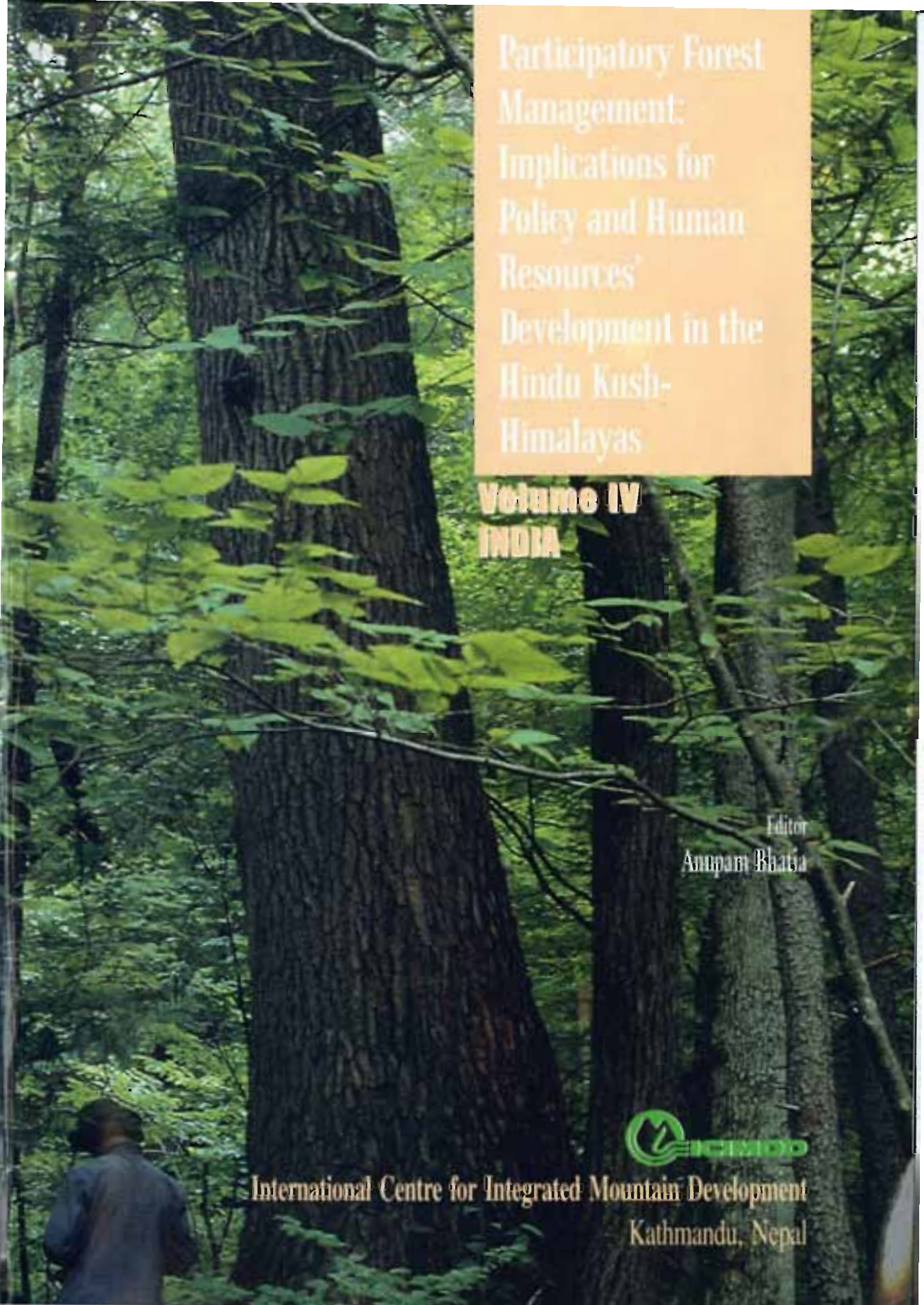

Participatory Forest Management: Implications for Policy and Human Resources' Development in the Hindu Kush-Himalayas

Volume IV
INDIA

Editor
Anupam Bhatia

ICIMOD
International Centre for Integrated Mountain Development
Kathmandu, Nepal

Participatory Forest Management: Implications for Policy and Human Resources' Development in the Hindu Kush-Himalayas

Vol IV
India

2000

International Centre for Integrated Mountain Development
GPO Box 3226, Kathmandu, Nepal

ISBN: 92 9115 970 0
92 9115 023 1

Published by
International Centre for Integrated Mountain Development
GPO Box 3226
Kathmandu, Nepal

Cover Plate
ICIMOD File Photo

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Foreword

The last decade of this millennium is testimony to changing times for the people and forests of the Hindu Kush-Himalayas, and it has seen the emergence of people-centred forest policies in almost all the countries in the region. These policies aim to support and strengthen participatory forest management, and through this process ensure that the needs of mountain women and men are accorded due priority.

The evidence of the will of policy-makers in the countries of the Hindu Kush-Himalayas can be traced back to the beginning of this decade. In 1990, the Government of India approved an order to encourage *joint* forest management between government and forest dependent communities in degraded forest areas. Currently twenty-two states spread over the country have approved enabling government orders. These include all three states of the Western Himalayas—Jammu and Kashmir in 1993, Himachal Pradesh in 1993, and Uttar Pradesh in 1997—and three states in the North Eastern Himalayas—Tripura in 1991 and Arunachal Pradesh and Nagaland in 1997. Nepal approved a new Forest Act in 1993 that provides legal support to community forestry and remains one of the most progressive pieces of legislation in this field. Bangladesh approved a new forest policy incorporating the concept of participatory forest management in 1994. Myanmar gazetted a new Forest Act in 1992 and issued its first community forestry instructions notification in 1995. Bhutan enacted a new Forest and Nature Conservation Act in 1995 and approved its revised 'Social Forestry Rules' in 1996. Pakistan's national draft 'Forestry Sector Policy' was under discussion at the time that this workshop was held, people's participation was a strong element in the proposed policy. The North West Frontier Province of Pakistan developed a draft forest policy for the first time in 1997. The draft is people-centred, it is still under discussion and awaits approval. In 1993, Yunnan Province in the People's Republic of China put into place provisions for the auction of tenure of barren mountain areas, and this has stimulated people's involvement in forest management. Forest policies were revised in 1994 in the Tibetan Autonomous Region to encourage and support the involvement of the local population.

The emergence of people-oriented policies in all these countries over a decade points to a dramatic paradigm shift in forest management. This is the result of the increasing understanding of the fact that forests play a pivotal role in mountain areas and can no longer be managed without the active cooperation of the mountain communities.

An increasing area is being brought under community management through different benefit-sharing systems and tenure arrangements. These arrangements often build on or add to traditional forest management practices in mountain areas and this augurs well for the sustainable development of these areas.

The role of forestry professionals is changing from custodial to participatory. Reorientation of all levels of staff in forest departments is currently underway, and the curricula of educational institutions are being revised to ensure that the new generation of people-centred forestry professionals has the appropriate skills to support community-based forest management.

ICIMOD recognised this emerging trend and in 1993 established the Participatory Natural Resources Management Programme with a clearly defined focus on participatory forest management. ICIMOD has been able to document successes and provide regional and national forums for the exchange of views and experiences through workshops and field visits. We take some pride in having been a part of this exciting decade of change and in having made a modest contribution to changing policies and perspectives in the Hindu Kush-Himalayas.

The regional workshop 'Participatory Forest Management: Implications for Policy and Human Resources' Development' held in May 1998, whose proceedings are described in this publication, is one of the many activities arranged by the Participatory Natural Resources' Management Programme since 1993. This workshop brought together senior policy-makers from seven of the eight countries of the Hindu Kush-Himalayas.

Apart from providing a unique opportunity for professional foresters in the region to share their experiences in relation to the evolution of new policies, the meeting was also a milestone in the establishment of HIFCOM — the Hindu Kush-Himalayan Forum for Forest Conservation and Management – on a broad footing. The idea for HIFCOM was conceived at an earlier ICIMOD workshop held in India in 1995. Over the last three years, the institutional development process has been nurtured in close collaboration with forestry professionals in the region. The workshop in China brought together *seven* of the eight HKH countries for the first time, and the idea of HIFCOM as a regional forum for promoting participatory forest management among forestry and related professionals in the HKH was endorsed by the representatives of all these countries. This endorsement and the willingness of foresters to take responsibility for the further evolution of HIFCOM are indicative of the need for this forum. The stakeholders themselves have now taken over leadership of the forum and have drawn up plans for the future.

As we move into the next century, I am glad that we are able to bring this sense of optimism and hope to individuals and institutions in the Hindu Kush-Himalayas. The evolution of these policies for mountain forests would not have been possible without the sustained effort of the women and men of the mountains who have been managing these resources. It is they who have demonstrated that, given appropriate policies and an enabling framework, they can manage the natural resources of the mountains to meet their own needs whilst ensuring that the needs of future generations are safeguarded.

I am confident that we are now moving from a decade of policies and experiments to a future of practise and implementation that will test these policies on the ground and lead to further reflection, learning, and change. This can only happen successfully if policies are backed by appropriate, timely, and clear laws and rules that enshrine the spirit of the policies. A high level of commitment is required to ensure that policies do not remain merely statements of intent. For this, we will need to address the issue of human resources development with a greater sense of urgency than we have in the past. Apart from development of skills, the workshop participants identified issues of reorientation and changes of attitude as major future challenges.

I would like to take this opportunity to thank the South West Forestry College, Kunming, Yunnan Province, of the People's Republic of China for being such an effective host for the workshop and all the resource persons and authors of the papers for their commitment.

My gratitude also extends to the numerous mountain women and men who have shown that participatory forest management can work. They have been, and remain, our continuing source of inspiration and encouragement.

Egbert Pelinck
Director General

Acknowledgements

It is always difficult to acknowledge all the individuals and institutions who have contributed to the planning, designing, and implementation of a regional forum. We would, however, like to offer our special thanks to the following people, groups, and institutions.

We thank Professor Yang Fucheng and the senior officials, faculty, and staff of the South West Forestry College, Kunming, Yunnan, who worked with us over a two-year period to make this workshop a reality. Their commitment and efficient arrangements contributed to the organization of an excellent event. We would also like to make a special mention of the contribution made by Lai Quingkui and Dequn Zhou to this forum.

A wide range of institutions from China contributed in several ways to this workshop. We would like to express our appreciation to the the Chinese Academy of Sciences; the Chinese Academy of Forestry; the International Network for Bamboo and Rattan; the National Forestry Bureau of China; the International Cooperation Division of the National Forestry Bureau; the Provincial Government of Yunnan; the Municipality of Kunming; the Forest Bureau of Yunnan; the Foreign Affairs' Office of Yunnan; the Forest Bureau of Kunming; and the Kunming Institute of Botany. We acknowledge their support to the workshop and recognise that without their assistance we would not have been able to host this forum in China.

We would also like to thank ICIMOD's partner organizations in our regional member countries for their support to this important forum and for facilitating the participation of senior forestry professionals. In particular, we would like to thank the Ministry of Forests, Bangladesh; the Ministry of Agriculture, the Royal Government of Bhutan; the Ministry of Environment and Forests, the Government of India; the Ministry of Forests, the Government of the Union of Myanmar; the Ministry of Forest and Soil Conservation, His Majesty's Government of Nepal; and the Ministry of Environment and Forests, Government of Pakistan.

We would also like to thank the regional and national executive committee members of HIFCOM—the Hindu Kush-Himalayan Forum for Forest Conservation and Management—for working closely with us to plan and organize this workshop.

The intellectual contributions from the many authors who worked hard on the case studies have been significant and we would like to express our appreciation for their efforts.

This workshop would not have been possible without financial support from several donor organizations. We would like to thank the Swiss Development Cooperation, Berne, Switzerland, for providing major support to the workshop and to the International Development Research Centre for their contribution to the forum. We would also like to thank the Ford Foundation, Beijing, China, for their grant to the South West Forestry College. The grant enabled the participation of Chinese institutions.

We would like to thank the Ford Foundation, New Delhi, India, for its continuing and generous support to ICIMOD's Participatory Natural Resources' Management Programme under whose aegis this workshop was organized.

Lastly we would like to place on record the contributions made by many ICIMOD staff to this workshop.

Abstract

The Workshop on 'Participatory Forest Management: Implications for Policy and Human Resources' Development in the Hindu Kush-Himalayas' brought together forest management personnel from various parts of the Hindu Kush-Himalayas. The basis of their discussions was the people-centred forest policies that have emerged in many countries of the region and their objectives of supporting and strengthening participatory forest management to ensure that the needs of mountain people receive the priority they deserve. The policies along with their constraints and opportunities were discussed in depth, guided by papers provided by the participants themselves. Volume 1 is the Workshop Document, Volume 2 deals with China, Volume 3 – Eastern Himalayas, Volume 4 – India, Volume 5 – Nepal, and Volume 6 – Pakistan.

Abbreviations and Acronyms

ACF	Assistant Conservator of Forests
AWARE	Association for Welfare and Rural Education
CCF	Chief Conservator of Forests
CDS	Centre for Development Studies
CF	Conservator of Forests
DCF	district community forest
DFFC	Department of Forest Farming and Conservation
DFO	Divisional Forest Officer
DM	District Magistrate
FATA	Federally Administered Tribal Areas (Pakistan)
FD	Forest Department
FPI	Forest *Panchayat* Inspector
FPO	Forest *Panchayat* Officer
FT	foreign trainees
FVTI	Forestry and *Van Panchayat* Training Institute
GIS	global information system
HKH	Hindu Kush-Himalayas
HRD	human resource development
ICFRE	Indian Council of Forestry Research and Education
IDRC	International Development Research Centre
IFA	Indian Forest Act
IFS	Indian Forest Service
IFS	Imperial Forest Service
IGNFA	Indira Gandhi National Forest Academy
J&K	Jammu and Kashmir (India)
JFM	Joint Forest Management
JFPM	Joint Forest Planning and Management
JKI	Jammu and Kashmir Industries Ltd. (Government of J&K)
masl	metres above sea level
MFP	minor forest produce
MOEF	Ministry of Environment and Forests

NGO	non-government organisation
NTFP	non timber forest products
NWFP	North West Frontier Province (Pakistan)
PA	protected area
PCCF	Principal Chief Conservator of Forests
PHE	Public Health Engineering
PRA	participatory rural appraisal
PU	project unit
RLMT	range level micro-planning team
SDM	Sub Divisional Magistrate
SDO	Sub Division Officer
SFD	State Forest Department
SFS	State Forest Service
SRO	Statutory Rules and Orders
TA	travel allowance
UP	Uttar Pradesh (India)
UPAA	UP Academy of Administration
UPFD	Uttar Pradesh Forest Department
VA	voluntary agency
VFC	Village Forest Committee
VFDF	Village Forest Development Fund
VI	village institution

Glossary

Bakerwals	nomadic grazers who rear goats and sheep
Banj	*Quercus leucotricophora*
Berun Line Forests	forests outside demarcated forest areas
Bhabar	the lowermost part of the Himalayas adjoining the *Terai*
Bradari	a section of society, comprising a group of Bradari-Bhaichara people closely linked by various common social interests
Bugyal	high altitude grasslands
Chaprassis	peons (general office helpers)
Chir	*Pinus roxburghii*
Chunow patra	election memo
Desh	country
Gaon sabha	village committee
Girdawar	a field level functionary of the Revenue Department
Hath bandi	boundary
Horticulture	used broadly to mean cash crop farming, such as fruit farming, vegetable farming, floriculture, and mushroom production
Illaqa	a small administrative unit of area
Jaributi	medicinal plants
Karyalay	office
Khalsa Sarkar areas	government land that is not assigned to any particular purpose
Khasara	land record
Kumbadan	equivalent to a forest guard
Moharrir	revenue official working in the *Tehsil* office, who is trained in account keeping and deals with the work of collecting revenue
Nadi	river
Nali	black
Panch	member of a village *panchayat*
Panchakkies	water driven mill

Patta	an agreement by which villagers are permitted to use such things as land and trees for a defined period without transferring ownership rights
Patti	class/community
Patwari	land revenue official
Pradhan	head
Rakha	forest guard
Rasum	revenue in kind
Sal	*Shorea robusta*
Samvat	a calendar system 57 years ahead of the Gregorian Calendar, S 1961 is equal to 1904 AD
Shamlat and *Kahcharai* land	community land
Shilpkar	artisans
Sissoo	*Dalbergia sissoo*
Tehsildar	revenue officer heading a sub-unit of a district
Terai	low lying area at the base of the Himalayas
Uttarakhand	the northernmost part
Van panchayat	community forestry body
Van panchayat nirikshak	forest plan inspector
Village *panchayat*	an elected body of a village or group of villages with 7-9 members
Wazir-i-Wazarat	Chief Administrator of a District under the then Royal Government of J&K
Yojana	plan

Contents

Introduction

The workshop proceedings and the studies and papers presented at the 'Regional Workshop on Participatory Forest Management: Implications for Policy and Human Resources' Development in the Hindu Kush-Himalayas, have been published in six volumes as per the details provided here.

Volume I

- Proceedings of the 'Regional Workshop on Participatory Forest Management: Implications for Policy and Human Resources' Development in the Hindu Kush Himalayas, 7-12 May 1998, Kunming, China.

Volume II
China

- Participatory Forest Management: Implications for Policy and Human Resources' Development in China
  Wen Haizhong, Director, Division of Forestry Law and Regulation Implementation and Monitoring, National Forestry Bureau, China
- Participatory Forest Management: Implications for Policy and Human Resources' Development in Yunnan Province
  Zhou Yuan, Deputy Dean, Department of Economic Management, South West Forestry College, Kunming, Yunnan, China
  Zhou Dequn, Associate Professor, South West Forestry College, Kunming, Yunnan, China
  Zhang Lichang, Director, Division of Forest Law and Regulations, Department of Forestry, Kunming, Yunnan, China
  Zhang Jiaxiang, Deputy Director, Division of Forest Law and Regulations, Department of Forestry, Kunming, Yunnan, China

- Participatory Forest Management: Implications for Policy and Human Resources' Development in the Tibetan Autonomous Region
  Gou Wenhua, Director of the Teaching Division, Tibet's Institute of Agriculture and Animal Husbandry, Lhasa, Tibet
  Zhao Bing, Director, Research Institute of Plateau Ecology, Tibet's Institute of Agriculture and Animal Husbandry Management, Lhasa, Tibet

Volume III
Eastern Himalayas

- Bangladesh
  Participatory Forest Management: Implications for Policy and Human Resources' Development: A Case Study of the Chittagong Hill Tracts
  S. M. Jalil, Chief Conservator of Forests, Department of Forests, Bangladesh
  Junaid K. Choudhury, Conservator of Forests, Department of Forests, Bangladesh

- Bhutan
  Participatory Forest Management: Implications for Policy and Human Resources' Development in Bhutan

Planning and Policy Division of the Ministry of Agriculture, Bhutan

- Myanmar
  Participatory Forest Management: Implications for Policy and Human Resources' Development in Myanmar
  U Myint Sein, Deputy Director, Ministry of Forestry, Government of the Union of Myanmar

VOLUME IV
INDIA

Challenges to the Management of Forests in the Mountain Regions of India
C. P. Oberai, Inspector General of Forests, Ministry of Environment and Forests, and Special Secretary to the Government of India, New Delhi, India

Training Issues in Joint Forest Management in the Hindu Kush-Himalayan States of India
P.B. Gangopadhyay, Director, Indira Gandhi National Forest Academy, Dehradun, Uttar Pradesh, India

Status of Participatory Forest Management: Implications for Policy and Human Resources' Development in Himachal Pradesh, India
A.K. Gulati, Director (Marketing), H.P. State Forest Corporation, Shimla, Himachal Pradesh, India

Participatory Forest Management: Implications for Policy and Human Resources' Development in Jammu and Kashmir, India
P. Patnaik, Principal Chief Conservator of Forests, Jammu and Kashmir Forest Department, Jammu and Kashmir, India
S. Singh, Chief Conservator of Forests (Retired), Jammu and Kashmir, India

Participatory Forest Management: Implications for Policy and Human Resources' Development in the Uttarakhand Himalayas, Uttar Pradesh, India
Mahesh C. Ghildiyal, Principal Chief Conservator of Forests, Nainital, Uttar Pradesh, India
Arup Banerjee, Deputy Director, Forest and Environment, Uttar Pradesh Academy of Administration, Nainital, Uttar Pradesh, India

Volume V
Nepal

- Participatory Forest Management: Implications for Policy and Human Resources' Development in Nepal
  Prakash Mathema, Research Officer, Department of Soil Conservation and Watershed Management, Kathmandu, Nepal
  Krishna Bahadur Shrestha, Deputy Director General, Department of Forests, Kathmandu, Nepal
  Keshav Man Sthapit, Department of Soil Conservation and Watershed Management, Kathmandu, Nepal

Volume VI
Pakistan

- Participatory Forest Management: Implications for Policy and Human Resources' Development in Pakistan
  Rafiq Ahmad, Inspector General of Forests, Ministry of Environment, Local Government and Rural Development, Government of Pakistan, Islamabad, Pakistan

- Institutional Change Process in the North West Frontier Province, Forest Department, Pakistan
  Mohammad Iqbal, Conservator of Forests, Department of Forestry, Fisheries and Wildlife, Government of North West Frontier Province, Peshawar, Pakistan.

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Part 1

Challenges to the Management of Forests in the Mountain Regions of India

C. P. Oberai

1 Introduction

The Himalayan mountain ranges are one of the greatest physical features on earth. They extend across eight Asian countries (Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan) and have an east-west length of 2,500 km and a north-south width of 250-300 km. This huge landmass covers an area of 3.4 million sq. km. and the area has a population of 118 million with population densities varying from 20 (Myanmar) to 126 (Nepal) people per sq. km. The management of this vast tract of land directly affects the population and the stability of the social fibre in the Hindu Kush-Himalayan countries.

The National Forest Policy of India of 1988 stipulates that forest cover should be maintained over two-thirds of the area in hill regions in order to prevent erosion and land degradation and to ensure the stability of the fragile ecosystem. At present, the average forest cover in the hill areas of the country is only 36.8 per cent, far below the intended goal of the Policy. Of the 95 hill districts in the country, only 30 have more than 66 per cent forest cover.

This vast chain of mountain systems with complex topography is endowed with abundant natural resources. Towering snow-clad mountain peaks, mighty glaciers, and voluminous ice-streams feed large river systems, and the area has innumerable species of flora and fauna, as well as a rich human culture and heritage.

Table 1.1: **Area and Population of the Himalayas**

Country	Inclusion	Area (sq. km.)	Approximate Population in Millions	Population Density
Afghanistan	25 of 30 provinces	390,475	13.8	35
Bangladesh	Chittagong Hill Tracts	13,189	1.2	78
Bhutan	Entire territory	46,500	1.4	26
China	All of Xizang and parts of Yunnan and Sichuan provinces	1,647,725	19.6	12
India	8 NE states and parts of 3 northern states	482,920	35.0	73
Myanmar	Cochin, Chin, and Shan states	280,862	5.8	20
Nepal	Entire territory	147,181	18.5	126
Pakistan	NWFP, FATA, 12 districts of Balochistan	404,195	22.7	56
Total		3,413,047	118.0	34

The people of the Himalayan region have a close relationship with the forests, their entire life is interwoven with the forest eco-systems. The famous Chipko ('tree-hugging') movement led by women, which started in the Garhwal Himalayas in the 1970s, heralded an environmental conservation movement not only in India but also the world over. The protection of forests and trees is an integral part of the religious practices of the mountain people. The worship of peepal, neem, and bel trees is testimony to people's link with nature.

The Himalayan forests comprise a vast range of forest types from moist savannah at altitudes of 300m (in the *Terai*) to alpine pastures at altitudes of 6,000m, and they have a unique biodiversity. Table 1.2 shows the major forest types in the various Himalayan states in India.

Issues of development and their related environmental problems have confronted this region on a significant scale in the past. A number of development activities had to be halted as a result of threats to the environment, and this restricted employment opportunities for mountain inhabitants, reduced development, and created many socioeconomic problems. Furthermore, the inherent high costs limited infrastructural development in the hills. As a result of the lack of awareness in these regions, commercial interests were emphasised and unsustainable exploitation of the resources continued. The development of infrastructure, particularly roads, posed further challenges for planners. Lack of research into the specific needs of mountain areas meant that technologies appropriate for other areas were used, compounding the problems many-fold. The dependence on forests for household energy continued unabated, and the lack of diversification in developmental activities and the constraints of a land-based economy restricted development options considerably. The lack of awareness of the role of, and approaches to, gender further complicated the problem of development.

The Himalayan region had an economy primarily based on the primary sector. As a result of constraints related to access and terrain, mountain inhabitants practised subsistence farming and the economic condition of households barely reached subsistence level.

Table 1.2: **The Forests of the Himalayas**

State	Total Watersheds	Important Forest Types
Assam	130	Tropical Wet Evergreen, Montane Wet Temperate, Sub-Tropical Pine
Arunachal Pradesh	83	Sub-Tropical Pine, Sub-Alpine and Alpine, Montane Wet Temperate
Himachal Pradesh	77	Sub-Tropical Pine, Himalayan Dry Temperate, Sub-Alpine, and Alpine
Jammu & Kashmir	203	Himalayan Dry Temperate, Sub-Himalayan Moist Temperate
Manipur	40	Sub-Tropical Moist Deciduous, Montane Wet Temperate
Meghalaya	11	Sub-Tropical Pine, Tropical Wet Evergreen, Montane Wet Temperate
Mizoram	38	Tropical Moist Deciduous, Montane Wet Temperate
Nagaland	9	Tropical Wet Evergreen
Sikkim	8	Sub-Alpine & Alpine, Montane Wet Temperate
Tripura	1	Tropical Moist Deciduous
Uttar Pradesh	41	Sub-Alpine & Alpine Himalayan Moist Temperate, Sub-Tropical Pine, Tropical Dry Deciduous, Tropical Moist Deciduous
West Bengal	3	Montane Wet Temperate

Table 1.3: **Area, Population and Forest Cover of the Indian Himalayan States**

State	Geographic Area of Hill Districts	Population (in millions)	Population Density	Forest cover in Hill Districts	Forest Cover (%)
Arunachal Pradesh	83,743	0.86	10	68,602	81.9
Assam	15,222	0.46	30		
Himachal Pradesh	55,673	5.11	92	12,521	22.5
Jammu & Kashmir	222,235	7.72	35	20,440	9.2
Karnataka	40588			23,040	56.8
Kerala	31,745			9,366	29.5
Maharashtra	62,757			9,970	15.9
Manipur	22,327	1.83	82	179418	78.0
Meghalaya	22,429	1.76	79	15,657	69.8
Mizoram	21,081	0.69	33	18,775	89.1
Nagaland	16,579	1.22	73	14,221	5.8
Sikkim	7,096	0.40	57	3,129	44.1
Tamil Nadu	24,326			5,483	22.5
Tripura	10,486	2.74	262	5,546	52.9
Uttar Pradesh	51,125	5.87	115	22,658	44.3
West Bengal	3,149			1,455	46.2
Total	675,339			248,281	36.8

Many men migrated to the neighbouring plain areas in search of employment to augment household income. This imposed a further heavy burden on women. In 1993, the Indian Council of Forestry Research and Education (ICFRE), assisted by the International Development Research Centre (IDRC), started a project on eco-rehabilitation in the Himalayas, in an attempt to overcome the socioeconomic limitations of the region and work towards sustainable development. The main objectives of the project are the restoration and development of degraded lands with the participation of local communities, and using field-tested, economically sound, environmentally adaptable, and socially viable technologies for the all-round development of land-based resources. The project has been in operation for three years and is dealing with a number of important and highly relevant issues. The major focus is on assessment of the extent of degradation using GIS techniques, reviewing policies related to the extent and type of land use and related issues in participating countries, and the preparation of socioeconomic profiles of study sites. Socioeconomically viable and tested technology packages are being used for rehabilitation of areas affected by mining. The project is mainly working at sites in the northeastern states and western Himalayan region of India. Local communities have shown considerable interest in the outcome of this technology transfer, and the methodology is being followed successfully in other places. The main activities are as follow.

- Assessment and quantification of damage resulting from shifting cultivation, mining, and other commonly practised systems of land use, using GIS techniques
- Identification and testing of appropriate interventions to contain shifting cultivation
- Rehabilitation of areas affected by mining
- Baseline and socioeconomic impact studies
- Review of national and regional land-use policy with particular reference to the rehabilitation of the Himalayas
- Assessment of the impact of devolution of authority from the state to local community levels using case studies and rapid rural appraisal methods
- Identifying the comparative advantage of different organisational structures using comparative advantage analysis techniques

- Developing policy guidelines on appropriate institutional mechanisms through group discussions using PRA techniques and institutional analysis methods

2 Participatory Forest Management

Throughout India, as a matter of policy, the government is emphasising involving local people in the management of forest resources through the Joint Forest Management (JFM) programme. The Himalayan forests are no exception to this.

The extent to which JFM is being implemented varies from state to state and even within states. Success appears to have been somewhat sporadic. There has been no comprehensive evaluation of the JFM programme, and much of the information describing success is based on reports prepared by the implementing bodies themselves or their network organisations. It is clear that JFM has not been implemented in many of the areas where it could (or should) have been, notwithstanding nation-wide publicity that sometimes indicates the opposite. Some of the issues requiring attention are summarised below.

- **Lack of legal support** – The concept of JFM has not been incorporated into any Forest Act. This hinders the adoption, formalisation, and integration of JFM into the normal operations and working procedures of Forest Departments.
- **Adoption of JFM Rules** – So far, 17 States have adopted the JFM Policy following the 1st June, 1990, circular by the Government of India. However, to give practical shape to this, a set of rules needs to be prepared and approved specifying such things as exact rights and concessions and benefit-sharing arrangements.
- **Inconsistent commitment**–In many areas, the move towards JFM has not been consistent over time. Establishing a new institutional system, such as that required for JFM, calls for patient and dedicated persuasion over a long period. For various reasons, efforts have slowed down in the formative stages greatly retarding the process.
- **Frequent transfers**–JFM is a partnership between the communities and the state, and transfer of forest officers, particularly those who have a day-to-day link with the forest communities, results in a sudden breakdown of this relationship. The new incumbent needs time to rebuild the relationship, and this results in a crucial loss of time.
- **Location-specific constraints**–There are various location specific constraints that need to be analysed and addressed at the local level.
- **Concept of resource management**–It is most important that the JFM programme is perceived and understood properly by different groups at the grass roots' level, but the concept of resource management for sustainability is not fully appreciated by the different participating agencies.
- **JFM cell**–No 'JFM cell' has been set up to support and monitor the developments in India as a whole, and there is no overall information available that could be used when developing future strategies and programmes.
- **Commitment**–Both political will, and commitment and motivation by forest officers at all levels, are essential for the success of JFM activities. Appropriate human resource development is needed.

- **Gender issues**–Especially in hill areas, gender issues must be addressed to ensure the success of the programme.
- **Forest working plan**–The forest working plans must have an overlapping JFM working circle to incorporate the micro-plans prepared by the JFM committees.

The stability and livelihood of forest dwelling and forest dependent communities is of considerable concern for the stability of the Himalayan ecosystem. All developmental and other interested agencies should cooperate to ensure this stability. The relationship between the forest management and the stability of forest dependent communities is complex. Provision of employment is not enough, communities need assured tenure and a vested interest in sustainable production. It is in this context that changes in the way JFM is being implemented need to be considered.

2.1 The Role of Forests in Livelihood, and JFM, in Jammu and Kashmir

Forests play an important role in increasing the productivity of agricultural land by creating humus. The forest soils are very rich and fertile. Village communities apply top soil and leaf litter to their fields. These natural fertilisers are rich in all nutrients and improve the texture of soil, thereby improving the water holding capacity, and their use increases agricultural yield.

Forests increase the rate of infiltration of precipitation and lower runoff, thereby protecting agricultural fields from increased erosion. They serve as shelterbelts and wind-breaks and also protect agricultural crops from extremes of temperature. Forests serve as water banks and regulate the water in springs and streams. In one sense, Himalayan people sacrifice much to keep the catchments of major rivers intact for the benefit of people in the plains.

In earlier times, the Shivalik belt from Ravi to Rajouri was covered with deciduous forest, there was a perennial flow of water in the *nallahas*, and there were a large number of springs scattered all over the Shivalik forests. The forests were full of wildlife. The forest communities, nomadic grazers, and wildlife lived in harmony.

With the increase in population of both humans and livestock, encroachment increased, the forests were degraded, and the perennial streams became dry and seasonal. About 30 years ago, tubewells were dug to supply drinking water to people in these areas. Now the water table has dropped and the department concerned is facing difficulty in supplying drinking water. Shortage of fodder for the local community and nomadic grazers has also caused serious problems.

2.1.1 Status of Community Institutions

There are two types of community institution: formal institutions, including Village *Panchayats* and Village Committees, and informal institutions like the *'Bradari', 'Bradari-Bhi-Charra', and 'Panch'*.

Formal Institutions

The Jammu and Kashmir Government Order on Joint Forest Management came into force on 19 March 1992. This order defines two types of forest committee: the Village (Rehabilitation of Degraded Forests) Committee; and the Village Plantation (Protection and Management) Committee.

- The Village (Rehabilitation of Degraded Forests) Committee has the following functions:

- to assist the Social Forestry Department/ Forest Department in protecting the Social Forestry/Forest Department plantations through the members of the committee;
- to inform forest personnel of any person or persons attempting to trespass or causing wilful damage to the Social Forestry/Forest Department plantations or committing theft therein;
- to assist the Social Forestry/Forest Department in preventing trespass, encroachment, grazing, theft, or damage;
- to assist the Social Forestry/Forest Department in the smooth and timely execution of all plantation work in degraded forests;

- to assist the Social Forestry/Forest Department officials concerned in the selection and hire of labourers required for plantation work;
- to assist in harvesting of the plantations by the Social Forestry/Forest Department;
- to assist the Social Forestry/Forest Department officials concerned in the distribution of usufruct among the members of the committee as per the register of members;
- to assist in preventing any activity at the plantation site in contravention of the provisions of the J&K Forest Act, Svt. (1930 Ad) 1987, and the rules made thereunder;
- to report to the Range Officer concerned any activities by a member that are prejudicial and detrimental to the interests of the plantations and that may warrant cancellation of membership;
- to help forest officials take action or proceed under the J&K Forest Act and the rules made thereunder, against the persons involved in forest offences in degraded forests; and
- in consultation with Social Forestry/Forest Department officials, to evolve procedures to be adopted by committee members for collecting produce such as fodder grass and dry and fallen wood from the plantation in a manner that ensures sustainable yields of such produce from the area.

