

## Population, Forest Area, and Distribution of Forests

Nepal is a relatively small country situated between India and China. It has a land area of 14.7 million hectares and a population of 19 million people. Unlike India, Nepal is mostly mountainous, with altitudes varying from 70 masl to 8,848masl (Mount Everest). The forest area is 5.6 million hectares, which is approximately 38 per cent of the geographical area. The population density is relatively low, i.e., 129/km<sup>2</sup>. The forest area per capita is 0.29ha.

The forest types found in Nepal vary with the terrain. The flat areas of the *terai* and *bhabar* regions in the south are comprised of tropical dry deciduous and tropical moist deciduous forests, the main species being sal, *khair*, and *sissoo*. Geographically, above the *terai* falls the Siwalik range made up of tropical moist and dry deciduous forests of sal and *chir* pine (*Salla*), *chilauni*, *katus*, *utish*, and so on. The middle Himalayas contain the valleys of Kathmandu and Pokhara. The temperate forests contain species of oak, rhododendron, blue pine, silver fir, spruce, hemlock, and deodar.

The Inner Himalayas are comprised of alpine and sub-alpine forests with silver fir, rhododendron, birch, and juniper. The trans-Himalayan region falling in the rain shadow area contains forest species such as blue pine, poplar, and willow.

### Forest Land in Elevation Categories

Zone:	Area in ha.	per cent
High Himalayas	160	3
High Mountains	1,630	29
Mid Mountains	1,790	32
Siwaliks	1,440	26
<i>Terai</i>	590	16
Total	5,610	100

### History of Forest Management in Nepal

Forest organisation began in Nepal around 1880 with the establishment of a *Ban Janch Adda* (Forest Inspection Office) and a *Kathmahal* (Timber Office). At the national level, a

Central Forest Management Office was opened in 1924 which was headed by one of the Rana Generals.

*Talukdar(s)* had responsibility for local forests in the middle hills during the Rana period. They were able to administer the forests quite effectively and provide a reasonable amount of protection and control. The forests in the charge of the

*Talukdar(s)* were used only for fuelwood, fodder, small timber, grazing, collection of leaf litter, and other such activities. The local population collected what it needed from the forest without paying any fees, although some sort of gift (*theke*) in return to the functionary had become customary (Mahat et al. 1986).

The Department of Forests, which is responsible for the management of forests in the country, was established in 1942. In 1947, the Forest School was set up under the Forest Service to provide technical training to foresters. The Ministry of Forests was established in 1951 and the office of the Chief Conservator of Forests with three circles under its charge, was established in 1955.

However, the state exercised little control over the forests prior to 1957. On the contrary, individuals were encouraged to convert forest land into agricultural land as a means of extending state control over the territory and increasing state revenue (Wallace 1987). In the virtual absence of any state regulation and control, the local villagers controlled forest use themselves. While there may have been questions regarding equity issues, the villagers considered the management of forests their responsibility. The population size was small and the forest resources were large; demands for fuelwood and fodder were lower even than sustainable supply levels. Thus, there was no need to regulate forest use. However, on the other hand, the future of the forests was never considered and, therefore, there was no question of incentives to regulate forest consumption and invest in forest resources. In 1957, the government nationalised all forests to prevent the destruction of national wealth and to give adequate protection to private forests.

The Forest Act of 1961 provided legislation for state administration of the forests. This Act defined forest categories and covered the description, registration, and demarcation of forests. It also defined the duties of the Department of Forest, listed forest offenses, and prescribed penalties (Mahat et al. 1986). Following nationalisation, however, the government was unable to manage the forests effectively because of the lack of requisite infrastructure (both technical and administrative). Also, forest management was plagued by frequent changes in forest boundaries, the liberal policy of the government in settling people by distributing forest lands, and encroachments. Although several management plans were drawn up to facilitate commercial management of the *terai* area, these plans were not implemented due to the aforesaid reasons.

Villagers reacted negatively to nationalisation, because they feared it would curtail their traditional rights of access and use. As a result, the communal responsibility for forest management disappeared and forests were converted into an open access, common property resource. The communities had no stake in the preservation of forests. There were no land records and the land could be claimed as private property if it was cleared and cultivated. Therefore, there were strong incentives to distribute forests for profit.

State control of the forests following nationalisation failed primarily because the institutional capacity for implementation did not exist.

In the early 1960s, a new partyless *Panchayat* System was introduced in Nepal. This was immediately followed by the enactment of the Forest Act of 1961. This

Act (and its revision) categorised the forests of Nepal into national, community, religious, household, and private forests. It also made provisions for handing over forest protection to the newly-formed *Panchayat*. Four different kinds of forest were delineated as follow.

- i) **Panchayat Forests:** Any government forest, or any part of it which had been kept barren or contained only stumps, could be handed over by HMG/N to the care of the Village *Panchayat* for the welfare of the village on the prescribed terms and conditions.
- ii) **Panchayat Protected Forests:** Government forests in any area, or any part, could be handed over to the *Panchayat* for protection and management purposes.
- iii) **Religious Forests:** Government forests located in any religious spot, or any part of it, could be handed over to any religious institution for protection and management purposes.
- iv) **Contract Forests:** Any government forest area, which had neither trees nor sporadic trees, could be handed over by HMG/N on contract to any individual or institution for the production of forest products and their consumption under the new Act; ownership of the forest land would remain with the government and it could resume control whenever necessary.

Management decisions also remained with the government (Hobley et al. 1994). The Act, however, had little impact on forests situated in distant and inaccessible areas where people continued to use the forests for subsistence needs, regardless of their legal status.

A significant step towards community forestry was taken in the Ninth Forestry Conference held in Kathmandu in 1974. Forest officers from all parts of Nepal attended the conference. A community-oriented group of foresters working in the districts strongly favoured the involvement of people in the management of forests, a form of forestry to be later known as community forestry. By the mid-1970s, policy-makers realised that participation of the local people was essential in the management of those forests on which they were dependent. The government, with financial assistance from the World Bank and other donor agencies, introduced a programme to restore the formal control of forest resources to the local communities.

In 1978, the *Panchayat* Rules were promulgated. The legislation provided for handing over parts of the accessible government-owned forests to village development committees (VDC), formerly a village *Panchayat*, as a community forest. The VDC is the lowest-level political body and not a user group (Kanel 1993).

The forest sector policy of the government first declared in the Sixth Five Year Plan (1981-85) emphasised community participation in the management, conservation, and use of forest resources. Further, the Decentralisation Act (1982) and the 1984 Rules provided for handing over planning responsibility to both the

Panchayat and district level offices. The Act formalised the duties and responsibilities of the village *panchayat*(s) and the ward committees. Subsequently, the 1988 amendment to the Panchayat Forest and Panchayat Protection Forest Rules of 1978 adopted the concept of the user group by citing the Decentralisation Act.

## Master Plan for the Forestry Sector (MPFS)

His Majesty's Government of Nepal (HMG/N) recognised the need to frame a forestry sector policy which would provide a comprehensive framework for systematic development of the entire forestry sector. The Master Plan for the forestry sector was finalised in 1988 with the help of national and international expertise. The document gives a policy and planning strategy for forestry which stretches into the next century, setting medium and long-term objectives. The high priority objectives are mentioned below.

