
<p>5. Memorandum Items:</p> <p>(i) Employment, income, exports from non-timber goods and services</p> <p>(ii) Number of household dependant on NTFPs</p> <p>(iii) Rights and concessions of forest exploitation</p> <p>(iv) stumpage fees and other taxes/subsidies for forestry and related industries</p> <p>(v) Manufactured assets like roads, buildings and equipment for forestry, logging.</p> <p>(vi) Tourism and other uses of forestry.</p>

Source: United Nations (2003)

Monetary Accounts depict monetary values of changes in stock and flows. In order to compare with the standard measures of economic performance, physical accounts need to be converted to monetary accounts by valuation of physical accounts. Ideally, forest accounts would identify three components of forest goods and services:

- The output or production value
- The value added part or added value
- And the in situ value of a resource

The value added generated by forest goods and services is a portion of the extraction cost measured as output minus all intermediate costs of production. The in situ value is the amount that someone will be willing to pay to rent the forest in order to have access to non-market forest products. If non-market forest products were to be included in forest asset accounts, it is the in situ value that would be used. The following boxes (Box 6 and 8) provide common valuation techniques used for valuation of specific forest resources.

Box 7 - Valuation Techniques for Forest Goods and Services⁴¹

Forest products	Valuation techniques
Land	1. Market Price
Commercial Timber and Non commercial timber	1. Market Price 2. Local market prices of the same product 3. Price of close substitute products
Non-Timber Forest Goods	1. Local market price of same product 2. Price of close substitute product 3. Production cost
Forest services Livestock grazing	1. Price of close substitute product 2. Production cost
Recreation and Tourism	1. Travel cost 2. Hedonic price of land 3. Contingent Valuation Method (CVM) and conjoint analysis
Forest environmental and protection services	1. Carbon tax 2. Carbon emission permit trading tax 3. Global damage from climate change averted
Carbon storage	1. CVM and conjoint analysis
Biodiversity and habitat preservation	1. Damage cost 2. Damage prevention costs
Protective services	3. CVM and conjoint analysis

Box 8 - Methods for Valuing Forests

Valuation Method	Relevant forest benefits	Strengths and Weaknesses
<p>Market Prices:</p> <p>Use data from surveys of producers and consumers, adjusted if necessary, to account for seasonal variation, value-added processing and/or public policy distortions.</p>	<p>Price-based valuation is commonly applied to non-timber forest products, which are partly or informally traded, in order to estimate subsistence and / or unrecorded consumption.</p>	<p>Market prices clearly reflect consumer preferences, but often need adjustment to account for public policy distortions or market failures. Aggregation or extrapolation of values based on potential production is not valid effects (elasticity of demand).</p>
<p>Surrogate Markets:</p> <p>Travel cost – use survey data</p>	<p>Travel cost is often used to</p>	<p>Provided the relation between</p>

⁴¹ Eurostat. 2002. *Valuation of European forests: Results of IEEAF test applications*. Luxembourg, Office of the European Communities.

<p>on direct cost (e.g. fares, accommodation) and, in some cases, opportunity costs of time spent traveling to and from a site, evaluated at some fraction of the average wage rate.</p> <p>Hedonic pricing – use statistical methods to correlate variation in the price of a marketed good to changes in the level of a related, non-marketed environmental amenity.</p> <p>Substitute goods – use market prices of substitutes for non-marketed benefits.</p>	<p>estimate demand for forest recreation at specific locations. Related methods used mainly in developing countries estimate the value of non-marketed, non-timber forest products in terms of the opportunity cost of time spent collecting and/or processing them.</p> <p>Hedonic pricing is used to estimate the impact of proximity to forested land and/or logging on the prices of residential and commercial property.</p> <p>Substitute goods approaches may be used whenever close market substitutes for non-timber benefits exists.</p>	<p>the benefit being valued and the surrogate market is correctly specified, and prices in the surrogate market are not generally reliable.</p> <p>Travel cost estimates may need to account for various objectives (benefits) in a single trip.</p> <p>Hedonic pricing requires large data sets, in order to isolate the influence of a non-market benefit on market price, relative to other factors.</p>
<p>Production Function:</p> <p>Change in production method - use data on the physical relation between level (or quality) of non-market benefit and level (or quality) of output of a marketed good/service.</p>	<p>Change in production (or “input-output” or “dose-response”) methods are used to estimate both on- and off-site impacts of land use change, e.g. the effect of logging on hunting, downstream water users, fisheries climate.</p>	<p>Change in production methods require good data on biophysical relationships (dose-response).</p>
<p>Stated preference</p> <p>Contingent valuation method – use consumer surveys to elicit hypothetical individual willingness to pay for a benefit, or willingness to accept compensation for the loss of that benefit.</p> <p>Contingent ranking /focus groups –use participatory techniques in group setting to elicit preferences for non-market benefits, either in relative terms (ranking) or in monetary terms.</p>	<p>Recreational values are often estimated using contingent valuation.</p> <p>Stated preference methods such as CVM are the only generally accepted way to estimate non-use values, e.g. Landscape or biodiversity values, for which price data do not exist and/or links to</p>	<p>Contingent valuation estimates are generally considered reliable if strict procedural rules are followed.</p> <p>Participatory techniques are more experimental and not widely used to estimate non-market forest benefits. They are good at eliciting qualitative or “contextual” information, but there are</p>

	marketed goods cannot easily be established. Contingent ranking may be used where target groups are unfamiliar with cash valuation.	doubts about their reliability for estimating willingness to pay.
Cost-based approaches: Uses data on the costs of measures taken to secure, maintain and/or replace forest goods and services.	Cost-based approaches include replacement/ relocation cost, defensive expenditure and opportunity cost analysis; may be used (with caution) to value any type of forest benefit.	Cost based approaches are usually considered less reliable than other methods. One test of validity is evidence that people are prepared to incur costs to secure relevant benefits.

Source: IIED (2003)⁴². Planning Commission (2004)⁴³

Once physical and monetary accounting is completed, it is possible to integrate the net change in natural resources to the GDP of the nation. The adjusted Net Domestic Product or Green GDP is arrived at by adding or deducting the changes in natural resources, estimated in monetary terms.

19.4.2. Proposed Framework

As mentioned above, a typical resource accounting exercise for the forestry sector would take into account the existing system of recording of stocks and flows, and then attempts to create linkage with potential accounts. The system of Forest Resource Accounting proposed by Xu, et al⁴⁴. 1994, talks of the concepts of Actual Accounts, Linkage Accounts and Potential Accounts have been adopted, particularly in respect of parameters indicated in figure in the following sections.

- (i) **Actual Capacity Accounts** measure the flow of goods and services emanating from forest ecosystems to the economy currently, like timber products, non-timber products, minerals, water, forage, tourism, fish, environmental services, etc. These flows can be assessed by the construction of Asset Accounts, both physical and monetary.
- (ii) **Potential Capacity Accounts** record the various Ecosystem features like plants/flora, animals, land and soil, water, air and climate, ecosystem processes, ecosystem integrity, etc., which determine both the actual capacity and potential flow of benefits, based on various ecosystem quality indices.

⁴² International Institute for Environment and Development. *Environmental Economic Programme. 2003. Valuing forests: A review of methods and applications in developing countries.* London, IIED.

⁴³ Mathur, Archana; Arvinder S. S. 2004. *Towards economic approach to sustainable forest management – Planning Commission Working Paper 2/2003-PC.* New Delhi, Planning Commission.

⁴⁴ Xu, Zhe; Dennis, P; Jakes, Bradley; Jakes, Pamila J. 1994. *National resource accounting for the national forests: A conceptual framework.* General Technical Report No. NC-171. Minnesota, United States Department of Agriculture, Forest Service, North Central Forest Experiment Station.