• The Village Plantation (Protection and Management) Committee will:

- enter into an agreement in terms of resolutions arrived at and sanctioned by the authority, that is, Divisional Forests' Officer, Social Forestry wing of the area
- enforce the rules framed for the protection of the area and the regulation of concessions, benefits, and grazing rules as sanctioned in the file; and
- in case of an act, concession, or benefits not specifically provided in the rules as sanctioned in the file, enforce rules formed under the J&K Forest Act, Samvat 1987 (1930 AD).

The Functioning of the Committees

There are now more than one thousand communities implementing JFM. Protection is largely effective in all the areas under community management even in those where there are disputes.

The Social Forestry Department appoints and pays for a forest guard to protect the closure. Being answerable to the Social Forestry Project official, the forest guard tends to function as an employee of the department, even though he is appointed on the recommendation of the Village Forest Committee.

The efforts of the Forest Guard are invariably supplemented by the village community protecting their closures from the village herd belonging to the *bakarwals* (the nomadic tribes practising transhumance). The presence of a uniformed guard acts as a strong deterrent to the nomadic herds.

2.2 JFM Guidelines in Uttar Pradesh

The new guidelines reiterate the resolution of the Indian Government to seek people's participation in the management of forests and in preparing micro-plans for afforestation of degraded areas and other development activities. The guidelines stipulate that forest produce resulting from lopping and other silvicultural operations, fodder, and minor forest produce will be made available to villagers residing near the forest in accordance with certain standards and rules.

2.2.1 New Guidelines for JFM

The new guidelines include the following.

- In the first phase only those forest areas should be selected where people live close by and are already collecting fuelwood, fodder, small timber, and minor forest products.
- Priority should be given to degraded forest lands adjoining villages, where encroachment and forest protection have become a serious problem.

- Selected areas should act as a buffer between Reserved/Protected Forests, National Parks, or Wildlife Sanctuaries and village common lands.
- Vacant portions of village common lands (or community lands), which are suitable for plantation or which have already been planted, should be put under JFM.
- Plantations along roads, railway lines, and canals should be included.
- If villages are located close to large areas of forest (whether reserved or protected), only the peripheral forests are to be brought under JFM, with the explicit understanding that the villagers assume responsibility for protecting the core forest.
- A three-tiered JFM committee should be constituted for the area: (a) the village-level forest committee (VFC), (b) division/district-level steering committee, and (c) state-level steering committee.
- The new guidelines stipulate that the Forest Department (FD) officers should keep in touch with the villagers with frequent but informal consultations and discussions on JFM including such topics as its objectives, proposed benefit-sharing, planning for plantation, and choice of species. The village-level committee, comprising all beneficiary families, should only be formed after adequate publicity for JFM.
- The president of the village-level executive committee will be allowed a two-year tenure and only two consecutive terms. The member of the *gram sabha* (village committee) who is dealing with community forests will be the secretary of the village-level executive committee.
- The committee shall have a minimum of 6 and a maximum of 15 elected members, the number depending on the number of families in the village. To be elected to the VFC, members must secure two-thirds of the votes of the villagers present at the meeting.
- Whenever village community lands are transferred to the FD for plantation, an agreement (formal document) to that effect must be signed between the Range Officer and the president of the committee.
- Micro-planning, covering such items as forest production and protection, and benefit sharing are to be done under the technical guidance of the FD. Administrative and financial matters are to be decided in consultation with the state-level steering committee and the district/division-level committee.
- The VFC shall be funded by various development schemes sponsored by the central or state government and aim to provide steady employment to at least two persons per family.
- The VFC shall decide the norms of entitlements to benefit sharing. All those enlisting as members before the first meeting of the general body shall be entitled to receive benefits immediately; those becoming members afterwards shall receive benefits like forest produce, fodder, and fuelwood after two years, and of cut wood after five years. After meeting people's requirements, the balance of forest produce is to be sold. Twenty-five per cent of the proceeds go to VFC funds, 25 per cent is distributed among the members who contributed labour, and the remaining 50 per cent goes to revenue, the FD, or the *van panchayat* as appropriate, for use in forest development.

The new guidelines make the following provisions for the participation of NGOs in JFM.

- NGOs may organise meetings, seminars, and training programmes to discuss forest production, management, and development.
- NGOs may cooperate (with the FD) in organising villagers for JFM.
- NGOs may be represented in the VFC or in the divisional or state-level steering committees.
- NGOs may provide training and guidance on JFM, alternative energy sources, and development issues.
- NGOs may act as links between the FD, universities, and other institutions.

The new guidelines stipulate that NGOs participating in the JFM in cooperation with the

VFC and the FD shall not be entitled to any financial benefits or to any share of forest produce. Furthermore, NGOs are expected to make a full report on the activities or working of the VFC to the higher level committees.

In the hills of UP, forest degradation and deforestation is closely linked with the socioeconomic situation of the local population who have been co-existing with the forest from time immemorial. In the absence of any viable alternatives for grazing and fuelwood, the rural population will continue to depend upon forest resources for their living. The problem is acute in the Himalayan region where 67 per cent of the total area is administered by the FD. The FD must play a key role in involving the local population in protection, propagation, processing, marketing, establishment of cottage industries based on non-timber forest products, and growing of fodder grass on wastelands. A shrub stratum needs to be created before planting trees when degraded areas are rehabilitated.

One strategy to aid the conservation of threatened plant species could be to raise precious and medicinal shrubs and herbs in an ethnobotanical herbarium and to create a museum of plants. However, the most important method would be to preserve and multiply plants in botanical gardens, nurseries, and through large-scale cultivation of commercially important species. It is essential to establish research cum demonstration centres in different agroclimatic zones in order to involve the local population. The centres should make 'packages' available for commercially important species through expert guidance comprising cultivation techniques, processing methods, and marketing details. Each centre should have demonstration cultivation nurseries and processing units to provide demonstrations of the different technical aspects involved in the processing of medicinal plants. These activities should form a part of JFM in all hill areas.

2.3 JFM in Himachal Pradesh

The Himachal Pradesh externally aided forestry project that has been implemented since 1997 has a Joint Forest Planning and Management (JFPM) component in degraded forest areas. The village forest protection committees share responsibility for managing the forest lands. Greater attention is given to the non-forestry needs of people. The focus is on client-focused forestry management, integrated planning, and the development of strong self-sustaining local groups. The primary stakeholders are the local forest users.

The state is implementing an integrated watershed development project in the Kandi area whose aim is the holistic development of all the resources for the benefit of people whilst ensuring the sustainability of the resource base. This type of programme not only ensures conservation of flora and fauna in catchment areas, it also provides stability for agriculture, horticulture, animal husbandry, and local cottage industries, and thus helps in all-round economic development. Such an approach to mountain development can bring about a change in the life of people and ensure ecological stability.

2.4 JFM in Tripura

Tripura is the only state in the north-east where the JFM programme was taken up quite early, in 1992. More than 50 per cent of the area of the state is classed as reserved or protected forest. The State Resolution provides a maximum share of 50 per cent of the final harvest and all the intermediate yield for rehabilitating degraded forests. The programme was launched in a big way in North Tripura in 1993, about 38,000 ha of forest land was brought under JFM. The local people depend heavily on the forests and take bamboo and other minor forest products freely both for their own needs and for sale.

In other parts of the north-east, there are a large number of forests under the control of tribal bodies. These areas must be managed with the help of local people to increase productivity and socioeconomic benefits.

There is an urgent need to evolve an integrated mountain development strategy based on watershed development to ensure uniformity in

planning and execution of projects in the Himalayas. This should be done both at the national level and at the international level. The experience gained by the countries of the region in mountain development should be shared. The main bottleneck in development relates to inadequate funding. This problem should be dealt with immediately so that people do not exploit the forests in an unsustainable manner as a result of poverty and unemployment, even when they are aware of environmental threats. There is precious biodiversity in the hills, and this should be conserved and developed through special programmes by involving local people and making them aware of the importance of different plants. The thrust of educational schemes should be on developing the vocational skills of local people to help them become self-employed.

Part 2

Training Issues in Joint Forest Management in the Hindu Kush-Himalayan States of India

P. B. Gangopadhyay

1 Background

The enormous population pressure has posed new challenges to the existence of the fragile ecosystems of the Hindu Kush-Himalayan (HKH) region. This difficult terrain, with its specialised niches supporting a distinct and rich biodiversity, is inhabited by more humans and cattle than it can support. The region is vital for India's geography and demography, as it is the place of origin of the rivers Ganges, Yamuna, Jhelum, Chenab, and Brahmaputra in the north that flow through the states of Jammu and Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim, West Bengal, Meghalaya, Assam, Anrunachal Pradesh, Nagaland, Manipur, Mizoram, and Tripura and provide water to basins supporting two-thirds of India's population.

The inhabitants of the mountains generally live far from the more developed plains, and the hardships of survival pose many challenging questions. The unregulated overexploitation of some species, primitive practices of farming, and unregulated extraction of forest resources are posing severe threats to the survival of the region's vital ecosystems. The livelihood of people in these states is highly dependent on the forests. Although most of the states have satisfactory forest cover, foresters have to evolve strategies to sustain the potential of these areas; and a host of social problems like out-migration and alcohol consumption are proving to be disabling factors that loom large in the future of upland societies.

For the reasons outlined above, forest managers have decided to assign a special priority to, and involve people actively in, the management of forest resources. At present, a Joint Forest Management (JFM) approach has been notified

Table 1.1: **Land and Forest Cover of Indian States in the HKH**

State	Geographical Area (sq. km.)	Forest Cover (sq. km.)	Forest Cover as % of Total Land
J&K	222,235	20,440	9.1
Himachal Pradesh	55,673	12,521	63.6
Uttar Pradesh	294,411	33,994	17.5
Sikkim	7,096	3,129	37.3
West Bengal	88,752	8,349	13.4
Meghalaya	22,429	15,657	42.3
Assam	78,438	23,824	39.2
Arunachal Pradesh	83,743	68,602	61.5
Nagaland	16,579	14,221	52
Manipur	22,327	17,418	67.9
Mizoram	21,081	18,775	75.6
Tripura	10,486	5,546	60

Source: State of Forest Report 1997, Forest Survey of India

by eight of the twelve states in the HKH region (Tables 1.1 and 1.2). The aim is to offer a sustainable approach to managing the resources. In the past, in some states, the local inhabitants have exhibited concern and care for management, thus these resolutions are set in an enabling environment. Even so, human resource development will be one of the most important activities in triggering the success of the JFM process.

Table 1.2: The Trained IFS Cadre in the Indian States of the HKH

State	IFS Cadre	SFS Inducted in the IFS	JFM-GO	Year
J&K	100	4	Issued	1992
Himachal Pradesh	107	4	Issued	1993
Utter Pradesh	283	5	Issued	1995
Sikkim	34	1	Not Issued	
West Bengal	97		Issued	1989
Meghalaya	27		Not Issued	
Aassam	91		Issued	1997
Arunachal Pradesh	34	1	Issued	1997
Nagaland	33	1	Issued	1997
Manipur	44	4	Not Issued	
Mizoram	19	4	Not Issued	
Tripura	44	2	Issued	1991

2 Training the Stakeholders

The process of JFM involves three major stakeholders: the state forest departments (SFDs), voluntary agencies (VAs), and the village-level institutions (VIs) instrumental in implementing and steering the programme. Capacity building of these stakeholders is important if JFM is to be balanced between activities and objectives.

Within the SFDs, a package is being developed to impart training at different levels to prepare a cadre of foresters able to implement sound forest management through JFM. The Indira Gandhi National Forest Academy (IGNFA) at Dehradun imparts professional forestry training to the Indian Forest Service (IFS) officers. The IFS officers hold key positions in managing the forest wealth in the country. The major policy decisions and execution of planned development of forest areas come from IFS officers, from the level of Principal Chief Conservator of Forests at the state level, to Deputy Conservator of Forests at the district level. At the Academy, the curriculum topics related to JFM helps this cadre refine and strengthen their skills and knowledge so that they can facilitate a meaningful outcome from the relevant policies. The number of IFS officers in the HKH states is shown in Table 1.2, together with the number of State Forest Services (SFS).

The induction training given to IFS officers recruited by the Government of India consists of 32 subjects, of which 11 focus on the spirit of JFM (Table 2.1).

Different components of JFM are highlighted in the course on People and Forests. There are 15 modules in this course (Table 2.2), highlighting the importance of acquiring relevant knowledge and developing the skill of IFS officers.

Table 2.1: **List of Course Modules Related to JFM in the Professional Training Course**

Phase	Papers
Induction Phase	▪ Forest Ecology ▪ Overview of Forestry: National and Global
Professional Phase	▪ Soil Conservation and Land Management ▪ Silvicultural Systems ▪ Non-wood Forest Products, Bio-diversity Conservation, and Wildlife Management ▪ Forest Administration ▪ Forest Protection.
Advanced Phase	▪ Environmental Conservation ▪ People and Forests ▪ Working (Management) Plans

Table 2.2: **Modules in the People and Forests Course During Professional Training**
Module
Forest People, Symbiotic Linkages
Social Forestry Programmes
People's Participation in Forestry
Forest Management Strategy
Micro-planning
Participatory Rural Appraisal
Forestry Extension
Management of Local Community Action
Communication Skills
Role of NGOs in JFM
Gender Interpretations
Forest Dwellers
Forests, Management, and Rural Development
Behavioural Dimension in People-Centred FM
Silvicultural Interventions in JFM

Besides this, in-service courses are also organised at the Academy as is a ten-week training programme for SFS officers inducted in the IFS. The latter has seven modules addressing the need for JFM and of developing the necessary attitudes (Table 2.3).

The other category of in-service training is the compulsory training course set designed for vertical integration of IFS officers (from Deputy Conservator of Forests to Chief Conservator of Forests). These are sponsored by the Ministry of Environment and Forests (MOEF) and also address a number of issues related to JFM. The courses are shown in Table 2.4 and reflect the high recognition and priority given by the MOEF to imparting training on issues related to JFM. One of these courses, People's Participation in Forestry, is organised over a two-week period and has a very rich input (Table 2.5).

Table 2.3: **JFM Topics in the Induction Training Programme**
Contents
Overview of Forestry
Forest Ecology
Forestry, and Sustainable Rural Development
Joint Forest Management
Bio-diversity and Environmental Conservation
Forest Policy and Law
Wildlife Management
General Management

In order to involve VAs and NGOs in JFM, it is essential to train them on the general silviculture prevailing in a specific area, the code and contents of working plans, and wildlife and biodiversity conservation. A suitable package may be designed for them and appropriate institutions requested to organise such training for these groups. This knowledge can help them understand the scientific approach to management, and a common understanding and appreciation of JFM may steer the process smoothly amongst the stakeholders. The role of this group as a catalyst can be made more effective by such interventions.

Table 2.4: **List of Compulsory Courses Related to JFM Sponsored by the MOEF**
Courses
Socio Anthropological Dimension in Forestry
Wildlife Management
Project Appraisal and Analysis
Forestry Development & Rural Economy
Forestry Extension
Management of Change
Policy & Legal Issues in Forestry
Public Relation & Use of Media
Forest Tribal Interface
Land Use Planning and Management
Financial Management for Forest Managers
Joint Forest Management
Human Resource Development
People's Participation in Forestry
Environmental Education and Awareness
Watershed Management & Afforestation

Table 2.5: **Topics in the Course 'People's Participation in Forestry'**
Brainstorming and Expectations
Forest Management and People
History and Background of JFM in India
First Generation Issues of JFM in India: Attitudinal Building
Practical Experiences in JFM
Stakeholders in JFM : The Case of Protected Areas
Harmonisation in Working Plans
Gender Analysis in Forestry
Legal Framework for JFM
Converging Official Efforts in JFM
Stakeholders in JFM
Visit to Success Story of People's Participation: WMD
Biodiversity, Conservation: General Agreement on Tariffs and Trade (GATT IPRs)
Trends in JFM in India
Revisiting the Training Needs of the IFS
Attitudinal Changes in Forest Departments for Implementing JFM
Participatory Rural Appraisal (PRA) as Means: Tools and Techniques
International Cooperation and Multinational Flows in the Forestry Sector
Policy Issues in JFM: Open Forum for Views
Course Evaluation. Revisiting Hopes and Fears
Biodiversity in the Context of National Parks

3 Institutionalisation

It is essential to train IFS staff to undertake a site-specific approach to JFM, as there is no single formula in the process that can be prescribed for the whole country. It is evident from the examination of the Government Orders on JFM from twenty states that the approaches vary in economic priority, the sharing of usufructs, composing specific plans of operation, and defining the varying limits of gender and equity. Similarly, any approach must take into account the different biomass potential in an area, the land classification, the socioeconomic status of fringe communities, and the treatment to be applied. Under such conditions, it is desirable to develop attitudes of commitment to the various options and to refining the approach. This is one reason that the IFS probationers are offered a unique opportunity to analyse different JFM models during their professional training when they visit different places in seven-month long tours. They have opportunities for discussion and critical assessment of the issues. The job of preparing the training modules that address the finesse of the process appropriately may fit in very well with the role of the Academy. An attempt is made to draw attention to innovative strategies in JFM through a combination of close-knit training modules and visits to sites.

4 Human Resources' Management and Training for Staff Involved in Forest Resources' Management in Yunnan

The strategy for developing concrete curricula that address emerging issues in the process of JFM is currently under development at the Academy. The Academy is in an advantageous position for developing such training packages as it remains closely in touch with the latest issues as a result of the following.

- The sandwich pattern of training for IFS Probationers offers the ideal opportunity to transfer the latest knowledge from different states to the Academy during the Advanced Phase.
- The study tours offer rich opportunities for visiting faculty and probationers to update their knowledge and awareness of the latest events in the field in different states.

These enabling factors place the Academy in an ideal position to develop an overview of events on a national basis. The integration of information at the Academy serves to enrich the profile of the ongoing process. During the recent meeting of the National Support Group for JFM at Jaipur (April 1998) it was suggested that the Indira Gandhi National Forest Academy (IGNFA) should also take up the task of formulating modules for imparting training in JFM to people below the rank of IFS. It is equally important that knowledge about the JFM process be shared with voluntary agencies (VAs) and village institutions (VIs) as they are the key stakeholders in the process. Appropriate curricula should be compiled for these stakeholders. The actual task of training IFS officers, VAs, and VIs can be taken up by the Academy and/or other institutions as appropriate.

The erstwhile Indian Forest College was renamed the Indira Gandhi National Forest Academy in 1987, giving it a national status. The history of this institution dates back to 1938, and it is one of the largest training centres for front line forest managers in South Asia. This institution has trained forest officers from most of the HKH countries in the past as foreign trainees (FT). Table 4.1 lists the number of FTs trained from different countries.

In view of its national character, the Academy is also in a position to organise training modules for front line forest managers from other HKH partner countries. With the additional infrastructural demand in the Ninth Five-Year Plan, IGNFA is looking forward to assuming the complete role of a Staff College. Its enabling

Table 4.1: Number of Foreign Trainees from the Hindu Kush Himalayan States

Name of Country	Trainees
Afghanistan	6
Pakistan	--
Nepal	218
Bhutan	27
Myanmar (Burma)	--
Bangladesh	1

environment will match the training needs of the HKH region, and the curricula developed for VAs and VIs may be used by partner countries. The ecological and environmental similarity in the HKH region across the international borders offers many opportunities for strategic planning, although the social diversity must also be considered. The Academy can cater to the need for capacity building in the forestry sector and for revamping forest management approaches to fit the new context.

Part 3

Status of Participatory Forest Management: Implications for Policy and Human Resources' Development in Himachal Pradesh, India

A. K. Gulati

1 Background to Himachal Pradesh

The word *Himachal* is derived from two Hindi words: "*him*" meaning "snow" and "*achal*" meaning "lap." Thus etymologically Himachal Pradesh is the region that lies in the foothills of the snowy area, or Himalayas.

Himachal Pradesh's 12 districts cover 55,673 sq.km., approximately 1.7 per cent of the total land area of India and around ten per cent of the total area of the Himalayas. The state of Himachal Pradesh extends from the perpetual snow-covered mountains, which separate it from China in the north, to the plains of Punjab and Haryana in the south and west. It is situated between 30°22' and 33°12' N and 75°6' and 79°4'E. The elevation varies from 350 masl in the foothills to 6975 masl in the high hills. There are many fertile valleys in the foothills, such as Kangra, Paonta, and Nalagarh, as well as important valleys like Kullu, Balh, and Karsog in the higher areas.

1.1 The Land

1.1.1 Climate

The lie of the mountains and the altitude has a profound impact on climate. There are four main climatic zones: the alpine, mountain temperate, sub-tropical, and moist tropical zones. The alpine zone lies above 3,500 masl. The annual precipitation is less than 250 mm and occurs mostly as snow. The mountain temperate zone lies between 2,000 and 3,500 masl and has an annual precipitation of 250 to 1,000 mm. The sub-tropical zone lies between 800 and 2,000 masl. In this zone the annual precipitation varies considerably with topography, with 15 per cent falling as snow and 75 per cent during the monsoon. The moist tropical zone lies between 350 and 800 masl and receives more than 1,000 mm rainfall during the monsoon.

This part of the Western Himalayas receives south-west monsoons. The level of rainfall differs from place to place depending on the location and direction of the hill slopes. There are wide variations between the rainfall in the dry zone belt and in places like Dharamshala. Rain shadow areas beyond the Pir Panjal ranges of Lahaul and Spiti, Pangi, and Kinnaur, receive less than 500 mm rain annually. In contrast, Dharamshala received nearly 2,500 mm of rain in 1988, the second wettest place in India. Precipitation in the dry zone is mostly in winter as snow, and only light showers occur in the rainy season. In the moist zone, 70 per cent of the total annual precipitation falls during the pre-monsoon and monsoon months (April-June and July to September) and the remainder in winter, mostly in the form of snow.

Approximately 5,000 sq. km. of the state lies above 4,500 masl and is under perpetual snow cover. The snowfall in the higher reaches of the inner Himalayas starts towards the end of August and early September and continues to March, with the bulk falling in January and February. The annual snowfall in this area is very heavy, ranging from 2.44 to 4.57 m. Snow falls from December to March at elevations of 3,000-4,500 masl, with an average annual snowfall of about 3m, and from December to February at

elevations between 1,500 and 3,000 masl, with an average annual snowfall of 0.3 to 1.22m. Although it snows down to an elevation of about 1,500 masl, the snow rarely lasts long below 2,500 masl.

The highest monthly maximum temperatures are experienced in June, and the lowest monthly minimum temperatures in January. The range of temperature is great, varying from sub zero levels in the north, to 40°C in the south during summer. The temperatures in the north drop rapidly from October on after the monsoon.

1.1.2 Agro-Climatic Zones

The state can be divided into four agro-climatic zones, corresponding to the four-physiographic zones, on the basis of agro-climatic conditions. The agro-climatic zones and their characteristics are described in Table 1.1.

1.1.3 Geology and Soil

The main hill and mountain ranges in the state are the Siwaliks, Dhauladhars, Pir Panjals, great Himalayas, and the Zanskar. In all these hill ranges, the relief increases from west to east and south to north. The outer range lies in the Kangra, Una, Bilaspur, Hamirpur, Solan, and Nahan districts and comprises the Siwalik hills, which run from northwest to south with small peaks and gentle slopes and elevations up to 1,250 masl. The Siwalik hills gradually merge into the lesser or middle Himalayas, with rugged peaks from 1,800 to 3,000 masl. This is the main coniferous forest belt. The inner and great Himalayan ranges start beyond these. This area contains predominantly coniferous forests, often inaccessible, and a large tract above the tree line part of which is cold desert and part of which is under permanent snow cover.

Based on geological formations, Himachal Pradesh can broadly be divided into three main zones, the Northern Zone, the Central Zone, and the Outer Zone.

The Northern Zone (covering parts of Kinnaur, Chamba, and Kangra districts) is mainly composed of continuous, highly fossiliferous, marine sedimentary rocks such as quartzite, sandstone, shale, and limestone, ranging in age from earliest Palaeozoic to Eocene. Other rock types include granite, slates, quartzite, schists, and limestone.

The Central Zone (covering parts of Shimla, Bilaspur, Mandi, Kullu, Kangra, Chamba, and Sirmour districts) comprises the lesser Himalayas and a portion of the great Himalayas. The rock types here are mostly crystalline and metamorphic: granites, gneisses, schists, and phyllites with non-fossiliferous sedimentary deposits.

The Outer Zone (covering parts of Kangra, Bilaspur, Chamba, Mandi, Solan, Sirmour, Una, and Hamirpur districts) corresponds to the Siwalik range and is composed almost entirely of tertiary and recent river deposits. The rock types include sandstone, conglomerates, shales, clay, siltstone, and limestone. The low lying areas of this zone contain alluvial fans, river terraces, and gravel beds and are mainly composed of loose boulders and pebbles of different size mixed with sand, silt, and clay.

There is a considerable variation in soil type across the state, to a great extent dependent on elevation, which is reflected in the vegetative

Table 1.1: **Agroclimatic Zones**

Zone	Rainfall (mm)	Range (masl)	% of Area	Main Features
Shiwalik Hill Zone	1500	Up to 800	35	33% of cultivated area in the state
Mid Hill Zone	1800	800 to 1600	32	53% of cultivated area
Dry Hill Zone	1000-1500	1600 to 2700	25	11% of cultivated area
Cold Dry Zone	<200	Above 2700	8	3% of cultivated area

patterns. Five main 'soil zones' can be recognised.

- **The Low Hill Soil Zone** – This comprises areas up to 1,000 masl in Paonta Valley and the Nahan *tehsil* of Sirmour district, the Kunihar area of Solan district, and the lower Bhattiyat of Chamba District. The soils are not very deep and are embedded with stones. These areas are suitable for the cultivation of wheat, maize, sugarcane, ginger, paddy, and citrus fruits.
- **The Mid Hill Soil Zone** – This zone comprises areas between 1,000 and 1,500 masl in the lower parts of the Pachhad and Renuka *tehsils* of Sirmour district, the Arki and Solan *tehsils* of Solan district, the Jogindernagar area of Mandi district, the Kangra and Palampur *tehsils* of Kangra district, and the Dalhousie, Chamba *tehsil*, upper Bhattiyat, and lower Churah of Chamba district. The soils are greyish-brown, loam to clay, with a loam texture, and well-drained. These areas are suitable for growing potatoes, maize, and stone-fruits.
- **The High Hill Soil Zone** – This zone comprises areas 1,500 to 3,000 masl in the upper parts of the Pacchad and Renuka *tehsils* in Sirmour district, the upper Shimla hills, the upper parts of the Kangra and Palampur *tehsils* of Kangra district, and the upper Churah of Chamba district. The soils lie on steep slopes with good drainage, they are quite deep and there are no soil layers. The soil texture ranges from silt loam to clay loam and dark brown loam. This soil is good for seed potatoes and temperate fruits.
- **The Mountainous Soil Zone** – This zone comprises areas between 3,000 and 3,500 masl in Shimla district and the higher parts of Sirmour and Chamba districts. The soils are shallower than in the high hills, and the texture ranges from silt loam to dark brown loam. These soils are not of much agricultural use.
- **The Dry Hill Zone** – This zone comprises the district of Kinnaur and the Pangi sub-*tehsil* of Chamba district.

1.1.4 The Fauna

Himachal Pradesh is bountifully endowed with many varieties of fauna. The important fauna can be classified broadly as inhabitants of the zones above 2,300 masl (the alpine pastures close to the snowline) and below 2,300 masl.

The important game birds and animals found in these two zones are as follow.

- Animals
  Above 2,300 masl: the Tibetan nian, blue sheep, ibex, thar, serow, musk deer, brown and black bear, snow leopard, Himalayan civets, Himalayan weasels, snow fox, and leopard
  Below 2,300 masl: the ghoral, barking deer, sambhar, spotted deer, panther, black bear, common fox, Himalayan palm martin, and nilgai
- Game Birds
  Above 2,300 masl: the snow cock, tragopan, monal, *plash* or *koklash*, snow pigeons, and partridges
  Below 2,300 masl: the *chakor*, *khalij* pheasant, *chir* pheasant, red jungle fowl, black and grey partridges, pigeons, doves, and quails

1.2 The People

After independence in 1948, Himachal Pradesh (HP) was created as a Chief Commisioner's Province by amalgamation of 30 small hill states previously ruled by numerous Rajas. Bilaspur, another princely state, was merged into it in 1954. The State was made a Union Territory on November 1, 1956. In 1996 the Punjab was re-organised, a new state of Haryana was carved out, and hill areas of the Punjab were merged into Himachal Pradesh (the Kangra, Shimla, Kullu, and Lahaul and Spiti districts, the Nalagarh area of Ambala district, parts of Una *tehsil* of Hoshiarpur district, and parts of Pathankot *tehsil* of Gurdaspur district). In December 1970, the bill to grant statehood to Himachal Pradesh was introduced in Parliament, and full statehood was granted on 25 January 1971.

1.2.1 Area and Administrative Setup

HP is divided into 12 districts, 45 sub-divisions, and 72 development blocks. The names and areas of the districts are shown in Table 1.2.

Lahaul and Spiti, and Kinnaur districts, and the Bharmour and Pangi sub-divisions of Chamba district are tribal areas. Lahaul and Spiti is the largest district and Kangra the most populous.

1.2.2 Population

Table 1.3 shows the total population and households according to the 1991 census, and the distribution between urban and rural areas and between districts. In 1991, the population of Himachal Pradesh was 5,170,877, with 2,617,467 men and 2,553,410 women (976 women per thousand men). There were 969,000 households, giving an average household size of 5.3. The number of young people is large. In 1981, 39.7 per cent of the population was less than 15 years old; 52.8 per cent between 15 and 59, and only 7.5 per cent more than 60. The overall population density in 1991 was 93 per sq. km. but with a wide variation across the state. Kangra is the most densely populated district with 205 people per sq. km.; and Lahaul and Spiti district the least with 2.3 people per sq.km.

The vast majority of the population (91%) is rural. Only a few districts have a large urban population, the largest in Shimla (25% urban). In the majority of cases, rural households are almost entirely dependent on wood for cooking, heating, construction of houses and other buildings, and agricultural implements and other tools; whereas the wood consumption in urban areas, except for housing, is minimal.

According to the 1991 census, 25.3 per cent of the population, or 1,310,296 people, belonged

Table 1.2: **Districts**

Name	Area (sq.km.)	Name	Area (sq.km.)
Bilaspur	1,167	Lahaul & Spiti	13,835
Chamba	6,528	Mandi	3,950
Hamirpur	1,118	Shimla	5,131
Kangra	5,739	Sirmour	2,825
Kinnaur	6,401	Solan	1,936
Kullu	5,503	Una	1,540

Table 1.3: **Population and Households in the Districts of Himachal Pradesh**

Name of District	Total Population			No. of households		
	Urban	Rural	Total	Urban	Rural	Total
Bilaspur	16,735	278,652	295,387	3,818	48,737	52,555
Chamba	29,889	363,397	383,286	6,758	67,025	73,783
Hamirpur	22,686	346,442	369,128	4,868	64,202	67,176
Kangra	59,349	1114,723	1,174,072	12,849	205,535	218,384
Kinnaur	-	71,270	71,270	-	16,439	19,439
Kullu	21,001	281,421	302,432	5,513	51,894	57,407
Lahaul & Spiti	-	31,294	31,294	-	6,492	6,492
Mandi	55,769	720,603	776,372	13,138	130,462	143,600
Shimla	126,132	491,272	617,404	33,908	89,613	123,521
Sirmour	38,074	341,621	379,695	8,246	57,448	65,494
Solan	47,279	334,989	382,268	11,864	59,386	71,250
Una	32,272	345,997	378,269	6,511	64,206	70,717
Total HP	449,196	4721,681	5,170,877	107,573	861,445	969,018

to the Scheduled Castes and 4.2 per cent, or 218,349 people, to the Scheduled Tribes. Overall 93.7 per cent of the total Scheduled Caste population and 97.5 per cent of the Scheduled Tribe population are rural.

The tribal groups inhabit the belt of land comprising the districts of Kinnaur and Lahaul and Spiti and the Pangi and Bharmour sub-divisions of Chamba district. The total area of this belt is 23,655 sq. km., with a population of 220,000. The area is inaccessible and the climate very harsh, cold, and dry. There are very few natural resources and the conditions are unfavourable for agriculture. The area has been declared a Scheduled Area under the 5th Schedule of the Constitution of India and the State has had a separate tribal sub-plan since 1974-75. Above average funds flow to the Tribal Sub-Plan, 8-9 per cent of the total in the State Plan for 4 per cent of the population. The tribal areas are developing and the developmental gap between these areas and the rest of UP seems to be narrowing. It seems that the efforts aimed at accelerated growth are having an impact.

According to the 1981 census, there were 36,002 Gujjar and 76,859 Gaddi people (migratory shepherds) living in the state, distributed unevenly across all districts except Hamirpur.

The 1991 census identified 42.8 per cent of the population as 'workers (34.4% men and 8.4% women) and the remainder as 'non-workers'. Of the workers, 63.3 per cent were engaged as cultivators, 3.3 per cent as agricultural labourers, 1.4 per cent as workers in household industries, and the remaining 32 per cent in other occupations, including employees.

The 1981 census identified four main religions in the state: Hindu (95.8% of the population), Muslim (1.6%), Buddhist (1.2%), and Sikhs (1.2%). Christians comprised 0.1 per cent and Jains 0.02 per cent of the total population.

1.2.3 Population Growth

The growth in population per decade since 1900 is shown in Table 1.4.

The rate of population growth has increased fairly steadily, reaching a peak of 2.3 per cent per annum between 1971 and 1981, and dropping slightly to 2.1 per cent per annum in the last decade for which figures are available. The population doubled in the last fifty years, although the overall population density remains low. The population growth rates of Scheduled Castes and Scheduled Tribes between 1981-91 were slightly more (2.4%) and much less (1.1%) than the average for the state, respectively.