*'To meet the basic needs for fuelwood, timber, fodder, and other forest products on a sustained basis*

*To promote people's participation in forestry resources' development, management, and conservation' (MPFS 1988).*

Community Managed Forests (1993)

Regions	FUG No.	Plantation	Natural	Total
1. High Mountains (13 districts)	353	5967.43	4835.91	10603.34
2. Mid Hills (43 districts)	2165	21138.66	52181.64	73320.32
3. Terai (19 districts)	181	19542.57	3882.81	23425.38
Total	2699	46648.66	60899.86	107548.54

(Source: CPFD, DOF 1994)

Following changes in the political system in 1990, the community forestry regulations were revised. Consequently, it was possible to hand over a particular forest to a user group for management and use. The district forest officer was deputed to form user groups, hand over the forest, and provide technical assistance. The cost developing community forests was to be partly subsidised by the government, although all tangible benefits derived from such development was to go to the user groups. Most of the development costs, however, had to be borne by the community.

## The Forest Act 1993

The Forest Act of 1993 is the latest forestry legislation, promulgated by royal decree on the 18th January, 1993. This new Act follows the recommendations of the MPFS, of which the two most important ones are: i) community forests should

have priority over other uses of government-owned forests, and ii) the protection and management of community forests should be entrusted to the actual users. Forests have been classified into two broad categories; private and national, depending on the ownership of the land on which the forest stands or upon whether the government owns the national forest land.

Forest use rights can be assigned to anybody, including the government. The national forests are categorised into the following types (Forest Act 1993).

- A community forest is handed over to user groups for its development, conservation, and utilisation for collective benefit.
- A leasehold forest is leased to any institution, industry based on forest products, or community established under the current law.
- A religious forest is any forest handed over to a religious body, group, or community for its development, conservation, and utilisation.
- A protected forest means a national forest declared by HMG/N to be a protected forest, considered to be of special environmental, scientific, or cultural significance.
- A government-managed forest means a national forest to be managed by HMG/N (Kanel 1993).

The Act states that a users' group should be registered in the district forest office and should request the district forest office to hand over a part of the national forest to it. An operational plan should be prepared and submitted along with the application to the district office. The operational plan is usually prepared by the users' group with the technical assistance of the district forest office. Users' group formation can be facilitated by the district forest office, VDC/DDC (District Development Council). A users' group formed under this Act will be an autonomous and corporate body. The users' group fund can be generated from the following:

- grants received from HMG/N;
- grants, donations, or assistance received from any individual or institution;
- amounts received from the sale or distribution of forest products;
- amounts collected through fines; and
- amounts received from other sources.

The expenses incurred in the development of community forests are to be met by the above fund and the balance may be used for public welfare activities.

The process of handing over forests to user groups is continuing and the latest position is given below.

## **Institutional Issues**

### ***Training***

A forest service was created in Nepal in 1942. It followed the pattern of the Indian Forest Service, and its foresters were trained in the Imperial School, Dehra Dun. The curriculum followed was suited to Indian conditions, whereby commercial extraction of forests was an established procedure. In 1947, a Forestry

School was set up under the forest service of Nepal in order to train technical level foresters. Foresters joining the service at the managerial level continued to be trained at the Indian Forest College, Dehra Dun. About a decade ago, the Institute of Forestry was set up to impart forestry training to both Officers and Rangers. Its campuses are in Pokhara and Hetauda.

The training programmes mentioned above followed conventional forestry methods with little relevance to current forest management practices. It is in the 1988 Master Plan for the Forestry Sector that community forestry was established as the most important component in forestry management. The special emphasis here was on the establishment of local community-based FUGs.

Human Resources' Development is one of the sub-plans of this master plan. This warranted a change in the curriculum of the Institute of Forestry (IOF) to enable future foresters to meet the expectations of people-centred forestry.

Further, the government's Community Forestry Development Division designed operational guidelines for community forestry to guide the field activities of the Master Plan. Under these guidelines, a new role for Forest Rangers has been envisaged. In addition to the responsibility of the government forests, the rangers now have to help villagers form and manage FUGs. This new role for rangers requires changes in attitude and acquisition of social and communication skills. To address these needs, the Institute of Forestry, with support from the IOF Project's Technical Assistance Team, formulated a new IOF curriculum and detailed syllabi (IOFP 1994). These are now being adopted at the Institute.

During the initial stages of training, several participatory workshops are held for the field staff. The participants at the workshop share their skills and experiences with others. A two-way learning approach is encouraged. Efforts are also being made to further develop these skills by organising regular range and district-level meetings to discuss problems and to share experiences.

### *Gender Issues*

It has been recognised in Nepal at the policy level that women play a vital role in forest resource management. In the Master Plan for the Forestry Sector, the strategies for social sustainability clearly emphasise an extension approach, aimed at gaining the confidence of wood cutters and others, particularly women, who actually make the daily management decisions. At least one-third of the members of the users' committees should be women (MPFS 1988).

Field experiences clearly demonstrate that women are the most important group amongst forest users. They spend more time in the forests than men collecting fuelwood, lopping trees for fodder, gathering fallen leaves for animal bedding, and cutting grass for animals. Thus, women have a vital role in forest resource management and use including in the decision-making process (Kharel 1993).

Despite women's involvement and activity in the forests, their representation in the formal village committees has generally been poor. In some instances, women's sub-groups have been formed (*upasamitis*). The five *upasamitis* formed under

the *Samudaik Pandey Ban Committee*, Simitar, Nuwakot, are illustrative. There are also instances in which an entire committee has been formed by women (e.g., *Goste Mahila Upabhokta Samiti*, Kaski District). It has been observed that the involvement of NGOs, the employment of women motivators and women experts, and also external inputs, together with attitudinal changes among the field staff have helped improve women's participation. There are several examples in which women have participated effectively in natural resource management, for instance, in the districts of Palpa, Kaski, Gorkha, Sindhupalchok, Kabhrepalanchok, and so on. In some of these committees, the women know every detail of the operational plan, including silvicultural operations, and the time schedule of activities. In some women's FUGs in Gorkha, not only do they have rules and regulations concerning the use of natural resources but also concerning smoking, drinking, and gambling (Joshi 1994).

Some of the hindrances to women's participation in forestry committees have been identified below.

- Rural women spend too much time in the forests in the actual collection of forest produce and in daily domestic chores leaving them little time to serve on the committees.
- There are very few women professionals in the forestry sector.
- Most women are still not free to travel alone or spend the night away from home, thereby preventing them from attending training or holding forestry jobs.
- Lack of educational opportunities for women.

Since the usual duties of the forest committees include supervision of the nursery manager's (*naike*) work in the nursery, supervision of the forest watcher's (*Ban heralo*) work, management of cutting and planting, and equitable distribution of forest products, it is felt that the induction of women as Rangers, *Naike(s)*, *Ban heralo(s)* or as extensionists can facilitate the involvement of local women in community forestry management programmes. Thus, the Nepalese experience shows that the support given by NGOs, women development workers, and lady rangers to women's groups is generally effective. Supportive attitudes on the part of the field staff and local men, in general, will also help promote the interest of women's groups in the effective management of forest resources.

## Forest Organisation

In Nepal, the forests are under the Ministry of Forests and Soil Conservation. The territorial set-up consists of regional forestry directorates in the five development regions, 74 District Forest Offices, 222 Range Offices, and 888 Forest Guards.

A Community Forestry Development Division has been established to deal with community and private forestry programmes, although its main task is the coordination of community forestry development.

Five Regional Forestry Directorates were established in 1981 in the five development regions. The main tasks of these Regional Directorates include monitoring and clearance of technical matters with the districts.