- (iii) **Linkages Accounts** tries to link together the Actual Accounts and Potential Capacity Accounts, and consist of estimates of costs of various ecological imperatives required to maintain some ecological indicators at specified levels, or to avoid losses in flow of future goods and services (potential benefits).

19.4.3. Methodology for Developing Forest Resource Accounts

19.4.3.1. Asset Accounts

Asset accounts record stocks and changes in stocks of natural resources over time. Forest asset account typically includes balance account for forestland and stocks of standing timber. The forest related asset accounts can be of the following types, both in physical and monetary terms.

(i) Construction of Physical Accounts

The framework adopted for constructing the volume and area accounts in physical terms, is explained below.

- Opening stocks
- Changes due to economic activity
- Other volume changes
- Other accumulation
- Closing stock

(ii) Construction of Monetary Accounts

The entries correspond to the physical accounts but contain an additional entry for revaluation, which record the change in asset value due to changes in prices between the beginning and end of the period. The national accounts data are mainly based on market prices, while most non-market valuation techniques include the consumer surplus, mainly used for valuation of non-timber forest products used directly by the households after being collected/processed.

19.4.3.2. Asset Accounts - Commercial Working

All asset accounts have three parts: Opening stocks, changes during the accounting period and the closing stock. Changes are divided into those that are due to economic activities and are due to natural regeneration or other caused. For land available for wood supply, the same methods as adopted for volume and area accounts may be applied.

19.4.3.3. Flow Accounts for Forest Goods and Services

The SEEA provides a measure of forest values that include both cultivated and natural and secondly it attempts to include all forest goods and services both marketed and non-marketed in flow accounts.

The value added generated by forest goods is a portion of the extraction cost, measured as output minus intermediate costs of production. The value is the contribution to GDP. The in situ value is the resource rent generated by forest products, the value of the product minus its extraction cost, which is comparable to the stumpage value of timber. Since non-market forest products were to be included in forest asset accounts, the in-situ value was used.

- Timber and Fuel wood
- Fodder and Grazing
- Minor Forest Produce (MFPs)
- Ecotourism/Recreational Benefits
- Carbon Accounting
- Bio-prospecting: A proxy for value of Biodiversity Preservation

The value of bio prospecting in a particular type of forest, indicates the potential value of drugs that can be obtained from the biodiversity present in that type of forests. Option value can be conceptualized similar to an insurance premium, paid to ensure the supply of an asset, the availability of which other wise would be uncertain.

19.4.3.4. Deforestation, Depletion and Forest Degradation Accounts

FRA, according to SEEA, has a separate category for depletion, which includes only those losses of wooded land/timber that are due to economic activity. Depletion of timber includes felling that exceed natural growth, but does not include loss of timber due to storms, fire. Depletion of forestland would refer to a permanent change in land use due to economic activities such as land use conversion for agriculture, if forestland is degraded to the point where it no longer meets the definition of forested land (tree cover falls below 10 per cent), then the land is reclassified.

19.4.3.5. Expenditure Account for Forestry Management and Operations

The forest resource account related to expenditure for forestry management and expenditure differs from the others in that it does not add any new information to the national accounts but reorganizes the expenditure in the conventional national accounts that are closely related to the protection and management of forests. In this category, environmental protection and resource management expenditure accounts identify expenditures undertaken by public, household and private sectors to manage resources and protect the environment. These are already included the national accounts, but are not made explicit because they are combined with all the other expenditures of these institutions. The purpose of this part of the resource account is to make those expenditures explicit. Forestry account includes forest management, expenditures by government, environmental protection expenditures by public and private sectors, as well as user fees and taxes paid by forest users to the government.

Environmental protection expenditures related to forest include fire protection, afforestation, the improvement of forest soil and protection of wild flora and fauna and so forth. With sustainable management of forest increasingly becoming a current practice, forest environmental protection expenditure also covers those actual extra costs that correspond to the sustainable use of forest and all expenditures related to forest protection, monitoring and inventorying.

19.4.4. Outcome of FRA System

At the end of the process of forest resource accounting, the following would be the major output:

- Physical Asset Accounts – Commercial workings
- Physical Asset Accounts – Volume and Area
- Monetary Asset Accounts – Volume and Area
- Flow accounts – Goods and Services
- Degradation and depletion account – physical and monetary
- Expenditure for forestry management and protection
- Accounting matrix for ecological services/amenities

19.5. Issues and Concerns

Despite availability of various frameworks to develop physical and monetary accounts to eventually create FRAs, the system is beset with various problems, especially in a developing country's context. Some such problems are listed below:

19.5.1. Valuation Problems

The country has vast forestry resources with 16 forest types and 221 forest sub-types spread over different agro-climatic zones throughout the length and breadth of the country. The valuation of goods and services from this varied forest types is a huge task. A number of valuation studies are available, however, they neither represent all the forest types covered by statistically drawn samples, nor do they encompass all the relevant use and non-use values. This creates problems for proper aggregation and arriving at even near an approximate value. Ideally, broad based studies are required, taking the country as a universe and data collected from statistically drawn samples from all over spread of forestry resource in question. This is however a huge task, requiring a coordinated effort from a number of institutions and funds. The only study presently available at country level is by Chopra et. al. 2001* which has taken into account five components on the output side viz., industrial wood, fuelwood, NTFP, ecotourism, carbon sequestration. Findings from the range of studies conducted at micro level in different parts of the country have been amalgamated by using econometric techniques to arrive at values of output for NTFP and ecotourism. A new methodology has also been applied to estimate the flows of carbon sequestration benefits. The said study reported a range of 1.7 to 4.58 per cent as the contribution of forest to the GDP, with an average value of 2.37 per cent.

This value however does not include a number of goods and services such as watershed benefits, ecosystem services and biodiversity values. Another drawback of the above study is that the sum of the values, like per ha value reported for carbon sequestration the value of Rs.1779 crores have been arrived for the annual range of carbon flows from 10.85 million ha plantations with age more than 10 years. This value of Rs 1779 Crores is disproportionately large, compared to an estimated value of around 25-50 Crores on annual basis during the period 2008-2012. This calls for a crucial appraisal of the methodologies applied.

19.5.2. Other Issues and Concerns

Some of the other major issues that have been highlighted by economists (Goal K Kadekodi) in forest resource accounting are as follows:

(i) **Capital output ratio:** Expenditure on plantation results in the generation of factor incomes which are a part of the national income. Regeneration also helps in the addition to capital stock. Though the increase in capital stock results in accrual of a larger quantity of preservation, production and regulation of services, the capital/output ratios of forest natural capital are not known. We need to know the correspondence between quantity and quality of specific forest types and changes in value accruing from it in order to achieve a full integration between the capital and current parts of forest sector accounts.

(ii) **Missing data problems:** Stock and flow information on all forest resources are generally not available. As a starting point, depending upon data availability, generally a few of the forest types are perhaps accountable. Then the question is on the validity of dealing with only select forest types resources for accounting and integrating with the SNA, when the natural resource endowments of an economy consist of many more such resources. The notable examples that are normally left out are renewable resources such as forests and biodiversity. One can only hope that as and when the methodology of valuation are improvised for practical applications, and when the actual data starts flowing, some of these can be incorporated.

(iii) **Problem of long- and short-term benefits:** SNA is a flow income accounting system. Welfare benefits from preservation of forests have long stream of benefits. In a strict theoretical sense, such benefits cannot be easily written off under current income or welfare streams. This issue gets more complicated, particularly because of the fact that preservation can be cost less. But it involves scarifies of current consumption for developmental, commercial or personal use of natural resources. Therefore, care should be taken to spread preservation benefits over a long-term horizon and accounted accordingly.