1.3 Socioeconomic Conditions

Over 91 per cent of the population lives in rural areas and is heavily dependent on natural resources for its livelihood. There are 19,383 villages in the state, 16,997 inhabited and 2,391 uninhabited, and 58 notified towns. Shimla is the capital, and there are a number of other towns like Kullu-Manali, Dharamshala, Dalhousie, and Chamba that are well known as tourist hill resorts. Settlement

Table 1.4: Population Growth Per Decade

Year	Population	% growth
1901	1,920,294	--
1911	1,896,994	- 1.22
1921	1,928,206	+ 1.65
1931	2,029,113	+ 5.23
1941	2,263,245	+ 11.54
1951	2,385,981	+ 5.42
1961	2,812,463	+ 17.87
1971	3,460,434	+ 23.04
1981	4,280,818	+ 23.71
1991*	5,170,877	+ 20.79

* Source: Government of India Census Handbook series, 1991

patterns vary widely across the agro-climatic zones. In the interior areas, there are only a very few villages. Outside, the towns are expanding at a very rapid rate. The settlement pattern is becoming highly dispersed with entire hillocks in the lower and middle hills now dotted with hamlets. Settlements along roadsides are becoming urbanised, and new, small townships are emerging. Industrial belts are being established in the valleys in the Shiwalik zone.

The literacy rate is 63.9 (1991 census), the second best in India after Kerala. On 15th April 1996, Himachal Pradesh was declared a fully literate State.

As a result of the greater emphasis since the 1970s on employment generation and development of infrastructure in rural areas, great strides have been made in all round development and improving the economic conditions. The per capita annual income (at 1993-94 prices) is Rs. 6519, compared with Rs. 6,929 for all India. There is a potential work force in the state of more than 2.1 million (in the age group from 15-59 years). Every year more than 100 million people-days of employment is generated for people through different development schemes. In the forestry sector alone, 5.3 million people-days were generated during 1992-93, 9 million people-days during 1993-94 and 6.4 million people-days during 1994-95, in addition to more than 5 million people-days generated each year indirectly through self employment of people in allied forestry activities like collection of seeds, medicinal herbs, and saw mills.

All the villages in HP have been electrified, and 86 per cent had been provided with drinking water by 1988-89, a feat which few States in India have emulated. Himachal Pradesh has a potential of 20,000 MW capacity of hydro-electric (hydel) power, and could supply electricity to all of north India if this potential were exploited. At present, 25 per cent of this potential is being harnessed. Joint ventures are being set up with other state governments, the Government of India, and various international institutions and firms, to develop the hydropower potential. A large number of mini- and micro-hydel power projects are being set up on smaller rivulets and *nallah* to meet local domestic demands.

A large network of all weather roads now links almost every part of the state, including formerly inaccessible areas. In 1950, there were only 180 km of roads in the state, this increased to 9,443 km by 1970 and 19,415 km, or 35 km of road per 10 sq.km; by 1994-95.

Development of horticulture, especially of stone fruits in the lower hills and apples in the middle and higher hills, has helped greatly to transform the economic conditions of the people in this region.

1.4 Land Use, Agriculture, Horticulture and Livestock

1.4.1 Land Use Classification

Land use classification is the systematic arrangement on the basis of certain defined characteristics of the types of land used or suitable for certain activities. The Revenue Department carries out a cadastral survey of land use; based on nine major land use categories, using the primary records maintained by each village accountant or *patwari*. These are the records maintained by the Director of Land Records. Overall only 23,134 sq. km. (3,395,434 ha), or 61 per cent of the total area of the state, is recorded in the village revenue records, however, and much of the land area is not included, in particular areas of forest away from villages. The Department of Forest, Farming, and Conservation uses a different system of land-use classification for its 'Forest Statistics' covering the entire land area of the state. The definitions in the two systems do not correspond completely. Table 1.5 shows the land use in HP according to the two systems.

1.4.2 Agriculture

Agriculture is the main occupation of the people of Himachal Pradesh and has an important place in the economy of the state. It provides direct employment to about 71 per cent of all

Table 1.5: Land Use (in sq. km.)

Category	Land Records 1992-93	Forest Statistics 1993-94	
	Area	Area	% of Total
Geographical area (professional survey)	55,673	55,673	
Area by village records	23,134	-	
Forest Area	10,380	37,591	67.5
Barren and uncultivable land	1,460	-	
Land put to non-agricultural uses	2,013	1,932	3.5
Cultivable waste	1,204	1,252	2.3
Net Area sown	5,726	5,828	10.5
- Area sown more than once	(4,001)	-	
- Total cropped area	(9,726)	-	
Current fallow	485	-	
Other fallow land	228	601*	1.1
Land under miscellaneous tree crops not included in cultivation	428	483	0.9
Permanent pastures and other grazing land including alpine pastures, barren and uncultivable waste etc.	1,210	7,986	14.3

* includes current fallow

workers, and income from agriculture and allied sectors accounts for 36 per cent of the total State Domestic Product. The agricultural census of 1990-91 (provisional), showed the area of holdings used for agriculture to be about 1,014,00 ha, held by 844,000 farmers, an average holding size of 1.2 ha. The distribution of landholdings according to size is shown in Table 1.6.

Prior to the 7th Five Year Plan, 1985-90, the main emphasis was on increasing the production of cereals and cash crops through adoption of an improved package of practices like using high-yielding varieties of seeds, fertilizers, plant protection measures, distribution of improved implements, soil and water conservation measures, and effective dissemination of technical know-how to farmers.

In the annual plans for 1990-91, 1991-92, 1992-93, and the 8th Five Year Plan, 1992-97, emphasis has been laid on the production of vegetables, potato, pulses, and oilseeds, as well as increasing the production of cereal crops through timely and adequate supply of inputs, bringing more area under irrigation, and demonstrations and effective dissemination of improved farm technology. In 1993-94, 1,240 thousand tonnes of food grain were produced. Targets of 1,530 and 1,550 thousand tonnes were set for 1994-95 and 1995-96, respectively.

Table 1.6: Land Holding Sizes in Himachal

Size of Holding (ha)	Category of Farmer	No. of Holdings (in '00s)		Area ('00 ha)		Average Size of Holdings (ha)
		Total no.	% of total	Total area	% of total	
Below 1.0	Marginal	5,380	63.7	2,180	21.5	0.4
1.0-2.0	Small	1,680	19.9	2,285	22.5	1.4
2.0-4.0	Semi-medium	961	11.4	2,611	25.7	2.7
4.0-10.0	Medium	366	4.3	2,069	20.4	5.7
10.0 & above	Large	55	0.6	1,001	9.9	18.1
Total		8,442	100.00	10,146	100.00	1.2

The agro-climatic conditions in many parts of the state are suitable for the production of cash crops like fruit, potatoes, ginger, mushrooms, and off-season vegetables, as well as allied activities like bee-keeping. In tribal areas, traditional patterns of agriculture are undergoing a change, and crops like apples, hops, seed potatoes, *kuth*, and off-season vegetables are being introduced.

As a result of the higher productivity and income per unit area from fruit crops, horticulture is playing a vital role in improving the socioeconomic conditions of the rural population in the state. Considerable incentives are provided to the horticultural sector by the State Government, including provision of fungicides and pesticides at subsidised rates under plant protection measures and schemes. At present, apples are the main fruit crop, but mango, citrus, and stone fruits are also increasing. The total area under different horticultural crops has increased steadily, reaching 170,568 ha in 1990-91. Fruit production increased from 148,000 tonnes in 1970-71 to 460,000 tonnes in 1989-90 and was projected to reach 587,000 tonnes in 1994-95. The major increase has been in the production of apples; output nearly trebled between 1970 and 1995. Wild fruit trees are available in abundance in many parts of the state. These are being top-worked with improved varieties of fruits. During 1994-95, 133,000 wild fruit trees were top-worked. Horticulture has a great potential in the state, which has already earned the nickname '**apple bowl of India**'.

Special efforts are being made to diversify the horticultural industry through promotion of other horticultural crops of economic importance like olives, figs, hops, kiwi fruit, and strawberries. Efforts are also being made to promote ancillary horticultural activities like mushroom production, bee-keeping, and flower production. By the end of 1994, 10 ha had been brought under flower cultivation and 18 Flower Growers' Cooperative Societies had been registered. In 1998, there was a record production of 130 tonnes of hops (dried). A hop drying and processing unit with a capacity of 18 tonnes (wet) per day has been set up in the tribal areas. Pasteurised compost for mushrooms is produced at two departmental mushroom development projects located at Chambaghat and Palampur and distributed regularly to mushroom growers. The Himachal Pradesh Marketing Cooperation, a state government undertaking, processes fruit and markets various products like squashes, juices, and jams all over India and in international markets.

Efforts have been made to introduce modern technology in orchard management to improve the productivity of horticultural crops. These include things like drip irrigation systems in orchards, to maximise the benefits of available irrigation water, and greenhouse technology to increase the quality and production of fruit, vegetables, and flowers. Subsidies ranging from 10 to 50 per cent are given to farmers for the adoption of these new technologies. Besides this, plastic crates have been provided at a 50 per cent subsidy to orchard farmers for picking and carriage of fruit under the National Horticultural Board's assistance scheme.

The State Government provides a 50 per cent subsidy to farmers for soil conservation measures on agricultural land. An area of 1,650 ha was covered under soil conservation measures on agricultural land in 1993-94 and 1,850 ha in 1994-95.

1.4.3 Livestock

The role of livestock is intimately interwoven with the livelihood of all rural people in the hill economy of the state. Rearing, tending, and harvesting of livestock is a way of life for almost all the rural population, and the transhumant Gaddi and Gujjar tribes are almost solely dependent on livestock for their livelihood. The Gaddi are semi-nomadic. They have small landholdings not sufficient for subsistence and raise sheep and goats for income. The Gujjar are mostly found in Chamba, Kangra, and the upper parts of Shimla. They are nomads who have no landholdings and they keep buffalo and cattle for subsistence. Both groups follow a system of migratory grazing using high alpine pastures or fir forests in the summer

months after the snow has melted and forests in the lower areas in winter. The semi-nomadic cycle is dictated by the climate and the availability of grazing. The flocks travel more than 600 km every year on their migratory journeys.

In Gaddi communities, men do most of the management of the migratory flocks. Households often share the duties with two or three members working in rotation, or together if it is a big flock, and often joining with other flocks for all or part of the grazing cycle. The women are responsible for all agriculture, apart from ploughing, and for non-migratory livestock. In Gujjar communities, the women migrate with the men to the lower hills in winter. Gujjar communities also migrate to the plains in Punjab, Haryana, and Uttar Pradesh where they have winter grazing rights.

The grazing rights granted to transhumant groups can be classified into three categories:

- the right to hold a flock;
- the right to graze an area; and
- actual access to an area.

The right to hold a flock is given by the Forest Department through permits, which are inherited. Shepherds pay a grazing tax or *tirni* of Rs. 40 per 100 goats and Rs. 20 per 100 sheep. No new permits are given and the number that a grazer may have is restricted to 1971-72 levels. These restrictions are not always respected– shepherds without permits have been found to indulge in migratory grazing. The right to graze an area comes from inherited customary rights that were given by the erstwhile kings of princely states. The right to graze an area and actual access were codified in Anderson's forest settlement of 1896-1897 of Kangra and Kullu. The actual access specified the names of pasture lands allotted to individuals and groups of grazers.

Although the right to graze continues without much restriction in high pastures and forests, the right to graze in the lower hills and on the plains that continue into Uttar Pradesh, Haryana, and Punjab has suffered increasingly from restrictions imposed by the Forest Departments of Himachal Pradesh and by private landlords. It has also been affected by the lack of *shamlat* and community lands and the shrinkage of private lands resulting from the fragmentation of agricultural holdings. This often leads to conflict over grazing between the nomadic Gaddi and Gujjar and local communities.

The State government has set up a Gujjar and Gaddi Advisory Board and initiated several schemes to promote the permanent settlement of transhumant grazers. In Chopal and Kangra, some Gujjar and Gaddi have now settled on the lands allotted to them, but most prefer to remain nomadic.

The Overall Situation in HP

The grazing livestock population in 1992 was estimated at 5.09 million (census figures). The distribution by animal type and district is shown in Table 1.7. These animals are dependent on forests for fodder and grazing. The Department of Forest Farming and Conservation (DFFC) estimates that forest floor and pasture lands now provide about 7.2 million tonnes of grass to 5.2 million grazing animals and account for 80-85 per cent of the total fodder requirements. The remaining fodder is obtained as cut grass and leaf litter from the farmers' fields, *ghasnies* (grasslands), common lands, and other places. The entire forest floor is subject to heavy grazing. Almost all large livestock graze for varying periods in the forests without any restrictions. As a result there is virtually no natural regeneration. Even plantations are grazed recklessly.

Most of the animals belong to nondescript indigenous breeds with very low productivity. As a result of various livestock improvement programmes, the quality of livestock has marginally improved over the years. At present 10 per cent of cattle, 32 per cent of buffaloes, and 13 per cent of sheep in the state belong to improved breeds. These cattle are stallfed. The productivity level of the pasture land is also very low as a result of unrestricted and over grazing. In many places, unpalatable grasses have replaced the fodder grasses. Heavy grazing has also resulted in accelerated soil erosion

Table 1.7: Livestock Census of Himachal Pradesh by District, 1992

District	Number of Animals						
	Cattle	Buffalo	Sheep	Goats	Horses & Ponies	Other	Total
Bilaspur	60,461	86,858	24,615	63,472	655	496	236,557
Chamba	238,988	34,832	258,490	175,268	2,355	2,578	712,511
Hamirpur	60,671	94,089	49,498	30,719	1,355	309	236,641
Kangra	398,558	147,386	155,432	205,024	8,638	711	915,749
Kinnaur	20,937	3	57,720	28,622	1,371	4,289	112,942
Kullu	157,448	670	109,835	56,384	1,195	73	325,605
Lahaul & Spiti	8,910	--	42,766	11,445	1,451	3,954	68,526
Mandi	430,331	107,676	196,041	203,270	4,621	317	942,256
Shimla	329,055	23,258	126,531	95,831	4,478	645	579,798
Sirmour	235,557	40,108	27,616	115,915	2,059	463	421,718
Solan	143,491	74,349	19,713	82,541	1,440	621	322,155
Una	67,209	91,694	6,088	47,100	515	291	212,897
Total	2151,616	700,923	1074,345	115,591	30,133	14,747	5087,355

and compaction of the soil. As a result the productivity and carrying capacity of such pastures has been reduced considerably. As yet, however, no special survey has been performed of the carrying capacity of pasture, grazing land, and common wasteland.

There are two distinct types of grazing pattern depending on the altitude and climate. In the lower and middle hills (e.g., Shimla) the predominant livestock are cattle, whereas in the pastures of the higher hills and alpine areas most of the grazing animals are sheep and goats. According to DFFC records, every year grazing permits are issued for around 880,000 sheep and goats (approximately half each) in the alpine pastures. Permits for buffalo grazing are issued to Gujjar. During 1993-94, the DFFC issued alpine pasture grazing permits for approximately 26,000 large animals (17,300 buffalo, 1,800 cows, 2,000 horses, and 4,800 calves), and a field survey showed slightly more than 22,000 animals to actually be grazing. Despite licensing, grazing is indiscriminate and heavy. And this heavy grazing is also having a negative impact on the medicinal herbs and shrubs that are an important feature of the alpine pastures.

The State Land Use and Wasteland Development Board has studied the carrying capacity of selected pastures and grazing lands in the Palampur and Shimla hills and extrapolated the results to estimate the carrying capacity of the pasture land in the whole state. The pasture land in the state was divided into three zones: the lower hills, the mid hills, and the high hills and alpine zone. The total area of pasture and the estimated carrying capacity in each zone is shown in Table 1.8, and the total number of grazing animals in the state in Table 1.9 (1987 census).

The weighted average carrying capacity for the state was 1.28. Thus the total area of pasture of 1.2 million ha could sustain the equivalent of about 1.55 million cattle equivalent units. But

Table 1.8: Pasture Land in Himachal

Zone	Area Available		Carrying Capacity (per ha per annum)	
	Million Ha	Per Cent	Animal Units	Cattle Units
I- Lower Hills	0.317	26.2	2 Cattle	2.0
II- Mid Hills	0.543	44.8	6 Sheep	1.2
III- High Hills and Alpine	0.352	29.0	2 Sheep	0.4
Total	1.212	100.00		1.28

Table 1.9: Grazing Animals in Himachal Pradesh (1987)

Category	Number (million)	Cattle Equivalent Units	Total Cattle Units (million)
Cattle	2.25	1.0	2.45
Buffalo	0.79	1.5	1.19
Sheep	1.11	0.2	0.22
Goat	1.12	0.2	0.22
Total	5.27		4.08

there are more than 4 million cattle equivalent units of animals grazing, more than two and a half times the carrying capacity.

As yet, no satisfactory way has been found to mitigate the problem of overgrazing. Efforts made towards pasture management and the propagation of medicinal herbs are still on a miniscule scale and have yet to show any tangible results. In 1968, the Government of Himachal Pradesh constituted a Grazing Advisory Committee. This Committee submitted its report in 1970 and made several recommendations including freezing the number of cattle, setting controls on migratory and nomadic herds and flocks (registration and enumeration of flocks, fixation of routes to be followed by nomadic herds), levy of uniform grazing fees, closure of not more than 1/3rd of the grazing area allotted to a particular grazier at any given time, levy of a tax on goats and buffaloes, and reduction of the excess number of goats and buffaloes in a phased manner. But instead of decreasing, the number of grazing animals increased from 4.2 million in 1966 to 5.2 million in 1987, with only a slight reduction to 5.1 million in 1992. The grazing advisory committee restricted its recommendations to management issues only. But what is really needed is a better assessment of the carrying capacity of forests and pastures.

The efforts of the Animal Husbandry Department are limited to providing animal breed improvement services. Little is being done by NGOs and other agencies, although a cattle improvement programme has been included in the Forest Department under the World Bank aided Kandi Programme, and in the GTZ assisted Changer Programme. Under these programmes farmers are given a subsidy to discard scrub cattle and buy improved breeds, and helped to build *go-sadans* (animal sheds). These projects are programme and area specific and have not contributed significantly to reducing the population of grazing animals. Similarly, the DFFC pasture improvement schemes have not led to the desired improvement in the productivity of pastures because of poor range management experience and socio-political resistance to closure of areas to grazing.

Within the state, the Animal Husbandry Department is responsible for livestock improvement and providing fodder. Animal husbandry has an important role to play in boosting the rural economy. The development programme of the Animal Husbandry Department includes: (i) animal health and disease control; (ii) cattle development; (iii) sheep breeding and development of wool; (iv) poultry development; (v) feed and fodder development; and (vi) veterinary education. Several schemes are being implemented. These are: (a) the key village scheme; (b) the hill cattle development programme; (c) the intensive cattle development project; (d) breeding facilities through hospital/ dispensaries/bull centres; and (e) artificial insemination centres.

With the aim of improving the quality of sheep and wool, government sheep breeding farms at Jeori (Shimla), Sarol (Chamba), Nagwain (Mandi), Tal (Hamirpur), and Karchham (Kinnaur) are supplying improved sheep to farmers in the state. The flock strength in these farms is 1,900. About 600 rams were planned to be distributed to farmers in 1994-95. In view of the increasing demand for pure hoggets, and the established popularity of the Soviet Merino and American Rambouilets in Pradesh, the state has switched to pure breeding at the existing government farms. Five sheep extension centres

are in operation in Kothikohar (Kangra), Swar (Mandi), Bagipul (Kullu), Dodra-Kawar (Shimla), and Choori (Chamba). Under the special livestock production programme for sheep development, sheep are supplied at subsidised rates and loans are also provided for this purpose to the small and marginal farmers and agricultural labourers in Sirmour district. Improved sheep are also being distributed, dipping and drenching facilities provided to breeders, and pastures being improved, under an intensive sheep development project in operation in the Bharmour, Chamba, and Bhattiyat *tehsils* of Chamba district. Programmes have also been organised for mass drenching of sheep and training progressive sheep breeders. Wool production in 1994-95 is likely to be in the order of 1,6 million kg.

Other initiatives include the establishment of angora rabbit farms at Palampur (Kangra) and Nagwain (Mandi) for distribution of rabbits to breeders, and of 14 poultry farms/centres to provide improved poultry birds and hatching eggs. High milk-yielding breeds are conserved by providing high quality feed and fodder with rich nutritional value. Breeders are supplied with good quality fodder roots, fodder seeds, and fodder trees at nominal prices. The fodder is grown on agricultural lands and the roots and seeds also used to improve pastures.

1.4.4 Fisheries

Himachal Pradesh is blessed with vast and variegated fishery resources in the shape of networks of rivers, sprawling reservoirs, and much fast-flowing cold water harbouring a wide range of temperate, sub-temperate, and tropical fish species. The state waters are mainly classified into riverine, lacustrine, recreational, and pond waters, and offer considerable potential for the development of fisheries. About 12,000 fisher families in UP depend directly or indirectly on these waters and earn their livelihood by fishing. The production of fish seed was made a priority in 1994-95, and as a result 18.2 million carp seed and 3,630 tonnes of fish were produced. A trout seed farm is under construction (the Holi (Chamba) and Cooperative Seed farm, Sultanpur (Chamba)). An agreement was signed with the Royal Government of Norway and the Government of India provided a grant of Rs. 2.5 million for a Trout Farming Project at Katrain in Kullu. The adoption of modern fish culture/capture practices in the management of reservoir fisheries in the state has increased production considerably. In 1994, Gobindsagar reservoir showed a record production of 929 tonnes compared with 758 tonnes in the previous year, an increase of 22.5 percent. The Department of Forest Farming and Conservation has also initiated a Fisherman Accident Insurance Scheme and Fishermen Risk Fund Scheme to help mitigate losses incurred during natural calamities. Centrally sponsored schemes offer subsidies of up to Rs. 20,000 for the construction of new ponds, Rs. 8,000 for the renovation of derelict ponds, and Rs. 2,000 for the construction of running water fish culture units, with the aim of boosting pisciculture in rural areas and generating employment for young people.

2 The Forests

The forests of Himachal Pradesh are of special importance as they provide the cover for the watersheds of most of the rivers originating in the state. Himachal Pradesh also contains one of the last extensive stretches of Western Himalayan Forests in a near pristine state. The forests of Himachal, known for their majesty and grandeur, are under great stress as a result of the impact of modern civilisation, economic development, and population growth.

2.1 Forest Resources and Productivity

2.1.1 The Extent of Forest and Pasture Areas

The perception of what constitutes a forest, and thus the size of the area classified as forest, has changed in recent years in the state. Until the mid eighties, forests were conceived in terms of tree production, and only the cultivable area was measured (21,215 sq.km. or 38.1 per cent of the total geographical area). Since the introduction of the new forest policy, forests have been considered more as an ecosystem, and the definition of forest area extended to include areas of rocky precipices, alpine snow, and meadows which, although devoid of actual tree cover, are none the less an integral part of the larger forest eco-system. The legal forest area is now calculated to be 37,591 sq.km., or 67. 5 per cent of the total geographical area of the state, of which 6,376 sq.km. is under alpine pasture and perpetual snow cover and 21,215 sq.km. under forest cover of some sort. About 65 per cent (60% of the recorded forest area) of the forests are found at altitudes above 1,800 masl. Satellite imagery shows the actual forest cover in the state to be only 12,502 sq.km. or 22.4 per cent of the geographical area, a per capita amount of 0.24 ha. This is far below the stipulated norm of 66 per cent of area to be under forest cover. Only 9,565 sq.km. (17.2% of the geographical area) has a crown cover of more than 40 per cent. There are only four districts in which the overall forest cover is more than 33 per cent, and five more in which forest cover is between 19-33 per cent. The majority of 'forests' in the state are either understocked, rocky, or non-existent. The area of legal, estimated, and actual forest is shown in Table 2.1, the legal types of forest in Table 2.2, and the distribution according to district in Tables 2.3 and 2.4.

2.1.2 Forest Types

Himachal has a diverse and rich flora as a result of the very varied physio-climate. Differences in elevation lead to eco-zones with different vegetative cover, land use, and land capabilities. Every type of west Himalayan flora is represented, from Himalayan meadows, through fir and rhododendron forests, to tropical scrub and bamboo forests in the lower hills. The forests are rich in vascular flora, which form the most conspicuous vegetation cover. Over seven per cent (3,295) of the 45,000 species of plants found in the country are found in the state. Among the rare plants is the living fossil tree *Ginkgo biloba*, a native of China, of which two plant species have been found in Manali and Kalpa.

The forests can be classified broadly into coniferous forests and broad-leaved forests. The

Table 2.1: **Forest Area**

Type of Area	Area (sq.km.)	% of Total Area	% of Legal Forest Area
Forest Area (legally defined)	32,525	67.5	100
Area with permanent snow cover	4,934	8.9	13.1
Alpine pasture	6,376	11.5	16.7
Theoretical area with forest	21,215	38.1	56.4
Actual area under tree cover (satellite imagery)	12,502	22.4	33.3
Dense forest (crown density above 40%)	9565	17.2	25.4
Open forest (crown density 10-40%)	2,937	5.3	7.8
Scrub forest (crown density less than 10%)	1,845	3.3	4.9

Source: DFFC Records

Table 2.2: **Legal Classification of Forest Areas**

Name	Area (sq.km.)	Percentage
Reserved Forest (RF)	1,896	5.0
Demarcated Protected Forest (DPF)	10,358	27.6
Undemarcated Protected Forest (UPF)	22,991	61.2
Unclassed Forest	868	2.3
Other managed by Forest Department	948	2.5
Not managed by Forest Department	530	1.4
Total	37,591	100.00

Table 2.3: **Forest Area in Different Districts (sq.km.)**

District	Forest Area in Village Records	Area According to Forest Records				Area in Revenue Records
		RF	DPF	UPF & Others	Total	
Bilaspur	1,154	1	118	309	428	113
Chamba	6,924	373	3,521	989	4,883	2,716
Hamirpur	1,099		95	154	249	197
Kangra	5,769	74	542	2,177	2,793	2,345
Kinnaur	2,234		218	6,190	6,408	215
Kullu	498	161	3,031	1,768	4,960	
Lahaul & Spiti	2,156	71	110	9,190	9,371	128
Mandi	3,984		1,237	849	2,086	1,605
Shimla	4,165	53	1,106	2,242	3,401	954
Sirmour	2,247	1,065	57	601	1,723	488
Solan	1,803	54	275	403	732	196
Una	1,542	44	48	465	557	281
Total	33,575	1,896	10,358	25,337	37,591	9,238

Note: RF Reserved Forests
DPF Demarcated Protected Forest
UPF Undemarcated Protected Forest

Table 2.4: **Area of Forest with Different Crown Densities by District (sq.km.)**

District	Area of District	Forest Cover			
		Dense (> 40%)	Open (10-40%)	Total	
				sq.km.	% of district area
Bilaspur	1,167	49	108	157	13.45
Chamba	6,528	1,801	323	2,124	32.54
Hamirpur	1,118	151	62	213	19.85
Kangra	5,739	1,071	684	1,755	30.56
Kinnaur	6,401	547	82	629	9.83
Kullu	5,503	1,911	133	2,044	37.14
Lahaul & Spiti	13,835	15	4	19	0.14
Mandi	3,950	848	461	1,309	33.14
Shimla	5,132	2,094	331	2,425	47.25
Sirmour	2,825	740	279	1,019	36.07
Solan	1,936	164	254	418	21.59
Una	1,540	174	216	390	25.32
Total	55,673	9,565	2,937	12,502	22.46

distribution of species follows an altitudinal stratification, apart from areas with micro-climatic changes resulting from aspect, exposure, and local changes in rock and soil. The vegetation varies from dry scrub forests at lower altitudes to alpine pastures at higher altitudes. Between these two extremes lie distinct vegetation zones with mixed deciduous forests, chir, ban oak, and mixed and pure coniferous and kharsu oak forests. The forests have been classified according to " A Revised Survey of Forest Types of India" by Champion and Seth.

Broadly, the forest types in Himachal Pradesh can be classified as follow.

- Moist tropical forests
- Dry tropical forests
- Montane sub tropical forests
- Montane temperate forests
- Sub alpine forests
- Alpine scrub

1.1.3 Forest Resources

The growing stock has been enumerated in the 58 per cent of the total forest area under management for which working plans have been prepared and are in operation. The growing stock in this area has been assessed at 102.5 million cubic metres. No assessment has been made of the growing stock in the 42 per cent of total forest area allotted to protection working circles. The growing stock of various commercially important species is given in Tables 2.5-2.7.

The data in the Tables are taken from the latest publication of the Forest Survey of India (FSI) and may not tally with the statistics published by the Forest Department of Himachal Pradesh. The data published by FSI has wider acceptance and has therefore been used to formulate the strategy and action plans for forest management.

Table 2.5: **Growing Stock of Different Species**

Name of Species	Forest Area	Growing Stock ('000 cu.m.)
Deodar	645	14,215
Kail	731	13,616
Chir	1,460	10,053
Fir/Spruce	1,264	41,012
Sal	183	2,563
Ban Oak	594	7,296
Mohru Oak	25	1,206
Kharsu	375	7,436
Maple	NA	1,703
Horse Chestnut	NA	1,723
Walnut	NA	651
Bird Cherry	NA	1,037
Total	5,277	102,511

Table 2.6: **Change in Growing Stock Over Time of Commercially Important Species ('000 cu.m. standing volume)**

Species	1975	1980	1985	1990	1995
Deodar	12,859	12,397	12,716	13,298	14,215
Kail	13,753	13,396	13,710	12,996	13,616
Fir/Spruce	44,220	44,726	39,691	39,026	41,012
Chir	7,295	8,006	7,982	8,644	10,053
Sal	3,011	3,011	3,011	2,563	2,563
Others	18,723	17,949	18,733	20,312	12,052
Total	99,861	99,485	95,843	96,839	1,02,511

Table 2.7: **Growing Stock in Different Types of Forest**

Forest Type	Area (sq.km.)				Volume ('000 cu.m)				Annual increment '000 cu.m
	DF	OF	SF	Total	DF	OF	SF	Total	
Fir	81	97		178	3,366	4,034		7,400	82
Spruce		16		16		501		501	5
Fir-Spruce		65		65		1,200		1,200	13
Blue pine		145	17	162		2,722	181	2,903	39
Deodar		629	36	665		17,227	808	18,035	240
Chir		613	1,101	1,714		5,005	4,797	9,802	163
Mixed Conifer	48	5,242	385	5,675	1,490	161,585	7,183	170,258	288
Hardwood mixed with conifer		661	105	766		14,252	421	14,673	244
Upland hardwoods	32	952	297	181	656	18,834	850	20,340	339
Khair		81	87	168		253	74	327	11
Misc.	65	838	909	1,812	472	5,433	3,066	8,971	179
Total	226	9,339	2,937	11,402	5,984	231,046	17,380	254,410	1,603

Note: DF dense forest, crown cover density above 40%
OF open forest, crown cover density 10-40%
SF scrub forest, crown cover density less than 10%

The growing stock of main timber species was assessed by complete enumeration or by sampling. The stock was only assessed in areas within a regular or selection working circle or where calculation of yield was required for some reason in the Working Plan. No assessments have been made in the areas within protection working circles or other areas earmarked for conservation. The prescribed yield of silviculturally available wood has changed over the years during the preparation and revision of Working Plans.

Table 2.8 shows the yield prescribed for commercial species from 1975 to1995.

Productivity

Most of the area of Himachal Pradesh comes under Zone IV, where the length of the growing period is 180-210 days and the potential productivity is 4.32 cu.m per ha/per annum. The estimated average annual increment and prescribed yield for important species for the state as a whole is given in Table 2.9.

Broadly speaking the forest potential is the MAI (minimum annual increment) of the existing crop. The MAI for the enumerated areas for which yield has been prescribed is es-

Table 2.8: **Prescribed Yield for Commercial Species ('000 cu. m.)**					
Species	1975	1980	1985	1990	1995
Deodar	0.92	0.88	0.95	1.10	1.08
Kail	1.11	1.04	0.88	0.94	0.87
Fir/Spruce	4.83	4.62	2.40	2.30	2.48
Chir	0.53	0.57	0.52	0.96	0.96
Sal	0.11	0.11	0.11	0.19	0.19
Others	-	Not Prescribed	Not Prescribed	-	-
Total	7.50	7.22	4.86	5.49	5.58

Table 2.9: **Annual Increment and Prescribed Yield** (calculated for 1990)				
Species	Rate of Increment, %	Growing Stock '000 cu.m	Annual Increase in Growing Stock '000 cu.m	Prescribed Yield '000 cu.m
Deodar	1.56	13,298	207.44	110
Kail	1.51	12,996	196.92	94
Fir and Spruce	1.24	39,026	483.92	230
Chir	1.90	8,644	164.24	96
Others	1.00	22,875	228.75	19
Total		96,839	1281.27	549
Additional*		32,279	300.00	
Grand Total		129,118	1,581.27	

Source: Gupta, 1994

* Additional increase in growing stock in other working circles where no felling has been prescribed

timated to be 1.11 million cu.m. According to the FSI the total estimated growing stock for HP is 212 million cu.m. If the MAI is taken as as 1.5 per cent of the growing stock, the total potential annual yield is 3.18 million cu.m. Of this, 1.11 million cu.m is in enumerated worked areas, and 2.07 million cu.m in areas allotted to protection working circles, conservation areas, and other areas not enumerated.

Table 2.10 shows the area covered by different species in the forests where commercial felling is prescribed, the volume of growing stock per ha, and, for selected species, the percentage this represents of the potential growing stock per hectare

Table 2.10: **Area of Major Tree Species in Forests with Commercial Felling, Volume of Growing Stock, and Volume of 'Normal' Growing Stock**				
Species	Area (sq.km.)	Growing Stock per ha (cu.m.)	Potential Growing Stock per ha (cu.m)	% of Normal Growing Stock
Deodar	650	204.6	726	28.2
Kail (Blue Pine)	745	174.4	653	26.6
Fir/Spruce	1236	915.7		
Chir Pine	1247	69.3	297	23.23
Sal	183	140.1		
Oaks	921	163.5		
Other BL Species	541	97.0		
Total	3523	193.4		

(managed under prime conditions). Table 2.11 shows the total growing stock of commercially important species, the prescribed yield, and actual removals, from 1970-1990. Table 2.12 shows the average annual prescribed yield and removals through salvage lots and right holders for different species over three years (1989-90 to 1991-92), and Table 2.13 the actual removals since 1981-82 by different agencies.