There are also 74 districts belonging to five categories, as indicated below.

A class - 10, B class - 16, C class - 5, D class - 24, and E class - 18. Of these, the 23 districts in category 'E' maintain armed guards. Apart from the DFO, detailed job descriptions for all the staff are yet to be prepared.

Each district is sub-divided into two to five *Ilaka* Forest Offices (Ranges). There are 222 Range Offices. Recent reforms seek to provide nine forest service centres in each of the 74 districts. The tasks of the forest service centres will be to publicise the importance of forest lands and to involve people in development activities. Under an *Ilaka* Forest Office, there are four Beat Units headed by one sub-professional and two forest guards, and this is the lowest territorial unit. There are 888 Forest Beats in all. All 23 districts (covering all of the *terai* and some parts of the Siwaliks and middle mountains) have been provided with armed guards to control encroachment and illegal felling (Bhatta 1989).

## Non-Government Organisations

Among the strategies adopted for implementation of the MPFS, one is the 'Active encouragement to NGOs to participate in implementing the programmes under the leadership of the Social Services' National Coordination Council'. This policy covers a number of NGOs working under various categories in Nepal. Due to their ability to reach disadvantaged people and promote self reliant development, the NGOs are used to promote community forestry, particularly at the grass roots' level. Some of the NGOs are social organisations, such as kinship groups, and others are informal self-help associations of people with a common interest. There are a number of locally-based NGOs officially registered with district offices of HMG/N and with the Social Services' National Coordination Council. The SSNCC-registered NGOs are officially designated non-government bodies for development implementation purposes. These NGOs play a very important role by activating a grass roots' level process of needs' identification, project formulation, and implementation of development activities (Bhatta 1989).

Several NGOs located in Kathmandu as well as in the districts are actively engaged in promoting community forestry and are carrying out forestry campaigns. Although their activities are limited to small areas, they have considerable local impact.

## Community Development

Community forestry may be described as community development with a special emphasis on forestry.

While the Master Plan for the Forestry Sector made it obligatory for the users to spend income derived from the forests on forest improvement and development, the Forest Act of 1993, in a significant departure, laid down that the surplus income of the user groups could be used for development activities other than forestry. It can also raise funds from different sources, as indicated in the Act. It is also empowered to acquire, use, sell, transfer, or otherwise dispose of movable or immovable property (Section 43, Clause 3).

Community forestry, against this background, has been seen as a rural development activity. The different processes involved in community forestry (e.g., awareness raising, user group formation, identification of community needs) serve to enhance the community's capacity for other development work.

The United Mission to Nepal's (UMN) involvement in community forestry in Nepal dates back to 1981. The UMN's programme focusses primarily on general education, awareness raising, and capacity building for general community development (Knisely 1993).

The UMN, in implementing the Nepal Resource Management Project (NRMP), has either tried to link the community to appropriate government services as a facilitator or provided direct assistance within the constraints of project resources.

Some specific strategies adopted in the programme are listed below.

- Supporting non-formal, functional adult literacy classes (resource conservation education)
- Facilitating FUG formation, community and private plantations and nurseries, and the hand over of forest user rights
- Linking communities to government services
- Facilitating services where basic needs are not met, e.g., drinking water systems, latrines, and fruit and vegetable production
- Encouraging women's participation in user groups
- Training and demonstration of stall feeding, improved terraces, and toilets
- Encouraging the identification and reduction of socially destructive behaviour
- Developing and sharing experiences, resources, and materials with other projects.

(Knisely 1993).

The strategies adopted by the UMN envisage an integrated and coordinated approach between different government line agencies as well as NGOs working in the same area. The ultimate objective is training communities in skill and capacity development, not only for community forestry but also for improved, overall community development.

### *Conflict Resolution*

In some user groups, internal conflicts that occur primarily due to the violation of rules and regulations by members have been reported. Such conflicts are usually settled by the Executive Committees of these user groups through the imposition of penalties or fines. However, not many cases of inter-group conflicts have been reported.

Some cases of encroachment have been reported. There is, however, an unwritten policy amongst the FUGs that forestry personnel should work as mediators only in the case of major conflicts such as encroachments and boundary disputes, and that conflicts of a minor nature should be resolved internally.

## Research

The forests of Nepal have never been managed systematically according to sound silvicultural principles. Even though the forests were nationalised in 1957, effective management of forests could not be introduced for various reasons. Even in the *terai*, where commercially valuable trees occur over extensive areas, efforts to introduce management plans were unsuccessful due to encroachment and socio-political reasons (Kayastha 1991).

Protection of the forests was the sole concern of the foresters. Plantation forestry in Nepal started only in the sixties. In the absence of any form of management and control, it was useless to carry out research as recommendations derived from such research could not be applied and were, therefore, irrelevant. With the large-scale introduction of community forestry and preparation of operation and management plans, the necessity for providing technical inputs through research has now become a priority. The Master Plan for the Forestry Sector places considerable importance on research development and has also attached the highest priority to community and private forestry programmes. It follows that research has to provide technical support primarily to community forestry programmes. The socioeconomic aspect of community forestry is an important area of research. M.L. Shrestha (1994) describes the research needs in relation to community forestry in the following areas:

- institutional,
- management,
- harvesting and marketing, and
- others.

The institutional aspect focusses on the need for appropriate orientation and re-deployment of staff and NGO involvement.

The section dealing with management highlights some basic deficiencies in knowledge, and these are summarised below.

- The optimum sizes of the seedlings for different altitudinal zones
- Pests and diseases affecting plantations and natural forests
- Only a limited number of tree species is used in community forestry and multi-purpose tree species have not been used to a significant extent.
- The other items include lack of information on effective protection mechanisms, cultural operations, and the need for revision of volume tables.
- Another aspect that has been highlighted by M.L. Shrestha, and which is clearly borne out, is the fact that non-timber forestry products have not been given their due importance either in research or in the operation plans prepared for different user groups, even though these could provide a sustainable source of income for the communities.

Very little information is available on harvesting and marketing techniques and on support activities such as livestock, water harvesting, and others. The constraints to achieving research objectives have been identified below (Prajapati et al. 1990).

- Very few experienced and motivated staff at both the planning and executive levels
- Limited experience in operating research programmes which have community participation as the main component
- Limited experience in technology transfer techniques
- Lack of inter-disciplinary procedures for coordination, direction, and cooperation

These three areas of research have been identified as occupying the top three spots. These are: natural forest silviculture, agro-forestry, and fodder trees. The recently set up Forest Research Division, which has been looking into these research items, has already chosen the priority topics, priority species, and priority districts.

It will take some time to put together all the information and findings of research and to generate new information that will provide the technical inputs to community forestry and forest management at large.

### **Comparative Analysis of Policy and Institutional Dimensions**

Before an analysis of the policy and institutional issues is attempted, it is necessary to examine certain basic features of both countries which have a bearing on the policy issues.

India is one of the largest countries in the world, with a geographical area more than 22 times that of Nepal. Similarly, the forest area is more than 11 times that of Nepal. Unlike India, Nepal is basically a mountainous region with hill forests comprising 84 per cent of the forest area. The bulk of the land area in India is in the plains, and hill forests constitute only 18.91 per cent of the total forest area. While most Indian forests are connected by roads and are accessible, the forests of Nepal are mostly inaccessible due to the difficult terrain and the absence of roads.