(iv) **Problem of double counting:** Timber after felling from the forests has a price reflecting its use or utility value. But it has emerged out of the carbon sequestration function of the forest in the past, abating global climate change. Now how does one segregate its use and non-use values? To complicate matters further, what is to be done if the security value of forests is also to be accounted along with the timber and non-timber values?

(v) **Problem of aggregation:** As an agreed system, SNA is based on one set of prices, commonly known either as – ‘In producer prices’, or ‘In purchasers prices’. Essentially, if the accountings are done in producer prices, the indirect taxes are shown separately, otherwise hidden in purchasers prices. In other words, all outputs, costs, and values are in either of these two prices, and not in any mixed form. Do the values of natural resources reflect only the producer price or purchaser price or a mix? The task of aggregating the values of natural resources with national income accounting poses another theoretical problem. The values of forestry resources are elicited on two methods, namely, “revealed preferences” values and “stated preferences” values. It is

here that an inconsistency can arise when all such values are to be aggregated, knowing that different valuation methods follow different pricing systems.

19.5.3. Data Gaps

Introspection through review of literature and data available to create FRAs reveal that several gaps exist in the knowledge about the biophysical measurement and economic valuation of ecological services from forests and how to account for them in national accounts. Similarly, reliable estimates of timber and non timber forest produce collected by local population from the forests are not available and there are no systematic studies available to quantify forest type, species and density wise benefits emanating from forests.

19.5.4. Integration of Values of Forestry Sector in National Accounts

It can be visualized from the above that the task of integrating valuation of forestry ecosystem and income accounting has a long way to go in India but a beginning has to be made immediately. Integration means that economic activity in the forestry sector is fully accounted in terms of its actual, potential and use accounts linkages with other sectors of the economy. As the integration process is currently subjected to many constraints, alternatively satellite accounting system can be used for the forestry sector. These accounts being complementary to but outside the integrated system of national accounts, and these are better referred to as “complementary” accounts. These accounts throw light on linkages of the forestry sector with the rest of the economy. Vincent (1999)⁴⁵ proposed that the following adjustment is needed in the conventional GDP in order to account for the linkages of the forestry sector with other sectors of the economy:

Adjusted Net Domestic Product (NDP) = Conventional GDP + Non- Marketed Values of Forest Benefits – Depreciation of human capital + Net accumulation of natural capital.

19.5.5. Need for National Level Studies

For using FRA as a tool for realistic assessment of the contribution of the forestry sector to the country's economy, it is essential that a national level coordination committee/working/expert group be set up for FRA which should comprise forest valuation and accounting experts, institutions which have experience in partial and comprehensive system of accounting and practitioners. The expertise in the committee shall include economists, ecologists, experts from the physical science, etc. They shall take the clue from the existing framework and shall develop a methodology for various forest type densities and species and carrying out studies across various regions. Further, the experts and institutions identified should also impart training on the basic concepts, methodology and uses of the new system of FRA to the personnel of forest departments, who in turn shall actually be implementing the proposed system.

19.6. Recommendations

[331] A national level coordination committee for forest resource accounting (FRA) should be constituted to provide technical support and strengthening networking of concerned institutions/agencies, with a view to promote use of FRA at all levels (national/state/local). The committee shall comprise institutions and individuals

⁴⁵ Vincent, J. 1999. Net accumulation of timber reserves. *Review of Income and Wealth*. V. 45.

including economists, ecologists, and physical science experts working in the area of forest resource data generation, valuation and accounting, along with the practitioners. The committee would work out a dynamic formula based upon paradigms and parameters which can be revised from time to time as more data becomes available and better norms get evolved.

- [332] *The data requirements for natural resource accounting are very high and the Central Statistical Organisation should create a cell or a separate wing to generate the required data on a continuous basis. Major data gaps are inconsistent data from different sources in the forest sector as well as other line departments, and the lack of resource inventory data. Some of the specific data gaps are forest resource stocks and exploitation data, change in forest stock, time series data on ecosystem services provided by forests and biodiversity, data on encroachment, data on resources drawn from forests by industrial units and data on intermediate consumption by industrial units, etc. On account of lack of data from secondary sources, primary level studies need to be conducted to cover varied dimensions to bridge the existing data gaps.*
- [333] *As forests have multiple stakeholders and multi-sectoral linkages, the knowledge generated and the formula of assessment and accounting shall be disseminated in the form of working or policy papers on developing the framework for valuing forests, to guide the formulation of a policy in respect of forest resource accounting, which would then determine the valuation of forests, forestlands and their goods and services and put the assessment of their valuation in its true perspective.*
- [334] *A manual containing basic concepts, methodology for economic valuation and accounting of forests and forestlands may be prepared for handy use by the end users. Necessary capacity building regarding a new system of forest resource accounting should also be done amongst the personnel of forest departments who are expected to be involved in implementing the proposed system.*
- [335] *The new system of forest resource accounting (FRA) proposed through the efforts of the expert group shall comprise tools and techniques of capturing values of tangible and intangible goods and services provided by forests and shall produce a set of accounts for systematically recording such values in the system of national accounts. The proposed system can be implemented at the functional unit level, which may be a division or State level. Since the forest sector is a dynamic sector and any change in it will have a multiplier effect on itself as well on other sectors, it is essential that the exercise of valuation and accounting be taken on a regular basis. For this purpose, it is proposed that the exercise should be made as a component of the existing working plan preparation exercise. As the working plan is prepared every 8-10 years, the FRA shall also be automatically done. In fact, if FRA exercises are performed first, important signals can be generated for the new working plan itself.*

Chapter 20

Centre-State Relation

20.1. Constitutional Provision

On being freed from the colonial rule on 15th August, 1947, the people of India chose federal structure of governance having administrative set up at Centre as well as State levels, and gave itself a Constitution which determines the powers, functions and responsibilities not only of the three limbs of the government but also of various levels of governance. While Part-V of the Constitution deals with "The Union" and Part-VI with "The State", Part-IX deals with "The Panchayats" and "The Municipalities" and finally Part-XI of the Constitution relates with the "Relation between Union and the States" and defines legislative as well as administrative relations. Article 246 deals with the "subject matter of laws made by Parliament and by the legislature of the State". Seventh schedule, which has been mentioned in this article has three lists, namely, Union list, State list and the Concurrent list, which enumerates the subject for which parliament and State legislatures have power to make laws.

20.2. Forest in Concurrent List

Since forestlands are owned by State Government, the subject of forest was initially kept by the Constituent Assembly under State list of the 7th Schedule in the Constitution. However, realizing the importance of forest and wildlife the subject was transferred to list III- Concurrent list, by section 57 of the Constitution (Forty-second Amendment) Act 1976, with effect from 3 January 1977.

20.3. Enactment of Forest (Conservation) Act 1980

The Union Government was seriously concerned about the large-scale transfer of forestlands for various developmental, commercial and industrial purposes. In addition, forestland was also being allotted to landless and other categories for agriculture under various schemes. Further, those who are not entitled for such allotment were illegally encroaching upon forestlands, some of which were being regularized by various State Governments. All these had resulted in shrinkage of forestland, which was already under tremendous pressure due to increase in human as well as cattle populations. Official record shows that during the period from 1950 to 1983, 43 lakhs ha of forestland was diverted for non-forestry purposes. To regulate such transfer of forestland to non-forestry purposes the Union Government in 1980 enacted the Forest (Conservation) Act 1980. This is a very short Act having only 4 sections, and is dealt with under Chapter 4.

It is not a prohibiting Act but an enabling Act. It only regulates the transfer of ~ forestland for non-forestry purposes, which cannot be done without the prior approval of the Union Government.