The total annual prescribed yield at present is only about 0.56 per cent of the growing stock available for commercial felling and less than half of the potential available based on calculations of the MAI. In recent years annual removals of timber have ranged from 63 to 95 per cent of the prescribed yield, only 33-46 per cent of the mean annual increment of the enumerated growing stock. This doesn't take into account the 8,900 sq.km. of forest kept under Protection Working Circles where no felling is prescribed. In many cases the unprescribed yield from thinning has been included in the figure for removals, and thus

Table 2.11: Total Growing Stock and Yield

Year	Growing Stock (lakh cu.m)	Prescribed Yield ('000 m^3)	Actual Removals ('000 m^3)	% of Prescribed Yield
1970	82,076	541	681	125
1975	99,861	750	471	63
1980	99,485	722	464	64
1985	95,843	486	460	95
1990	96,839	549	436	79

Table 2.12: Annual Prescribed Yield and Removals for Different Species

Species	Annual Prescribed Yield ('000 cu.m)	Average Annual Removals			Volume Left for Green Felling ('000 cu.m)
		Through Salvage Lots	Right Holders, Free Grantees	Total	
Deodar	110.0	21.0	45.0	65.8	44.2
Kail	93.5	32.0	32.4	64.4	29.1
Fir/Spruce	230.5	98.1	7.5	105.6	124.9
Chir	96.3	59.9	36.8	96.7	-0.4
Sal	19.0	3.3	1.7	5.0	14.0
Total	549.2	214.2	123.3	337.5	211.7

Table 2.13: Removal of Timber by Different Agencies

Year	Government Agency	HPSFC*	Right Holders	Free Grantees	Remote Sawmills	Wood-based Industries	Other	Total
81-82	20.33	522.51	108.49	20.54	-	-	-	671.87
82-83	33.69	379.63	71.60	2.41	145.25	-	-	632.58
83-84	29.64	448.54	111.67	2.75	32.51	-	5.91	631.02
84-85	8.92	246.27	167.16	3.81	27.66	0.48	6.88	461.18
85-86	10.14	314.62	168.03	7.98	21.00	2.90	3.74	528.41
86-87	6.79	387.47	119.20	7.04	23.80	0.08	3.74	548.12
87-88	2.14	211.14	117.00	8.30	142.35	5.25	9.08	495.26
88-89	2.35	299.19	138.90	6.91	42.72	-	0.86	490.93
89-90	2.03	248.92	150.84	4.90	28.79	-	0.12	435.60
90-91	1.73	181.87	95.30	7.86	24.55	0.56	0.41	312.28

*Himachal Pradesh State Forest Corporation

further decreased the permissible removals from the main felling.

2.2 Forest Survey, Demarcation and Settlement

Forest settlements are concerned with the determination and agreement of rights and concessions in forest areas that have been surveyed and demarcated, in other words they are a settlement of status, rights, and concessions. Survey and demarcation of forest areas is essentially a part of the total forest settlement process. Forest demarcation and settlement has been one of the most pressing problems facing Himachal Pradesh from the time of its creation. Serious damage has been caused to forests as a result of such activities as encroachment, illegal felling of trees, and breaking up of land for quarrying. The need to demarcate the forest areas and achieve a settlement of the rights therein, has become more and more pressing with time. The process of forest survey, demarcation, and settlement also has complex but important implications for developing a rational land use policy. At present, the State does not have a land-use policy. More than 67 per cent of the land area is classified officially as forest, but not in the revenue records, which are the ultimate legal repository of the title of the land. There is a big discrepancy between the forest land statistics of the Forest and Revenue Departments.

Settlement operations include: (a) measurement and demarcation of the land area; (b) preparation of records like a map, field book, *jamabandi khasra bandobast*, and list of paths, routes, and religious places; (c) preparation of a record of rights; (d) notification of the area under the provisions of relevant laws; and (e) making an entry in the revenue records. Settlement operations in HP have been affected by major organisational changes in the state, in particular the creation of the State of Himachal Pradesh in 1948 following independence by amalgamation of 30 small hill states and the addition of new districts in 1966 following the reorganisation of the Punjab.

2.2.1 Demarcation and Classification of Forests

In the early 1860s, management of forest lands became the responsibility of newly created Forest Departments all over the country, and one of their first tasks was the classification of forests and demarcation of resources. The first attempt to demarcate the forests in HP began in the deodar forests of Bushahr State in the Shimla hills in 1868. In 1873, it was proposed that the forests be classified into three categories– *mehfuja* forests (Reserved Forest), *mehduda* forests (Protected Forest), and *dehati* forests (Village Forest). Permanent demarcation of forests commenced in 1884. Thereafter, measurement and demarcation of Reserved Forests were done under the Indian Forest Act (IFA). Boundary pillars were constructed as markers. Demarcation and classification of forests have continued to the present in the shape of various forest settlements, declarations, and notification of forests under IFA 1927.

Up to 1952, several different systems were used for classifying forests. In 1952, all forest lands in the state were brought under state ownership. Forests are now classified into three categories.

- Reserved Forest (RF)
- Demarcated Protected Forest (DPF)
- Undemarcated Protected Forest (UPF)

The main differences lie in the timber utility. Reserved Forests were created in areas remote from habitation where there were limited or no rights, or in areas close to villages where there was sufficient other forest land available for use by local people. Demarcated Protected Forests were generally those remote from habitation and containing valuable timber species such as deodar (*Cedars deodara*). Rights were clearly defined in these forests and more rights were permitted in their less commercially valuable portions; in particular grazing rights were clearly defined and the land could not be taken for cultivation. The Undemarcated Protected Forests close to habitation were considered to be a resource available for cultivation and to provide a supply of grazing and tree product needs.

Priority Based Categorisation of Forest Areas

Forest areas have been classified in four categories in order of priority for settlement and demarcation operations.

Category I	Notified Reserve Forests and Demarcated Protected Forests for which there is a revenue record.
Category II	Notified Reserve Forests and Demarcated Protected Forests for which there is no revenue record.
Category III	Undemarcated Protected Forests and other forests areas that have been measured and for which land records are available, but which are not shown as forest in the revenue records.
Category IV	Undemarcated Protected Forests and other areas that have not been measured and for which there is no revenue record.

Current settlement operations relate to Category II and III areas. However, the operations are not being carried out strictly in the order of the priority based categories. New DPFs are being created from both Category III and IV forests.

2.2.2 Early Settlement Activities

In Himachal Pradesh, settlements to codify and prepare a record of rights started in Kangra in 1885 in the form of preparation of *wajib-ul-arz* under the Forest Conservancy Rules and Modified Rules for Hill States of 1859. Demarcation started in Kullu under the Rules of 1855 and was completed in both units under the Indian Forest Act of 1878. Settlements were also carried out in Chamba and Bushahr (leased forests) under the Indian Forest Act of 1878 and in the States of Sirmour and Poanta under the Rules of 1888 for Shimla Hill States. The process continued in the Kotgarh forests of Shimla district until 1952. A total of 14 forest settlements were carried out up to 1952 (Table 2.14). Rights and concessions were also recorded in revenue land settlements. Under the forest settlement, a record of rights is prepared under sections 28/29 of IFA 1878/1927 and regulated under section 31/32 of the IFA for protected forests and under section 76 for property in trees standing on private lands.

After independence, the pace of demarcation slowed considerably as priority shifted to organisation of the state and the Forest Department.

2.2.3 Legal Rulings and Notifications

During British rule the following notifications were issued pertaining to the areas merged into HP in 1966.

- Notifications No. 57 and 58 were issued in 1897 and amended in 1919 for Kangra district (now Una and Kangra districts).

Table 2.14: **Early Forest Settlements in Himachal Pradesh**

Division	Forest Settlement By	Notification
Bilaspur	Shri Durga Singh	1949
Chopal	Forest settlement for Keonthal State Forests, Revenue Settlement for Throach state in erstwhile Jubbal	1915, 1950
Kangra	Mr. Alexander Anderson	1897
Kinnaur	Mr. Glover	1921
Kotgarh	Shri HM. Glover	1952
Kullu	Mr. Alexander Anderson	1896
Kunihar	Mr. Alexander Anderson	1897
Mandi	Forest Settlement	1921
Rohru	Forest Settlements in Pabbar Valley and Jubbal forests by Shri AJ. Gibson and Sheer Singh, respectively.	1911 and 1915
Solan	Mr. GG. Miniken, Revenue Settlement by Major Popham Young	1890, 1909
Una	At the time of the First Regular Settlement	March, 1879

They declared demarcated protected forests and trees in demarcated forests to be the property of the government.
- Notifications related to the forests in Kullu and Lahaul and Spiti districts were issued in 1896.

The Government of Himachal Pradesh (GoHP) issued the following notifications for the areas originally included in HP.

- Notification No. Ft.29-241-BB/49, dated 25th February, 1952, under Section 29 of the Indian Forest Act (XV of 1927). This brought forest lands and wastelands that were the property of the government or over which the government had proprietary rights under the purview of Section 29 of the Indian Forest Act, 1927, by declaring these wastelands as protected forests vested in the government.
- Notification Ft.29-24\BC\49, dated 28th February 1952, under Section 30 (a) of the Indian Forest Act, 1927. This declared all trees standing on forest lands and wastelands notified as protected forests as reserved.
- Notification dated 13 November 1963. This modified the deemed date of declaring the trees as reserved to be effective with effect from 1st January 1964.
- In August 1964, the Council of Ministers of GoHP decided to annul the sweeping notification of 1952, and declared that the land classification of all such lands (like *chargah drakhtan*—pasture with trees, *chargah bila drakhtan*—pasture without trees, and *bani*—private forests) prevalent at the time of the respective forest settlements would continue to hold. This decision was held in abeyance and it was decided that since cancellation of the 1952 notification would adversely affect the forests, the notification would not be cancelled until the work of delimitation and demarcation in UP was completed and all areas properly notified under Section 29 of the IFA.

In 1980, a State Forest Policy was formulated which laid down the following provisions for demarcation and settlement.

"Only 1/3rd of the area notified as forests has been properly demarcated and settled under the Indian Forest Act. Steps are required to be taken to settle the remaining 2/3rd of the forest area that is undemarcated and unclassed by proper demarcation and settlement over the next 10 years. Forest and Revenue settlements should be taken up simultaneously so that there is no conflict in the rights to be admitted under the two settlements. Detailed guidelines should be given to the Settlement Officer about the rights which should be defined and regulated by an Act of legislation."

2.2.4 Cabinet Decisions

Following a Cabinet Memorandum moved by the Revenue Department, a cabinet sub-committee was formed on 18th November, 1985, under the chairmanship of the revenue minister to consider the matter of the notifications issued in February 1952. The state cabinet informally discussed the question of enforcement of the 1952 notification and decided that the legal requirements for these notifications should be completed so that court cases would not fail because of the absence of vernacular translations of the notifications.

In August 1986, the Revenue Department brought an item before the Cabinet: "notification issued by the Forest Department on 25th February 1952 declaring all Govt. Wastelands to be Forest Lands and the trees growing upon them to be reserved trees". The Cabinet decided "that a fresh joint memorandum be prepared by the departments of Revenue and Forests for a decision. The Department of Law may also be consulted."

A State Level Committee failed to resolve the impasse between the Revenue and Forest Departments over the fate of the notified forest lands. In 1986, it was agreed that requirements to give effect to the notification would be completed at the earliest.

After the Forest (Conservation) Act, 1980, was passed, it became all the more necessary to know

the exact legal status of the lands loosely classified as forests, and also to carry out a proper survey and measurement of existing government lands—particularly those shown as Undemarcated Forests and other categories of forests based on the notifications issued in 1919 (merged areas in 1952, old areas). A State Level Committee was constituted vide Govt. Notification No. Fts (F) 3-13/83- Loose dated 3rd March, 1987, to look into the whole issue of forest surveys, demarcation, and settlement comprising the FC-cum-Secretary (Forests), the Divisional Commissioner, Shimla, and the Chief Conservator of Forests to consider the following matters.

- Areas that have been settled as Reserved and Protected Forests and are duly covered by a notification may be entered in the revenue record without further loss of time.
- Areas declared as Protected Forests by Himachal and other areas of Himachal Pradesh covered earlier under the Notification of Punjab may be surveyed, measured, and demarcated through the existing revenue agency and additional forest and revenue staff provided for the purpose considering each *tehsil* as a unit of management.
- The classification for survey, measurement, and demarcation may be done in the following categories:
  - fit for afforestation;
  - fit for pasture land; and
  - fit for other usage such as roads, tourist resorts, habitations, and grant of lands to landless for cultivation.

The committee examined the matters in detail and made an effort to assess the present situation of forest areas in Himachal Pradesh, the existing operations being undertaken for settlement works, and the suggested operations, proposed organisational structure, and financial implications of the work required to be completed on implementation of its recommendations.

The committee submitted its report in May 1987. It stated that immediate action was required to be taken on the following major issues pertaining to proposed Forest Settlement operations.

- In view of the new 20 Point Programme, particularly point No.5 pertaining to enforcement of land reforms, point No.16 new strategy for forestry, point No.17 for protection of environment, and point No.18 energy for villages, it is absolutely essential that the statistics pertaining to forest areas in HP are updated by actual field survey, measurements, and settlement operations without any further loss of time.
- Within six months of the acceptance of the report by the government, action should be taken jointly by the Forest and Revenue Departments to ensure that the existing Reserved and Demarcated Protected Forests with valid legal notifications should be incorporated in revenue records in a coordinated manner to minimise any discrepancies.
- In the on-going revenue/forest settlement operations, there should be complete co-ordination at grass root level as well as at coordination level so that any discrepancies in areas are minimised and correct figures on forest areas become available for future planning.
- While carrying out the proposed forest settlement operations, instructions issued by the government for the grant of *Nautors*, particularly prohibiting the grant of *Nautors* on land with a slope of more than 33 per cent, will be kept in mind and areas will be pointed out during actual survey, measurement, and demarcation.

The Himachal Pradesh Forest (Settlement) Rules, 1965, have been notified vide Notification No. Ft. 162-1/61.II (M) dated 25th August 1966 under Section 76 of the Indian Forest Act, 1927. Subsequently vide Notification No.15-2-73-SF dated 3-10-1975, the Himachal Pradesh Forest (Settlement) First Amendment Rules, 1975 have been notified under section 77 of the Indian Forest Act.

2.2.5 Present Status of Forest Settlements

There are two main objectives in the completion of forest settlements. The first objective is

notification of the constitution of an RF/DPF, which is important for enforcing the provisions of the Indian Forest Act 1927. The second is to have the area entered in the revenue record. This should be done immediately after notification of constitution of an RF/DPF following the procedure laid down for the purpose. This is of major importance as in Himachal Pradesh the presumption of truth is based on the revenue records alone.

Forest Settlement Operations have so far been completed in 2 of the 12 districts in the state, Chamba and Mandi.

Regular Forest settlement work was started in Chamba district in 1962 and completed in 1975. An area of 427,487 ha (about 4,275 sq.km.), comprising 2,579 forests has been notified as DPF. Alhough the settlement and notification has been completed, the complete entry into the revenue records has not. Table 2.15 shows the progress of forest settlement and entry into the revenue records.

The settlement work in Mandi District started in 1977 and was completed in 1992. Altogether 1,518 forests have been notified as DPFs, and revenue entries made for all except two of them. The progress of settlement operations in 8 districts during the 3-years from 1992-95 is shown in Table 2.16.

2.2.6 Rights and Concessions

In the forest settlements, people have been granted several rights and concessions to use forestry resources for their bonafide domestic use, either free of charge or on payment of a nominal fee. There is a subtle difference between the terms rights and concessions, although they are often used interchangeably. Whereas rights are unambiguous, and defined and determined in forest settlements, concessions are not. Rights are legal in nature but concessions are not. Most of the concessions are accorded following payment of a fee, although fees may also have to be paid to exercise some rights (for example the timber distribution (TD) fee). Concessions can be withdrawn but rights can only be suspended. Most of the common rights that are admitted in forest and revenue settlements in Demarcated Forests are listed in the Forest Settlement Reports. The rights and concessions include collection of non-timber forest products (NTFPs) (also called minor forest produce or MFP), grazing of cattle, cutting of grass, and grants of timber for bonafide domestic use. The typical rights and concessions enjoyed 'with permission' and 'without permission' are listed below.

Table 2.15: **Settlement Categories and Their Area in Hectares**

Category of Settlement	Number	Area in ha
Total no. of forests settled and notified as DPFs	2,579	427,487
No. of forests for which revenue entries made	336	333,232
No. of forests for which revenue cases made	2,241	94,255
Cases allowed by revenue authority	2,000	-
Case rejected by revenue authority	241	-

Table 2.16: **Settlement Operations during 1992-95**

District	Target for Survey and Demarcation	Actual Work Done in the Year		
		1992-93	1993-94	1994-95
Solan	40,792	30,150	5,013	-
Sirmour	60,084	-	31,611	5,639
Lahaul & Spiti	212,050	116,961	-	-
Kullu	121,626	-	1,050	3,341
Bilaspur	30,895	3,406	2,688	12,361
Hamirpur	15,398	-	-	-
Una	4,2737	-	-	-
Kangra	222,889	978	2,585	2,788
Total	746,471	151,495	42,947	24,129

Rights with permission

- Timber to meet bonafide domestic or agricultural requirements, known as timber distribution or TD
- Wood for making charcoal
- Stones and slates
- Water courses and water mills

Rights without permission and concessions

- Grazing of cattle and cutting of grass in the forest
- Collection of fodder for cattle
- Collection of dry, dead, and fallen twigs as fuelwood for domestic use
- Collection of dry fuelwood for cremation
- Collection of pine needles for cattle bedding
- Collection of honey and herbs
- Right of way to water sources
- Right to use existing paths
- Lopping of trees for fuel and fodder to be used for domestic purpose

Each of these rights and concessions has a direct influence on the biomass balance in the forests. Of all the rights and concessions, ubiquitous and uncontrolled grazing by cattle and the grant of timber (commonly called TD) are perhaps the most contentious and deleterious for the sustained productivity of the forests. These are described in more detail below.

The timber distribution (TD) right is perhaps the most important right that people enjoy. TD grants account for 20 per cent of total removals. Every year approximately 150,000 cu.m (1990 figures) of timber with a market value of more than Rs. 145 million, in the shape of the best green standing trees (many of which should be retained as superior seed trees) are given away to people almost free. The TD rates were fixed in the early 1900s at 20 per cent of the then prevailing market rate, and have remained unchanged–mainly because of the politically sensitive nature of the grant and the potential for social turbulence. Liberal grants of TD, and the price differential vis-à-vis the market rate, have also led to excessive (mis) use and even smuggling. The problems have been particularly acute in Shimla district although considerable checks are now being exercised there.

Because of the economic importance of the TD right, the government has reiterated that it has no intention to curtail, withdraw, or modify this right. However, it has been trying to find ways to rationalise the grant and timber use. The DFFC's traditional view of considering TD as a big drain on forest resources needs to be changed and TD seen as a beneficial economic activity in rural housing, but one that needs to be properly regulated, for example by appropriate tree selection. TD can also be used as a strength in the Joint Forest Planning and Management (JFPM) process. Several instructions and orders have been issued by the Forest Department regulating TD rights.

In 1992, the population of grazing animals in HP was estimated to be 5.1 million (census). Almost all these animals depend upon forests to meet their fodder and grazing requirements. The entire forest floor is subject to heavy grazing, and the problems are compounded by the tendency of farmers to restrict grazing on their own and common lands but not in adjoining forests.

Grazing and fuelwood problems are more of a social issue than a management issue. Efforts to control excessive fuelwood removals and unabated grazing in forests and pasture lands have failed for socio-political reasons. The Forest Department is often asked to provide alternatives before imposing any kind of restrictions on fuelwood removal and grazing. The pressure is such that even closed plantation areas and regeneration areas are raided for grazing. These 'biotic' pressures can only be managed if people willingly restrict these activities. Participatory processes need to be introduced in order to educate people and solicit their cooperation.

2.2.7 Encroachment

Forest land has been 'eaten up' in a variety of ways over the years, legal and illegal. The legal title of forest areas not entered in the revenue records is unclear, leading to problems between the DFFC and the Revenue Department. In the past, much Class III Forest was turned into agricultural and

BOX 2.1
Case Study on TD Utilisation in Shimla Circle

Realising the sensitivity of TD in the relations between the DFFC and local people, SIDA commissioned a study on TD in Shimla in 1994, "HP – Timber for Dwelling", as part of the preparation for a sector strategy analysis. The objectives of the study were to assess the timber distribution scenario for rural housing; assess the sustainability of TD supply and demand; and identify essential factors that seem to facilitate or impede land use management as a result of felling under TD.

The study analysed the timber utilisation pattern, settlement pattern, house construction techniques, quality of timber used, and thermal efficiency of the houses in Shimla Circle.

The main findings were as follow.

- 10 cu.m of timber is used in the construction of an average house.
- TD demand is likely to go up from 46,000 cu.m/year between 1981 and 1991 to 56,000 cu.m/year between 1991 and 2001.
- The utilisation efficiency of TD timber is only 70%; 30% is wasted as a result of lack of treatment and using traditional sawing methods.
- The demand for TD timber can be reduced by up to 40% by improving house designs and use of upgraded skills and technology.
- TD is a management issue concerned with the equitable distribution of biomass resources.

The study recommended the following.

- Setting up of Building Centres at Block level to serve as technology transfer centres for propagating cost effective building technologies to ensure rationalisation in the use of TD timber
- Adoption of new housing designs developed by the Forest Research Institute (FRI), Dehra Dun, and the Central Building Research Institute (CBRI), Roorkee, to enable small sizes of timber to be used in roofs, walls, and flooring
- Use of salvage timber to meet the TD demand instead of felling green trees
- Change in TD distribution norms: the volume of TD should depend on the size of family and the grantee's economic status
- Introduction of TD pass books in the name of the head of the family
- Exploration of possibilities for providing processed timber instead of standing trees
- Development of long- and short-term strategies to deal with the type of subsidies involved in the TD system. The cost of subsidy should be passed on to the beneficiaries.

other types of land through the granting of *Nautor* rights by the Revenue Department. This practice encouraged people to take advantage of disputed land titles by encroaching upon other forest land, especially Class III land.

There has been a general tendency to encroach on forest land all over India. The official records in HP show only 2,052 ha of forest area to be encroached, but the real figure is estimated to be closer to 18,000 to 25,000 ha. In Rohroo and Jubbal, forestry records show an area of 271 ha under encroachment, but the ongoing revenue settlements have already identified 3,480 ha of encroachment in UPFs. The problem is serious throughout HP, but particularly so in Kullu and Shimla districts, and perhaps most acute in Shimla circle. Much land in the Himalayas used to be thought of as unsuitable for agriculture because of steep slopes and distance from habitation. But the adoption of apple cultivation has become a source of new-found wealth and encouraged the use for farming of previ-

ously rejected (forest) areas. Horticulture (orchards) has encouraged the encroachment of gentle slopes in the Beas Valley and apple orchards have developed in a big way throughout the area. Potato cultivation under kail forests is a common sight in Jubbal and Rohroo.

Encroachment and eviction from encroached land are dealt with under the Himachal Pradesh Public Premises and Land (Eviction and Rent Recovery) Act 1971. There are evident difficulties in enforcement of the law. The forests are extensive and lines of communication are poor, and the Undemarcated Protected Forests are honeycombed with agriculture so it is not easy to detect encroachment. The invisibility of the terrain to the gaze of government officials, whether Forest or Revenue Department, and the power of encroachers to deal with lower officials, have prevented any cognisance of encroachment. Most detection results because villagers report on their opponents. In general the village elite are not affected and poorer people and small encroachments are targeted. The absence of demarcation has made the task even more difficult. In those encroachment cases that come to court, the courts have been helpless in establishing the question of rights since the lands were not surveyed and demarcated. If a person enjoys quiet possession for a certain number of years, the courts can only concede the right of the person to the land. Although some progress has been reported in the eviction of the encroachers under the Act, given the magnitude of the problem it will take time before it has a marked efffect.

2.3 The Effect of Land Reforms and Land Tenure

Before the establishment of the new order in the 1950s, agrarian relations were characterised by sharecropping and other forms of tenancy and by the exaction of services known as *beggar* Although the agrarian structure in hill areas was generally characterised by a lesser degree of inequality than in the plains, it was not an equitable system.

Beggar was formally abolished in 1948; subsequently, the government introduced liberal land polices and enacted major land reforms. The most important were the:

- 1953 Himachal Pradesh Abolition of Big Landed Estates Land Reform Act;
- 1972 Himachal Pradesh Tenancy and Land Reform Act;
- 1972 Himachal Pradesh Ceilings on Land Holdings Act; and
- 1974 Himachal Pradesh Village Common Land Vesting and Utilisation Act.

The government divested large landowners of their estates, the land ceiling being set at 24 *bigha* (2 ha) for irrigated land, 36 *bigha* (three ha) for unirrigated land, and 72 bigha (6 ha) for orchards. The reform of 1974 vested Village Common Lands (sometimes known as *"shamlat"*) in the State. Much of the nationalised land was redistributed to landless or near landless households, with a target provision of five *bigha* (0.4 ha) per household. Similarly, under the law of *Nautor*, a landless farmer was allowed to cultivate government land, including UPF or Class III land, and expect to be granted secure title in due course.

These reforms have been effective in reducing the level of inequality in the agrarian structure in the state. Absolute landlessness is now rare at the district level, although wholly owned and self-operated holdings still constitute only 68.4 per cent of the total, and part-owned and part-leased holdings a further 19.7 per cent. Most households still only have access to very small landholdings. Further, beneficiaries under the land reforms mostly received only marginal lands. The average landholding size is 1.2 ha.

While this liberal land policy has helped reduce landlessness and rural inequalities, it has been largely unplanned and undirected, with adverse implications for the rational utilisation of land in some areas and, in particular, creating problems for the Forest Department over the management of Class III/UPF land.

Nautor Rights

Nautor is the name given to the breaking up of government wasteland and Class III land for

cultivation and construction of houses, cattle sheds, and water mills. The forest settlement rules define it as a grant on payment of a *nazrana* (premium) of an interest in the land in undemarcated waste owned by the government. Until 1896, the village headman or *negi* had the power to assign *Nautor patta*. After the forest settlements began, the right was given to the Assistant Commissioner. These rules were superseded in 1946.

The problems of awarding *Nautor* became apparent quite early. The original concern of the British Government in defining Class III (Undemarcated Protected) forest land was not to claim the land but to ensure forest conservation. The people had a right to extend cultivation as long as it did not lead to soil erosion and forest destruction. But the settlement report noted that *Nautor* grants had already been given on all available land. The Forest Department was perpetually complaining of the depletion of forests. As a result of the limited rights in Class I and II forests, all the pressure was on Class III forests.

In 1968, realising the problems resulting from the ad hoc allotment of *Nautor* in all types of lands by the revenue authorities, the government passed the Himachal Pradesh *Nautor* Land Rules. These stated that *Nautor* grants were only to be given on government land other than Reserved and Demarcated forests, i.e., in Undemarcated Forests. The State Government could grant *Nautor* in Demarcated Forests and in exceptional and special circumstances in Reserved Forests, but these were to be subject to the Forest Act. *Nautor* could be given for agriculture, horticulture, threshing floors, and construction of houses or public buildings. Priority was given to landless people, marginal land holders, scheduled castes and tribes, families of people who had died in military service, ex-servicemen, and others. The *Nautor* Rules provided detailed procedures for receiving applications, field visits by revenue officials, receiving objections, and clearance from the *gram panchayat*. It also contained a provision for an assessment by the Forest Department of the tree resources on the plot. There were some ecological restraints, for example *Nautor* could not be given for agriculture on steep slopes, but the main purpose of the Forest Department assessment was to know the value of the trees which must be felled and charged to the grantee. The main thrust was to allot land to the target groups. In the course of allotting *Nautor*, the revenue officials prepared a map indicating the location of the patch and record of rights in favour of the grantee. Thus by the *Nautor* grants the patch was carved out of the category of unclassed protected forest and thrust into private agricultural land to be governed by the Revenue Department under the revenue laws. Many *Nautor* grants were made, particularly in the seventies.

With the shrinking of the land available for agriculture and other purposes, grants of *Nautor* became more restrained and more focused on the poorer and weaker sections of the community. In the eighties the approach changed radically. The Forest (Conservation) Act 1980 clearly prohibited the state governments from diverting forest land for non-forest purposes without prior approval from central government. Although the practice of granting *Nautor* continued for sometime, it became clear that since Class III forests were protected 'forests', prior clearance from the centre was actually necessary. The amendment in 1987 further stipulated that forest land could not be granted to an agency other than the government without prior permission. Thus by the mid-eighties grants of *Nautor* to ordinary people had almost ceased, and proposals for approval for development work in *Nautor* land, like making roads and schools, were submitted to central government.

Nautor has now come to an end, but only after granting land wherever feasible for agriculture. The Forest Department always objected to the grant of *Nautor*, but the Revenue Department saw allotment of *Nautor* as a state welfare programme. The main cause of disagreement between the Forest and Revenue Departments was the problem of Undemarcated Protected or Class III Forests. The Revenue Department considered these lands not to be forests, because the revenue records don't contain en-

tries for such lands as forests. They considered Class III Forest to be a bank of land which could be used to make allottments to the landless and poor as per the policy of the government. Even Demarcated Forests for which revenue records did not exist were considered to be revenue lands from which they could allot *Nautors*. At least 26 classifications have been issued in the form of executive instructions since 1968.

Although *Nautor* grants have been suspended, no new land policy has been announced.

2.3.1 Forest Land Tenure

Land tenure legislation varies between Districts: in Kullu District, for example, the Forest Department is responsible for virtually all land except private agricultural land; in Mandi District the Revenue Department is responsible for government grazing land and government wasteland.

In law, the Forest Department is responsible for Reserve Forest, Demarcated Protected Forest (Classes I and II), Undemarcated Protected Forest (Class III), and for trees on government grazing land. Utilisation of trees on private land is regulated by the Forest Department under the Land Preservation Act of 1978.

Throughout Himachal Pradesh, common land was vested in the state under the Village Common Land Vesting and Utilisation Act of 1974, except for some land along rivers, roads, and paths, and common tree groves near temples. However, government wasteland, grazing land, and Undemarcated Protected Forest/Class III forest land are widely treated as open access resources. UPF/Class III land is regarded very differently by the Forest Department, the Revenue Department, and various groups of local people. The Forest Department view UPF/Class III land as part of the forest estate, to be protected from encroachment and, where possible, planted (typically with chir pine) and brought under settlement as DPF. Virtually all the land in this category in Mandi Forest Circle has now been demarcated and classified as New Demarcated Protected Forest. In contrast, the Revenue Department views UPF/Class III land as a bank of land on which to draw to meet the needs of *Nautors* and others for land to cultivate. Not surprisingly, most villagers find this the more congenial view and, legally or not, continue to break such land for cultivation or for planting as orchards. However, both the extension of cultivation and the increased area planted under trees and declared DPF, reduce the land available for grazing livestock, thus placing pastures under increased pressure. This affects both local flocks and flocks belonging to transhumant grazers.

All of these activities reflect an unplanned, undirected, and frequently irrational approach to land management. A more coherent approach is required which harmonises, at least at local level, the conflicting interests of the key departments and the various groups of local people who use or wish to use the land.

2.4 Common Property Resources

Communities regard water channels (*khuls*), springs, village common lands, and temple groves as common property resources (CPR), and in most cases this is officially sanctioned. They may also regard some forest to be a CPR.

Temple groves are considered to be the property of the Deity (*devta*). The management of the groves is often done by a village committee. The communities have very strict rules for the conservation of temple groves. Infringement of rules often leads to imposition of fines and may even lead to social, economic, and religious boycott of the culprit families from the village community.

In most parts of the state, local people tend to follow, by common consensus, management practices for land and forest that are traditional and customary in nature. Such management practices often have a social, religious, or economic origin and can have a significant impact on the health and sustainability of forests. Effectively, they are treating the areas as CPR. The use of forests as a CPR by communities is, however, subject to the classification of forests as Reserved, Demarcated Protected (Classes I and II), or Undemarcated Protected (Class III) Forest. Reserved Forests

cannot be considered CPRs as people have practically no rights or privileges in them.

In addition to formalisation of forest lands as CPRs, forest settlements also delineated a buffer zone between forest lands and villages. These buffer zones were the village common lands, or *shamlat*, and common grazing lands. These village common lands were also CPRs but the ownership was vested in the village communities. Creation of Class III Undemarcated Protected Forests and recognition of village common lands created a balance between the use of forestry resources for national and other needs and meeting the bonafide domestic requirements of the locals.

2.5 The Role of Forests in the Rural Economy

Himachal Pradesh, is a hill state and its economy is dependent on the forests. Nine tenths of the population live in villages and the lives of these people and of the situation of the entire rural economy are intimately interwoven with the forests. Most villages are surrounded by forest, and the health of the forest is an index of the prosperity of the local population.

The basic forestry needs of people are fuelwood, fodder, and timber. People grow their own trees and graze animals on their own land, but they are still to a large extent dependent on nearby common forests to fulfill their demands. The overall dependence of rural households on public forests for fodder, fuelwood, and timber is estimated to be about 49, 50, and 61 per cent respectively. The value of the forest products that an average rural household receives is estimated to be Rs. 7,254 per annum. The forests contribute a significant share (28%) to the family income of rural people. Herbs and other medicinal plants collected from the forests contribute more than 25 per cent of this income.

It is difficult to value the goods and services provided by the forests. Even so, it is clear that the economic returns far outweigh the investments. In HP the output of goods is estimated to be at least fourteen times the direct investment. Even this may be a gross underestimate of the true economic return.

2.5.1 Agriculture

Crop production, animal husbandry, and forestry are the three main components of the farming system in hill areas and are closely interlinked and interdependent. Forests are an integral part of the system. They supply fuelwood, fodder, compost, timber, staking, fencing material, and food. The number of livestock kept per household is mainly determined by the available forest and grazing land. The forest contributes almost half the total cost of production of livestock in the form of feed and bedding material, and 19, 20, and 26 per cent, respectively, of the total cost of production of food grain, fruit, and vegetables. An average household collects 13,250 kg of dry weight fodder in the form of grass and leaves from forest lands annually, 70 per cent of this by grazing. Forests fulfill more than 90 per cent of the domestic energy requirements of hill people, of which public forests provide 50 per cent.

2.5.2 Fuelwood

As a result of the climatic, social, and economic factors, overall wood consumption per capita in HP is higher than the national average. According to studies conducted by the FSI, the annual per capita fuelwood requirement in HP is about 800 kg at higher altitudes and 600 kg at lower altitudes, an average consumption for a household of 5-6 of between 3 and 4 tonnes. The Agro-economic Centre of HP University calculated a similar overall requirement.

2.5.3 Wood for Packing Cases

The development of the apple industry in Himachal Pradesh has led to a requirement for wood for apple packing cases. This led to overexploitation of most of the fir forests in Shimla betweeen 1983 and 1990, leaving significant areas of forest in a bad state. The government has now banned the use of high altitude conifers for making apple packing cases, and

cases are now made with wood imported from Punjab and Haryana where there is a surfeit of eucalyptus.