The population density is 256/km<sup>2</sup> in India and 129/km<sup>2</sup> in Nepal. The annual population growth rates, however, are comparable.

Nepal is a land-locked country, located between India and China, with the towering central Himalayas running from east to west along its northern border. India has a colonial past, whereas Nepal has never been under foreign rule. Forestry management in India dates back to 1864 and is 130 years' old. The first forest act was passed in 1865. This was followed by a series of enactments until 1988. In Nepal, forestry management in a real sense began only in 1957 with nationalisation of the forests. The Forest Act of 1961 only provided the legislation for state administration of the forests. This was replaced by the Forest Act of 1993, which is the latest legislation. Similarly, the first National Forest Policy in India was framed in 1894 with subsequent revisions in 1952 and 1988. The first comprehensive policy document in Nepal was prepared only in 1988 in the form of the 'Master Plan for the Forestry Sector'.

In India, commercial exploitation of the forests is as old as its management. Forestry products contribute significantly to the GNP. In many states it contributes

substantially to the revenue earned. As such, in many states, forest departments are known as Revenue Departments.

On the contrary, forest management is a comparatively recent introduction in Nepal and commercial exploitation of forests has hardly begun. Forests have never been managed as a source of revenue, and their contribution to the national economy has, as a result, been insignificant.

The history of forest management in India shows that, during pre-colonial days, Indian forests enjoyed a certain amount of protection due to their status as community controlled, common property resources. With the state takeover of the forests during colonial rule, the forest-dependent communities were alienated and the forests were gradually converted into an open access, common property resource.

A similar kind of development took place in Nepal around 1957 when the forests were nationalised. In Nepal's case, the government failed to manage the forests effectively, primarily because it did not have the requisite staff and infrastructure. Although it is doubtful whether, in Nepal, the state would have been able to take over the forests even with a forestry organisation like that of India, given the people's alienation.

### **Forestry Organisation and Infrastructural Deficiency**

Comparison of the organisational set-up of forestry in the two countries immediately shows that the staffing pattern in India is largely uniform and formidable both in terms of depth and number.

Forestry, being on the concurrent list in India, the duties and functions are quite distinct at the federal level, and there is a separate staffing pattern. However, forestry is directly managed by the states in India where staffing intensity is fairly high. Because of the lack of local resources and heavy dependence on donor agencies, HMG/N is unlikely to create any new posts in the forestry sector in the near future. As a matter of fact, forestry graduates coming from the Institute of Forestry in Pokhara could not be absorbed by the Department of Forests over the last two years.

Despite higher staff strength in most states in India, during the implementation of JFM the staff infrastructure was found to be deficient, for reasons explained earlier. This deficiency will be overcome by a process of structural reorganisation, reducing overlap, and by rationalisation of workload. In West Bengal and in many other states in India, infrastructural deficiency is currently being overcome to some extent with the help of NGOs.

The staff at grass roots' level are very important from the community forestry point of view, as these are the people who actually interact with the participating communities. This level in India is represented by Foresters (Beat officers), Forest Guards, and sometimes even by Watchers/*Bon mazdoors*. In the case of Nepal, the forester level is virtually absent and the Beat level is usually represented by Forest Rangers and Forest Guards, and their number is also limited in each range.

According to the Director General, Department of Soil Conservation, the potential area for community forestry is 61 per cent of the total forest area, which is approximately 3,422,100ha. So far, 2,699 FUGs have been properly identified. They are taking care of 107,548.54ha. of forests, and only 980 operational plans have so far been prepared (Joshi 1994). Thus, only 3.14 per cent of the potential area for community forestry has so far been covered. Based on the Nepal-Australia Forestry Project experience, the number of informal user groups in existence in the 75 districts of Nepal is 60,720, and the average number of informal user groups per district is 810 (Bhatta 1989). According to senior forestry officials in Nepal, a Forest Ranger can tackle five to six FUGs effectively. However, with the present staffing pattern, a Forest Ranger may have to tackle about a 100 FUGs in due course. The interactions that took place between the author with the District Forest Officer and community groups only confirm the above findings.

In this context, it may be recalled that a comparable number of FPCs (2,423), which are the equivalent of FUGs in Nepal, have already been formed in West Bengal. The average size of the forest area in their care is also comparable to Nepal. A forest Beat in West Bengal is the lowest management unit and is manned by a Forester and not a Forest Ranger. A Beat Officer (Forester) is usually supported by three to four Forest Guards and 10-12 Watchers (*Ban mazdoors*). However, a Beat Officer in West Bengal is not expected to handle more than five or six FPCs effectively. For this reason, reorganisation of the Forest Departments in many states has been undertaken to reduce the overlap and to redeploy staff and rationalise workloads. It is also widely recognised that frequent interaction between the staff and the communities is a must for sustaining community forestry.

### **Community Forestry – from Plantation to Natural Forests**

During the initial stages, in both India and Nepal, community forestry envisaged tree planting on degraded or barren forest lands or outside them. In India, this phase was reflected in the implementation of Social Forestry programmes in the early 1980s throughout the country. The basic objectives of social forestry, which were to meet the subsistence demands of the people for fuel, fodder, fibre, small timber, and so on, outside the forests, and to alleviate the burden on natural forests, were not fulfilled. The more successful plantations, as already stated, produced only cash crops for the 'pole' market.

Initially, in Nepal, community forestry, which was viewed as a solution to the deforestation problem, depended mainly on tree planting. It was thought that this would solve the fuel and fodder crisis. Like Social Forestry in India, attention and funds were diverted to plantation programmes in the 1970s and 1980s in Nepal, while hundreds of thousands of state-owned natural forests continued to be laid open to exploitation.

In India, despite a decade of massive implementation of social forestry programmes, there was large-scale degradation of forests leading to a policy review, which resulted in the 1988 National Forestry Policy in which stress was placed on people's participatory forest management. In Nepal, since community for-

estry was basically funded by different donor agencies through projects, a reappraisal of projects, which took place in the mid-1980s, led to a major change at the policy level. The emphasis shifted from plantation on *Panchayat* or village lands to government-owned natural forests. Plantations on government land, in both countries, however, continued to form part of community forestry.

One factor, which is common to both countries, is the realisation that natural forests can be renewed at a much lower cost than plantations, and that the flow of subsistence goods from natural forests is usually much higher.

In the case of Nepal, apart from the plantations in which only seedlings are made available at no cost by the government, there is hardly any investment in natural forests.

In India, since the communities do virtually nothing free apart from protection duties, the level of investment per hectare of forest is much higher. Because of this, and because of the expected returns, the government has a much higher stake in the preservation and development of forests.

### Micro-Plans and Operational Plans

The difference between the micro-plans prepared in West Bengal and the operational plans prepared in Nepal, is one of involvement. Since, in Nepal, the forests are completely turned over to the communities and the government does not have usufruct rights over the benefits, the sense of ownership in FUGs is quite strong. Even for plantations in community forestry in Nepal, the government shares the expenditure with the community (at a ratio of 80:20). This further increases the involvement.

In India, the government's share in usufructs varies between 25 and 80 per cent depending on the level of investment the government makes. In southwest Bengal, the government retains 75 per cent of the net profit. Except for the watch and ward duties and the labour invested in raising intercrops for their own consumption, all labour in forestry activities is remunerated. Thus, the incentive for JFM lies somewhere in the flow of usufructs from NTFPs, the intermediate yields from thinning the final yield, the employment benefits provided by the government from the implementation of forestry schemes, or in land development work. All these call for a fair level of government investment, in all areas under JFM, for implementation of micro-plans as well as for extraction and disposal of forest produce. Since the government expects some return from these forests, apart from retaining control over the major forest produce, it has to invest, and, therefore, it has to maintain a flow of funds.