To implement the Act, the Government of India issued guidelines to all States and Union Territories on 25/1/92. These guidelines were subsequently amended in the year 2003. Making use of powers vested in Section 4 of Forest (Conservation) Act 1980, Government of India formulated the Forest (Conservation) Rule 2003. These rules have

also been subsequently amended in 2004. In addition, Government of India has been issuing executive instructions from time to time, on various issues covering the Forest (Conservation) Act.

Regularization of encroachment on forestlands by the various State Governments has contentious and problematic issues. In this regard, the policy of the Government of India has not been very consistent and one can feel the political compulsion existing at that point of time. On 5 February 2004 the Ministry of Environment and Forests issued revised guidelines communicating executive directions to the State Governments regarding regularization of encroachments. Though these directions had to be withdrawn on the intervention of the Supreme Court, the fact remains that these directions were issued by the Government of India without even consulting the National Forest Commission.

Though enacting of the Forest (Conservation) Act, has certainly succeeded in reducing the area of forestland being transferred for non-forestry use, the general perception among the common masses and political circles is that the Act is anti-people and the legitimate demands of the people are not being fulfilled. The Act is also considered as the biggest stumbling block in regularizing encroachments on forestlands. However, MoEF has regularized almost (3.5 lakh ha) of forest encroachments by giving rights to pre-1980 encroachers.

20.4. Sarkaria Commission

The States are in no way subordinate to the Union Government and, therefore, often questions are asked on Centre-State relations. To settle some of the 'ambiguous situations' Government of India constituted a Commission under the Chairmanship of Justice Sarkaria. The following four recommendations (15.5.01 to 15.5.04) of the Sarkaria Commission on Inter-State Relation pertain to the Conservation Act, 1980.

(i) 15.5.01

In view of a large number of cases referred under Section 2 of the Forest (Conservation) Act, 1980 having been 'closed; there is need for reviewing them to identify the reasons. A senior officer of the Ministry of Environment, Forests and Wildlife should examine all such cases which have been disposed of as 'closed', to identify the reasons and inform the States. Cases, which are required to be followed up by the States should be reopened and decided on their merits after discussion with the representatives of the concerned State Governments

(ii) 15.5.02

Powers should be delegated to the States to divert, to a small extent say not exceeding 5 ha, of reserved forestlands, which are urgently required for specific public purpose.

(iii) 15.5.03

Conservation and improvement of forest resources are of utmost importance to the nation. Pending cases should be handled in consultation with each State Govt. concerned. This occasion should be utilized for reviewing sanctions by virtue of powers recommended by us, to be delegated to the Union Government.

(iv) 15.5.04

In the case of large projects involving significant extent of submission of reserved forests or their diversion to non-forest uses, clearance under Section 2 of the Forest (Conservation) Act, 1980 should be given as far as possible simultaneously with the project clearance by the Union Govt.

Agencies of the Union Govt. may be associated, right from the beginning, with formulation of the project so that adequate measures not only to compensate for the loss of reserved forests but also to improve forest resources, can be built into them ab initio

As far as recommendations of the Sarkaria Commission in Para 15.5.01, 15.5.03 and 15.5.04 are concerned, the Ministry has accepted these recommendations and action has been initiated to implement them. As far the recommendation in Para 15.5.02 is concerned, Ministry has examined that recommendation in consultation with the Ministry of Law. The recommendation of Sarkaria Commission for delegation of power to States (Para 15.5.02) has not been accepted in toto, but powers have been given to Regional Empowered Committee to decide proposals involving diversion of forestland up to 40 ha, other than for proposals relating to mining and encroachment, as per the Forest(Conservation) Amendment Rules 2004.

One of the recommendations of the Sarkaria Commission is that before legislating on a subject on the Concurrent List of the Constitution, the Union Government should consult the States.

20.5. Demand of Forest-rich States

The National Forest Policy, 1988 aims at maintaining one-third geographical area of the country under forest/tree cover. However, all the States have not been able to achieve this target. There are some States who have forest area more than targeted in the National Forest Policy, 1988 i.e. 33%, while other State have much less area under forest/tree cover. The sum (Report - 2003) of the total geographical area. Under the prevailing situation, the States, which have forest/tree cover more than 33%, are demanding compensation to maintain it at that higher level or else the State should be free to fell their forests. Such demand has come from forest-rich States like Madhya Pradesh, Jharkhand, Arunachal Pradesh, etc., while making their presentation before the National Forest Commission. In this context, it will be worthwhile to mention that in their responses to the Questionnaire, sent to selected stakeholders, many persons have raised the question that if "forests" are a national wealth or these are the property of the local inhabitants for the fulfilment of the requirement of the local communities. While no one can ignore the requirement of the local communities on the neighbouring Forest, the NFC is of the considered opinion that forests are a national wealth and their protection and maintenance should be viewed from that angle and, therefore, asking compensation for maintaining higher area of forests, than the targeted, cannot be justified. If this principle is accepted, all the States will have to manage from their own production and some of the States may face situation of hunger. Further, asking compensation is against the very basis of a federal structure, which we have adopted in India. Of course, there is need to provide incentives but not compensation. For that matter, incentives should be given to deficient States as well so that they could increase their area under forest/tree cover. Thus, incentives are to be given for both type of States – forest-rich as well forest-deficient, for both increasing their individual cover as well as for retaining them, both based on recent past performance.

20.6. States to Implement Central Laws

As has been said earlier, whatever laws are framed by the Union Government by virtue of the powers delegated by the Constitution under Section 246 with regard to the forest and

wildlife, these acts are to be implemented by the State Governments. In some cases, the States may have to modify the acts to suit local conditions. Needless to say, there are some States which take requisite steps to implement these Acts and there are many States where resistance is created, either administratively or politically, and implementation is not to the desired extent.

20.7. Scheduled Tribes (Recognition of Forest Rights) Bills 2005

While the Commission was deliberating on the various terms of reference given to it by the Government of India, a bill titled as "Scheduled Tribes (Recognition of Forest Rights) Bill 2005" was formulated by the Union Government. As this was a very important issue and the draft bill was being talked about in various sections of society, the Commission expected that before taking a final view on the bill, Government of India will have consultations with the Commission. But since this was not done, the Commission in its 25th meeting held on 14.11.05 deliberated⁴⁶ on the matter *suo moto* and the views of the Commission were communicated to the Government of India through a DO letter addressed by the Chairman, National Forest Commission to the Prime Minister of India, the contents of which are reproduced in the box below:

Box 9 – Chairman’s Letter to the Prime Minister

Dear Prime Minister

The National Forest Commission (NFC) was set up by the Government of India in the Ministry of Environment and Forests (MoEF) on 6th February 2003 with a view to make recommendations on five terms of reference. The first of these was to “Review and assess the existing policy and legal framework and their impact in a holistic manner from the ecological, economic, scientific, economic, social and cultural viewpoint.” The 5th was to “Establish meaningful partnership and interface between forestry management and local communities including tribal.”