2.5.4 Timber for New Houses, Repairs, and Agricultural Implements

The demand for timber is increasing steadily as a result of both the number of houses needed (a result of increasing population and the separation of joint into nuclear families) and the creation of new infrastructural facilities in rural areas like primary health centres, hospitals, educational institutions, and banks. The estimated future demand for timber for new houses, repairs, and agricultural implements is shown in Table 2.17.

2.5.5 NTFPs

NTFPs, in particular plants and medicinal herbs, are a source of supplementary income for rural households. Typical examples are bhabar grass, *katha*, and resin. Bhabar grass is important in the lower hills. Local people have collection rights, but it is also an important source of revenue for the DFFC. M/S Ballarpur Paper Mills obtained exclusive rights to collect this grass for paper making in the early 70s on payment of a royalty to be decided yearly. *Katha* is important in the lower and mid-hills. It is extracted from khair wood, which is grown on cultivated fields as well as being planted on a large scale in forestry plantations. Local people can fell trees growing on their fields under a 10-year felling programme applicable to private lands. In forests, khair is cut in accordance with working plan prescriptions. At present, the HPFSC carries out khair extraction in government forests. Resin collection (from chir pine) is the exclusive right of the HPSFC, and although private individuals may extract resin from trees growing on private land they must sell it to the HPSFC.

A large number of NTFPs are extracted in the mid and high hills. The exact contribution of these to the rural economy is not known, but in 1992-93, 4750 tonnes of medicinal herbs and shrubs valued at Rs. 23.5 million were exported out of the state (estimates from the DFFC, which regulates export). The valuation is likely to be a gross underestimate as there are no reliable data on market rates.

Exploitation of NTFPs tends to be unregulated and indiscriminate with little control by the DFFC. Moreover, until recently propagation was not considered. No worthwhile research has been done to ensure conservation of the NTFP base, particularly medicinal plants and aromatic plants. Between 1990 and 1997, a Government of India scheme for propagation was carried out. But the scheme was operated to augment funds for tree plantations capable of yielding fruit, gum, and resin (like chir, khair, and bamboo) rather than being a true NTFP scheme. It had no significant provision for developing cultivation and nursery techniques or for marketing of NTFPs.

2.5.6 Transhumant Grazing

Transhumant grazing has been blamed for degradation of alpine pastures and absence of regeneration in high fir forests. Overgrazing is not a recent phenomenon, controlling grazing has

Table 2.17: **Timber Demand for New Houses, Repairs and Agricultural Implements**

Year	Population '000	No of Rural Hhs '000	Timber Requirement '000 cu.m			
			New construction	Repair	Agricultural Implements	Total
1991	5171	861	150	86	29	265
1996	5682	947	167	95	32	294
2001	6271	1041	185	104	35	324
2006	6937	1149	202	115	39	356
2011	7673	1263	220	126	43	389
2016	8486	1388	247	139	47	433

been considered important since the end of the nineteenth century. The limited evidence indicates that there has been a decline in the diversity and productivity of grass lands and in forest regeneration, resulting in soil erosion and a negative impact on wildlife.

The transhumant grazers in Himachal Pradesh have developed a complex set of strategies to maximise the available pasture and forest lands at higher and lower altitudes. Much of the pastoral cycle has been codified into shepherds' and Gujjars' rights to grazing, the migration routes, and the number of animals kept. The transhumant grazers continue to adjust their flock management practices to optimise resources.

2.6 Forest Management

Management practices or silvicultural operations are activities that are required to be carried out in different portions of the forests at different times to increase productivity and ensure the forest is used in a sustainable way. Some management practices are common to all silvicultural systems and some are specific to a particular silvicultural system. Management practices can consist of both mandatory activities and imposed restrictions. The entire do's and don'ts prescribed for the benefit of forest crops constitute the 'management practices'.

In most parts of the state, local people tend to follow, by common consensus, a set of management practices that are traditional and customary in nature. Such management practices often have a social, religious, or economic origin. Technically, these management practices are not construed as silvicultural management practices in working plans, and although recognised informally are not sanctified. In practice, however, these customary practices have a significant impact on the health and sustainability of forests.

2.6.1 Traditional Forest Management Approaches and Systems

Forest settlements clearly define and identify which group of villages has rights and concessions in which particular forests. These areas are often further sub-divided by consensus. These informal agreements are generally most successful in resource poor areas. Traditional systems of management are designed to ensure that all rightholders are able to obtain the whole range of forest products that they need, in contrast to silvicultural systems that focus on timber, and generally include systems for distribution of products as well as prescriptions for forest management.

Traditional forest management approaches include inter-village and intra-village arrangements related to the imposition of restrictions on grazing in a particular forest or for a particular period, restrictions on cutting and lopping of trees, division of forest or common land for cutting of grass, maintenance of public rights of way, bars on hunting and fishing at times important for reproduction, restrictions on cutting of grass and collection of NTFPs before seed fall, bans on the cutting of tree species and climbers with a religious or social value, restriction of TD rights to defined portions of forests, preservation of temple groves (through 'Devata Committees'), protection of plantations by persons selected by the community (the *rakha* system), collective collection of firewood for the cremation of the dead, and protection of village forest resources from the people of other villages. In some places, people from the village community take turns in taking all the cattle from the village to the nearby forests. This arrangement is most common amongst Gaddis.

The way in which forest products are distributed may also be regulated locally after the official forest settlement process is complete. Impromptu committees may be formed to send representatives to meet government officials to discuss problems related to forest protection like forest offences, the need for closure of an area for plantation or for opening of an existing plantation, and the distribution of TD. In cases of dispute, communities often decide who should get TD for how many trees.

2.6.2 The History of Forest Management

The history of forest management in the state can be divided into three phases.

Phase 1: The Era of Princely States

Little is known about forest management in early times. There is no record available to show if the Aryans cleared many areas for habitation in the mountainous tracts, although it is occasionally mentioned that the forests of Punjab were affected by the early Aryan invasion. During the Mughal Period, the forests were not preserved (although some Hunting Reserves were). As a result of the Muslim invasion, several small rulers migrated to the remote hills in the Himalayas and established their own states after overpowering the local chieftains. These rulers had complete authority over forests. They did not appreciate the value of forest wealth, and forests were destroyed during the wars with the Gurkhas and other wars between hill states as well as for cultivation. Forest utilisation practices were highly wasteful, and valuable wood like deodar was even used for smelting iron in parts of Bushahr. There was no management of any kind, and clear felling and general destruction was the rule. The forests were plentiful and the rulers paid no attention to forest conservation or management.

Phase 2: The British Era

Forest management activities were started by the British rulers of India. Prior to the middle of the last century, the rulers in the hill states could only transform the forest produce into money in exceptional circumstances. With the advent of British rule and the establishment of cities and cantonments, large quantities of timber were required. Initially only deodar was considered to be of any value. The first major commercial exploitation started around 1850 when the Bushahr forests in the valley of the Sutlej were worked for export of deodar timber to the plains. The forests were leased to Indian and foreign traders; on payment of a fee to the local Raja permission was granted to fell any number of trees in any place. Between 1850 and 1864, havoc was created in the most accessible parts of these forests by these traders. The most accessible forests of Mandi, Suket, and Bushahr, overlooking streams along which logs could easily be floated, were targeted for harvesting. As a result of overexploitation, the forests receded into the interior.

Lord Dalhousie, the Governor General of India, recognised the need to ensure forest conservation in the Himachal Pradesh area and took steps for forest conservation as early as 1849. Realising the heavy pressure on the accessible deodar forests, he appointed Captain Longden to explore and report on the forests of the western Himalayas in 1852-53. On his recommendations, a timber agency was established in Chenab, and Captain Longden was appointed agent in 1854. A memorandum issued on 3rd August 1855 by Lord Dalhousie, marked the beginning of official policy towards forest conservation. In the same year, the Chief Commissioner of the Punjab, Sir John Lawrence, developed rules for forest conservation in the hill districts. In 1859, Major Lake, the commissioner of the Trans-Sutlej States, submitted rules that Bailey, the Deputy Commissioner of Kangra, had prepared for the district and suggested that they should be adopted in other areas with some modifications. The rules forbade the felling of trees without the prior permission of the Deputy Commissioner, with the exception of inferior trees required for subsistence for which permission of the village headman was sufficient. Ancient rights like the grazing of cattle and collection of dry wood and leaves were allowed to continue, but one third of each forest was to be closed entirely for three years in a rotation system.

Forest development in Himachal Pradesh is also associated to some extent with the development of the town of Shimla which was established in 1819. The town developed rapidly, and Dr. Falconer, the Superintendent of the Botanical Garden of Calcutta, visited Shimla in 1853 to look into the problem of ensuring a sustained supply of fuelwood. His report described the disregard of local chieftains for the preservation of forests, and the cutting down for fuelwood to gain agricultural land. Forest depletion was leading to problems of firewood supply in Shimla, Kasauli, Sabathu, and Dagshai. Dr. Falconer proposed the establishment of plantations throughout the hills to preserve the existing forests. A technique was evolved to raise deodar artificially by sowing and planting and a technique for natural regeneration was also developed. The earliest systematic

attempts to raise plantations were made with a small plantation of 1,500-2,000 deodar plants on the banks of the River Chenab in 1853. In view of the deteriorating conditions of the forest around Shimla, the superintendent of the Shimla Hill States issued a letter in 1886 requiring rulers to introduce forest conservation in their respective states.

In 1861 the Punjab Railway Company deputed Mr. Strong to examine and report on the forests of Bushahr State with a view to extending their operation for procuring sleepers from the region. It was reported that by 1862 there was massive exploitation of deodar trees especially in areas within three miles of the Sutlej and Baspa rivers. The interior of these areas was covered with a belt of finest deodar forest commencing at Nichar in the upper parts of the northern slopes, and terminating near the Hangrang ridge, which forms the northern limit of the species. Mr. Cleghorn said that the forests were sufficient to supply the needs of the railways and the Public Works Department and the requirements of the local inhabitants if they were worked on a sustained yield basis. However, waste resulting from unscientific and primitive methods of felling was appalling. Mr. Cleghorn visited the valleys of Giri, Pabur, Sutlej, Ravi, and Beas during 1862 and 1863 and made valuable maps and notes. He strongly recommended economy in the use of fuel by employing closed stoves and improved kitchen ranges. He urged careful preservation of the deodar forests and advised that seeds of trees indigenous to a locality be sown before the rains wherever the natural forests belonging to the government were thin.

In the early 1860s, with the appointment of Dietrich Brandis, a trained German forester, as the first Inspector General of Forests of India, management of forest lands became the responsibility of newly created Forest Departments all over the country. The Forest departments were given the following tasks:

- exploration and exploitation of forest resources;
- classification of forests by demarcation of resources;
- protecting forests from fires;
- assessment of growing stocks and prescription of yields.

The modest beginning of systematic management of forests in Himachal commenced when the forests of Chamba and Bushahr were leased to the British Government in 1850 and 1864 by the respective states. In 1877, a revised lease stipulating payment of a fixed yearly rent of Rs. 10,000 to the Raja of Bushahr was executed with the British government for 50 years. This revised lease took over all the forests of Bushahr State, including those situated in the valleys of the Pabbar and Giri rivers and the tributaries of the Jamuna. The lease stipulated free supplies of the forest produce required by the state and the inhabitants of Bushahr. After the execution of the lease, the forests were managed by the Forest Department on the same lines as forests of the British territories. Sir Brandis visited Bushahr in 1864 and 1872 to prepare an evaluation survey of the deodar forests and draft a preliminary report for a working plan. Ribbentrop, Stenhouse, and Batchelor prepared a report for the management of the Bushahr forests in 1874, along the lines drawn up by Brandis in 1872. Systematic management was started elsewhere in Chamba and working plans were prepared for the forests of upper Ravi and Pangi by D'Arcy in 1886 and Smith in 1891.

The First Indian Forest Act was passed in 1865, but did not restrict existing rights. It was supplemented by the Punjab Forest Act of 1872, which imposed certain restrictions. In 1871, Wild submitted proposals for the working of Shimla Municipal Forests which clearly recognised that user rights only belonged to landowners living in the neighbourhood of the forests. Demarcation of forests and settlement operations began in the 1870s and 1880s. The first Forest Policy was formulated in1894 and formed the basis for later forest management and working plans. In 1904, special rules known as the 'Shimla Forest Conservancy Rules' were formulated by the government of Punjab following this policy. Most forests were brought under working plans by the 1930s.

The First World War led to unregulated felling in most forests. At the same time 'kail' came into

prominence and a demand developed for fir and spruce forests. The general slump after the war threw fir timber out of the market, and it became difficult to make a marginal profit even on deodar sleepers. Chir pine forests did not attract much attention until the late twenties when the resin industry developed in the Punjab.

Phase 3: The Post Independence Era

Himachal Pradesh was formed in 1948 by the integration of some 30 princely states. It inherited the traditions of scientific forest management introduced a century before. A new National Forest Policy was enunciated in 1952 based on the 1894 Forest Policy. It prescribed the maintenance of forests over 66 per cent of the total area of hill states. This policy has been helpful in the formulation of management plans for state forests. A State Forest Policy was then formulated in 1980 to meet the requirements of Himachal Pradesh. The Government of India revised the National Forest Policy in 1988. The 1988 Policy lays special emphasis on environmental stability and the maintenance of ecological balance and on meeting the needs of the local people living near forests.

Summary

The following stages of forest development can be discerned.

- Primeval or undisturbed forests
- Shifting cultivation and clearing of forests
- Increase in population leading to excessive demands for forest products, and clearance for cultivation, habitation, and other needs
- Selective removal of valuable timber like deodar, sal, and boxwood, and impositions of local taxes or levies by local rulers on produce removed
- Advent of British rule and continued demands for timber, especially deodar, and overexploitation of accessible forests
- Recognition of the need for conservation–leasing out of forests for the sustained supply of wood for railway sleepers and civil construction; creation of a Forest Department in the province of Punjab, governed by the British, followed by similar measures in the more progressive princely states
- Survey, demarcation, and consolidation of forests, commencement of regeneration activities, and drawing up of working plans
- Excessive working of all forests during the two world wars, including exploitation of accessible areas, and utilisation of new species hitherto considered inferior like chir, kail, fir, and spruce
- Indian independence, the integration of princely states with areas formerly under British rule, reorganisation of the states and re-orientation of work on a large-scale under the Five-Year Plans

2.6.3 Silvicultural Management Systems

Most silvicultural management systems have the aim of encouraging natural regeneration and maintaining forests to maximise the sustained production of timber. Modern systems aim at developing an even-aged uniform crop. The type of silvicultural system used to manage the forests in the lower parts of the Himalayas for timber production has changed over time. Broadly, two types of silvicultural management system have been used to obtain natural regeneration: the selection system and the uniform shelter wood system. In the selection system, trees above a certain diameter or girth are felled without creating any permanent opening in the forest canopy. It proved difficult to close the felled areas to protect young regeneration, however, so these systems were replaced wherever feasible with a uniform or uniform/shelterwood system, in which all trees in a certain area are felled regardless of size, with the exception in the shelterwood system that a few are left standing to act as seed trees and provide shelter for the regeneration. This system leads to the creation of even-aged forests. Adoption of the uniform system has increased the efficiency of harvesting but it has not eased the problem of ensuring natural regeneration, as in practice it has been found impossible to close the forests to grazing and other human interference for the

long periods required (10-15 years). There is also a tendency for people to plant felled areas immediately after felling.

The silvicultural system to be used in a forest is prescribed in a forest working plan. The history of working plans dates back to 1872-74 when Brandis drafted the first preliminary report for preparing a working plan for the Bushahr forests and Ribbentrop drew up the management plan. The first working plan for Kullu forests was prepared by Fisher in 1897, and for bamboo forests in Bilaspur State by Coventry in 1900. In the early periods, the working plans only prescribed clear felling. Proper silvicultural systems of management were only introduced after 1902. By 1935, most forests had been declared Reserved and brought under working plans. At present, there are 31 working plans in operation in the State in 38 territorial divisions and four working plans (schemes) for cantonment areas. Some plans cover more than one Forest Division. The plans cover 20,744 sq.km. of forest (55% of the total legal forest area, or 98% of actual forest cover). The main types of silvicultural system used in forest managment and prescribed in forest working plans over the years are summarised in Table 2.18.

Most of the conifer and sal forests situated on accessible slopes are now managed under a modified shelterwood system or uniform system, although some forests, mostly fir-spruce, are still managed under the selection system. Even these forests are being brought under uniform systems as their working plans are revised. In general, the rotation period for fir, spruce, kail, deodar, and chir is fixed at 120 years and the regeneration period at 30 years. The rotation period for sal forests is 100 years. Forests situated on inaccessible or precipitous slopes are managed under protection working circles and normally no silvicultural system is prescribed. Oak, khair, and miscellaneous scrub forests are managed under a coppice with standards' system, and bamboo forests under a three-year felling cycle.

Table 2.18: **The Preferred Systems of Management at Different Times**

Period	Systems of Management
1860-1900	Clear felling system
1902	Selection system introduced
1908	Group shelterwood system adopted
1915	Uniform system introduced in deodar forests of Kullu
1925	Punjab shelterwood system introduced in chir forests
1932	Uniform system applied to sal forests of Nahan
1940-60	Widespread introduction of the uniform system in Bilaspur (1954), Rajgarh (1961), Solan (1961), and others

3 Forest Policy and Legislative Framework

The institutional framework for the management of forest lands and resources stems from the rights and concessions granted to local people under various forest settlements. For effective management of forest lands and resources several acts, laws, rules, and executive orders have been issued by the GoHP. This has made the institutional and legal environment extremely complex and complicated.

The complex and at times contradictory legal set of rules has significantly impaired the capacity of the DFFC to manage the forest resources effectively . A strong need has been expressed to simplify the entire set of laws and rules which make up the legal environment.

The legislative framework is itself based on the forest policies enunciated by the governments of the country and the state at different times. The development of forest policy is summarised below.

3.1 Forest Policy

The first indication of a policy for forest management in the hills was a memorandum issued in 1855 by the Governor General of India, Lord Dalhousie. Under the memorandum, the forests of Chamba and Bushahr States were leased to the Punjab Government. The policy of leasing forests for management was replaced with the **Forest Policy of 1894**. This policy aimed at consolidating the efforts initiated between the 1850s and the 1880s to introduce forest management on scientific lines. The 1894 policy laid the framework for forest management and working plans and remained in force until 1952.

After independence, forestry management and control was brought under the guidelines and policies laid down by the Government of India. The Forest Policy of 1894 was amended in 1952 to suit the changed economic and political conditions of independent India. The **Forest Policy of 1952** became the sole guide for forest management in the Indian states.

In **1980** the State of Himachal Pradesh enunciated a **State Forest Policy** under paragraph 34 of the National Forest Policy of 1952. HP is one of the few states in India to have its own Forest Policy. The policy was formulated to take into account the special situation of forestry, with its key role in the economy of the state as a whole as well as in that of local people, and to boost forest conservation and forestry development. The policy covered all facets of forestry in the State. The salient features are summarised below.

- Forest policy to become **an integral part of land management policy**
- Transfer of all areas acquired by the government under the Land Ceiling Act 1972 and Village Common Land (Vesting and Utilisation) Act 1974 that bears forest crops or has the potential to be brought under forest to the Forest Department within a year
- Crash afforestation programme to increase the area of the state under (fully stocked) forest cover to 60 per cent; as a minimum to achieve at least 50 per cent by 2000 AD

- All types of felling to be done according to a Working Plan; and a moratorium on commercial felling for the next four years
- Demarcation of all undemarcated and unclassed forests and completion of settlements within 10 years
- Rationalisation of Timber Distribution rights for bonafide domestic use
- Stoppage of alienation of forest land for agriculture in the shape of *Nautors*
- Preparation of a Master Plan for the management of watersheds
- Strengthening of the Wildlife Wing
- Forestry Programme to be oriented to encourage people's participation
- Fuel saving devices to be encouraged
- Strengthening of Indian Forest Act to stop unauthorised removals and transport of timber
- Stoppage of all subsidies at the cost of forest revenue
- Incidence of forest grazing to be checked by formulating a programme for pasture improvement
- Nationalisation of the sale of trees from private lands
- Encouragement of eco-tourism
- Setting up an effective Monitoring and Evaluation Unit within the Forest Department
- Creation of facilities for carrying out applied forestry research.

The Government of India revised the 1952 **Forest Policy in 1988** in order to evolve a new strategy for forest conservation throughout the country.

It is now more than 18 years since the State Forest Policy was enunciated. Although the policy guidelines contained in the State Forest Policy are still valid, there is a need to re-orient the policy in the light of the new National Forest Policy of 1988, of the guidelines and orders issued for the introduction of Participatory Forest Management by the Government of India in 1990 and the Government of Himachal Pradesh in 1993, and of the new *Panchayati Raj* Act under the 73rd amendment of the Constitution. The new state forest policy needs to take a holistic view of forestry issues and problems.

3.1.1 Grazing Policy

Almost the entire forest floor is subject to heavy grazing. Most of the population of grazing animals grazes for varying periods in the forest without any restrictions resulting in destruction of natural regeneration. Even plantations are grazed recklessly. Alpine pastures are also indiscriminately grazed by nomadic grazers. The pastures are a valuable source of medicinal herbs and shrubs, and these are becoming rarer as a result of both overgrazing and excessive extraction by villagers. No satisfactory solution to the grazing problem has yet been found. Efforts towards pasture management and propagation of medicinal herbs are on a miniscule scale and have yet to show any tangible results.

The Government of Himachal Pradesh constituted a Grazing Advisory Committee in1968. This Committee submitted its report in 1970 and made several recommendations. These included freezing the number of animals, controls on migratory and nomadic herds and flocks, registration and enumeration of flocks, fixing of routes to be followed by nomadic herds, levy of a uniform grazing fee, closure of not less than 1/3rd of the grazing area allotted to a particular grazer at a given time, levy of a tax on goats and buffaloes, and reduction of the excess number of these animals in a phased manner. Despite these recommendations, the population of grazing animals increased from 4.2 million in 1966 to 5.2 million in 1987.

The situation in Shimla circle is no better than in other parts of the state. A viable strategy needs to be found to tackle the grazing problem. The first step should be to carry out a comprehensive study of the various aspects of the problem. Introduction of JFPM in a judicious manner may help to ease the problem.

3.2 The Legislative Framework

The institutional framework for the administration of forest lands and resources in Himachal Pradesh dates back to the 19th century when forest settlements were carried out. The legal settlements made at the end of the 19th century and in the first two decades of the 20th still provide the basic

institutional framework for administering forest resources. This distinguishes the state from many other areas in India in that local people's rights were accepted and formalised rather than weakened or terminated. The State has increasingly tried to regulate public access, principally through the Revenue and Forest Departments. But although there have been many new laws and rules and regulations affecting forest resource use during the past 100 years the users' rights remain unchanged, except that the number of people holding them has increased significantly. The demands made on the forest resources through the honouring of these rights have increased enormously. And the institutional and legal environment in which this historical legacy is implemented has become exceedingly complicated.

Proponents of enacting a strong legal framework argue that "coupled with a need to create public awareness, certain legislative measures are also required to preserve and protect the forests and to act as a deterrent to those unscrupulous elements who might be tempted to carry out and abet forest offences." The Government of Himachal Pradesh has from time to time strengthened the legislation through enactment of various Acts and Rules. These legislative and administrative steps were considered necessary to curb the menace of unauthorised removals and organised timber smuggling. As a result of effective legislation, most forest offences are now of a petty nature.

The legal provisions on control, use, and management of forests and government land are scattered over several Acts, Rules, Settlement Reports, Notifications, and Government Orders. Legal instruments have been introduced at different times to deal with the reigning exigencies of the administration. As a result, the law is not a coherent entity, but rather a contradictory body of conflicting objectives, modalities, and provisions. The rules framed under one act sometimes violate the content and spirit of another act, and different instruments can have conflicting provisions on the same issue.

Under the forest laws, there are numerous rules regulating harvesting, transit, and marketing of forest produce. This is also true of mining in forest lands. Court judgements have recently put some restrictions on these activities in response to public cause litigation from environmental and ecological protection pressure groups. However, given the land classification problems (in Himachal Pradesh) the matter cannot be handled unless amendments are brought about in the forest and other related laws of the land.

3.2.1 Time Line of Legal Framework

The major activities, acts, rules, settlement reports, notifications, and government orders related to forests are listed in order of appearance below, and selected and additional ones described and discussed in more detail after the list. The laws, acts, and rules related to forest lands now in force in HP are listed in Annex 2.

1855 The Chief Commissioner of the Punjab, Sir John Lawrence, drew up a set of rules for the conservation of forests in hill districts.

1859 The Deputy Commissioner of Kangra, Mr. Bailey, prepared rules that forbade the felling of trees without prior permission of the Deputy Commissioner. Inferior trees could be felled for bonafide use with the permission of the village headman. Major Lake, the Commissioner of the Trans-Sutlej States submitted the rules and suggested they be adopted with some modifications in other areas. Ancient and traditional rights like grazing and collection of dry wood and leaves were allowed to continue, but one third of each forest was to be closed entirely for three years in rotation

1878 Indian Forest Act 1878 enacted

1886 The Superintendent of the Shimla Hills issued a letter to rulers of the surrounding states requesting them to introduce Forest Conservation in their respective states.

1890 The rulers of Nahan declared the sal forests of the area to be reserved and introduced a permit system (revenue) for transit of timber

1894 First Forest Policy enunciated

1896 Notifications issued in respect of forests in Kullu and Lahaul and Spiti declaring categories of forest as Classes I,II, III. Forest settlement for Kullu by Alexander Anderson.

1897 Notifications No. 57 and 58, dated 26th January, 1897 (amended in 1919), issued for Kangra District (now Una and Kangra districts), Declared Demarcated Protected Forests and trees in Demarcated Forests to belong to the government.

1904 Shimla Forest Conservation rules introduced by the Government of Punjab under the policy laid down in 1894.
Forest Settlements for Mandi, Kinnaur, Solan, Rohru

1921 Introduction of *Nautor* Rules and Settlement of Transit Rules, relaxing the conditions in the earlier Acts

1927 Indian Forest Act XVI, 1927, enacted and rules made applicable to the princely states that later became Himachal Pradesh

1937 Mandi Minor Forest Produce Exploitation and Export Act (Act No VII of Samvat 1997)

1943 Chamba Minor Forest Exploitation and Export Act (Act 26 of Samvat 2003)

1947 Chamba Minor Forest Produce Manufacture of Drug and Export Rules 1947

1952 Notifications No. Ft.29-241-BB/49 and Ft. 29-24/BC/49 issued for the areas in old Himachal Pradesh under section 29 of the Indian Forest Act (XVI of 1927). By virtue of this notification, all wastelands were declared as protected forests.

1953 Himachal Pradesh Abolition of Big Landed Estates Land Reform Act

1954 Himachal Pradesh Private Forest Act promulgated to exercise rights over private forests
Bilaspur State merged into Himachal Pradesh

1963 Himachal Pradesh Land Acquisition Act
Notification No. Ft. 29-24/BC/49 dated 13th November, 1963 under section 30 (a) of IFA issued declaring all trees in protected forests under the notification of 25th February, 1952, to be reserved with effect from 1st January 1964

1964 On 21st August 1964, the Council of Ministers decided to cancel the notification of 1952 and restore the original status of the land. This decision has not been implemented and the notification is still in force.

1965 The Himachal Pradesh Forest Settlement Act

1966 Punjab Re-organisation Act. Hill areas of Punjab (Kangra, Hamirpur, Una, Kullu, Shimla, Solan, Lahaul and Spiti) incorporated into Himachal Pradesh

1968 Indian Forest (Himachal Pradesh Amendment) Act
Himachal Pradesh Forest Settlement Rules 1968
Himachal Pradesh Forest (Sale of Timber) Act 1968
The Himachal Pradesh *Nautor* Rules

1969 Himachal Pradesh Forest (Sale of Timber) Rules 1969

1971 Himachal Pradesh acquired full statehood
Himachal Pradesh *Gram Panchayat* Rules
The Himachal Pradesh Public Premises and Land (Eviction and Rent Recovery) Act (No. 22 of 1971)

1972 Wildlife Protection Act
Himachal Pradesh Tenancy and Land Reform Act
Himachal Pradesh Ceiling on Land Holdings' Act

1974 Village Common Land Vesting and Utilisation Act

1975 Village Common Land Vesting and Utilisation Rules and Scheme

1976 National Commission on Agriculture Report
42nd amendment to the Indian Constitution: "State to endeavour to protect and improve the environment and to safeguard the forests and wildlife"

1976 Forestry transferred from State to Concurrent List in the Constitution of India

1978 Himachal Pradesh Land Preservation Act
Himachal Pradesh Forest Products Transit (Land Routes) Rules, 1978

1980 Forest Conservation Act of 1980 (first central government act after forestry moved on to the concurrent list)

1981 The Himachal Pradesh Resin and Resin Products (Regulation of Trade) Act (Act No 6 of 1981)

1982 The Himachal Pradesh Forest Produce (Regulation of Trade) Act (Act No. 5 of 1982)

1985 National Wastelands Development Board set up

1986 The Environment (Protection) Act

1988 Forest Conservation Act amended
The Forest Policy

1990 GOI issued a memorandum, calling for the involvement of village communities and voluntary agencies in the regeneration of degraded forest lands

1991 The Indian Forest (Himachal Pradesh Second Amendment) Act

1992 National Conservation Strategy and Policy Statement on Environment and Development issued by MoEF

1993 Amendment to Himachal Pradesh Forest Products' Transit (Land Routes) Rules 1978
Himachal Pradesh Government Order on Participatory Forest Management

1994 Himachal Pradesh *Panchayati Raj* Act (Act 4 of 1994)

1995 Amendment to Section-52 A of the Indian Forest Act 1927
Grant of powers to Divisional Forest Officers to evict encroachments on forest lands under the Himachal Pradesh Public Premises and Land (Eviction and Rent Recovery) Act 1971
Draft Himachal Pradesh Forest Bill

Notifications Relating to the Employment of *Rakhas* as Forest Officers (1900-1946)

In Kangra district, societies and villages appointed *rakhas* (village watchmen) and others to protect and conserve forest resources and paid them in cash or kind. The Government of Punjab through several notifications declared the *rakhas* and others to be forest officers under the provisions of the Indian Forest Act 1878 and 1927. *Rakhas* still exist in Kangra district.

Minor Forest Produce Exploitation and Export Acts of Mandi (1937) and Chamba (1943)

These acts, enacted by the erstwhile princely States of Chamba and Mandi, are the only legislation that govern the exploitation and export of minor forest products, now called non-timber forest products (NTFPs), in the state. The exploitation and export of NTFPs in all parts of the state are managed under the provisions of these two acts. Rules were framed under the Chamba Act in 1947. The provisions of these two acts are now woefully inadequate to deal with the issue of NTFPs, and comprehensive legislation is required.

Notification Relating to the Definition of 'Right Holder' 1948

The Punjab Government defined a right holder to be a person to whom right has been admitted in the record of rights of any forest (see Annex 2).

Notifications of 1952 and 1963

These are discussed in more detail in Section 2.2.3. Notification No. Ft. 29-241-BB/49 of 1952 declared the provisions of Chapter IV of the Indian Forest Act of 1927 (of protected forests) applicable to all forest lands or wastelands which are the property of Government or over which the Government has proprietary rights, and Notification No. Ft. 29-24/BC/49 declared that all trees in these forests should be reserved. By virtue of this notification, all wastelands were declared as protected forests. In practice these notifications simply extended notifications issued in 1896 and 1897 to the whole of the State of Himachal Pradesh.

Notification No. Ft.29-24/BC/4 of 1963 was issued declaring all trees in the forests protected under the 1952 notification to be reserved with effect from 1.1.1964.

In August 1964 the Council of Ministers decided to cancel the notification of 1952 and restore the original status of the land (government land classified according to the existing system). It was later decided not to cancel the notification until the work of delineation and demarcation had been completed throughout the state to avoid any adverse effects on the forest(mentioned in a letter from 1968), and the decision was never implemented.

The problem was further debated in 1985 and 1986, and then included in the topics to be considered by a state level committee set up to consider the whole issue of forest surveys, demarcartion, and settlement.

Himachal Pradesh Private Forest Act, 1954 (Act No-6 of 1955) and Rules of 1956

This Act regulated the management of Kutlehar Forest, the only private forest in the State. In 1995 the Government nationalised the Kuthlehar Private Forest after a protracted legal battle via notification No. VAN (A)4-3/91-Vol.II, Dated 10.3.1995 (Annex 3).

The India Forest (Himachal Pradesh Amendment) Act, 1968

The enactment of this act not only repealed the earlier Indian Forest (Punjab Amendment) Acts of 1954, 1962, and 1966 so far as these applied to the areas merged in Himachal Pradesh, but also declared Class I and Class II forests under the repealed amendments to be Reserved and Protected Forests under the Indian Forest Act 1927 (see Annex 4).

Following this amendment, the same nomenclature (Reserved Forest, Demarcated Protected Forest, and Undemarcated Protected Forest) had to be used for all the forests of the State.

The Himachal Pradesh *Nautor* Rules, 1968

Nautor is the name given to the breaking up of government wasteland and Class III land (Undemarcated Protected Forest) for cultivation and construction of houses, cattle sheds, and water mills. In 1968, realising the problems of *ad hoc* allotment of *Nautor* in all types of lands by the revenue authorities, the government passed the Himachal Pradesh *Nautor* Land Rules limiting grants of *Nautor* by the State Government to areas in Demarcated Forests and wasteland, except in exceptional circumstances, and defining the procedures to be used.

The practice of granting *Nautor* rights gradually ceased following the passing of the Forest (Conservation) Act 1980 and the amendment of 1987.

The Himachal Pradesh (Sale of Timber) Act, 1968 (Act No. 18 of 1968)

The Sale of Timber Act was enacted to control the sale of timber and to establish sale depots (see Annex 5). The Rules made under this act in 1969, and the amendments in 1973, 1984, 1985, and 1993, defined the categories of timber covered under this act. The 1984 amendment declared fallen and felled trees and all wood whether cut-up, fashioned, or hollowed out for any purpose to be timber for the purposes of the act. The 1985 amendment declared sawmills to be timber depots.

The amendments of 1973 and 1984 created problems because people refused to plant fast growing species such as khair, eucalyptus, albizzia, poplar, or mulberry on their lands or community lands since under the provisions of the act they were not allowed to trade or sell the wood. The government then relaxed the provisions of the Act through a special notification in January 1993 which exempted and allowed free trade in forest produce obtained from poplar, albizzia, willow, bahunia, eucalyptus, and mulberry. Although this change was too late to affect beneficiaries of the Himachal Pradesh Social Forestry Project, it is important in the present context of community/participatory forest management.