In the case of Nepal, for implementation of operational plans, especially those which are based on natural forests, the government has to spend very little except on orientation, training, and study tours. Communities, in many instances, clearly stated that they did not expect any financial help from the government. Although the operational plans are prepared according to guidelines issued by the Community Forestry Development Division under the Department of For-

ests, and the preparation of the operational plan and its approval by the DFO is a prerequisite for handing over a patch of forest to the user group, most of the initiative is taken by the community.

The opposite is the case with the preparation of micro-plans in India. Since the Forest Department has a high stake in the protection and development of the forests, all the initiative for preparing micro-plans comes from the Forest Department itself. Apart from protection, it is in the preparation and implementation of micro-plans that community participation is envisaged. Here also, guidelines and formats for the preparation of micro-plans are issued by the Department, but this is more for staff consumption than for the communities at present.

## **Planning Community Forestry**

Planning for community forestry takes place at the Beat level, in both Nepal and in West Bengal. There is, however, a basic difference in approach. Planning at the Beat level in Nepal is introduced by the Forest Ranger who is responsible for generating basic benchmarks in the formation of plans (Wee and Bell 1993). In the case of West Bengal, it is basically the forester working as the Beat officer who begins the micro-planning process. In both Nepal and in West Bengal, the Beat level officers assess whether the prospective area is suitable for community forestry through participatory rural appraisal techniques.

Community forestry activities in Nepal broadly include forest protection, rehabilitation, plantation, and nursery development. The operational plans also reflect these. The field officers identify the local forest resources within their jurisdiction, as well as the forest users who are interested in community forestry and their needs. Depending on this information, a workplan is prepared for the following year and the budget requirement is estimated and put up to the DFO for his consideration and approval. This is the basis of the planning process, as the DFO submits the annual workplans to the District Development Committee (DDC) and the District Assembly. The sectoral development plans are negotiated here to allow for convergence of policies and local requirements.

At the Centre, the Community Forestry Programme is handled by the Chief of the Community and Private Forestry Division of the Forest Department. The annual workplans and budget requirements received from the districts are scrutinised and compiled here. The budget requirements are then submitted to the National Planning Commission and the Ministry of Finance through the Ministry of Forest and Soil Conservation.

In the case of India, specifically West Bengal, there is no separate budget for JFM. There are, however, certain components in the forestry budget that are specifically targetted to support JFM programmes. The policy of the government is to involve the FPC members in all forestry activities (to the extent possible). To ensure their participation and to provide them with employment no separate budget is considered necessary. The budget exercises both the 'top down' and 'bottom up' approaches. The forestry budget is normally based on a 'last year plus ten per cent' system, unless it is supported by an externally-aided project. Such projects

are usually need-based, but they still have a ceiling and fixed targets. In West Bengal, one project being carried out with World Bank aid is being implemented which is, on the whole, supportive of JFM. The duration of the project is five years and, therefore, it provides for continuity of programme.

The Range Officers usually draw up a plan of operations and base the budget requirements on it after collecting and compiling the demands from the different Beats under them. The requirements are then discussed at the DFO's level. The DFOs submit the consolidated budget to their Circle Conservator (i.e., regional officer) who again scrutinises and compiles the budget for his area and submits it to the Directorate Head who is the Principal Chief Conservator of Forests (PCCF). The PCCF adjusts all these budget demands within the fund ceilings for the forestry sector. The local governing body or *panchayat* does not have much say in the sectoral budget. However, the *Panchayat* functionaries often handle funds pertaining to rural development programmes with which they periodically augment the forestry budget and also help and guide their implementation.

The forestry project and, hence, micro-plans provide for many support activities other than typical forestry activities – nurseries, afforestation, thinning, pruning, and so on. Some of these relate to community development programmes. There is also scope for promoting self-employment activities and also for using the funds and expertise available to other government departments or agencies.

In Nepal, the Forest Act of 1993 permits user groups to use surplus income from the forests for development activities other than forestry. This marks a transition from community forestry to community development. The Act further empowers users to fix the rates of forestry products, irrespective of government royalty rates. The users' group can also raise funds from various sources, including the collection of fines. All these make them truly autonomous, which is not the case with any of the community groups formed under JFM in India.

## Forest Management and Research

According to the operational plans, all the forest management decisions are taken by the users with some marginal technical guidance provided by the forestry staff during the preparation of such plans. Distribution of forest produce, sale, disposal, and so on are left entirely to the discretion of the users' group committee, including the fixation of rates.

Since the forests of Nepal were not commercially exploited on a significant scale in the past, harvesting and marketing of forest products are critical issues, even for national forests. The number of FUGs being limited, this is not posing a problem for them at the moment, but with rising numbers, harvesting and marketing of produce could become difficult unless collectives are formed or departmental intervention takes place. Similarly, even though the guidelines issued by HMG/Nepal stress increasing productivity and meeting local needs on a sustained basis, the mechanisms to ensure the same are absent. This is more because of the limited availability of staff experienced in research and especially in programmes involving community participation. No mechanism is available for the transfer of technology to many user groups.

In JFM, neither of these aspects pose any special problems. Broad management decisions are still taken by the Forest Department, and these include the sale and disposal of major forest produce. Similarly, technical inputs from the research wing continue to flow into JFM areas, and all forestry activities continue to be carried out under the direct supervision of the forestry staff.

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

This is one item to which adequate attention has not been paid, neither in Nepal nor in India. Case studies in India, especially in West Bengal, amply demonstrate that sustainable extraction of NTFPs, together with processing and marketing, can generate significant income for the communities. NTFPs and activities related to NTFPs, therefore, have an important position in the micro-plans, and this aspect is exploited by raising inter-crops in the plantation programme as well.

Similarly, in Nepal, development of NTFPs, such as mushrooms, medicinal plants, fruits, and leaves, can generate off-farm income for the people. In addition sericulture, development of cane and bamboo products, and sal plate-making could be other important areas of economic activity for users (Mahat 1989). This aspect does not seem to have been highlighted in either the guidelines mentioned earlier or in any of the operational plans. One reason for this may be that, in the hills, the forests have been denuded and topsoil lost to such an extent that it will take a long time for most of the NTFPs to regenerate. Yet, this will remain an important area of community forestry, as the Indian experience shows.

### **Training, Gender Issues, and NGOs**

In discussing institutional issues, the deficiencies in training programmes vis-a-vis community forestry in both countries have been discussed. The steps taken to rectify the situation have also been indicated. Both countries are more or less on a par in this matter.

Insofar as gender issues are concerned, the interactions between the author and the women sub user-groups during his field visit in Nepal showed that women are quite liberated socially and take an active part in community forestry. The same situation is prevailing in the northern Bengal hills, mostly inhabited by migrants from Nepal. The situation is not the same in the southern Bengal plains, nor in most other states in India. Special efforts are required to draw the women into effective participation in JFM.