The Commission has been given to understand that the Government wishes to introduce in the forthcoming session of Parliament a Bill entitled “Schedule Tribes (Recognition of Forest Rights) Bill, 2005”, the nodal ministry for which is to be the Ministry of Tribal Affairs (MoTA). You would, I am sure, agree with me that it would have been in the fitness of things, if the proposed Bill would have been referred to the National Forest Commission (NFC) in its formative stage. As it is apparent that Government does not wish to consult the NFC in this regard despite its clear mandate to opine in this context, I take it upon myself to convey the views of the NFC, in brief, with regard to the proposed legislation. These are as below :-

We would like first to stress on the basic premise, i.e., that the forests of the country belong to the whole nation and not to a segment of the community, and that any action that we take vis-a-vis the forests and nature conservation in this country should be with a view to safeguard the forests as a national resource in the broad context, and as a component of ecological security of the country, both for the present and the future. This Bill addresses itself not to the forest dwelling communities of the country but to the tribals only. Does it imply that any settlement of land rights are to be done only for the tribal and not for non tribals living in the same village? If that be the purpose, would it not create a situation of inequality and disharmony among the forest dwelling communities themselves? And if, therefore, the Government is going to bring a subsequent Bill to deal with non-tribal forest dwelling

⁴⁶ In this meeting Sh. Chandi Prasad Bhatt, Member, was not present, and consequently his views on the letter to the Honorable Prime Minister could not be taken.

communities facing the same problem, would it not be appropriate to have one legislation to deal with the problem on a uniform basis?

Secondly, the Bill purports to set right “a historic wrong” bestowed upon the tribals. In this regard, if such a wrong has indeed been committed, it has been committed on all members of forest dwelling communities and not on the tribal alone. It would be noteworthy to point out that a settlement has already been carried out by the Govt. of India of encroachments made up to 1980. These encroachments have already been regularized to the extent of 3.60 lakh ha and 510 forest villages have been converted to Revenue Villages. If a further settlement of encroachers prior to the abovementioned date still needs to be done, that can be carried out without having to frame a new legislation. If the govt wishes to give special emphasis, impartiality and transparency to the process, the concerned State Governments could appoint commissions, possibly headed by retired judges, to go through the claims of encroachers and to settle the rights that may still remain to be settled.

However, as the government still deems it necessary to bring forth this particular legislation, it would be futile on our part to give a clause by clause commentary at this juncture pertaining to this Bill. We shall, therefore, confine ours to an overall commentary.

The Bill provides for a separate system of jurisprudence for the tribals. In other words, if a tribal commits an offence under the Indian Forest Act 1927 or the Wild Life (Protection) Act 1972, etc., he will have to face his own Gram Sabha, which can levy a fine of up to 1,000 rupees only. If, however, his collaborator in the same crime is a non – tribal, he may have to face a mandatory term of imprisonment, and also pay a fine, if the magnitude of the crime so warrants, under the laws of the land. Is this the intention of the Government and, indeed, is it appropriate under our system of jurisprudence, to have a separate categories of punishment and laws for different communities for the same offence? Are we not creating a privileged class thereby, which under our legal system would be bad in law?

It is a known fact that all forest settlements in the past have led to a spate of further encroachments in the hope of future regularization. We do not think that this will not occur again if this Bill is passed and implemented. An interesting fact is that such settlement in the past have not only created a schism between those who encroached and those who have not, in the same communities, but it has also not led to any economic well being of those who were the beneficiaries. This is because the encroachments which have been settled have been upon marginal lands which in fact are the only lands left and are suitable for forest and not for agriculture. Therefore, once the top soil of the forestland has been washed away, the lands have become so impoverished to be not able to support either agriculture or forestry and the economic condition of the beneficiaries have also deteriorated thereby. Those who did not encroach and were living on the surrounding forests have also suffered because of the disappearance of the forest resource as a result of the encroachment. Therefore, a fundamental question is raised as to whether such encroachments and settlements really help the encroachers and the other members of the community or not?

All provisions for settlement and encroachments in the past have had a cut -off date. But even then, as mentioned earlier, such settlements have led to further encroachment. This purported Bill states that the settlement shall be done of “..... occupied forestland before 25th day of October 1980, or such other date as the Central Government may, by notification in the official gazettee, specify”. This indicates that settlements of forest encroachment by tribals will be done by the government on a continued basis, with prospective dates simply be notified in the gazette, and that there is no cut -off date for this action. Is this in the interest of forests and the ecological security of the whole nation?

There are a number of other obviously dangerous provisions in the proposed legislation, including inter alia, that no court shall take cognizance of any offence committed by a tribal vis a vis forest and wildlife, the only authority to deal with being the local Gram Sabha, and

that a tribal can remove, utilize, barter and sell any forest product for their household needs, with household needs not even being defined.

Another devious and dangerous provision made in the proposed legislation is that “Save as otherwise provided in this Act, the provision of this Act shall be in addition to and not in derogation of the provisions of law for the time being in force”, What is the precise intention and implication of this? Does it mean that this law will run in tandem with other laws such as the Indian Forest Act 1927 and the Wild Life (Protection) Act 1972? Why cannot it clearly say that this proposed Bill will in no way be a substitution to the existing legislation pertaining to forests and wildlife but in addition to them and where this Bill is in conflict with the existing legislation, the latter shall prevail. Furthermore, it shall not be applicable to National Parks and Wildlife Sanctuaries, deemed or otherwise.

We, in the NFC, are of the considered opinion that the proposed legislation is going to be harmful to the interests of forests and to the ecological security of the country, and that it is going to create a social divide and animosity among the communities themselves. It would be bad in law and will be in open conflict with the rulings of the Supreme Court.

What tribals and, indeed, all forest dwelling communities and deprived people of the country need is livelihood. Land is not only source of livelihood, specially in the context of forests, for the reasons mentioned above. The forest dwelling communities, including the tribals need to get adequate remunerative returns from forests on a sustainable basis. Legislation that provides them a right to a share from the forest harvest, as well as taking into account the other aspects, dimensions and deficiencies mentioned above and which would benefit both the forests and the forest dwelling communities without inflicting any long term damage, could be promulgated. MoEF can be asked to formulate such a legislation. Other aspects of livelihood, we are sure, could be taken care by the Employment Guarantee Scheme which, we hope, would be implemented in both letter and spirit, in the remote areas

You would agree with our opinion that tribals and, indeed, all forest dwelling communities cannot be kept perpetually in the present state of backwardness, though there should be no forcible efforts to change their lifestyle. They must be facilitated to come into the mainstream of economic activity and development, if they wish to do so. They must be provided with facilities of education, health care, basic amenities like water and electricity and marketing facilities. All these cannot be provided for in their present abodes in remote forest areas. Therefore, if they wish they can be relocated to forest border areas where such amenities and facilities can be extended to them. They should be given all possible help including alternative degraded forest land. There is nothing idealistic about retaining tribals in the present deprived condition in remote areas. Both the forest dwelling communities as well as the forest would benefit by this endeavour, as it would prevent further honeycombing of forests and ensure the future economic prospects of the present and future generations of forest dwelling communities. Needless to say, such translocation should be with the approval of the communities themselves, to lands which they themselves have selected, and the package and the translocation process has to be well managed, which I am sure the Government is capable of.

With kind regards,

Yours sincerely,

Sgd-

[B.N. Kirpal]

Similar communication was also sent to Shrimati Sonia Gandhi, Chairperson, National Advisory Council, and a copy to the Hon. Minister in-charge of Tribal Affairs. All these have acknowledged receipt and the PM and Shrimati Gandhi have even sent personal replies.

However, the Bill, with slight modifications of the draft Bill on which the Commission had commented, was introduced in Parliament in December 2005. None of the recommendations of the Commission have been taken into account, except that the “cut-off” date for consideration of settlement of encroachment has been fixed as 25 October 1980 and the clause, “on such other date as the Central Government may, by notification in the official gazette, notify”, has been dropped.

It may be noted that the recommendation of the Sarkaria Commission that the States should be consulted prior to any enactment on subject in the Concurrent List, has not been complied with in the case of this Bill.