The Himachal Pradesh Public Premises and Land (Eviction and Rent Recovery) Act, 1971 (No. 22 of 1971)

This act was enacted in an attempt to deal with the problem of encroachment. The Indian Forest

Act, 1878, as adopted and amended by Himachal Pradesh, applies to all the forests in the state, but it contains no provisions for dealing with encroachment. The Himachal Pradesh Public Premises and Land (Eviction and Rent Recovery) Act 1971 is thus the general law under which eviction from forest land is dealt with. Within the Act, a case can be instituted in the Court of a Collector. A notification under the act gave DFOs the powers of collectors to serve eviction notices upon encroachers on forest land and enforce eviction (Annex 6).

There are evident difficulties in enforcement and it has been argued that the eviction process of encroachments could be facilitated and speeded up if powers for eviction were granted to forest officials under the Land Acquisition Act of 1894.

The Himachal Pradesh Ceiling on Land Holdings Act, 1972 (Act 19 of 1973), and the Himachal Pradesh Tenancy and Land Reform Act, 1972 (Act No. 8 of 1972)

These acts and the rules made thereunder, together with the Himachal Pradesh Utilisation of Surplus Area Scheme of 1974, provided for the transfer of lands from large owners to landless agricultural labourers. Under the acts, people without land or with less than 5 *bighas* were able to acquire land up to a maximum of 5 *bighas*. However, the land available from the large landowners for this transfer was insufficient to meet the needs of the landless.

The Wildlife (Protection) Act, 1972

This act provides the legal framework for the conservation of fauna and biodiversity.

The Himachal Pradesh Village Common Lands Vesting and Utilisation Act, 1974 (Act No. of 1974) and the Punjab Village Common Lands (Regulation) Act, 1961 (Punjab Act No. 18 of 1961)

Under this act the government took control of all *shamlats*, and common *ghasinis* to supplement the pool of land available for distribution to those with little or no land. Rules and a utilisation scheme for lands acquired under this Act were prepared In 1975. A part of the land was to be kept aside for common purposes like grazing to be managed under the Punjab Village Common lands (Regulation) Act 1961. The acquired *shamlat* lands were divided into two categories: allottable and non-allotable. The non-allottable were to be transferred to the DFFC. These non-allottable *shamlat* lands, once "*de jure*" community lands available for the exercise of rights, became "de facto" common lands, as the Revenue Department did not transfer the lands to the DFFC. Moreover, no action could be taken to demarcate and classify these lands as forests under the provisions of the Indian Forest Act 1927 as critics saw this as a mechanism for converting community lands into government lands and restricting the right of access by communities.

Himachal Pradesh State Forest Corporation Ltd, 1974

The Himachal Pradesh State Forest Corporation Ltd (HPSFC) came into existence on 25th March 1974 and started functioning from 1st April 1974. It is a wholly government owned company registered under the Companies Act, 1955. The main objectives for the creation of this corporation were to ensure that harvesting of forests, marking of timber, and processing of resin was carried out according to sound scientific principles, and to eliminate contractor agencies.

The main activities transferred to the Forest Corporation were as follow.

- Control of the R and T Factories in Nahan and Bilaspur and two timber extraction divisions at Kullu and Sawra (transferred to HPSFC from April 1974)
- Resin extraction (from 1975-76)
- Resin extraction from private woods (after 1981 when all resin work was nationalised by the GoHP)
- Forest working (nationalisation started 1975, completed end of 1982)
- Timber extraction and marketing from private areas (from 1982)
- Fibre board production (through a subsidiary company established at Baijnath)

Himachal Pradesh Forest Produce Transit (Land Routes) Rules, 1978, and Amendment of 1993

These rules were framed under sections 41 and 42 of the Indian Forest Act 1927 to regulate the movement of forest produce by land routes into, from, and within Himachal Pradesh.

Liberals and proponents of free trade and participatory forest management see these rules as a deterrent to community participation. They advocate liberalisation of the rules to encourage communities to join hands with forestry staff in a true spirit of participatory forest management. The Forest Department argues that relaxation would encourage unauthorised felling and smuggling.

Land Preservation Act, 1978 (Act No. 28 of 1978) and Himachal Pradesh Land Preservation Rules, 1983

This act was aimed at conservation of sub-soil water and prevention of erosion. The act applies to all privately-owned land and regulates, restricts, or prohibits the clearing of agricultural lands by cutting of trees, and the granting of permits to take any tree, timber, or forest produce for their own use. Through this act, several provisions of the Indian Forest Act 1927 were made applicable to forest activities on private lands. District-wise notifications of the act were issued in 1980 and 1981. No notification was issued for Lahaul and Spiti district.

The act allowed owners to fell 5 trees each year without permission, 10 trees with the permission of the Range Officer, or more than 10 trees with the written permission of the Divisional Forest Officer, for bonafide domestic use. In 1981, a subsequent order limited annual felling for domestic use to a maximum of 5 trees with the permission of the Range Officer, or more than 5 trees with the permission of the Divisional Forest Officer. A later order in the same year again changed this to up to three trees without permission, up to 10 trees with written permission of the Range Officer, and more than 10 trees with written permission of the Divisional Forest Officer. If an owner desired to sell the trees standing on his private land, he could fell them in accordance with a 10-year felling programme framed by the Forest Department and with the approval of the State Government. The Divisional Forest Officer could allow felling of up to 50 trees, the Conservator of Forests felling of up to 100 trees, the Principal Chief Conservator of Forests felling of up to 200 trees, and the State Government felling of more than 200 trees.

In 1983, the State Government issued The Himachal Pradesh Land Preservation Rules 1983 describing the procedure to be followed for implementation of Land Preservation Act 1978.

Proponents of Participatory Forest Management want substantial relaxation of the conditions with regard to felling of trees grown by communities on community and private lands.

Forest Conservation Act, 1980 (No. 69 of 1980)

The Forest Conservation Act 1980 promulgated by the Government of India replaced the Forest Conservation Ordinance 1980, and this was intended to check deforestation. Under the act it became necessary to obtain prior approval of the Government of India for de-reservation of Reserved Forests or the use of forest lands for non-forest purposes. The Rules made under the act provided for the constitution of an advisory committee under the chairmanship of the Inspector General of Forests to advise the Central Government with regard to the granting or otherwise of proposals for the diversion of forest land for developmental activities of the State Governments. The State Governments were required to submit their proposals on a prescribed proforma with cogent reasons and alternatives.

This act has been the cause of disagreement between the State Governments and the Government of India. Whereas the State Governments want unlimited powers to divert forest lands for non forestry purposes, the Central Government is willing to allow only very limited concessions and relaxation. The extent to which this act will have an impact on the implementation of participatory forest management programmes has yet to be assessed.

The Himachal Pradesh Resin and Resin Products (Regulation of Trade) Act, 1981 (Act No. 6 of 1981)

This act nationalised the tapping of resin from chir pine trees standing in private areas, canalised the trade of resin within and from outside the State through the Himachal Pradesh State Forest Corporation Ltd, and limited distribution to purposes of manufacture and preparation of resin-based products. The Rules formulated under the act described the procedures for tapping chir trees in private areas, for resin sale to the Forest Corporation, and for purchase from outside the State by private manufacturers, and the basis of allotment of resin to manufacturers.

The Himachal Pradesh Forest Produce (Regulation of Trade) Act, 1982 (Act No. 5 of 1982)

This act nationalised trade in all types and kinds of forest produce in its entirety, including sale, purchase, transportation, and price setting. Subsequent amendments enacted in 1984 allowed certain relaxations. Advisory committees were constituted under different notifications for each of the forest divisions under the chairmanship of the Divisional Forest Officer to fix prices.

This act will have a considerable impact on the disposal of forest produce produced through Participatory Forest Management activities and a critical review of it will be needed.

The Environment (Protection) Act of 1986

This act was aimed at promoting protection and improvement of the human environment in accord with the decisions made at the United Nations Conference on the Human Environment held at Stockholm in June 1972. This Act deals with issues related to environmental pollution. Implementation of the act is monitored at government level by the Central Pollution Control Board under the Ministry of Environment and Forest, and at state level by the State Pollution Control Boards.

The Forest Policy of 1988

The principle that the people have first charge on the use of forest resources was formally recognised in 1988 with the adoption of the new National Forest Policy. The new policy replaced the idea that the main role of forests was commercial with the principal aim of ensuring environmental stability and maintenance of ecological balance. It stated that the domestic requirements of tribal and other poor people living within and near forests for fuelwood, fodder, minor forest produce, and construction timber should be the first charge on forest produce, and that these requirements should not be sacrificed to meet the needs of forest-based industries.

The Government of India Memorandum of 1990

This memorandum (No 6.21/89 -FP) was sent from the Ministry of Environment and Forests on June 1 1990 to the forest secretaries of all states and the union territories and provided guidelines for the "Involvement of Village Communities and Voluntary Agencies in the Regeneration of Degraded Forests" on an equity basis (Participatory Forest Management). It was based on the experience of states such as West Bengal, Gujarat, and Haryana. The memorandum also encouraged Forest Departments to involve NGOs as intermediaries and facilitators. So far, 15 States have issued Government Orders for the implementation of Participatory Forest Management.

The Indian Forest (Himachal Pradesh Second Amendment) Act, 1991

In 1991, Himachal Pradesh made amendments in certain sections of the Indian Forest Act of 1927 as applicable to the state. In particular, one amendment gave the state more power to deal effectively with forest offences. It gave magisterial powers to the Divisional Forest Officers to seize and confiscate property and vehicles used in forest offences after conducting enquiries under the law (Annex VII).

The Himachal Pradesh Kutlehar (Acquisition of Management) Act, 1992 (No. 19 of 1992)

This act nationalised the only private forest in the State, the Kutlehar Forest in Una district. In 1995, a State Government notification authorised the Forest Department to take over possession of the Kutlehar forests and undertake their management (Annex 3).

Himachal Pradesh Government Order on Participatory Forest Management, 1993

This order was issued in response to the GOI memorandum of 1990. The text is given in Annex VIII. The draft order provides a framework for initiating Participatory Forest Management in the State.

Himachal Pradesh *Panchayati Raj* Act, 1994 (No. 4 Of 1994)

This act was based on the 73rd amendment of the Constitution of India and was aimed at introducing the *Panchayati Raj* System in the State from April 1995. Schedule II of the act defines the activities that are to be transferred to the district councils (*zila parishads*). They include social and farm forestry, minor forest produce, watershed development, land improvement and soil conservation, fuel, and fodder. There is continuing debate on the scope and extent of the activities to be transferred to the *zila parishads* by the Forest Department, as well as on the transfer of protection responsibilities for existing social forestry plantations. Most of these forestry-related activities are the immediate concern of the local communities, and also fall within the scope and mandate of Participatory Forest Management for the sustainable development of forest resources. Agreements need to be reached on the functions of *zila parishads* and the role of village-level institutions set up under Participatory Forest Management.

Draft Himachal Pradesh Forest Bill, 1995

Responding to the need to simplify the web of legal instructions, the Forest Department prepared a Draft Forest Bill, which is in fact a new Forest Act for the State. This act incorporates the provisions of the Indian Forest Act 1927 and other relevant Acts to make a coherent forest legislation. The act is still in the draft stage.

3.3 Some Key Issues

Some of the key issues involved in the policy and legislation framework, and their impact on the promotion of community-based Participatory Forest Management in the state are summarised below.

- **Key institutions and individuals involved in the process of policy making**
  The policies for forest management and administration are made at Government of India level in the Ministry of Environment and Forests under the technical guidance of the Inspector General of Forests. The Forest Administrative Department at government level and the Forest Department (Principal Chief Conservator of Forests assisted by Conservator Planning) are responsible for forest planning and other legislative instruments at the state level.

- **Is forest policy centrally and federally evolved and administered or is it decentralised?**
  Forest policy is developed at both the central and state levels. The responsibility for administration and management of forest lands lies with the State. The *Panchayati Raj* Act mandates some forestry functions and activities to be decentralised to district level but this has not yet been done in Himachal Pradesh.

- **Compatibility of existing forest policy and acts related to land use, industry, infrastructure and other needs – major conflicts and impact on implementation.**
  Although the State Forest policy of 1980 is in conformity with the National Forest Policy of 1952 and 1988 and the Government of India's Memorandum of 1990, several of the

legal instructions enacted from time to time do not conform with these policy mandates and there is no uniform or comprehensive regulation of NTFPs. Several provisions of the Himachal Pradesh (Sale of Timber) Act 1968, the Himachal Pradesh Village Common Lands Vesting and Utilisation Act 1974, the Punjab Village Common Lands (Regulation) Act 1961, the Forest Produce Transit (Land Rules) Rule 1978, the Land Preservation Act 1978, the Himachal Pradesh Resin and Resin Products (Regulation of Trade) Act 1981, the Forest Conservation Act 1980 (changes required at Government of India level), and the Himachal Pradesh Forest Produce (Regulation of Trade) Act 1982 will have to be amended. Rules made under these Acts will also have to be modified, relaxed, and/or brought into conformity with the mandate given to people under Participatory Forest Management.

- **Extent to which existing policy and acts provide space to community forestry. Is it enshrined as a legal imperative within these instruments or is it through government and administrative orders?**
  The existing legal framework for forestry management is a major deterrent to the implementation of Participatory Forest Management. The lack of involvement of people in the social forestry programme led to the relaxation of the Himachal Pradesh Forest Produce Transit (Land Routes) Rules 1968 in 1993. The present legislation does not provide any incentives to communities to support Participatory Forest Management. Participatory Forest Management is still being implemented under government and/or administrative orders.

- **Has the policy to promote community-based forestry been implemented?**
  People's participation in forest management was sought in the 1980s under two externally aided projects: the Indo-German Dhauladhar Project (1980-1988) and the World Bank aided National Social Farm Forestry Project (1985-1993). The Indo-German Dhauladhar Project did have a positive impact on forest lands and increased the availability of fodder and grass to local communities. However, the impact was short-lived and gains were not sustained in the post-project period. The Himachal Pradesh Social Forestry Project failed to motivate community participation in the first phase, but succeeded to a limited extent in gaining people's involvement in some plantation programmes on community lands in the second phase (1990-1993).

  Participatory Forest Management was initiated in the state in Kullu and Mandi districts under three externally aided projects: the Integrated Watershed Development Kandi (Hills) Project (1990-1997, extended to 2000) with assistance from the World Bank; the Indo-German Changer Project in Palampur with assistance from the Gesellschaft fuer Technische Zusammenarbeit (GTZ); and the Himachal Pradesh Forestry Project with assistance from the Department for International Development (DFID-UK). Although the Himachal Government order on Participatory Forest Management applies to the whole of the state, its impact is still limited to project areas.

- **Who are the main stakeholders in initiating changes in policy?**
  In Himachal Pradesh, the donor agencies (World Bank, GTZ, and Overseas Development Administration (ODA, now DFID-UK)) have been instrumental in initiating policy on Participatory Forest Management. In particular, during the preparation of the Himachal Pradesh Forestry Project, ODA insisted on the issuance of a State Government Order on Participatory Forest Management. The main stakeholders in these projects are the Forest Department functionaries, especially grass roots' level staff like Forest Guards and Deputy Rangers, and the people whose subsistence is dependent on forests near their homes.

- **Does the Forest Policy mention mountain specifics or does it include the whole country regardless of terrain?**
  The National Forest Policy of 1952 laid down the norm that 60 per cent of mountainous areas should be under forest, compared to 33 per cent for the entire country. The revised Forest Policy 1988 reiterated that two-thirds of the area in hills and mountainous regions should be maintained under forest or tree cover to prevent erosion and land degradation and ensure the stability of the fragile ecosystem.

  The State Forest Policy of 1980 stated that to achieve the above goal, all land taken over by the government under the Land Ceiling Act 1980, together with that for use for common purposes taken over under the Village Common Land (Vesting and Utilisation) Act 1974, bearing forest crops or having a potential for being brought under tree cover should be surveyed, demarcated, and notified under the Indian Forest Act of 1927 as Reserved Forest and transferred to the Forest Department within a year. A programme to increase the area under plantation and to increase the density of forest cover in areas already notified as forests over the next 20 years should be formulated. According to the estimates, it would be possible to have 50 per cent of the geographical area under forest by the year 2000 AD.

- **What are the implications of policy changes on forestry professionals and institutions? What approaches are being used to make the transition from custodial forest management to participatory forest management?**
  The implementation of Participatory Forest Management requires a major attitudinal change in the outlook of forestry staff at all levels. The Forest Guards and Deputy Rangers, who are the interface between the Forest Department and the people need to change their 'protection' oriented outlook to one of 'participation'.

  Under the Himachal Pradesh Forestry Project, DFID is supporting a programme to promote attitudinal change with various components: strengthening the infrastructure of Forest Guard training schools and developing a Participatory Forest Management oriented curriculum; holding workshops in the field for Forest Department staff and local people; posting specially trained officers to approach people; carrying out a series of special studies; and developing a new process for the preparation of working plans and site-specific needs-based micro-plans together with the people affected. Activities in the other two projects are project specific rather than focussing on overall attitudinal change.

- **What are the benefit-sharing arrangements for forest produce in the state?**
  People (right holders) throughout the state already enjoy the benefit of rights and concessions granted under various forest settlements. These include free access to forests for grazing of cattle and grass cutting, and collection of such things as fuelwood, NTFPs, stones, and leaves. In addition to these rights and concessions, the Government Order of 1993 provided for the transfer of the entire usufruct proceeds from the final harvest of forest produce obtained as a result of Participatory Management, with 25 per cent of the net sale proceeds given to the Village Forest Development Committees (VFDCs) for village development works.

- **Is the policy clear on granting security of tenure to local communities?**
  The National and State Forest Policies are silent on the issue of granting tenurial rights to communities, they simply exhort people's participation in the development of wastelands and government forests. The State Government order on Participatory Forest Management also seeks participation of people without imparting any tenurial rights. One scheme during the second phase of the

National Social Forestry Project (1990-1993) entitled "*Van lagao-Rosi Kamao*" (plant forests - earn employment) had provision for the allotment of *patta* on 2 ha of forest or waste *shamlat* land to '*antodaya*' families (a family whose annual income is less than Rs. 3,600 or poor families identified under Integrated Rural Development Programmes with an annual income of less than Rs. 4,800) or families with no members in government employment. This allotment was from the lands vested in the government under the Himachal Pradesh Ceiling on Land Holdings Act, 1972, and the Himachal Pradesh Village Common Lands (Vesting and Utilisation) Act, 1974 for afforestation activities. However, the allotment did not confer any right on the trees raised and the land remained the property of the government through the Forest Department.

4 Status of Participatory Forest Management in Himachal Pradesh

4.1 The Evolution of Community Forestry

Participatory Forest Management (or Joint Forest Management, JFM) as commonly understood, seeks to develop partnerships between local community institutions (CIs) and the State Forest Departments (FDs) for regeneration and sustainable management of degraded public forest lands on the basis of sharing forest management responsibilities and the benefits of forest produce. Since most forest land near villages has been degraded to scrub or even cleared, there are considerable opportunities for introducing a participatory forest management (PFM) process.

The concept of PFM is not new to Himachal Pradesh. PFM existed in the erstwhile princely states and was codified and sanctified under British rule. It effectively disappeared from the time of independence to the early 1970s, when the emphasis was on afforestation, consolidation of the Forest Department, and the establishment of forest-based industries. A report by the National Agriculture Commission in 1976 emphasised the need to orient forestry programmes to meet the daily needs of rural people for fuelwood, fodder, and timber, and, in the 1980s, many donor agencies supported the implementation of people-oriented forestry programmes through special forestry projects.

The official basis for Participatory Forest Management (PFM) in its modern form was prepared by the National Forest Policy of 1988. The policy recognised the fact that the economy and livelihood of rural people was dependent on forests, and thus that people and communities must have the first charge on the use of forest resources. The policy emphasised environmental protection and conservation, and meeting the requirements of the rural and tribal populations for fuelwood, fodder, minor forest produce, and small timber. It intended to create a massive people's movement, with the involvement of women, to achieve its objectives (GOI 1988). The subsequent Government of India Memorandum of 1990 laid the official foundation for (re) introduction of participatory forest management in the states. To date, 15 States, including Himachal Pradesh, have issued government orders based on this memorandum. Himachal Pradesh issued its order on Participatory Forest Management in 1993. Since then, participatory forest management has been the main thrust of all forestry programmes in the State.

Seven stages or generations can be identified in the development of PFM in HP. These periods are summarised in Box 4.1 and described in more detail in the following sections. To facilitate understanding, the local people and communities living in and around the forest are described as "insiders", and all others as "outsiders."

4.1.1 First Generation PFM—Up To 1850

The concept of PFM existed in a rudimentary form in the era of the erstwhile princely States. The kings allowed limited rights to the general public in the use of forestry resources, and special

BOX 4.1
Generations of Participatory Forest Management in Himachal Pradesh

1st Generation: up to the 1850s
Period of usage and customary rights, the era of Princely States–The kings were the outsiders and decision-makers. Communities had no role, all rights enjoyed were at the pleasure of the king.

2nd Generation: 1850-1950
Period of codification of rights, the era of British Rule–The British replaced the kings as outsiders and decision-makers. Customary rights were recognised, given official sanctity, and codified in forest settlements. All decisions were still made by the outsiders–the British–but communities were consulted during the settlement of rights. The involvement of people was sought through the setting up of Forest Cooperative Societies in Kangra District from 1940 to 1954.

3rd Generation: 1950- 1975
Period of metamorphism, indiscriminate use of rights after independence–The local forest officers replaced the British as outsiders. This was a period of 'no decision'. The insiders continued to exercise their rights at increasing levels and forest resources started showing signs of depletion and degradation.

4th Generation: 1975-1980
Period of awakening, the beginning of social forestry–The outsiders, the Forest Departments, started preferring forestry schemes for insiders involving people and communities.

5th Generation: 1980-1990
Period of donor-driven social forestry, launching of donor-led social forestry projects–The outsiders, the Forest Departments, and donors, seek the involvement of insiders, much of the decision-making is transferred to donors, alienation of communities continues.

6th Generation: 1990-1993
Period of seeking community participation, National Forestry Policy 1988 and Memorandum of 1990 issued–Outsiders (Forest Departments) seek the participation of insiders in the formulation of forestry schemes. Insiders given limited decision-making powers within the existing classical framework of the Forestry Department.

7th Generation: 1993- onwards
Period of institutionalisation of PFM in the Himachal Pradesh Forest Department–Role reversal sought with outsiders (foresters) acting as catalysts and enablers, and insiders (communities) as decision-makers.

rights like hunting to the elite, the rich, and landlords who paid gifts (*nazarana*) to the kings. The kings made all the rules (as outsiders), granted *pattas* for land and grazing of cattle in pastures and forests, and decided the duties, obligations, and penalties of the communities (insiders). Non-compliance with the king's orders led to suspension of rights.

4.1.2 Second Generation PFM—1850-1950

After the arrival of the British in the 1850s, the kings leased out the forests for professional scientific management. Settlements of forest rights were started during the 1880s. These settlements codified the customary and traditional rights of the people to use forest resources. Rights were distinguished from concessions, but both were very liberal. Working plans, although revenue oriented, laid down specific prescriptions for meeting the bonafide needs of the local people. For example, the right to grants of timber had precedence over commercial felling and were only subject to silvicultural availability. Similarly, the right to grazing in forests was unlimited, and forests could be closed only with the consent of the local people. The use of forests as a common property resource (CPR) by communities, however, was subject to their classification as Reserved, Demarcated Protected, or Undemarcated Protected Forest. The different types of forest were not equally available.

The village common lands were also CPRs but the ownership was vested with the village communities. Creation of Class III forest (Undemarcated Protected Forests) and

recognition of village common lands created a balance between the use of forestry resources for national and other needs and meeting the bonafide domestic requirements of the local population.

People's participation in the management of local forest resources was sought directly in Kangra through the setting up of the Kangra Forest Cooperative Societies during the 1940s.

The Kangra Forest Cooperative Societies

At the Forest Officers conference of 1935 in Madras, the Chief Conservator Mr. H.N. Glover advocated formulation of a policy to develop village foresters. In 1937 the Punjab Government appointed a commission for Kangra district (under Sir Colin Gorbett) to study the difficulties experienced by people living in and around forests and suggest how these people could be integrated in the conservation of forests and how they could be encouraged to cooperate with the Forest Department. The commission recommended that the villagers should manage the forests in accordance with simple working plans, the government should ask for representatives of the people to participate in forest management, and villagers should share the benefit of profits accruing from the management of *shamlat* lands and reserves. *Panchayats* should be formed in the villages to explain this concept to the people and working schemes prepared for each village covering any *shamlat* lands and protected and demarcated forests in which the village had rights. If possible, the costs of management should be met from the proceeds of sales. Staff costs would be borne in part or whole by the Government.

The Punjab Government issued a notification in 1938 accepting these recommendations, and asked the Forest Department to implement it. The Forest Department suggested that the new village-level institutions to manage forests be called cooperative societies since *panchayats* already existed in Kangra district. The Cooperative Department became interested, and the village-level Forest Cooperative Societies were born.

The conditions for membership, constitution of a general and a management body, nature of working plans, and management of cooperative funds were detailed in the Kangra Forest Cooperative Scheme of 1938. In 1939, the Kangra Village Forest Division was created to implement the scheme. The scheme was sanctioned in 1940 by the Punjab Government for 5 years with an annual grant-in-aid of Rs. 50,000. Between 1941 and 1945, 40 Forest Cooperatives were set up. The scheme was reviewed and extended for a further 5 years, with 21 more cooperatives established, and then for a further 3 years, with 8 more cooperatives set up. The scheme was then extended yearly up to 1956 with an increased grant-in-aid of Rs. 90,000 to introduce Forest Cooperative Societies in Hamirpur and Nurpur *tehsils*, and thereafter extended every year up to 1961. In 1961 it was extended for 10 years, but the grant-in-aid was limited to Rs. 50,000 and no new Forest Cooperative Societies were allowed to be formed. One more Forest Cooperative was set up in October 1954 taking the total number of cooperatives set up to 70 (Palampur division 15, Dharmashala 19, Dehra Division 10, Nurpur Division 26), with a total area covered of 23,562 ha. The types and amount of forest of land managed by the societies is shown in Table 4.1. A composite working plan for management of the cooperative forests was prepared by Rd. Rawal in 1968-69 for the 15 years up to 1982-83.

These areas were merged into Himachal Pradesh when it was created in 1971. The new Himachal Government extended the scheme up to 1978, but did not release any grant-in-aid after 1971. The activities of the Forest Cooperative Societies came to a halt in 1973. A Forest Utilisation Committee set up in 1974 to examine the scheme was abolished in 1977. In the absence of any orders, the Forest Department stepped in and took over the management of the forest cooperative societies' forests. The forest cooperatives still exist as they have been neither de-registered nor legislated under the Cooperative Societies Act but most are defunct as they have no control over the management of the forests. Since the ownership of forest lands by these committees was not recorded in the revenue

records, the unclassed forests, *ban muafi*, and *shamlat* were taken over by the government under the Himachal Pradesh Village Common land (Vesting and Utilisation) Act, 1974 and ownership shown as the Himachal Pradesh Government or Himachal Pradesh Forest Department. In this way, the initiative to involve communities in forest management begun in 1940 ended in 1971 with the formation of Himachal Pradesh.

Rajiv Ahal of the Working Group on Natural Resources in Himachal Pradesh has drawn a parallel between the objectives and activities of the forest cooperative societies and those of the village forest development committees (VFDCs) proposed under joint forest planning and management (JFPM). His report concludes that the village forest cooperative societies were a great success as a social movement, despite shortcomings. Instead of being strengthened, however, these institutions were made defunct, and now the same approach has been reinvented in the shape of JFPM.

4.1.3 Third Generation PFM—1950-1975

The delicate balance between the exercise of rights and concessions and duties and obligations continued smoothly until the 1950s. With the increase in population of both humans and livestock, the demand on forestry resources increased. Notifications issued by the GoHP in 1896, 1897, 1919, and 1952 empowered the government to bring all Class I, II, and III forests under the provisions of Chapter IV of the Indian Forests Act 1927; declared non reserved lands as Protected Forests, and restricted the exercise of rights and use of forests as an unrestricted CPR. People had already started facing hardships (quantitative and qualitative) in meeting their genuine requirements. Then the Forest Departments responded to depleting resources by restricting the free access that communities had become used to and enacting more laws and rules. As a result people stopped fulfilling their duties and obligations. As more top-down target-driven forestry programmes were launched, people became alienated from the activities of the Forest Department, once their greatest benefactor. Non-judicious and unsustainable use of forest resources led to degradation and deterioration of forest land. The presence of Forest Department officials was perceived as a threat to the exercise of rights and concessions. The Forest Guard found himself in a helpless situation. His job evolved to one of 'policing', rather than assisting people and winning their support. Communication between the people and forestry departments virtually broke down, and suspicion and mistrust led to alienation of the people from the forest managers. Forestry programmes, which required negotiation of free access, were viewed with suspicion and distrust.

The problems were compounded by other factors. Liberal grant of *Nautors*, extension of agriculture and horticulture, allotments of common land and Class III forests to landless people during the 1970s and 1980s, and vesting of all types and categories of village common lands in the government through legislation in 1974, all led to mass-scale privatisation of CPRs in the villages, resulting in transferrence of biotic pressures from the buffer zones to the natural

Table 4.1: Types of Forest Land Managed under the Forest Cooperative Societies

Category	Area (ha)
Reserved Forest	644
Demarcated Protected Forest	7,066
Undemarcated Protected Forest	12,215
Unclassed forest	2,708
Ban Muafi	69
Shamlat A1	94
Malkiati Shamlat (private *shamlat*)	429
Total	23,559

forests. This situation continued until the mid-seventies.

4.1.4 Fourth Generation PFM–1975-1980

Significant change in the forestry sector started in the mid-1970s with the release of the report of the National Commission on Agriculture in 1976. This report provided the rationale for social forestry and admitted that the needs of the local people for forest products were not being met. It also stated that the free supply of forest produce to the rural population and grant of liberal rights and concessions had resulted in forest destruction, which must be reversed. Some foresters began to realise that the existing levels of forest exploitation could not be maintained, and that the classical protection models would not work. Rather than focussing on protection of the forests from local people, the local people should be directly involved in forest protection and management. This led to the emergence of 'social forestry'.

Several variants of social forestry, such as farm forestry, agroforestry, three-dimensional forestry (the three dimensions of fuelwood, fodder, and fruit), and people's forestry, were suggested in an attempt to halt the pace of degradation and address the forest-based needs of people more directly. Special 'Plantation Forest Divisions' were established and schemes prepared under three-dimensional forestry. The focus of afforestation programmes shifted to plantation of broad-leaved species.

4.1.5 Fifth Generation PFM–1980-1990

Between 1980 and 1990, social forestry brought a whole new series of actors on to the Indian Forestry stage in the shape of international donors. There was increasing donor interest in support for the forestry sector to supply fuelwood and other basic needs, and social forestry seemed to fulfill the necessary criteria. More than US $400 million was received over a 15-year period in the form of grants and soft loans from donors, and 2.5 million hectares of land was reportedly afforested. Forest policy was no longer determined solely by national priorities, it was now heavily influenced by the requirements of the international donors. In some respects, Indian forestry became "donor-driven forestry"

In Himachal Pradesh, plantation forestry was started on a massive scale on degraded forest lands between the late 1970s and early 1980s. Although this period saw the emergence of different 'social forestry' schemes, the strategies advocated and adopted were those of classical forestry management. The planning process was an 'add on' exercise and budgetary support heavily biased towards plantation forestry of a few typical species whose silviculture was well known. Meanwhile the alienation of communities whose subsistence depended on neighbourhood forestry resources was complete. Environmentalists started to raise the issues of need for preservation of the Himalayan ecology and environment, of forestry resources, and conservation of biodiversity. The Forest Department responded with more *ad hoc* schemes, seeking external support from bilateral agencies. Two major projects were implemented.

<u>The Indo-German Dhauladhar Project (1980-1988)</u>

The first bilateral project, the Indo-German Dhauladhar Project, was modelled on watershed development. This project was an integrated, multi-sectoral, rural development programme for the upper Binwa-catchment in Kangra district. It was launched in 1980 as a participatory development cooperation programme between the Government of India and the Government of the Federal Republic of Germany and lasted for 9 years. The main objectives of the Project were

- to rehabilitate the ecological system in the project area and achieve sustained improvement of the living conditions of the people therein; and
- to evolve a replicable approach to mountain region development in the Western Himalayas.

The aim was to attain these goals through effective dissemination of technical knowledge and sustained application of resource-conserving

production methods and creation of consciousness and motivation among the target population for sensitive and responsible management of their natural resources. The project was based on a concept of trust and confidence between the project and the people. The emphasis was on human relationships and getting people organised. Fifty-three village development committees were formed, but whether and the extent to which these are still functioning is not known. Various development indicators showed that the project achieved a considerable success within the period of activity.

The National Social Forestry Project (1985-1993)

In 1984, a World Bank assisted social forestry umbrella project, the National Social Forestry Project (NSFP), was launched throughout the state with the participation of USAID and IDA. This project was initiated to raise fuel, fodder, and small timber species to meet local demands with the involvement and participation of people in afforestation works. Although most of the forest activities under this project envisaged people's involvement in implementation, involvement of people and communities remained minimal until about 1990. The NSFP was originally scheduled to end in 1990 but was extended for 3 years. In the extended phase of the project a scheme called '*van lagao, rozi kamao*' was launched to ensure effective participation of local people in planting and protection and to provide employment. The total project cost was Rs. 570 million

The *van lagao, rozi kamao* scheme aimed in the first year to benefit 1,000 families by providing *kissan* nurseries to 200 families and entrusting raising of 2 ha of plantations to each of 800 families (1600 ha total). The overall target was to provide employment to 75,000 families and afforest 140,000 ha of forest and waste lands through continuation of the scheme over 10 years, but the scheme was discontinued within two years of launching. The scheme was intended to be implemented by setting up committees at state and district/block level, and through formation of Village Forest Development Committees (VFDCs) in every village (revenue estate). This was the first official step by the Forest Department to formally set up VFDCs throughout the State.

An impact evaluation study of the project carried out at the conclusion by the Agro-Economic Research Centre, Himachal Pradesh University found the following on people's participation in and perception of the programme.