On the whole, however, the involvement of women in community forestry in both countries has only been marginal and needs to be promoted. As far as involvement of NGOs is concerned, Nepal is in a much better position. The NGO participation in Nepal has been structured for the entire country, and the roles played by different NGOs have more or less been clearly defined. The author did not come across reports highlighting conflicts between NGOs and the Forest Department in Nepal. Unfortunately, however, this is not the case with India. Conflicts exist between NGOs and the Forest Department in many regions, and this

situation leads to wastage of valuable resources. One reason for this is the fact that forestry staff in India have been working in isolation for decades in a regimented society in which the NGO had no role to play. The constructive roles NGOs can play have not been fully appreciated. A constructive partnership will probably emerge only when JFM has made enough headway.

### **The Inter-relationship between Forests, Agriculture, and Animal Husbandry**

In the mountains, forestry supports agriculture and livestock husbandry. In Nepal, because it is largely mountainous, this inter-relationship is extremely important. This is also true for the mountainous regions of India. The situation is not exactly the same in the vast Indo-Gangetic plains and other plains in India which are devoid of forests. The farming here may be devoted to crop production, and livestock and forestry may be treated as a commercial enterprise.

In the hill regions of both countries, forest biomass, when mixed with animal excreta, yields organic compost manure which provides the principal source of soil nutrients for agricultural land. This is often the only input to crop production in the hills (Mahat 1989). The bulk of Nepal's land area is in the mountains, and, hence, the dependency of the hill farmer on the forests is very high. Because of the configuration of the country, this dependency is relatively low in India.

Deforestation in Nepal, except in the *terai*, has been primarily caused by the clearing of the forests for agricultural extension and by unsustainable extraction for domestic consumption, but it has not been as much due to the illegal removal of forest produce for trade (mainly because of poor communication facilities). But, in India, illegal removal of forest produce for trade and for off-farm earnings is a common occurrence. This is mainly because of easy accessibility and a ready market.

These are some of the reasons why the people's response to community forestry has been greater in Nepal than in India.

### **Policy and Legal Framework**

In the Master Plan for the Forestry Sector, which is the major policy document for Nepal, community forestry has been given the highest priority, even over management of national forests. As discussed earlier, different laws to facilitate the implementation of community forestry have been passed in Nepal over the last two decades. The 1993 Forest Act, which is the latest in the series, has special provisions for providing a legal framework to community forestry efforts. Thus, there has been a convergence of policy and legislation and both provide tenurial security for the FUGs.

However, in India, although the 1988 National Forest Policy and the June 1990 circular provide for JFM, they are less emphatic. The provisions made in state JFM resolutions vary widely, apart from in one common feature. JFM is meant

for degraded forest areas. The Indian Forest Act does not lend any support to JFM and it depends entirely on government notifications and executive orders. Thus, tenurial insecurity is much more prevalent in India. This also serves as a negative incentive to community forestry. The position requires urgent review.

## **A Comparative Study of the North Bengal Hills with Nepal**

An analysis of rules and regulations covering Community Forestry in Nepal and JFM in North Bengal.

Community Forestry in Nepal is covered by the Master Plan for the Forestry Sector (1988), the Forest Act (1993), and the Forest Rules (1995). JFM in northern Bengal is covered only by a government resolution, which does not have the force of a statute.

An analysis of the various provisions shows broad similarities in the areas enlisted below.

1. An application has to be submitted for registration of FUGs in both Nepal and in northern Bengal
2. In both cases, FUGs are required to register with the DFO to be entitled to the benefits given under the rules and orders.
3. While operational plans are a requirement for community forests in Nepal, micro-plans are a requirement in the case of the northern Bengal forests.
4. There is also a similarity in the formats for preparation of operational plans and micro-plans. Although the format for preparation of a micro-plan does not constitute a part of the JFM resolution, it forms a part of the forest rules in Nepal.
5. Although not expressly provided for in the rules, user group committees are formed to manage the community forests by electing members and office bearers for a fixed tenure in Nepal. In the case of northern Bengal, there is a clear provision in the JFM resolution for formation of executive committees with a fixed number of members, the local Councillor of the Hill Council, and the Beat officer as member secretary.
6. Records of community forests are required in both cases.
7. Certain Acts prejudicial to the conservation of forests and wildlife are prohibited under the forest rules of Nepal. Similarly, in the case of community forests in the hill areas of northern Bengal, acts in contravention to the Indian Forest Act or Wildlife Protection Act, or even those prejudicial to the interests of conservation and development forests and wildlife, are prohibited.
8. There are penal provisions in both the Nepal Forest Rules, 1995, and the JFM resolution for the northern Bengal hills for violation of prohibited acts. This may lead to cancellation of individual membership or the dissolution of the FPC as a whole in the case of northern Bengal. In the case of Nepal, the registration of the FUG may be cancelled and the community forest resumed.

There are also some concrete differences in certain areas.

1. Under the Nepal Forest Rules, the initiative for forming user groups has to come from the users. They have to submit a written application to the District

Forest Officer. In the case of the northern Bengal hills, the initiative has to be taken by the Divisional Forest Officer, and the application is usually filed by the Forester after obtaining approval from the local Councillor of the Hill Council.

2. The format for the operational plan is provided in the forest rules in the case of Nepal, which means it is less flexible. In the case of the northern Bengal hills, or for that matter even for other zones, there is no such statutory provision. Although a format has been adopted, this may undergo modifications if the need arises.
3. Users are permitted to collect, sell, and distribute forest products under the forest rules in Nepal. Forest products may include timber and firewood also. Apart from the NTFPs specified in the resolution, collection, disposal, and distribution are not permitted in northern Bengal. The extraction of timber and firewood is carried out under the aegis of the department. Usufructs are also distributed under departmental supervision.
4. Unlike in Nepal, the FPCs are not permitted to have a hammer for marking timber for transportation. This is the prerogative of forest staff.
5. The rules in Nepal empower both the Department as well as the user group to obtain assistance from national and international government and non-government agencies. There is no such provision in the JFM resolution for any of the regions in West Bengal.

### **Some Critical Issues Related to Community Forestry in Nepal and North Bengal**

The northern Bengal hills or Darjeeling Hills cover the three hill sub-divisions of Darjeeling district, e.g., Kurseong, Kalimpong, and Darjeeling, totalling 2,157sq.km. The forest area constitutes 53 per cent of the land area.

Darjeeling Hills form the eastern reaches of the same mountain system (i.e., the Himalayas). Ethnicity is also almost the same as in Nepal as the bulk of the people staying in the Darjeeling Hills are basically immigrants from Nepal.

There are some basic differences also. The Darjeeling Hills are generally more moist and the hillsides are steeper. The vegetation, although it has a lot of similarities with vegetation in Nepal, is generally of a moister variety. We omit the *terai* and lower hills of Nepal from this discussion, as forest crops are predominantly comprised of coppice forests of sal and miscellaneous species. The community forestry in this region is more akin to that of southwest Bengal where crops are similar.

The middle hills of Nepal, which are comparable to the Darjeeling Hills, are virtually devoid of industry. Apart from agriculture, the only other economic activities in this region are related to tourism.

Darjeeling's economy is based on agriculture and tea plantations. Of the total available land, 60 per cent is used for cropping and 40 per cent is for tea cultivation. Transport was a much later addition. Darjeeling is more urbanised and gen-

erally has a higher literacy rate than Nepal; in 1971 the literacy rate was 32.44 per cent compared to only 13.9 per cent in Nepal (Dasgupta 1989).