20.8. Recommendations

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

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

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

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

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

[341] *Forest encroachments to the extent of 3.60 lakh per annum have already been regularized. If any State feels that any encroachments done prior to 25-10-1980 still remains unsettled, the concerned State governments could appoint commissions, perhaps headed by judges, to finalize the claims within a time*

*Shri Chandi Prasad Bhatt does not agree with recommendations from numbers 340 to 345.

frame. Settlement of such claims and disputes arising therefrom should be done by quasi-judicial bodies and not left to the discretion of Gram Sabhas.*

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

*Shri Chandi Prasad Bhatt does not agree with recommendations from numbers 340 to 345.

Chapter 21

Financial Support

Forests and forestry have always been viewed as the “earning” segment of the government not as sectors for investment. Resource mobilization therefore, has always been problematic. The main reason for such state of affairs is that the forestry sector has neither gained the importance which it rightly deserve, nor does it attract the imagination of people in power, as hardly any noticed benefits can be derived by making higher allocations to the forestry sector. Since resource is a scare output, and sectors like Power, Transport, Health Care, Rural Development, etc., attract more public and government attention, Forestry sector has not been able to gets its due share. It is neither considered an economic sector nor a social sector. Thus, it is placed at a low priority list. Another reason for the neglect of the forestry sector, so far as providing financial support is concerned, is the distorted calculation of the contribution of forests to the GDP, which is calculated as 1.2 % of the GDP. This distortion is firstly because unrecorded removals from the forests are being substantial and in most cases are more than the recorded removal, and secondly, the intangible benefits of forests are not included while calculating the contribution of forests to GDP let alone to the food and ecological security and survival. This problem has been discussed under Chapter 19 – Forest in National Resource Accounting.

21.1 Outlay for Forest and Wildlife by Central Government

The following have been the successive Plan outlays for forest and wildlife by the Government of India.

Table 21.1 : Outlay in Forestry Sector in Successive Plans⁴⁷

Plan	Period	Total Public Sector (Rs. in crores)	Outlay for forestry and wildlife (Rs. in crores)	% of Plan outlay
First	1951-56	2069	7.64	0.37
Second	1956-61	4800	21.21	0.44
Third	1961-66	7500	45.85	0.61
Post-Third	1966-69	6687	41.93	0.63
Fourth	1969-74	15901	89.42	0.56
Fifth	1974-79	38853	208.84	0.53
Annual	1979-80	12550	68.33	0.54
Sixth	1980-85	97500	692.49	0.71
Seventh	1985-90	180000	1859.10	1.03
Post-Seventh	1990-92	139197	1413.00	1.01
Eighth	1992-97	434100	4081.87	0.94
Ninth	1997-02	859200	8189.09	0.95

⁴⁷ India. Planning Commission. Plan documents.

An analysis of the expenditure of the Ministry of Environment and Forests will reveals that it was approximately Rs.990 crores in 2002 – 03, representing roughly 4% of the national GDP⁴⁸. The expenditure by the Ministry of Environment and Forests is incurred under 4 broad heads :-

1. National Afforestation and Eco-development
2. Forest and Wild Life
3. National River Conservation
4. Environment

Though the increase in the last 10 years has been an annual average of 8.1 % by raising it from 300 crores to 543 crores, in real terms (1993=100) in 2002-03 but the increase in case of forest and wildlife and national afforestation, eco-development board in real term has been from Rs.192 crores to Rs.237 crores only during this period, which gives an annual increase of only 2.9%.

The distribution of funds for the forestry and wildlife sub-heads, is as under :-

Table 21.2: Distribution of Funds

1	Forest survey	4%
2	Forest policy	4%
3	Forest protection	9%
4	Strengthening of Forest Division	5%
5	R&D, Education and Training	78%

Since the training of forest personnel and research through the Indian Council of Forestry Research and Education (ICFRE) is the main responsibility of Government of India, the greater portion of the Ministry's budget is allocated to this sub-head.

21.2 Fund Allocation in States

Since the financial position of most of the State Governments are non too good and for the meager resources that they have, the claimants are many, allocation to the forestry sector in the State plans too is not very encouraging, though it is somewhat better than the allocation by the Union Government since the States control the forestlands and have to provide for the staff in the field. Allocation of funds made to the forestry sector by some of the States is given in Table 21.3 and Union Territories in 21.4

⁴⁸ World Bank. 2005. *Unlocking opportunities for forest dependent people*. Washington D.C., World Bank

Table 21.3: Funds Allocation to Forestry Sector by the State⁴⁹

State	Total Plan outlay (Rs. in crores)	Outlay for Forestry and Wildlife (Rs. in crores)	% of Plan outlay
Andhra Pradesh	46614	1237	2.65
Arunachal Pradesh	3888	77	1.98
Assam	8315	77	0.93
Bihar	21000	45	0.21
Chhattisgarh	11000	327	2.97
Goa	3200	25	0.78
Gujarat	14632	936	6.40
Haryana	10285	127	1.23
Himachal Pradesh	10340	423	4.09
Jharkhand	14632	462	3.16
Jammu and Kashmir	14500	363	2.50
Karnataka	43558	733	1.68
Kerala	24000	175	0.73
Madhya Pradesh	26189	352	1.34
Maharashtra	66632	682	1.02
Manipur	2084	17	0.61
Meghalaya	3009	52	1.73
Mizoram	2300	28	1.22
Nagaland	2227	22	0.99
Orissa	19000	694	3.65
Punjab	18657	280	1.50
Rajasthan	27318	1153	4.22
Sikkim	1655	35	2.11
Tamil Nadu	40000	1348	3.37
Tripura	4500	48	1.07
Uttar Pradesh	59708	1208	2.02
Uttaranchal	7630	206	2.70
West Bengal	28641	164	0.57
Total	95979	1579	1.65

⁴⁹ India. Planning Commission. Tenth Five Year Plan document.

Table 21.4: Funds Allocation to Forestry Sector by the Union Territories

Union Territories	Total Plan outlay (Rs. in crores)	Outlay for Forestry and Wildlife (Rs. in crores)	% of Plan outlay
Andaman and Nicobar Islands	2483	72	2.89
Chandigarh	1000	17	1.70
Dadra and Nagar Haveli	304	12	0.39
Daman and Diu	245	2	0.81
Delhi	23000	26	0.11
Lakshadweep	937	0.92	0.01
Pondicherry	1906	5	0.26
Total	29375	136	0.46
Total of States and Union Territories	590948	11444	1.93

21.3 Case Study

Regarding the allocation to the forestry sector by various State Governments, World Bank has made certain case studies by analyzing Madhya Pradesh and two other States. The observation made by the World Bank in this regard is reproduced below :-

Real state budgets are rising slowly but mainly cover recurrent costs. In Madhya Pradesh, Department of Forests real expenditures from State allocations (1993=100), increased from Rs2.8 billion in 1992 to Rs 3.0 billion in 2002. The rising trend to 1999 was due to budget support from the World Bank JFM project in 'the state. But since the closure of the project, real expenditures are not much higher than they were in 1995. Approximately 75 per cent of these non-plan expenditures are for recurrent costs of field operations (Territorial and Production) and commercial harvesting. By contrast, research and training account for less than two per cent of the total recurrent expenditures funded by the State. A high proportion of the recurrent expenditures in Madhya Pradesh cover staff salaries and benefits, which has doubled every five years to stay in line with inflation . National transfers through central programmes averaged approximately Rs2.4 billion from 1997-98 to 2001-02. In Assam, real state budget allocations for forestry peaked in 1999, declined and then have slowly increased to 1999 levels. Most non-plan expenditures are for recurrent costs and mainly cover salaries. The State has few funds for capital investment; virtually all investment resources come from national forestry programmes. In Jharkhand, the allocation of annual State budget to forestry in undivided Bihar DEF was less than 0.7 per cent; this figure is now three per cent. Non-plan operating budgets are approximately Rs.1 billion, with 70 per cent spent on forest management. This would include forest establishment and production. Salaries, overheads and travel are funded through a separate non-plan budget of about Rs.1 billion through the PCCF. The focus of expenditures is clearly on field activities linked with forest establishment and rehabilitation. A worrying feature, common to the other two States, is the relatively small budget allocations to critical supporting forest management functions such as inventory, planning and research.