- Less than half of respondents were willing to use their wasteland for social forestry plantations, but 73 per cent of households had received seedlings through village-level workers and 60 per cent were satisfied with the assistance given by the Forest Department.
- Only 9 of 467 respondents appreciated the role of the Forest Department in the programme.
- Ninety per cent of the village institutions formed carried out plantations. They involved 56 per cent of marginal farmers in the plantation programmes. Nineteen of 22 institutions acknowledged lack of technical know how.
- In terms of development of forest resources for higher benefits, 32 per cent of beneficiaries wanted development of government wasteland, 17 per cent development of community lands, and 36 per cent development of their own land.
- Fifty-four per cent of respondents wanted distribution of benefits on an equal share basis, and only 10 per cent on the basis of the labour contributed in the social forestry plantation.
- On average each family was willing to contribute 20 and 14 person days per year to the social forestry plantation for planting seedlings and protection, respectively.
- Half the respondents expected to receive more grass from the community rainfed plantations.
- Nearly 90 per cent of families were aware of the social forestry programme.
- Fourteen village *panchayats* wanted a supervisory role, and eight wanted motivation of the people.

Summary

Although the central theme of the two major donor-funded projects was sustainable development of forestry resources to meet the needs of the local people, the implementation remained very much traditional forestry management oriented. The projects remained target driven and were implemented as any other forestry scheme. The gains were modest and could not be sustained after the projects ended due to the lack of institutionalisation mechanisms.

4.1.6 Sixth Generation PFM–1990-1993

The earliest social forestry programmes had focused on individual people as the main beneficiaries, but later the programmes were modified to focus on communities rather than individuals. The social forestry style of forest management was not as successful as anticipated, as it failed to make any appreciable change from demand-led use of forestry resources to user-led utilisation. The degradation of forestry resources continued unabated.

Analysis of the general failure (but occasional success) of foresters to win over the support of the local communities and arrest the continuing degradation of forests revealed the following situation.

- There was hardly any perceptible change in the forestry management practices and style of functioning of foresters.
- Attempts to reverse people's alienation were made within the existing framework of the state controlled Forest Department.
- The period was characterised by "Forestry for the People" by the state on the people's own lands.
- The Forest Departments were still 'donors' and the communities 'recipients', rather than partners.
- Community forestry was successful in situations where communities were faced by a famine of forestry resources.
- Social forestry approaches were not supported where communities still had abundant or adequate resources.
- The radii of use of forestry resources had become so enlarged that communities in general and women (in particular) were facing great hardships and forests were degrading fast.
- Participatory decision-making and decentralised management were unfamiliar concepts for the Forest Departments.
- The institutional set up of Forest Departments was not adequately geared to meeting the new challenges.
- Foresters lacked the necessary sociological and communications skills and extension mechanisms.

Between 1990 and 1993, the donor driven emphasis on the involvement of people in forestry programmes continued with the extension of the National Social Forestry Project and the launching of another World Bank aided project, the Integrated Watershed Development Kandi (Hills) Project, in the lower Siwalik hills.

The Integrated Watershed Development Kandi (Hills) Project (1990-1998)

This project was planned to cover the ecologically fragile areas of the lower Siwaliks in the catchment areas of five rivers that are strategically important and environmentally sensitive. Its main aim was integrated multi-disciplinary low cost *in situ* biological soil and moisture conservation to arrest the degradation of the natural environment, with overall emphasis on creating an enabling environment for greater people's participation in the management of their natural resources.The project become operational on 9th June 1990 with a total provision of Rs. 370 million, including a 20 per cent state share of the total credit. The project was initially planned for a 7-year period and has been extended for one year up to June 1998.

The project is being executed by the Department of Forest Farming and Conservation with the assistance of line departments like Agriculture, Animal Husbandry, and Soil Conservation. The project extends over the watersheds of the Markanda, Ghaggar, Sirsa, Swan, and Chakki

rivers, which have a total area of about 3,013 sq.km. Around 500 sq.km. or 50,000 ha of the total, comprising 18 sub-watersheds, was to be taken up during the project period. During the first 3-year pilot phase an area of about 18,000 ha was taken up in 6 sub-watersheds, and the remaining area added after a mid-term review. The overall aims and objectives of the project are:

- to slow and reverse the degradation of the natural environment through the use of appropriate soil and moisture conservation technology;
- to conserve soil and water;
- to increase and improve the production and income from crops, horticulture, fodder, fibre, fuelwood and livestock through the process of soil and water conservation; and
- to reduce flooding and devastation caused by degradation of soil.

Although various indicators of success showed that considerable gains were made, people's participation was still lacking.

Summary

Both the Social Forestry and the Kandi Projects were essentially implemented like any other Forest Department scheme within the bounds of government rules and regulations. Although Village Development Committees were created, this was at the instigation of the Forest Department, rather than people's interest in managing their own resources sustainably. Little success was achieved in seeking people's cooperation, and most of the more than 4000 VDCs constituted during the social forestry era (1985-1993) are now defunct.

The period up to 1993, however, set the scene for the introduction of genuine PFM. Not only did people become more aware of the limitations of the approaches used, the Government of India also laid the foundations for PFM with promulgation of a new people-centred forest policy, and issuance of the 1990 Memorandum.

4.1.7 Seventh Generation PFM–*The Situation Today*

Criticism of the Forest Department's directive style of implementing PFM increased during the second phase of the Social Forestry Project (1990-1993). Foresters were labelled as inelastic, foes of the people and not paying any heed to their needs. Forestry management under the long-term macro-level working plans was accused of being too technical and devoid of sociological considerations. Moreover, it was considered revenue oriented and propelled by the state's economic considerations rather then by people's economic requirements. At the same time, the foresters, while conceding the need to strive for people's support, did not want to lose their position of authority and control over forest lands and resources.

The critics of foresters failed to realise that management and assimilation of change was not easy for the foresters, or for that matter for anybody. Even the communities were heavily structured and often too fragmented to undertake rational management of an open access resource. There are other important issues involved too. The increasing grazing and fuelwood problems are more of a social than a management issue and are a direct manifestation of the gradual elimination of CPRs. Privatisation of CPRs in the villages has transferred the biotic pressure from within the precincts of the buffer zone to the natural forests. Previous efforts to control excessive fuelwood removals and unabated grazing in forests and pasture lands failed for socio-political reasons. The pressure is so high that even closed plantation areas and regeneration areas are raided for grazing. These "biotic" pressures can only be managed through the willing participation of those involved. A new management strategy would not only require an attitudinal change amongst the foresters but also amongst the communities. This is a difficult task given the non-homogenous social situation in villages, in which equity and fair play is more the exception than the rule. Empowering the weak and the disadvantaged people in community institutions is bound to

be equally, or even more, difficult than asking foresters to shed their hegemony and turn into facilitators. Whereas the latter can be achieved by a fiat, the former requires a massive grass root sociological movement. This is a twilight zone, which will not only require academic discussions but also practical demonstrations. Conscious of the criticism and the failure to gain people's support, the Forest Department attempted to look at the issue of people's participation in a realistic and practical manner, taking into account the interests of all forest users and developing participatory strategies to meet these as far as possible.

The important issues on which forestry development in the state depended were identified as

- sustainable management of forestry resources;
- strengthened community participation at all levels;
- active involvement of women, the real end users in the villages; and
- re-orientation of the attitude and role of Forestry Department personnel, especially Forest Guards, from protection to enabler and agent of change.

Participatory processes need to be introduced to educate people and solicit their cooperation. Since forest lands near villages are mostly degraded to scrub, or even blanks, there is considerable opportunity to introduce participatory forest management under the terms of existing legislation (which does not apply to forest in good condition). Introduction of PFM in Himachal Pradesh is challenging, however, because of the complexities of existing rights and privileges. Hitherto, foresters have considered rights and privileges as an obstacle and a threat to the existence of the forests. The challenge is to convert these threats into opportunities and recognise them as the stake people have in maintaining the health of the forest eco-system.

At the time this evaluation was proceeding, the Forest Department (FD) was negotiating two more major forestry projects, one with the ODA-UK and the other with GTZ, Germany. During the discussions leading to formulation of these projects, it was realised that to address the issue PFM has to incorporate bottom-up planning and shift the focus from individual people to user communities, linking the strategy with the sustainability of people's livelihoods and forestry resources. The new PFM programme was renamed Joint Forest Planning and Management (JFPM).

The need to introduce PFM as JFPM arises from three inter-related issues:

- the forest department doesn't have sufficient organisational capacity to control forest land degradation;
- local people have no or very little interest in protecting forest resources unless they benefit directly and have sufficient authority to effectively protect the resources;
- JFPM (micro-plan) and technical (macro) working plan activities cannot be compartmentalised and separated. They must complement and supplement each other.

In the new JFPM strategy, the process of people's participation will not start with VDC formation, rather it will culminate with VDC formation. VDC formation will not be a means to an end but will evolve through a process approach, following a logical sequence of systematically designed activities to facilitate evolution, rather then being determined by Forestry Staff. In JFPM, the capacity of the resource to supply the demands, even if unsustainable, will play the crucial role in determining participatory interventions. This will necessitate a fundamental re-orientation of the role of the Forest Department from policing/ adversarial to one of enabler and provider of technical advice, inputs, and land resource.

If the new symbiosis 'people-forest-foresters' is to become effective (or restored), it is necessary that the attitude of foresters towards people change. The attitudinal change has to come first within the DFFC, which at present has a vertical top-down DFFC hierarchy. The top-down approach has to yield to consensus,

consultations, and team spirit. Each official at every level has to become an extension worker, and a facilitator. Sociological skills need to be developed and learned. A good beginning has been made in this direction within the DFFC but it needs to be nurtured and to spread to all parts of the state. The foresters must develop an extension approach and bring the "green revolution" to forestry through voluntary participation. Emphasis is being laid on the training of field staff, especially forest guards, in communication skills and participatory approaches. The forest guard is the ultimate interface between the DFFC and the people, and thus plays a very important role. Simultaneously there would be a need to instill confidence in the people, and change their attitude towards foresters and forestry. NGOs could have a key role to play in bridging the gap of confidence. The task of transformation from a directive style of forest management to a participatory style is not easy. But one thing is clear; foresters have now realised that people will look after forest resources effectively if they benefit directly and have sufficient authority to manage and protect them. This realisation must be supported and reinforced. The basic strategy for the introduction of JFPM is summarised in Box 4.2.

The legal framework for the introduction of JFPM was provided by the Government Order (GO) on Participatory Forest Management issued by the GoHP in May 1993, a direct follow-up of the GOI Memorandum of 1990. The text is given in Annex VIII. This GO was the first step towards empowering communities to manage their forests. It also offered an opportunity to convert informal village-level institutions like *mahila mandals* into formal village development institutions with participation by all on equitable principles. The special features of the GO are as follow.

- The village is taken as the unit for village-level forest management organisation, with uniform representation for all households (all users and a 50 per cent quorum for decision-making).
- It focuses on the special role of women (at least one woman from each household in the General House body (GH) and 50 per cent in the Executive Body (EB)).

BOX 4.2
The JFPM Approach

Introduction of the JFPM process in carefully selected pilot locations that have become degraded and are near habitations. JFPM will not effect local people's rights in forests which have not become degraded. These forests will continue to be managed under working plans.

Integration of the JFPM process into working plan forestry will be explored taking a holistic view of forest management. It is hoped this will improve existing forestry working plans and lead to the evolution of forestry practices that can more aptly be described as "people's silviculture" (such things as shrubs, grasses,and species' mix, including rotations and spacing) in harmony with "forester's silviculture."

Large-scale capacity building programme within the Forest Department. It is meaningless to develop JFPM unless forestry staff are convinced of its value. Re-orientation of forestry staff, and training them in communication skills and extension approaches, will play a vital role in the success of JFPM. Training facilities will be upgraded at the state forestry school. JFPM support teams will be established from within the staff and given special training. These support teams will arrange training of local territorial staff and initiate the information collection process necessary for JFPM. The ultimate aim is to train and equip the forest guards for their role as the active interface between villagers and the FD. The forest guards will ultimately facilitate the establishment of village-level organisations.

Special emphasis is laid on **creating awareness amongst people**. The role of NGOs will be particularly important in this regard. At present, hardly any NGOs are active in this direction in the state. The NGO movement will be encouraged and supported.

- It ensures initiation of PFM as a process rather than a blueprint, has no targets, and advocates consultation and negotiation between FD staff and forest users along with a communication and meetings' structure.
- It allows planning, management, and use of forest lands and outlines a possible mechanism for sharing of usufruct.
- It includes a mutually binding agreement describing amongst others PFM activities, respective roles, responsibilities, duties, powers, and rules for both the partners.
- It is very short, not very prescriptive, and allows a fair degree of freedom and flexibility for foresters in the field to experiment and respond differently to different field situations.

4.2 Present Status of PFM

The new JFPM approach is being tried out within the two projects, the "**Indo-German Changer Project**" supported by GTZ, Germany, in Kangra district, and the "**Himachal Pradesh Forestry Project**" supported by DFID-UK in Kullu and Mandi districts. The focus of the German project was to build on the gains of the earlier Dhauladhar Farm Forestry Project (1980-88) and was site specific, whereas the DFID-UK project was specifically aimed to address the issue of institutionalising the new Planning and Management processes of Participatory Forest Planning and Management. It laid great emphasis on capacity building of forest guards and deputy rangers for their new role of enablers, and inculcating an attitudinal change in forestry personnel at all levels throughout the Forest Department. The emphasis was on introducing changes and modifications in the light of field experience.

4.2.1 The Indo-German Changer Project (IGCP)

This GTZ (Germany) supported project was initiated in 1993 in the lower catchment areas of the Binwa River in Palampur (the previous Dhauladhar Project operated in the upper catchment area). The project was planned as an integrated multi-sectoral project based upon people's participation with bottom-up planning for developing and managing renewable natural resources. The aim is to narrow down the imbalance between production and use of renewable natural resources. The project area covers over 428 sq. km. with 570 villages, 125,000 people, and 100,000 grazing animals, and covering 37 micro-watersheds. The area is rugged, with a scarcity of water, shortage of fodder, badly treated common lands, and few village organisations. The German assistance is planned for 15 years. During the pilot phase from 1994 to 1999, GTZ will provide technical assistance to develop and test a long-term strategy. For 10 years following, GTZ will support full-scale implementation of integrated watershed-based resources development. The total German assistance will amount to 15 million German marks (more than 200 million Rs.) matched by 130 million rupees from the Indian side.

The project is an integrated development project, of which management of forest resources is just a part. But the approach followed is essentially similar to that for PFM. The objectives of the project are

- to narrow the existing gap between bio-mass production and bio-mass consumption;
- to improve the living conditions of the inhabitants of the project area; and
- to enable them to manage the resources available to them sustainably.

The objectives are proposed to be achieved through a basket of inter-disciplinary measures focused on land husbandry, soil and water conservation, forestry, and animal husbandry. A matrix structure of interdisciplinary organisation with specialists and staff drawn from various government departments has been set up. Management of the project is under the aegis of the Indo-German Eco-Development Society.

For the first three years the project followed a strategy of developing bottom-up approaches for social development and extension based on key

villages, and an integrated approach to activities such as agriculture, forestry, animal husbandry, horticulture, soil conservation, alternative energy, and self employment.

The project emphasises the strengthening of village self help organisations. Once the village development committees (VDCs) are developed and operational, a strategy of Participatory Land Use Planning will be followed by applying PRA techniques on a mini- or micro-watershed basis. A mini/micro watershed typically will cover an area of between 300 and 500 ha comprising 4 to 6 revenue villages. A multi-layered institutional approach in a mini/micro- watershed from user approach to formation of watershed societies, federations of VDCs in the microshed, will ultimately be adopted.

4.2.2 DFID- Himachal Pradesh Forestry Project

The long-term goal of the DFID-UK supported Himachal Pradesh Forestry Project is the development and implementation of sustainable systems of forest management which will strike the optimum balance between the needs of the local people and environmental concerns. The project was launched in October 1994 in Kullu and Mandi forest circles for a 3 year pilot phase with the immediate purpose of establishing the viability and cost effectiveness of new approaches to sustainable management of forest land including participatory forest planning and management. The aim was to build participation of people into the normal activities of the Forest Department in order to voluntarily curb demand-led exploitation of natural resources, through needs-based participatory forest planning and management with bottom-up micro-planning. The process nature of the project was designed to permit experience and lessons learned to be built into the project during its implementation. Due to the flexible design, the project had no targets, but only milestones to be achieved to indicate levels of achievement. One of these milestones was to have 20 active village groups implementing PFM plans prepared by themselves after following a processs approach during the three-year pilot phase.

This project is an institutional capacity building programme with emphasis on changing the attitudes of DFFC staff at all levels, especially forest guards and deputy rangers, and of people towards the DFFC. The institutional capacity building activities involve strengthening of the training schools for forest guards and development of JFPM oriented training curricula. Special studies are being conducted on institutional reforms within a legal framework, working plan processes, non-timber forest products, and livestock.

A community's urge to initiate forest management on their own is in direct proportion to the extent of hardships experienced as a result of depletion of the forestry resources needed for subsistence and earning livelihood. Therefore, the agreed strategy under the project envisaged developing partnership relations with communities through the process of Joint Forest Planning and Management (JFPM). Under JFPM, communities have both the responsibility of managing the forestry resources and the responsiblity for planning the activities to be carried out in the forest areas. The process not only enables the communities to manage the forestry resources but also builds their participation into the activities of the Forest Department.

The plan for the pilot phase was to select approximately 20 pilot locations on degraded forest lands in the project area following a period of intensive training and information gathering exercises. Participatory Rural Appraisal techniques were to be used throughout this process culminating in the establishment of village forest development committee (VFDCs) and the preparation of micro-plans for the selected forest areas by the committees and the local DFFC staff. This plan will form part of a formal agreement between the committee and the DFFC describing the benefits and responsibilities of both parties.

An important institutional development in the project was to develop a new planning process linking the traditional working plan management with site-specific micro-planning under JFPM. For this, an in-depth analysis of working plan

preparation procedures was done and their inconsistencies with the new bottom up micro-planning (JFPM plans) and with changed government priorities, policies, and field level constraints to forest management ironed out in field workshops. A hierarchy of the new planning process "The Big Picture" was developed as a basis for further discussion and consultation.

Specially trained support teams of DFFC staff were planned for each circle to support the process. Their role is to facilitate communication between the forest users and the DFFC. The JFPM process is initiated through a series of participatory training workshops and study tours at circle, division, range, and beat levels for staff, local leaders and communities to enable communication and assessment of forestry resources and the needs of the communities. Field tours for communities are also organised. Representatives of the VFDCs will attend the DFFC planning and coordination committee at divisional level. As JFPM has not been practised in this form in the state, the project laid a very strong emphasis on training in sociological skills of all levels of staff. In the project, PFM is essentially seen as an approach to open communication channels across services within the FD, between the FD and village groups, and amongst villagers on issues pertaining to forest management on lands which are near to villages and which are used frequently by villagers. The main changes in the approach to forest management as visualised by forest officers are summarised in Box 4.3.

The likely impact of JFPM on forest resources and people's livelihoods are summarised in Box 4.4.

A detailed account of how the JFPM process was developed in Kullu and Mandi districts is given in Annex 11.

The introduction of JFPM requires development of a new process monitoring mechanism to ensure that locally generated experience and information is fed into and influences planning at all levels. Ten outputs (listed below) that could be used to facilitate monitoring were identified during a team workshop along with verifiable indicators, means of verification, risks, and assumptions.

- Enhanced capacity of DFFC to use PFM approaches
- Capacity of local communities to respond to PFM initiatives enhanced
- Development and testing of JFPM approaches in pilot locations

Box 4.3
Concept of JPFM As Visualised By Forest Officers of Himachal Pradesh

- Centralised to decentralised management of forest resources
- Target orientation to process orientation
- Unilateral to participatory decision-making
- Revenue orientation to resource orientation
- Custodian communities to enabling communities
- Plantation as an option to lower input management and regeneration
- Single product to multiple product
- Assuming homogeneity to recognising diversity
- Production as an end to concern about sustainability

BOX 4.4
Likely Impact of JFPM on Forest Resources and People's Livelihoods

- Communities collaborate with the Forest Department to check illegal extraction
- Communities assist the Forest Department in bringing social pressure to remove and prevent encroachments
- Reduced conflict between communities and field staff
- Increased income to local people/communities
- Increased supply of fodder/fuelwood to VFDCs
- Improvement in biodiversity
- Enhanced NTFP output flows from protection of forests
- Empowerment, collective communities begin to take up other issues

- Development of improved forest management practices and introduced where feasible
- Modification of legal framework
- Phase II project proposals
- DFFC training capacity enhanced
- System for capturing project experience and learning established and operational
- Interdepartmental coordination enhanced
- Process of integration of micro-planning into working plans developed

A review of the pilot phase noted many improvements with a substantial shift in attitudes of both DFFC staff and village communities in favour of working together in forest management. Micro-plans had been prepared and implemented in 17 of the pilot areas, basic training imparted to most field staff, and new curricula developed for the forest schools. There was need for further work on the representativeness and sustainability of the VFDCs, and study of people's incentives for participation. It was thought that the project would ensure more rapid adoption of JFPM on degraded lands, that the emphasis on institutional strengthening would enhance the quality of the process, and that the results would encourage user-focused approaches in other areas. A consolidation and design phase was planned for 2.5 years, up to April 2000.

4.3 Status Of Community Institutions Relevant for PFM

4.3.1 Individuals versus the Community

Development of different participatory forest management systems in Himachal Pradesh, in particular, in the externally aided project areas, focuses on the establishment of sustainable village-level institutions comprising the users who are the legal right holders to the use of forestry resources. These rights are conferred on individuals in forest settlements and are almost a contract between the Forest Department and the individual. The codification of rights and concessions ignored the existence of local institutions or social control in the management of forest resources. This raises two important issues with regard to the development of village-level institutions.

- The benefits offered and created by community-based participatory forest management may not be more than already enjoyed by individuals under forest settlements (e.g., timber, collection of NTFPs).
- A hundred years of preferring individuals over the community may hinder the development of effective community institutions unless sufficient care is taken.

4.3.2 Informal Community Institutions

In Himachal Pradesh, there is a long tradition of informal village committees set up to control misuse of the individual rights accorded under forest settlements. These informal village institutions have persisted and in some cases thrived in spite of the state's sustained antipathy. Forest protection groups have sprung up mainly as a community response to the scarcity of bulk-use resources such as fodder and fuelwood. These groups are characterised by a high degree of participation in decision-making, a focus on local needs, and flexibility to allow for changing requirements. The participation of women has always been higher in such groups than that of men, and in many places women's groups, the *mahila mandals*, have taken the lead in setting up the groups. Typical informal level village institutions include *devta* committees, *mahila mandals*, and Forest Protection Committees. These infomal groups often function more successfully than other recognized institutions.

BOX 4.5
The Bhatiyat Forest Movement of 1982

In 1982, the communities of Bhatiyat *tehsil* of Chamba district, challenged the commercial orientation of State Forestry on the grounds of destruction of livelihoods, and successfully negotiated with the Forest Department in favour of introducing pro-people changes in the local forest administration. The movement resulted in a state-wide ban on the planting of eucalyptus on government lands, the declaration of ban oak as a protected species, and the restriction of commercial species such as chir pine to less than 40 per cent in plantation targets in favour of broadleaved species suitable for use as fuelwood.

Occasionally initiatives led by them can have a very marked impact (Box 4.5).

Devta Committees

Many villages have a *Devta* Committee, which is responsible for the conservation and preservation of the sacred grove around the village temple.

Mahila Mandals

The *mahila mandals* are women's groups, informal or formed under various welfare schemes by different government departments. There are hundreds of active *mahila mandals* in different parts of the State. Generally formed for other reasons, they often take on forestry activities as well. The participatory forest management mechanisms evolved by the *mahila mandals* tend to be more dynamic although impromptu in nature. At least 25 *mahila mandals* in Karsog Forest Division of Mandi Forest Circle are reported to be actively associated with the Forest Department. Box 4.6 describes the typical activities of one such group.

Forest Protection Committees

There are hundreds of informal forest committees in HP. Many have been formed to thwart the threat of other nearby villages in respect of allotment of TD in a particular forest or management of grazing or grass cutting on common lands. Fifty forest protection committees are reported to be functioning in Karsog Forest Division (Mandi Forest Circle) alone. But none of them have followed the prescribed process nor are all of them prospective future VFDCs.

4.3.3 Formal Community Institutions, Village Forest Development Committees

Village forest development committees (VFDCs) have mainly been formed under the aegis of the

Box 4.6
Phirnu Village *Mahila Mandal*, Karsog Forest Division

This multi-caste village has about 40 households (mainly Rajputs, Gujjars, Julahas). The *mahila mandal* has 25 members. The villagers have rights to forest produce in 100 ha of adjoining forest land. The women have decided to close 30 ha of this, leaving the remaining 70 ha open to grazing. The Forest Department has planted species selected by the women on this land at 500 trees per ha including shisham (*Sisoo*), kachnar (*Bauhinia*), daru (wild pomegranate) and chir (*Pinus roxburghii*). The women have taken on the responsibility for protecting the area through a duty roster.

The women's main motivation for starting protection was to improve the availability of fodder and firewood near their village. At present, they use dung cakes and the limited firewood from their own lands for cooking and heating. On average they have to walk 5-6 km to fetch fodder and firewood in winter. The immediate benefit of protection has been profuse regeneration and increased availability of grass. The grass is cut after seeding and reduces the need to collect fodder in winter.

The women had known for a long time that grass and fuelwood could be obtained by voluntary closure of areas to animal grazing. What really motivated them to become organised and start protection was the proposal of the department to collaborate in the process, with its own role limited to one of facilitator. All actions and activities were left to the group. The feeling of empowerment boosted their morale and provided the incentive for sustainable management of the forest resources.

The Phirnu village initiative is informal. As yet no VDC has been formed and no promises made on income sharing. But discussions are now taking place to institutionalise the process and form a VDC. There are many "Phirnu villages" where informal JFPM processes are taking place, and if this relationship between villagers and foresters can be fostered the JFPM process will become self-sustaining.

various donor-sponsored projects involved in introducing PFM.

The Indo-German Dhauladhar Project (1980-88).

The process of formal formation of village development committees (VDCs) in the state began under the Indo-German Dhauladhar Project. During the project period 53 VDCs, 76 *mahila mandals*, 25 *yuvak mandals*, and 7 *natak mandals* were formed. Only a few are still functional.

The Himachal Pradesh Social Forestry Project (1984-1993)

The *van lagao rozi kamao* scheme introduced during the extension phase of the project in 1993 was intended to be executed through Village Forest Development Committees formed in every village (revenue estate). This was the first official step from Forest Department to formally set up VFDCs throughout the State. The VFDC was to have all *willing* right holders as members. The Executive Committee was comprised of the village *panch*; a woman representative, who should be a member of the *mahila mandal* or village *panchayat* and a right holder; two other right holders; and the forest guard (member secretary). All were to be nominated by the Divisional Forest Officer in consultation with the VFDC. The Executive Committee was to help the Forest Department in selection of suitable areas for plantation and of species to be planted, and in selecting *van sevak* families to raise and protect the plantations; to help the Range Officer keep accounts and assess survival percentage of plants; to distribute usufruct among right holders and *van sevak* families; and to protect plantations against grazing, illicit cutting, fires, felling of trees, quarrying, and encroachments. The usufruct sharing scheme was laid down and similar rules were framed for *mahila mandals* and *vidyalaya vatikas* (school forests).

The formation of VFDCs under this scheme was a target driven activity in which the VFDCs were nominated and not formed. DFOs had the absolute power to form or suspend VFDCs. The function of the VFDC was to assist the Forest Department, not to take decisions. Usufruct sharing was not on equitable principles.

Between 1990 and 1993, more than 4,000 such were formed and 1,431 integrated micro-plans written. Most of the VFDCs became defunct when the project ended in 1993. No monitoring of these VFDCs has been done since. The experience of setting up of thousands of VFDCs through a '*quota route*' and as a conglomerate of the influential people of the village had a disastrous effect on the credibility and sustainability of these institutions.

The Integrated Watershed Development Kandi (Hills) Project (1990-1998)

The process of formation of VFDCs in this project remained ad hoc until 1993 when the State Government issued its order on PFM. Since then VFDCs have been established in accordance with the order. By 1998, 115 VFDCs had been formed. The project is still facing problems related to usufruct sharing mechanisms as these are not well defined, and there are no bye-laws on such sharing.

The Indo-German Eco-Development Changer Project (1994-1999 and 1999-2009)

This project adopted a systematic approach to introducing PFM: a five stage schedule during which a VDC is established and culminating in formulation of a village action plan. By the end of 1997, VDCs had been formed in 216 of 570 villages, 114 of these had developed action plans, and mini- or micro-watershed plans had been developed for three of 37 areas.

The DFID- Himachal Pradesh Forestry Project (1994-97 and 1997-2000)

The role and quality of development of VFDCs envisaged in this project are different to those envisaged under the Indo-German Eco-Development Changer Project. The approach is cautious with an emphasis on process learning

and monitoring. The process of JFPM proceeds in eight stages. VDFC formation follows detailed extension, discussion, and assessment stages.

Three VFDCs were set up in the first 18 months and one micro-plan finalised. A detailed study was made of the characteristics, response to PFM, and expecations and hopes of the first six VFDCs established, and the experience gained was used to improve the process. By the end of 1997, 28 VFDCs had been formed in Kullu circle and 20 in Mandi circle, and had prepared 20 and 11 micro-plans respectively (one in Kullu covering 9 villages).

VFDCs in Non-Project Areas

In the parts of the state not covered by the externally-aided projects, PFM implementation is being pursued rather differently. There is little mention of PFM in the implementation of centrally sponsored or state schemes and there are no reliable figures available on the number of VFDCs formed after the state order on PFM in 1993. Accordingly to one estimate, 581 VFDCs were formed during 1995-96 in areas of the state not covered by projects. According to another set of figures, 1095 VFDCs were formed (constituted and registered) between 1994 and 1997, some 820 of them outside project areas. However many of these had never held a meeting of the General House and in a similar number the Executive Committee had failed to meet even as little as once a year. The quality of the VFDCs formed in the Changer and ODA-HP Forestry Project areas is high, but the quality and sustainability of other VFDCs is still suspect.

4.3.4 The Role of Women

Hill women are the key stakeholders in the use of forestry resources, yet their formal position in the PFM process tends to be marginal and their presence cosmetic. Women have no role in the decision-making process even though they are responsible for grazing cattle, cutting grass for fodder, collecting fuelwood, and collecting NTFPs.

The literacy rate for women in the state is over 50 per cent, but programmes for women are few. Promotion of the government-sponsored women's groups–the *mahila mandals*–has often been a factor in setting up factions along caste lines amongst women. The rigid rules determining the number of women in a group prevent the real employment of women. Nevertheless, a major step forward has been made with the reservation for women of 30 per cent of positions in *panchayats* and other administrative bodies at district level in 1998. This gives the women their first real chance to participate in administrative and political decision-making and leadership.

In the forestry sector, a step towards gender equity was made under the social forestry project with women officers joining the Indian Forest Service and the appointment of women forest guards. The women forest guards posted in Mandi and Kullu circles are thought to have been an important factor in the successful projection of JFPM amongst women in the villages.

The PFM order of 1993 requires that each household is represented by one man and one woman in the General House, and that half the village representatives on the Executive Committee are women (approximately 25 per cent of the total). This is a step towards equity of women in VFDC decision-making.

4.3.5 The Role of Non-Government Organisations (NGOs)

At present there is no linkage with NGOs. Although there are some 188 registered NGOs operating in the State, only a few are active in promoting forestry development and creating forestry awareness amongst people, and most are small organisations with little mass support. Their range of activities includes education, functional adult literacy, women and child development, health, environmental awareness and conservation, social forestry, agriculture, animal husbandry, horticulture, wastelands and watershed development, drinking water, appropriate technology, rural sanitation, legal aid and legal literacy, promotion of local crafts and culture, promotion of villagers organisations, training of

elected representatives of *Panchayati Raj* Institutions, and women's empowerment.

NGOs in Himachal Pradesh can be classified into four types: welfare organisations, development organisations, networks, and mass organisations (see report commissioned by Indo German Changer Project on "Status of NGOs in Himachal Pradesh (1994)") on the basis of their activities. A range of village-based organisations (associations of groups of village residents working for their common interest like *mahila mandals*, *yuvak mandals*, and village development committees), some promoted by government agencies and some by NGOs, constitute a fifth type. The organisations can also be grouped into three groups on the basis of affiliation: voluntary organisations (VOs: non-profit making, area based, autonomous, registered under the Societies Registration Act); village organisations (VLOs: village-level, community based, promoted by government or NGOs/VOs, informal or sometimes formal registration with departments, membership by choice, need-based activities); and semi-government agencies (government sponsored welfare boards, corporations, and agencies).

Although NGOs in Himachal Pradesh are at an early stage of building up technical and training capacity for Participatory Forest Management, those working at the grass roots' level are familiar with the issues involved and the problems and perceptions of the villagers in relation to forests. The significance of Himachal's rural women in any participatory work is reflected in the fact that most NGOs in the state are working with *mahila mandals* who represent one of the most dynamic constituencies at the village-level. It is in reaching, organising, and empowering rural women that the NGOs in the state have attained considerable competence and experience which the DFFC should draw upon for strengthening its training and overall capacity building for JFPM.

A few mass organisations have made some progress towards participatory management of forest resources. *Himachal Gyan Vigyan Samiti* (HGVS) is the state unit of *Bhasat Gyam Vigyan Samiti* (BGVS) and one of the 36 member organisations of the All India People's Science Network. HGVS has about 50,000 members from all walks and disciplines of life in well-organised state and district units. It is mainly involved in the total literacy campaign (TLC) and has made considerable progress in forming village-level *gyan vigyan kendras*. It has expertise in campaign movements through such media as *kala jatha* and street plays, an ability to attract professionals, and a strong grass roots' level presence and is thus an ideal NGO for developing an environment in villages supportive for the introduction of proper PFM. HGVS has produced material on family health, environment, local management, and empowerment for neo literate people, has started action research with tools like participatory rural appraisal (PRA) on PFM, and is collaborating with the FD on related issues. There are also a number of village-level organisations keen to undertake responsibilities pertaining to forest management, including the *mahila mandals*, *yuvak mandals*, *gram sudhar sabhas*, and VDCs. These have a potentially valuable role to play, as long as care is taken to ensure that they are not reduced to a vehicle for intercaste, intergroup discrimination.

The main ways in which NGOs, VOs, and VLOs can contribute to JFPM processes are listed below.