Unlike Nepal, Darjeeling's forests have been commercially exploited for over a hundred years now, with a substantial area converted into quick growing conifers like *dhupi* (*Cryptomeria japonica*) and pine. The communication system is much better, population density higher, and the pressure from tourism is quite intense in the towns. There is an array of hotels, mostly in Darjeeling and Kalimpong with some in Kurseong. The pressure on the forests, due to the demand for timber for construction as well as fuelwood/charcoal, has always been very high.

Whereas in Nepal the destruction of forests in the middle hills has mostly been due to the extension of agriculture, in the Darjeeling Hills it has primarily been due to very heavy pressure on the forests for supplies of timber, fuelwood, and fodder and, to some extent, on account of agriculture. The town of Siliguri at the base of the hills, offers a ready market for timber and has added to the protection problem. Thus, the protection of forests in the accessible areas has been a growing problem. The custodial policing that has been practised over the decades has failed to protect the forests. Community forestry in the form of JFM was introduced to the hills some time in 1990. The government notification authorising formation of FPCs was issued in 1991. Until the present, it has been possible to establish as many as 61 FPCs covering 10,332 hectares of forest in this region.

Another interesting development that has taken place in these hills and in the *terai* area is the formation of eco-development committees around wildlife protected areas. The wildlife protected areas constitute 21 per cent of the hill forests. The E.D.C.s (Eco-Development Committees) have been informally formed as the government resolution for the purpose has not yet been issued. To date they are 20 in number, covering 13,800ha of forests. Around wildlife areas the FUGs have been organised in the same manner as the FPCs, but they had to be given a different name because of the fact that sharing of usufructs in wildlife protected areas cannot be carried out in the same way as in other areas on account of restrictions imposed on felling. The aim is to extend the benefits to the communities through eco-developmental activities such as providing irrigation facilities, raising fodder, improvement of communications, and other support activities.

In Darjeeling, as well as in the higher hills of Nepal, the trees are generally slow growing. Thus, the sharing of timber cannot provide an immediate incentive, even to the FPCs. Thus, in the hills, practically the sole incentive is NTFPs and support activities. The NTFPs, in both Nepal and in the Darjeeling Hills, are virtually the same and they are—medicinal plants, mushrooms, bamboos, orchids, fruits, seeds, leaves, grasses, and so on. The following support activities are being promoted by the Forest Department in Darjeeling: mushroom cultivation, beekeeping, knitting, broom-making, pisciculture, floriculture, raising inter-crops of medicinal plants, and land fodder grasses. In addition supportive work is undertaken such as laying pipelines for drinking water, construction and repairs of roads and culverts, construction of ponds and dug wells, supply of smokeless *chullas*, and irrigation works.

Some support is afforded through employment in timber extraction, afforestation work, and intercropping. But such employment is not possible everywhere. Extraction, processing, and disposal of NTFPs on a sustained and sustainable basis, as well as other support activities, require study, training, market linkages, post-training inputs, and so on. And these require investment. Such investments are being made in the Darjeeling Hills, and there is some incentive to do so because of the sharing of usufructs. No such investments are being made in Nepal at present due to a scarcity of resources and, perhaps, due to the fact that there is no incentive for the government to do so, as the forests are being completely turned over to the communities.

An important feature, which is common to the forests in both regions, is the difficulty of accessibility; although the situation in Darjeeling is a shade better. There are hamlets strewn all over the hills and even the best of policing arrangements cannot make the forests secure on a durable basis. Some forests are still there just because the people did not want to destroy them for one reason or the other. In situations like this, community forestry in some form or other seems to be the only answer. There has to be, however, a concerted effort to sustain this.

### **Silviculture and Management of Forests**

Nepal has a substantial area under forests, i.e., 5.6 million hectares out of a total geographical area of 14.7 million hectares. The forest types, as indicated earlier, are primarily governed by altitude rather than latitude. The crop variations range from tropical dry/moist deciduous forests in the *terai* to alpine forests in the high Himalayas. The forests are again classified into the following types—Community forests, Leasehold forests, Religious forests, Protected forests, and Government-managed forests, each with different management objectives.

Since, in both the Master Plan for the Forestry Sector and the Forest Act 1993, it has been clearly laid down that Community Forestry will have precedence over other uses of government forests, it may be safely presumed that most of Nepal's forests will be brought under community forestry in the not too distant future. Looking at the spread of community forestry up to 1993, it is seen that, although the number of user groups formed is highest in the mid-hills (i.e., 2,165), quite a few FUGs have been formed in the high mountains as well as in the *terai* (Shrestha 1994). Thus, in community forestry, one will encounter all kinds of trees and forests in Nepal.

Again, it is seen that there are as many as eight major donors as well as NGOs involved in community forestry in Nepal, each taking care of a number of districts.

It also appears that development activities, including research, vary widely in quality and characteristics from region to region, depending upon the donor agency funding the programme. Coordination amongst the different agencies is very loose. The Forest Department still does not have a strong research base, although it is aware of the needs. There have been stray efforts to address research problems in specific areas, but the results of these do not seem to have

percolated down to the grass roots' level, as could be observed in the field as well as in the operational plans.

During the current decade in India, in forest management, there has been a shift of emphasis from timber to NTFPs, especially as they can generate significant sustainable incomes for forest communities besides ensuring preservation of biodiversity (unlike logging). This becomes especially relevant at higher altitudes where readily coppiceable species are very few and growth of plants is slow. A number of such items has already been identified, e.g., mushroom farming, medicinal plants, development of sericulture, beekeeping, orchids, and so on (Mahat 1989).

In most of the FUG areas visited by the author, the emphasis has been on derivation of fuelwood and construction timber (i.e., mostly poles) in a narrow time frame. Fodder and other NTFPs are peripheral items. The sustainability of both timber or non-timber products has not been critically examined in any of the countries.

In several places, FUGs are formed for forest areas having bare patches needing afforestation. Government aid is available for such areas in the form of heavy subsidies for seedling production and financial support for watch and ward. In most of the community groups, the benefits currently derived by the communities are limited to free availability of firewood to cover their needs for a part of the year and a specified number of poles obtained through pruning.

From plantations, the benefits are limited to availability of some fodder grass, either for consumption or disposal. Thus, for communities with subsistence economies, incentives are minimal. While, on the one hand, the productivity of the forest land needs to increase, community dependence on the forests has to decrease.

The plantations that are being raised only take into account the suitability of the species for a particular site, very little thought is given to any other aspect. Selection of species should be carried out jointly with FUG members. Apart from these, there should be some arrangements for collection and supply of quality seeds and, maybe at a later date, other improved genetic materials. This should be the job of the research wing of the Department of Forestry. There has been an incipient beginning of the tree improvement programme as could be seen in the selection of some seed trees in some areas. The quality of nursery management must also improve in order to ensure uniform growth of seedlings in the nurseries. Culling should be carried out where necessary. Since forest crops involve long gestation periods, the work should begin now.

A similar situation prevails in the northern Bengal hills, which form the eastern reaches of the Himalayas with a common boundary with Nepal in certain areas. The vegetation profile from the *terai* to the high hills has plenty of similarities with Nepal, except for the fact that, on the whole, the area is more moist. In more degraded areas adjoining habitations, where the user groups have been organised into FPCs, plantation models have been modified to suit local needs. The spacing between rows in the plantation has been increased from the usual 2 X 2m

to 4 X 1½m (rows 4 metres' apart) to create spaces to raise intercrops for the benefit of the communities. In the hills, such intercrops include *Amlisho* (*Thysanolaena agrostis*), *Narkot* (*Arund donax* sp), maize, medicinal plants, and so on. To encourage people to raise such crops, incentives are given in the form of seeds, fertilizers, pesticides, and so on. Funds are available so that some wages can also be provided. Additionally, the forest crop is raised in multi-tiered models in which there is a judicious mix of short rotation and long rotation crops, preferably of fast-growing species, coppiceable as far as possible, to reduce the cost of re-establishment after the first rotation felling.