21.4 Non-Plan Expenditure

Another problem area is non-plan expenditure. In forest management much expenditure is not linked with any plan scheme, but are part and parcel of the regular forest management. Operations like fire protection, cleaning of fire lines, maintenance of forest boundary pillars, inspection paths and buildings, thinning and cleaning, fencing in some cases, etc., are carried out as per Working Plan prescriptions. Funds allocation to these activities have not been increased. In fact, if the allocation takes inflation into account, the real allotment as of now is much less than what it was a decade back. During the 10th plan period, Union Government started a new scheme called “Integrated Forest Protection Scheme”, allocating funds to various State Governments for fire protection and infrastructure development, but the allocations are not matching with the requirement and therefore must be increased substantially. Occurrence of fire, particularly in hill areas, is a cyclic phenomenon. Experience shows that every fourth year, the number of fire cases will be highest. In the recent past as and when there have been more cases of fire occurrence in the Himalayan region, the Union Government has been giving ad hoc grants to the States. But this does not solve the problem. The need of the hour is to have a long term perspective planning for dealing with such situation. It is also suggested that State Government too should start schemes, as has been done by the Central Government for fire protection and strengthening of infrastructure to both prevent and control fires.

21.5 Delay in Fund Release

Not only the allocated funds are meagre but whatever outlay is provided, that too cannot be utilized properly and optimally, because of the timing of release of funds. It is well known that forestry operations – may it be raising of plantations, fire protection, cleaning and thinning or preparing inventory and survey and demarcation – are seasonal in nature and cannot be carried out around the year. Some of the operations particularly planting and fire protection needs planning well in advance. For achieving the plantation target in a particular area, nurseries have to be raised at least one year in advance, and in some cases even more than that. The present practice of fixing the target and making financial allotment during that year only makes things difficult. As per the present system, physical and financial targets are intimated to the field functionary only when the budget of the government is passed, which is around May or June, both for the Central and State Governments. Since forest plantations in India are done on rain fed areas by taking advantage of monsoonal rain, which set in Kerala by early June and are over by the end of August in the northern part of the country, any target communicated at late stage cannot be implemented faithfully. Ideal situation should be that the target for plantations are fixed and communicated to the field functionaries one year in advance and funds provided for the preparation. Financial allocation must be sub-divided into two parts – one for achieving the physical targets of that year and another for advance works for the next year.

21.6 Assessing Requirement – Preparation of NFAP

To reverse the process of degradation and for sustainable development of forests, the Government of India have prepared a National Forestry Action Programme (NFAP), a comprehensive strategic plan to address the issues underlying the major problems of the forestry sector. The objective of the NFAP is to enhance the contribution of forestry and

tree resources to ecological stability and people centred development, through qualitative and quantitative improvement in forest resources.

To fulfill the policy objective of having 33% of the country's area under forest and tree cover, an annual programme of afforestation and regeneration of 3 million ha is required. On the current cost norm it needs an estimated annual budget of Rs.52850 million against the average annual availability of Rs.8160 million for forestry and wildlife sectors, and Rs.16150 million in total taking together all related programmes under different Ministries, which is much less than the requirement.

The objective of the NFAP is to evolve issue-based programmes in line with the provisions of the National Forest Policy, 1988, and to integrate the forestry programmes within the framework of the National Five Year Plans.

The basic issues confronting forestry in India have been identified in the NFAP process, such as sectors' review, workshops, meetings and deliberations. The primary issue which emerged is that the current level of forest utilization in India is not sustainable under existing conditions.

Five inter-related basic issues have been identified and these are the basis of the following programme structure.

1. Protect Existing Forest Resources: It has three main sub-programmes of (i) forest protection, (ii) soil and water conservation, and (iii) Protected Areas and biodiversity conservation. These include the works of forest survey, demarcation and mapping, inventory, biodiversity conservation, Protected Area management, and prevention of poaching, encroachment and, fire, etc., and other related issues.

1. **Improve Forest Productivity:** It has four main sub-programmes of (i) rehabilitation of degraded forests, (ii) research and technology development, (iii) development of NTFPs, and (iv) assisting private initiatives with community participation. These involve mainly research, improvement in technology, enrichment planting, soil and water conservation, regeneration, rehabilitation and afforestation mainly in existing forests.

2. **Reduce Total Demand:** It has three main sub-programmes for the efficient uses of (i) fuelwood and fodder, (ii) timber, and (iii) NTFPs. This includes programmes for reduction of demands placed on forests, through the technology of preservation, seasoning, substitutions, and other measures for the efficient utilisation of forest products and also through extensive biomass plantations.

3. **Strengthen Policy and Institutional Framework:** three main It has sub-programmes of strengthening of (i) central forestry administration, (ii) central forestry institutions, and (iii) State forestry administration and institutions. These include the development of infrastructures like buildings, communications, etc., and improvement of staff including HRD. This item also covers all aspects of capacity building, forest policy and legislation, public forest administration and organisational structure, research, planning, budgeting, etc.

4. **Expand Forest Area:** It has two main sub-programmes of (i) tree plantation on forest and non-forestlands, and (ii) people's participation in plantations and its protection. This issue includes the extension of forestry programmes in all kind of wastelands and marginal farmlands. It also includes programmes of creation of

plantation forests through wasteland reclamation, afforestation and promotion of agroforestry.

Investment estimates have also been worked out in the NFAP document. However, these estimates pertain to the public sector in five defined areas and it does not include the substantial private sector investment and tree-planting on farmlands, homesteads and community lands. Summary of investment estimates for 20 years, as worked out in the programme, is given in Table 21.5 :-

Table 21.5 Summary of Investment Estimates for 20 years by NFAP⁵⁰

Programme	(Rs. in million)			
	State Sector	Central Sector	Total	Area to be regenerated/ planted (million ha)
Protect Existing Resources	170058.6	44313.6	214372.2	
Improve Forest Productivity	391479.9	21437.6	412917.5	26.43
Reduce Total Demand	15492.4	12246.1	27738.5	
Strengthen Policy and Institutional Framework	249684.8	22595.7	272280.5	
Expand Forest Area	405605.5	6113.6	411719.1	21.80
Total	1232321.2	106706.6	1339.27.8	48.23

21.7 External Public Financing and Assistance

Greater part of funds for sustainably enhancing forest resources and their utilisation have to be obtained from domestic sources. The Earth Summit had suggested that about 80% of the cost involved in sustainable development has to be found from within the countries -from both public and private sources. In the long run, available resources are identified by the countries resource mobilisation capability, which in turn is determined by national income and the propensity of both public and private sectors to save and invest. However, external assistance does play an important role, mainly to act as a catalyst, to provide leverage, to improve capability and to support acquisition of technology.

External public financing takes place through transfer of funds from developed to developing countries (often as technical assistance), bilaterally or multilaterally, in the form of grants and loans. Much of external public financing is bilateral rather than multilateral. External public financing, essentially supplements the domestic public sources. External funding also comes from lending institutions and UN agencies.

Until 1980, Forestry Department was being funded predominantly with internal resources. Since then support has been received from approximately 31 external assistance projects on social forestry, afforestation and integrated forestry development. The main donors were: UK-ODA, EEC, UNDP, World Bank, Japan, Netherlands, Germany, US-AID, DANIDA, SIDA, CIDA and OECF.