Even in places where reforestation is being carried out on better soils under production models, spacing has been adjusted to create space for inter-crops.

Every effort is being made now to manage the high forests for NTFPs, as felling is banned. To reduce community dependence on forest land, development and support activities are being promoted. These include, amongst others, improvement of communications, laying water pipelines, construction of minor irrigation drains, and promoting agroforestry. In addition, FPC members are also being trained in mushroom cultivation, pisciculture, broom making, orchid propagation, cut-flower production, sericulture, and beekeeping. Some post-training inputs are also being provided. There is even an attempt to regulate removal of fuelwood from high forests by permitting the collection of dry twigs, fallen branches, and, where possible, managing coppiceable shrubs such as *Jinghni* (*Eurya Japonica*) and *Kharani* (*Symplocos* spp) on a short coppice rotation. Some of these innovative approaches could be tried out in Nepal to sustain community efforts.

A few other items need immediate attention in Nepal. The first item that comes to mind is preparation of data on flora covering Nepal's vegetation, if one is not there. Since the vegetation of Nepal is not much different from India, Indian compilations may be used for the time being. Several updated volumes of Troupe's silviculture of Indian trees are already available. There are many trees which are common in the two countries. The forests of Nepal need appropriate management systems as quickly as possible. Although Nepal is a small country, the variation in crop types is significant, for reasons explained earlier. It is not necessary to evolve a management system for each type or for elaborate experiments. In India, where scientific forestry has been pursued for over a hundred years now, all kinds of situations encountered in Nepal have been tackled and therefore a good beginning may be made in Nepal by drawing on the Indian experience. Refinements may be carried out gradually. It may be worth remembering here that, in community or any kind of forestry, basic silvicultural requirements cannot be overlooked. Productivity has to increase, but this may not necessarily be in the form of higher yield and extraction of timber only, especially when we are dealing with community forestry.

## Conclusions

Community forestry, both in Nepal and in India, has experienced almost parallel development during the last decade and a half.

India began with Social Forestry, which basically depends on plantation. Nepal also began community forestry with plantation on degraded land. The attention in both countries gradually shifted towards natural forests, which could be renewed at low cost because of their tremendous biological vigour. India, having a long colonial past, held on to an unsustainable management system which was unresponsive to people's needs for decades.

It was possible for India to hold on to such a system for so long without the forests becoming completely liquidated because of a cadre of highly dedicated and disciplined officers trained in para-military institutions.

Nepal was never under colonial rule, and the forests were never under such intensive management. Nepal, being highly mountainous, with very few roads and a difficult communication system, needed a huge staff infrastructure to manage its forests. Unfortunately, however, when Nepal's forests were nationalised in 1957, the staff infrastructure was extremely poor, so much so that the forests in the interior were never really brought under government control. Whatever community protection the forests were receiving prior to nationalisation disappeared and the forests became open access, common property resources and were rapidly denuded.

Nepal's economy largely depends on donor agencies, and the availability of local resources is very limited. Because of the lack of resources, difficult communications and lack of staff infrastructure, Nepal has to depend on people's collaboration for protection and development of the forests. Thus, community forestry is the only answer and Nepal is wisely pursuing this.

Despite better communications, better resources, and a much better staff infrastructure, India came to the same state, following a policy which alienated the people completely. One reason why Nepal has been able to turn over the forests completely to the communities is that it had little to lose in terms of either national needs or loss of revenue.

The situation in India is somewhat different, in as much as the forestry sector even now generates substantial revenue for the states, and forests provide raw material for a host of forest-based industries which are of national importance. Again, ignoring local needs any further would mean the end of the road for the forests in India. In a situation like this, community forestry in the form of JFM is the best compromise. Whether or not this is a transitional phase to the Nepalese type of Community Forestry, only time tell.

## Programme Itinerary

The International Centre for Integrated Mountain Development provided the author with a short-term consultancy to write a paper on Comparative Analysis of Policy and Institutional Dimensions of Community Forestry in India and Nepal.

The duration of the consultancy was four weeks, from October to November 1994. During this period, field visits were carried out both in Nepal and in northern Bengal. The field visit in Nepal lasted for two weeks and began with meetings with senior forestry officials of the Nepal Forest Department: Mr. D.P. Parajuli, Director General, Department of Forests; Mr. M.L. Shrestha of the Community Forestry Planning Division; and Mr. A.L. Joshi, Director General, Department of Soil Conservation, and Mr. Patrick Robinson of the Swiss Development Corporation. He also attended a talk delivered by Mr. Olavi of FINNIDA at the Agricultural Projects' Services' Centre (APROSC) regarding a project drawn up by FINNIDA for the Management of the *Terai* Forests. The author met Mr. Pelinck, Director General, ICIMOD. On 28th October, the author left for Pokhara. At *I'anahu*, the author met Mr. Kiran Nath Shrestha, DFO, *Tanahu*, and a member of the Taldanda Community Forest User Group - held discussions with them and then left for Pokhara.

In Pokhara, the author met the DFO, Kaski, Mr. Ambika Regmi, and interacted with members of the Pragatisil Forest User Group, the Goste *Mahila* Forest User Group, and the Moharpani Hade Forest User Group.

From Pokhara, the author went to Nuwakot via Kathmandu and met Mr. Keshav Raj Shrestha, DFO, Nuwakot. In Nuwakot he interacted with Samudaik Pandey Forest User Group, Bondevi Samudaik Forest User Group, Bhairabi Samudaik Forest User Group, and the *Mahila Upsamitis* formed under these.

Back in Kathmandu on 2nd November, he met Mr. Goran Skarner and Mr. Olavi of FINNIDA and Nick Roche of the Nepal-UK Team and had discussions with them regarding various aspects of Community Forestry in Nepal.

On 2-11-94 in Kathmandu the author had a luncheon meeting with Mr. M.L. Shrestha of the Community Forestry Development Division and Mr. Anupam Bhatia. A final meeting took place with the Director General, Soil Conservation, Nepal.

The author left Nepal for India on 7-11-94. On the 9th of November, he proceeded to Darjeeling and halted in Lepchajagat and interacted with Rongbhong Forest Protection Committee and Rongbhong Majua-basti Mukhiagaon Forest Protection Committee. From Lepchajagat, he moved to Takdah on 11-11-94 and interacted with Tinchulia-Lopchu Forest Protection Committee and UpperHum Basti Lingding Forest Protection Committee.

On the 12th of November, the author moved to Dow Hill in Kurseong Division and interacted with Deorali and Third Mile Forest Protection Committees of Kurseong Division. He moved to Sukna on the 14th morning and interacted with

the North Ektiasal No. 1 Committee, Dakshin Ektiasal No. 2 Committee, and Purbachayanpara FPC of Baikunthapur Forest Division.

Thus, during the field visits, apart from the discussions with various officials, the author interacted with seven FUGs in Nepal and nine Forest Protection Committees (FPTs) in northern Bengal, of which six are located in the hills and three in the plains of northern Bengal.