Between 1981-82 and 1991-92, the percentage share of donor assistance in the total plan outlay was around 30%. In some years (e.g. 1990-91), it had reached as much as 40% and in others, as low as 5% (e.g. 1998-99). The earlier generation of donor funded social

⁵⁰ India. Ministry of Environment and Forests. 1999. *National Forestry Action Plan*. New Delhi. MoEF

forestry projects are currently being completed and a new generation of integrated forestry development projects are being implemented in several States.

Financial resources mobilised annually for forestry are currently about Rs.990 crores. External assistance financing alone is about Rs.300 crores

External assistance received is allocated through Central and State plan budgets. It has been noted that States which have taken up externally aided projects are not making adequate provision to continue their investment in normal forestry (maintenance) activities and to even cover the requirements of externally funded projects. Indeed, activities and posts that have been created under these externally aided projects are frequently wound up once the external assistance stops. Also, this will have adverse implications on the success of these projects and on future external assistance.

As has been mentioned above that 31 Projects covering over 4.0 m ha area were completed in 16 States . The focus of the project has been on

- Policy, legal and institutional issues
- Strengthening livelihood support systems for communities
- Emphasis on participatory management of natural resources
- Capacity building
- Conservation and development of forest resource base
- Technology upgradation
- Development of research and extension
- Development of GIS, MIS

Table 21.6 lists the on-going projects with external funding.

Table 21.6 On-going Projects with External Funding

Project	State	Funding Agency	Duration	Amount (Rs. in crores)
Integrated natural resource management and poverty reduction	Haryana	JBIC	2004-05 to 2009-10	Rs.286.00
Forestry and Biodiversity Project	Rajasthan	JBIC	2003-04 to 2008-09	Rs.442.00.
Community Forestry Project	Andhra Pradesh	World Bank	2002-03 to 2006-07	Rs.653.00.
Forest Sector Reforms Project	Himachal Pradesh	DFID	2002-03 to 2006-07	Rs.55.00
Afforestation Project-II	Punjab	JBIC	2002-03 to 2006-07	Rs.264.00
Changer eco-development Project	Himachal Pradesh	GTZ	1999-2000 to 2004-05	Rs.30.00
Eastern Karnataka Afforestation Project	Karnataka	JBIC	1997-98 to 2004-05	Rs.722.48
Afforestation Project	Tamil Nadu	JBIC	1997-98 to 2004-05	Rs.547.22
			Total	Rs.2999.70

21.8 Forestry in Rural Development Programmes

It is noteworthy that up to the 7th Five Year Plan, rural development schemes such as the RLEGP and NREP had a provision of earmarking 25% of their budget for tree planting. This was withdrawn in the 8th plan to allow greater flexibility at the local level in utilizing funds according to local needs. It is learnt that one of the factors, which influenced this withdrawal was the demand for carrying out forestry operations through other agencies. However, when the forestry component of the RLEGP and NREP schemes was assigned to other implementing agencies, the success of the plantations raised was very poor and this ultimately resulted in the withdrawal of the earmarking for forestry operations. The competence of other implementing agencies in this regard needs to be improved and MoEF may need to address this issue.

Restoring this earmarking of funds by the Ministry of Rural Areas and Employment and the Planning Commission under the JRY scheme (successor to RLEGP % NREP) and under other schemes would ensure that adequate funds are mobilized for continuous tree plantation activity. The relevant schemes are JRY, EAS, DP AP and DDP, which together had an outlay of Rs.37000 crores in the 9th Plan. If 10% of this were earmarked for forestry operations, the funds available would have been Rs.3700 crores for the 9th Plan or about Rs.750 crore per year. Besides, under the Integrated Rural Development Programme (IRDP) and Technology Development Extension and Training Scheme, resources can be harnessed to provide training to women for raising nurseries of approved species for which they can be given loan-cum-subsidies. Additionally, the Integrated Wastelands Development Project Scheme (IWDP) of the Department of Wastelands Development (Ministry of Rural Areas and Employment) had a 9th Plan outlay of Rs.460 crores, which is specifically meant for tree planting activities in non-forest wastelands.

21.9 Recommendations

- [347] *The allocation to the forestry sector must be increased, both in central and State budgets, and must not be less than 2.5% of the total plan outlay.*
- [348] *To finance the normal forestry operations like fire protection, regeneration etc. funds should be made available to State forest departments, either by increasing non-plan expenditure or covering this under plan expenditure*
- [349] *Whereas the Supreme Court order not to harvest forests as per the working plan prescriptions without getting funds for regeneration must be honoured in letter and spirit, forest working must not be stopped for want of funds and funds must be made available for regeneration.*
- [350] *Funds for plantation should be grouped under two sub-heads – one for achieving plantation target for that year and another for advance work for the next year.*
- [351] *In the subsequent year funds for raising plantation in that year should commensurate with the target set and the funds made available for advance work in the previous year.*
- [352] *20% funds of all the Rural Development Programme should be incurred on forestry and watershed operations as was done in case of NRER and RLEGP.*

- [353] *All disaster management programmes of the Central and State Governments must have a component of forestry, which should not be less than 5% of the total outlay.*
- [354] *Efforts should be made by Central and State Government to obtain adequate funding from external sources to fulfill the NFAP targets.*
- [355] *Before accepting funding both from donors and lending agencies, the executing agencies namely, the State governments, must provide in real terms matching/required contributions, which should be additions to and not substitution of existing funding, and also make provision for continuing the posts and the programme that have been initiated, after the project has come to an end.*
- [356] *Fund releases should be timely and in keeping with the requirement. Funds should not be held up by the states to improve their own financial ways and means situation.*
- [357] *Programmes under the National Rural Employment Guarantee Act (NREGA) 2005 should also be extended to forestry operations.*
- [358] *Currently, industries pay a 2% cess on water, which goes to the concerned Pollution Control Boards. However, water is a commodity that is regulated by forests and most rivers have their upper catchments in forests. At least half of the 2% cess should go to the concerned SFDs or, more appropriately, the cess be enhanced to 4% with half going to SFDs.*

Chapter 22

Implementation and Aftermath

The value of a report lies in its implementation, not just adoption. It is the recurring fate of a legion of reports, especially those prepared at the behest of the government, that even after their formal acceptance they remain dormant and mainly of academic interest. The dilemma of a subsequent report-making committee is whether to ignore these recommendations in limbo, which may still be valid, or to endorse them in their report, knowing that in all likelihood they will continue to be consigned to remain in limbo.

The National Forest Commission has chosen the latter option, for, to ignore these earlier recommendations would have meant their burial forever. It has also made a number of suggestions whose acceptance may be difficult in view of the prevalent political circumstance and socioeconomic milieu. Nonetheless, it is hoped that in the acceptance of this report, the long-term interest of the nation's forest, wilderness and wildlife shall prevail. Equally important, the recommendations, after their acceptance do get implemented and a mechanism is set up to monitor and follow-up the implementation.

Lastly, the Prime Minister of India, in his capacity as the chairperson of the National Board for Wildlife and the Government of India need to be complimented for setting up a National Forest Commission for the first time ever and in giving it such a wide-ranging mandate. Forests and forestlands are intrinsically dynamic entities and are currently in a state of ever-changing flux. Their needs and priorities and indeed, the needs and priorities of civic society would undergo change in future. It would be imperative, therefore, that periodic review of nature conservation scenarios is carried out by a select group from time to time.

21.10 Recommendations

[359] *An independent mechanism of the appropriate status be set up to prioritize and monitor the implementation of the recommendations of the National Forest Commission and to draw attention of the concerned implementing agencies where implementation is deficient.*

[360] *To assess and advise on the conservation needs and priorities of forests and grasslands, of biodiversity and wildlife, and of the civic society in this regard in future, it is recommended that a National Forest Commission be set up from time to time.*