- Training to staff and users
- Creating a mass campaign/movement for developing an understanding and acceptance of the need for JFPM throughout the state
- Undertaking research and field investigations in specific social, technical, and economic aspects of JFPM
- Providing expertise and resource persons for training, documentation, and research activities
- Developing demonstrations on participatory approaches to show and lead in areas of conflict
- Establishing networking of VFDCs for organised and quality spread of JFPM
- Preparing and implementing JFPM plans
- Establishing a local monitoring system for JFPM

- Pressurising for policy changes to facilitate JFPM

NGOs and PFM Training

The Ministry of Environment and Forests (MoEF) has commissioned several training institutes and agencies to initiate training for PFM. While some professional training institutes have excellent training competence, their lack of direct access to field experience and non-familiarity with the issues confronting PFM is a limiting factor. Most available training for PFM is confined to specific aspects such as community institutions in PFM, micro-planning, and attitudinal change in short modules of one to three weeks. There is a tremendous need to create capacity for more comprehensive training courses of longer duration dealing with all facets of PFM.

The NGOs are characterised by a wide diversity in their size, orientation, understanding of grass roots' issues, competence, and availability of infrastructure. While some have developed excellent training skills and competence in particular aspects of PFM through experience, others are inexperienced newcomers in the field in response to the tremendous demand for training services. There is no mechanism for monitoring the quality of training being provided by them and no strategy for developing NGO capacity for training. There is an almost total absence of any systematic training for PFM related training.

Of all the NGOs, *Himachal Gyan Vigyan Samiti* probably has the most potential to play an important role in the introduction of JFPM in the state. One early result of collaboration between the DFFC and *Himachal Gyan Vigyan Samiti* has been the promising JFPM work with *mahila mandals* initiated by the DFO in Karsog Forest Division.

NGO Working Group on Natural Resource Management In Himachal Pradesh

The working group is a state-level initiative of NGOs set up in July 1994 to focus on Participatory and sustainable natural resource management (PSNRM) concerns in Himachal Pradesh. It seeks to create an informal forum for regular exchange of knowledge, experience, concerns, and ideas created around PSNRM between NGOs, government departments, and other institutions working with user groups and village organisations to enhance their ability to empower people's organisations.

The working group already has 33 NGO members, 20 resource persons/activists on PSNRM issues, and links with support organisations such as the Society for Promotion of Wasteland Development (SPWD), the Indian Social Institute, the DFFC, and the State Council for Science, Technology and Environment. Its focus is on issues related to

- forest resource management;
- agricultural-horticultural systems for hill farming;
- animal husbandry linkages; and
- water resource management.

Its aims to facilitate

- information dissemination;
- action research and development; and
- capacity building activities for its members.

The working group has already initiated and/or completed the following activities:

- translation of Himachal Pradesh's PFM order into Hindi for wider dissemination (made available to the DFFC which only had an English version);
- an analysis of the PFM order and identification of its shortcomings;
- initiated preparation of a number of case studies of people's initiatives for PSNRM in the state for wider circulation;
- initiated action research by its members in their work areas;
- carried out capacity-building activities for its members;
- information dissemination on various acts, structures of the DFFC, and other pertinent issues both within and outside the state;
- policy research and proactive advocacy for policy reviews with the government departments and ministries concerned.

There is a need to encourage this working group and foster a relationship with it to promote the extension activities of the DF.

4.4 Participatory Forest Management Issues and Risks

4.4.1 Perception of Forestry Staff and Communities Towards PFM

In 1996 a workshop was held as a part of the JFPM process in the Himachal Pradesh Forestry Project to look at the issues involved and develop indicators for monitoring and evaluation of the JFPM process. The participants included 17 forestry staff of different levels, and 20 VFDC members (four from executive committees), 11 of them women. Five sub-groups were formed representing five hierarchies in the PFM process: VFDC (communities group); forest groups (FGs) and beat officers (BOs) (interface group); deputy rangers and range forest officers (RFOs) (supervisory group); assistant conservators of forest (ACFs) and divisional forest officers (DFOs) (direction giving group); headquarters (policy). Each of these groups identified issues concerning PFM development and ranked them in order of priority, then together they developed a consolidated ranking list. The results are shown in Table 4.2. The results were used to develop a set of indicators for monitoring and to identify problems and possible solutions.

Forest Guards and Deputy Rangers are the first point of contact of the FD with the communities and the interface between the FD and VLOs. They perceive JFPM as an approach that will ease their responsibility for protection as villagers will become active partners and share the responsibility. FGs expected that settling of disputes over the use of forest products at village-level will save them from criticism and help them become more acceptable in villages. But they also fear the loss of authority and see a possible conflict between their custodian and facilitator functions, since there has been no change in their responsibilities under different enactments.

ACFs, DFOs, and RFOs are apprehensive that the provisions of various acts are in contradiction to PFM policy. They believe that the mandate given to them under the policy and legal framework is not conducive to collaborative management and does not provide for transfer of power to the VFDCs. The initial tendency is to take JFPM as merely another government scheme, an 'add on' activity. They think that, although productive in the long-term, the approach is initially very time consuming. They also fear the loss of traditional authority. At the

Table 4.2: **Issues Identified in JFPM, and Ranking by Different Groups**

Issue	Ranking by group of				Consolidated ranking
	VFDC	FGs, BOs & RFOs	DFOs	Headquarters	
Changes in the thinking and attitudes of forest staff	6	1	1	1	1
Collaborative relationship between FD, DFFC, and VFDC for PFM	1	2	6	5	3
Changes in the thinking and attitude of villagers	5	3	2	2	2
Participation of women	3	4	5	3	4
Participation of poor people	4	5	4	4	5
Day to day requirements	2	7	8	6	6
Social conditions	12	8	4	10	9
Strong and lasting committee	7	6	3	7	7
Condition of the forest productivity	8	11	7	8	8
Policy and institutional environment	9	9	0	9	10

policy and government level community-based forest management is still viewed as participation without empowerment.

The communities see PFM as an opportunity to exercise collective control against misuse and abuse of user rights, small-scale management of adjoining forest land resources, and equitable distribution of the timber distribution right, the most contentious right that people enjoy. However, in the absence of proper institutional arrangements, they cannot take action against offenders. The villagers have less interest in the final usufruct sharing arrangement as this is covered in existing settled rights but they are concerned about the forest's capacity to supply their needs indefinitely. They hope that JFPM will give them more power to decide who the needy users are as well as to restrict benefits for those who do not contribute. The villagers, especially women, have shown keen interest in grassland management and forest regeneration operations. Communities are ready to share responsibility with the FD, but they want more frequent interaction with forestry staff, transparency in the forest department's working, and the power to take decisions about nearby grasslands. They prefer very few plantations with local species like oaks, figs, and alder and some enrichment planting in existing timber bearing forests.

4.4.2 Emerging Issues

In the 5 years since the Government Order on PFM was issued in May 1993 there have been many changes but attention has remained focused on the emerging dynamics of people-forest-forester's relationships. The (re)-introduction of PFM in the state has brought to the fore many issues that need to be addressed. These relate to the

- multiplicity of PFM processes and approaches that are being followed in different areas;
- changes required in rights and concessions;
- modification to the legal framework;
- changes required in the Government Order;
- capacity building of forestry staff (training needs);
- how management of forests covered under working plans can be brought under the PFM process;
- linkage of PFM with other forestry schemes;
- institutional processes in PFM at field level;
- empowerment of women;
- role of NGOs; and
- support to PFM by top management of the Forest Department.

Multiplicity of PFM Processes and Approaches

Of the five externally aided projects in operation, two (the Indo-German Eco-Development Changer Project and the DFID-HP Forestry Project) are developing different types of PFM systems and strategies. In all other areas of the state, the 1993 Government Order provides the basis for the PFM process.

There is a danger that by the time the PFM systems in the projects have reached a level where they can be replicated in other areas, other (less successful) modes of PFM would be so far advanced in these areas that it will no longer be possible to start in the best manner. Critics say that the absence of a uniform approach to PFM indicates that the Government is not totally committed to PFM and its processes.

The issue has been further complicated by a continuing debate from hardliners who say, "What is new in PFM? It has been practised in the state before in many forms, albeit through

BOX 4.7
The Timber Distribution Right

Two micro-plans developed in Kullu circle deal with this question clearly. Both plans show a social commitment, with villagers agreeing not to exercise this right until trees reach a particular level of maturity. The *sarpanches* responsible for issuing the certificates for TD rights are happy to pass on this responsibility to the VFDCs. Their contention is that the political office they hold requires them to be nice to everyone, and while they are fully aware of the deteriorating conditions of the forests, they have perforce to give the certificates. This shows that the village communities are willing to take difficult but sensible decisions.

classical forest management. Why formalise it? Too much empowerment of the people would be disastrous to the forests of the state."

There is a need to set up a working group to rationalise the PFM processes and ensure uniform processes are followed throughout the state.

Changes Required in Rights and Concessions

The rights and concessions conferred upon individual rightholders in relation to PFM raise two specific issues.

- The benefits offered and created by community based participatory forestry management may not be more than those already enjoyed by individuals under forest settlements. The contentions issue of Timber Distribution (TD) needs to be addressed in PFM with communities.
- A hundred years of preference to individuals over the community may hinder the development of effective community institutions unless sufficient care is taken.

The present situation of individual rights divorced from responsibility needs to be replaced with a situation of community rights to forest produce associated with responsibility. This would enable VFDCs to carry out the task of deciding extraction levels collectively. (This is already being done by many village communities informally.) A precedent exists in in the state in the form of the Kangra Forest Cooperatives, where individual rights were surrendered to the collective for the sake of better management.

Modification to the Legal Framework

The existing acts and rules are too restrictive and not in conformity with the PFM philosophy of encouraging people to develop plantations and NTFPs for future trade and sale. The legal provisions need to be modified to allow the free movement, trade, and sale of forestry resources developed through PFM. In particular, amendments are needed in the HP Forest (Sale of Timber) Act, 1968 and Rules of 1969; the 1984 Forest Produce (Land Route) Rules 1978; the HP Forest Produce (Regulation of Trade) Act, 1982 and Rules made under it; the HP Resin and Resin products (Regulation of Trade) Act of 1981 and 1982; the Indian Forest Act 1927 (declaring forests under the management of communities to be village forests under sections 29 and 30); and the Himachal Pradesh *Panchayati Raj* Act 1994 (declaring community institutions (VFDCs) to be the fourth tier of the system of self government below the village (*gram) panchayats*).

Another legal imperative that needs to be addressed is the government's intention to hand over village common lands (*shamlat* lands) (out of whatever common lands are left) to village *panchayats* for management and to lease out some of these common lands to selected people of influence. PFM assumes the practice of community forestry on these lands and is in conflict with the government's intentions under the HP *Panchayati Raj* Act 1994.

It has been suggested that villages should be given an area of common lands to be managed by communities (not by *panchayats*) that would be sufficient to meet the fodder and fuel requirements of the village for the next 50 years. This would necessitate amendment of the HP Village Common Lands (Vesting and Utilisation) Act 1974 and its rules.

Changes in the Land Preservation Act, 1978, and rules made under it are also required with regard to the number of trees which a person may fell on his own private land for his own bonafide domestic use and for sale. Bonafide use can be ascertained through VFDCs. Relaxation of the HP Forest Produce (Land Routes) Rules 1978 is required to allow free transit of more species and cover trees raised by communities under PFM.

Finally, a uniform NTFP Act is required with provisions for collection, cultivation, harvesting, and trade of NTFPs by communities.

Changes Required in the Government Order (GO) on PFM of May 1993

Several changes that need to be made to the GO of 1993 have been suggested in the past 4 years. The main ones are as follow.

- According legal status to VFDCs

At present, VFDCs are being registered by DFOs as per the GO, but questions are already being asked about

- what happens to the agreement if one partner changes their stance;
- what will happen to the villagers if the next official incumbent does not honour the agreement;
- what will happen if 'free riders' within a village do not recognise the VFDC and its bye-laws and rules; and
- what legal sanctity and authority does the VFDC possess to implement its micro-plan and enforce rules and fines?

Some of these issues are emerging at national level as well. It is important to find an early solution to this problem of providing more legal authority to JFPM groups to save them from vested interests within the villages and the whims of individuals in government organisations.

Similarly, The Indian Forest Act may have to be amended to recognise the bye-laws and rules devised by village groups to enforce local management.

- The Management Unit

After an area is decided, the next important stage is choosing the management unit. At present, a village is the unit for constitution of a VFDC, but experience has shown that the location of coherent user groups sometimes extends beyond village boundaries. It can be very important to include users of other villagers in a single VFDC – particularly when people of more than one village have rights in a common forest under the settlement of rights. Thus VFDCs can encompass 7-8 small hamlets, or a *phati* or *tika*. The area covered by a VFDC should be left flexible for field foresters to decide taking into account the local situation and settlements.

- Constitution of a VFDC

The General Body shouldn't be limited to one male and one female from each household, rather it should have a minimum of one male and one female from each household and be open to all other willing villagers, but ensuring 50 per cent women representatives. The upper limit for the size of the Executive Body should be left open and replaced by a minimum limit of 9-12 members with a minimum of 50 per cent women in the body including nominated members.

- Participatory Planning

The word IRMP should be replaced by participatory micro-planning as planning for other sectors would unnecessarily raise villagers' expectations and foresters responsibility.

- Budgetary Support to Micro-plans

Another critical area is the provision of continuous budgetary support for the micro-plans prepared by the VFDCs. At present, the village plans are likely to be funded by projects, but the sustainability of efforts beyond project periods is a big question. In the future the micro-plans should be integrated in the FD's budget system, which would provide continuous budget inflow as well as the flexibility needed to implement the diverse needs of the villagers for which there are no norms in the present system. The accounting procedures may have to be modified to account for the new budget utilisation procedures, e.g., through VFDCs, or to account for voluntary inputs by villagers.

- Monitoring of JFPM

This important aspect of collaborative management needs to be paid immediate attention, as the present monitoring procedure is driven largely by numbers. New criteria for baseline indicators and subsequent monitoring need to be devised in a participatory way with the VFDCs so that they too are in a position to monitor the progress made. Although 'number' criteria are important from a strategic point of view, the criteria should also include social, ecological, and economic indicators.

- Bye-laws for Distribution of Usufruct

In the absence of clarity on the mechanism of distribution of usufruct, problems are already

being faced in the distribution of the benefits which have started to accrue in plantations raised by people under the Integrated Watershed Development Project Kandi (Hills).

Capacity Building of Forestry Staff (Training Needs)

"Personal, professional and institutional change are essential if the realities of the poor are to receive recognition. Self-created awareness and greater changes in concepts, values, methods, and behaviour must be developed to explore the new high ground of participation and empowerment" (Robert Chambers in his latest book, 'Putting the Last First'). How apt these remarks are in the context of PFM processes.

How Management of Forests Covered Under Working Plans Can Be Brought Under the PFM Process

At present, only degraded protected forests can be brought under active JFPM, that is Class II Forests, UPFs, UFs, and other open-access common use lands near villages. Restricting participation in this way is a debatable issue. Forest in 'good' condition (covered under a silvicultural management system under working plans) cannot be managed in isolation as such forest is generally interspersed with degraded forest. The working plans themselves have severe limitations (see Box 4.8). There is also a danger that introducing PFM in the degraded areas alone might shift biotic interference to the main forest. Since management of biotic interference is the key to successfully reversing the trend of degradation, it is imperative that management of 'high' forest near habitations can also be brought under the mantle of PFM. Some progress has been made in developing a new planning process.

After an in-depth analysis of existing working plan procedures, a conceptual framework for a new integrated planning process was developed under the DFID-HP Forestry Project in 1996. The detailed methodology has yet to be developed. Range Level Management Information Systems (RaMIS) are currently under development for this.

Linkage of PFM with Other Forestry Schemes

There is virtually no mention of PFM in the implementation of centrally sponsored schemes and the state sector forestry schemes. This issue needs to be addressed at the time of formulation of micro-plans. At present this is not done.

Institutional Processes at Field Level

"Treat a community as it is and it well remain as it is. Treat a community as it can and should be and it will become as it can and should be." (Adapted from Goethe's teachings)

Various problems can be seen in the present institutional processes. For example, the presence or status of existing and functional VFDCs, *mahila mandals*, or other relevant organisations is generally overlooked in the micro-planning process. There is also a tendency to adopt short-cut procedures to show results. The high turnover of Joint Forest Planning and Management Support Teams is also an issue. Similarly, the complete dependency of most DFOs on these teams to initiate the PFM process is a cause for worry. There is no linkage in micro-plans of other forestry schemes from the central or state sector or integration of people's needs. The Range Officer remains marginalised in the PFM

Box 4.8
The Need For A New Planning Process

There is general feeling amongst most foresters that the traditional working plan approach is incompatible with both existing policy and site-specific conditions, and even more so with the new micro-plans being developed under JFPM. The working plans are limited. They don't cover Class III forests, UPFs, UFs, and similar areas; are not site specific; do not have enough emphasis on NTFPs; are not used by field staff (except for data); are still based on revenue/commercial objectives;, do not reflect the complexity of forest planning; are not responsive to new clients (users); and are not practical. Therefore, there is a need for a new planning procedure which can respond to new challenges.

process. Conflict resolution amongst forestry staff and within communities is still a challenge.

The type of conflicts encountered within communities in the PFM process include inter and intra village rivalry; family/household disputes; male domination in meetings; economic status of individuals; political affiliations of groups; influence with government officials and agencies; desire to control among members of *panchayats*/societies/other institutions; and empowerment and the status of women. The types of problems with forest staff include pressure to achieve targets in other schemes; lack of attention to protection duties; and favouring of certain persons or groups.

Empowerment of Women

The marginal role of women in decision-making is beginning to be debated in the VFDCs. It is heartening to note that women are increasingly asserting themselves in VFDC meetings.

Role of NGOs in PFM

NGOs are seldom included in the PFM process although their role is specifically mentioned. Some active NGOs (such as the working group on Natural Resource Management in Himachal Pradesh, Palampur) can help considerably in breaking the impasse between the Forest Department and communities and in raising awareness within communities.

Support for PFM by the Top Management of the Forest Department

At present the Forest Department is at a point where the desire to change and support change is strong. The process of capacity building now needs to be extended beyond the project areas for synergy of operations and total institutionalisation. The PFM process has not yet developed as a way of working in the Forest Department. The top management voice support for PFM, but their actions show little commitment. The strong mindset of top management in the Forest Department is a strong inhibiting factor in PFM implementation. The field staff (Forest Guards and Deputy Rangers) receive no clear-cut directions from top management on PFM, and the Forest Department is also not involving other people like NGOs and other organisations in the propagation of PFM.

BOX 4.9
The Ten Commandants of PFM

PFM

- can resuscitate degrading forest resources;
- is the only way to ensure sustainable use of forestry resources;
- can make the people-forest-forester relationship dynamic;
- is a paradigm of trust, trustworthy, and trusteeship;
- requires an attitudinal change amongst foresters and people alike;
- builds a sense of pride of ownership and respect amongst forest dependent communities;
- means decentralisation and delegation to forest dependent communities;
- can be institutionalised through developing skills and training;
- cannot be successful by adopting short cut methods; and
- is the lighthouse of Indian forestry.

The foundations for PFM have been laid down over the past 5 years. The need now is to build up this strength, strengthen the process, and implement it in all forest lands in the State.

4.4.3 Risks for PFM

The (re)introduction of PFM in HP has been carried out in a positive frame of mind. There is a feeling of a **do** or **die**, **now** or **never** situation among forestry staff. Half-hearted attention or slackness in the process could spell failure for PFM. There is a great risk that by the time the projects develop PFM approaches that can be replicated in other areas, the pitch will have been queered by a variety of developments and multiplicity of other approaches. There is also a risk of the development of too many processes, which may complicate the PFM implementation

process beyond redemption. There is also a great risk of too much reliance on developing complicated social processes to the neglect of fundamental, technical tenets of scientific forestry principles. There is also a risk to the whole PFM process of losing continuing support from the Forest Department in the post-project period. Although there is apparent commitment to support PFM, interest and enthusiasm is waning at the top level. Field staff and support teams feel lack of top support. There is no core group at headquarters to look at institutionalisation of PFM or to develop linkages in PFM processes between different projects and in non-project areas. So far the PFM process has not become self sustainable. There is a great risk that interest in PFM will only continue as long as outside donor support to the PFM programme continues.

5 Human Resource Development for Participatory Forest Management

Shifting to PFM from traditional forest management implies a major role reversal for forest departments from policing to facilitation. This requires

- an **attitudinal** change among FD officers and staff both towards each other and towards village women and men;
- acquiring **skills** for diagnosing the different dependence on forest produce of local women and men of different castes and classes, and facilitating the development of strong and democratic community institutions committed to principles of equity, transparency, and accountability; and
- adapting technical forest management and silvicultural **knowledge** to respond to villagers' different immediate and long-term needs for forest products on a sustainable basis.

Forestry training within Himachal Pradesh, as elsewhere in India, will have to be radically changed in the next few years if staff are to acquire the required knowledge, skills, and attitudes to successfully implement the new people-centred forest policy. In addition many of the senior staff in the service will have to undergo a process of attitudinal change ('reorientation') if they are to successfully guide their more junior staff to implement the new policy.

In recent years, with PFM becoming a major component of large donor-funded forestry projects, more attention has been given to defining the training needs for different levels of FD staff. NGOs are often expected to play an important role in providing such training. However, there is still a lack of any clear training strategy for creating such training capacity, both within FDs and among NGOs.

Detailed information about the state PFM order and how to implement it should be incorporated in all short and regular courses to ensure that all departmental staff are informed and aware about the shift to PFM. In many states, large numbers of field staff still have no access to such information. At the other end, villagers must also have clear information about the new PFM framework. Development of information leaflets, posters, and other methods of communication for disseminating information among villagers should be included in training curricula, and even NGOs can be encouraged to prepare and disseminate such information materials.

5.1 The Department of Forest Farming and Conservation

Before discussing training needs it is important to understand the structure of the HP Department of Forest Farming and Conservation (DFFC). This department is headed by the Principal Chief Conservator of Forests (PCCF). It has five major wings, each headed by a Chief Conservator of Forests (CCF), responsible for forest settlement, project planning and development, wildlife, working plans, and territorial and protection matters. Logging and other commercial operations are undertaken by the State Forest Corporation,

headed by a Managing Director (CCF) and supported by parallel supporting lines.

The management of forests is the responsibility of 'territorial' staff while functional units attend to specific subjects such as forest research, drafting of working plans for management of forests, and habitat management in the National Parks and Sanctuaries.

The state is divided into nine territorial units, eight forest circles, and one wildlife circle, which are further divided into 38 territorial divisions, four wildlife divisions, and two national parks (with 30 sanctuaries) each with separate territorial jurisdictions. Each forest circle comprises four to five territorial forest divisions. Each forest division has four to six ranges, each range four to six blocks, and each block five to seven beats. The wildlife circle is headed by a Chief Conservator of Forests (Wildlife) who is also the Chief Wildlife Warden of the State. The territorial circles are each headed by a Conservator of Forest (CF). Seven additional functional CFs assist the top management. They are the CF Research and Development, CF Working Plans (two), Director State Land Use and Waste and Development Board, CF Projects, CF Headquarters, and CF Planning. The Integrated Watershed Development Kandi (Hills) Programme (IWDP) and the IGCP, Palampur are headed by Project Directors who have the rank of Conservator.

The present DFFC career structure and numbers of staff at each level are shown in Figure 5.1.

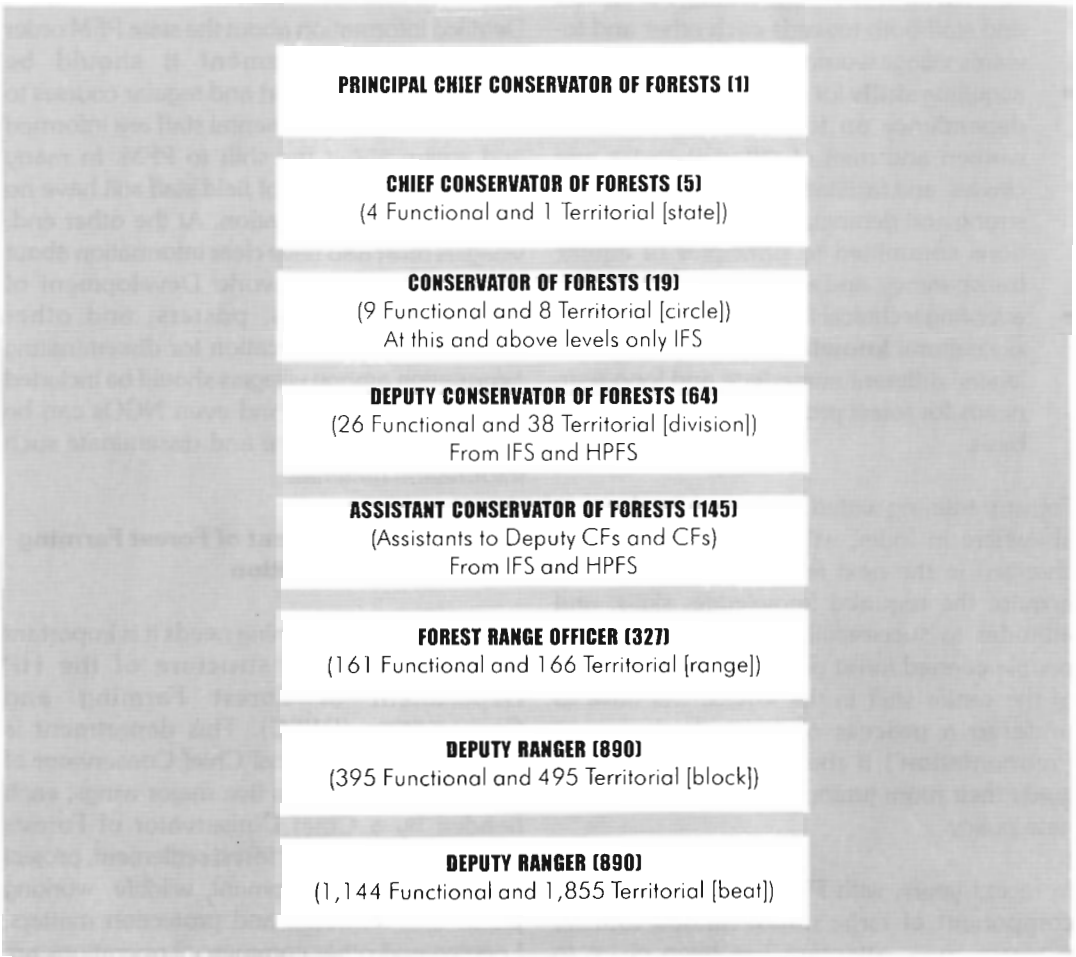

Figure 5.1: **The Career Structure in the Department of Forest Farming and Conservation**

In addition, the Department is supported by 385 technical staff, 1,023 ministerial staff, and 914 Class IV staff. The first two groups have their own career structures. Approximately 10 per cent of forest guard posts are reserved for Class IV staff (mainly peons).

5.2 Framework for Training for Participatory Forest Management

5.2.1 Training Needs

A wide range of training needs has been identified within the DFFC. Some of the needs are specific to certain levels of staff. But the most important need is to achieve an overall cultural change in the department by imparting the knowledge, changing the attitudes, and conveying the skills required for the successful and sustained implementation of PFM.

The main topics which require improved knowledge, attitudes, and practices throughout the department are summarised below.

Management Change–The DFFC and associated organisations are presently going through a period of unprecedented change. In order to manage this change successfully there is a need for many senior and mid-level DFFC staff to have formal management training in planning and implementing change strategies.

Increasing Awareness of Participatory Forest Management–There is a need to increase awareness of PFM throughout the DFFC and associated organisations like the Department of Animal Husbandry. All levels of DFFC staff require awareness training. At the village-level there is also a need to raise awareness of what PFM actually means and how it can be implemented.

Integrating Socioeconomic Needs into Forestry Practices–Many DFFC staff have a good technical understanding and knowledge of forestry. However, few have had any training in socioeconomic aspects of forestry. This is especially true in relation to PFM.

Equitable Sharing of Costs and Benefits Within Participatory Forest Management–The equitable sharing of costs and benefits within PFM will be critical for its success in Himachal Pradesh. DFFC staff need to have both an understanding of this issue and the skills to facilitate equitable sharing. As yet, few, if any, DFFC staff have had any training in this critical aspect of PFM.

Sustainable Silvicultural Systems For PFM–Many DFFC staff have a very good understanding of classical silvicultural systems and the required skills and knowledge to manage forests. However successful, PFM will need a wide range of new silvicultural systems, practices, and treatments. As yet, few if any staff have had any training in the silvicultural systems required under PFM. In addition, the challenge of successfully integrating PFM with 'traditional' working plans is considerable. This topic will require careful attention. When working mechanisms have been worked out, staff will need training in them.

Increasing Yields of and Economic Returns from Non-Timber Forest Products (NTFPs) – The potential of NTFPs in Himachal Pradesh is rapidly being realised. The importance of NTFPs under PFM will raise their profile even higher. In order to realise the potential of NTFPs and maximise the economic returns from them there is a need for many staff in the DFFC to have formal training in these subjects. This is especially the case for those DFFC staff working in the higher altitude zone of the state.

Working with NGOs–There is no significant history of NGOs working with the government in Himachal Pradesh. There is a need for DFFC staff to have an awareness of both the strengths and weakness of NGOs and their differences from government institutions and organisations.

Working with Other Institutions–Institutional linkages are very important. DFFC staff need to be able to develop effective working relationships with a range of institutions. Knowledge of successful customer

client relationships is required among senior DFFC staff. Negotiation skills and such skills as the preparation of contracts are required.

Communication Skills–Communication skills are required throughout the DFFC. Few DFFC staff have had formal training in communication skills. Facilitation and training skills are urgently required for those staff involved in PFM. Likewise, written communication skills are required by a number of staff.

Developing Village-level Organisations–The development of village-level organisations is a new area of work for most DFFC staff. An understanding of village-level organisations is required by all those staff who will be implementing the practical aspects of PFM.

Participatory Planning and Management–Participatory planning and management skills are critical if PFM is be successfully introduced and implemented at village-level. Few DFFC staff have had practical training in these areas.

Promoting Equal Opportunities within the Department and Village Organisations–Promotion of equal opportunities is needed at all levels of the DFFC. Likewise, those staff working at village-level need a clear awareness of the importance of providing genuine equal opportunities, particularly for ethnic (i.e., religious/linguistic/cultural) minorities.

Increasing Gender Awareness within the Department and All Associated with It–The importance of gender issues in forestry management is slowly but surely being realised. In recent years, a number of important lessons have emerged from other states involved with PFM. Awareness of gender issues is vital to the long-term success of PFM and all staff in the DFFC need training in this area.

Assertiveness Skills for Women And Other Marginal Groups–Training in assertiveness skills can be most beneficial for women and other marginalised groups. Assertiveness training should be a regular feature of the training offered to both DFFC staff and village-level organisations.

Team Work–Teamwork is vital for the successful working of the DFFC. Nowhere is this more true than in relation to the implementation of PFM. Staff at all levels of the DFFC need to have at least an awareness of teamwork skills.

5.3 Training for Senior DFFC Staff

Senior officers of the DFFC receive their forestry training outside the state, so this training must be seen in the context of the national provision of forestry training. At national level, forestry training for professional staff is being imparted at three levels of institutions. The Indira Gandhi National Forest Academy (IGNFA) at Dehra Dun trains officers recruited to the Indian Forest Service (IFS) by the Union Public Service Commission through all-India competitive examinations. The minimum educational qualification to be eligible for the examination is BSc. Training at IGNFA is for two years, followed by a three-month foundation course on basic governance of the country in Lal Bahadur Shastri Academy at Mussouri. The officers are then allocated to the states for appointment as ACFs in the IFS cadre of the state. Himachal Pradesh Forest Service (HPFS) officers are recruited through a competitive examination conducted by the HP State Public Service Commission. Again candidates must have a minimum educational qualification of BSc. Successful candidates are sent for a two-year training course at one of the State Forest Service Colleges (SFSC) at Dehra Dun (UP), Coimbatore (TN), or Burnihat (Assam). On completion of training, they are posted to the state as ACFs in the HPFS cadre.

Until 1985, training for state forest range officer recruits was the responsibility of the GOI. Initially the minimum educational qualification was Intermediate (11 + 2 or 10 + 3) and courses were for two years duration. After the initial qualification was raised to BSc, the training course was reduced to one year. Since

then the GOI Ranger Colleges at Dehra Dun and Coimbatore have closed and Ranger Colleges have been set up by some states at Balaghat and Chandrapur (Madhya Pradesh), Haldwani (Uttar Pradesh), Angul (Orissa), Kurseong (West Bengal), and Rajpipla (Gujarat) and the course again extended to two years. States that do not have a Ranger College send their candidates to any of the above institutions.

During their initial training period, IFS recruits are posted to a 'cadre state', an appointment which s/he will retain for the whole period of service. From the cadre state s/he may be deputised to any of the central institutions, including the Ministry of Environment and Forests, the research institutes, training colleges, and other Ministries of the Government of India, but on completion of the period of deputation, s/he reverts to serving in the cadre state. Direct recruits to the HP State Forest Service (SFS) serve in the state and mostly in the department. After not less than eight years service they are eligible, on merit, for transfer to the IFS and therefore, for promotion to the highest ranks in the department.

The vacancies for Assistant Conservators are filled in part by direct recruitment with the college training described, and in part by promotion of range officers in the department. Similarly, the vacancies for range officers are filled partly by direct recruitment with college training and partly by promotion of Foresters/ Deputy Rangers. In principle, officers who are promoted may attend an in-service training course, but in practice this appears to be exceptional.

5.3.1 In-Service Training for Senior Officers

In recent years, provision has been made for mid-career training to be offered to forest officers through the state forest departments. The duration is normally one to three weeks per year. Officers are invited to indicate their preference from a range of topics such as computer applications, project formulation, wildlife management, forest - tribal interface, gender issues in forestry, participatory rural appraisal, human resource development, and remote sensing. They may then be allocated to one of some 23 courses at institutions throughout India. A full list of the courses presently offered and a list of training institutes where officers are sent for training is presented in Annex 9. Further in-service training includes the provision of longer courses such as that leading to the Diploma in Wildlife Management at Dehra Dun.

5.3.2 The Quality of Senior Staff Training

The measure of quality is problematical. This is especially true for the quality of training. In the following quality is defined and referred to as 'fitness for purpose'.

For any training institute to be providing 'high quality' training, it has to be providing the trainees with the knowledge, skills, and attitudes which will equip them to do their work more effectively. In the ever changing forestry sector this means there is a constant need for curriculum development and updating of the staff who have to deliver the learning experiences required by the curricula. This has become more critical with the policy shift to PFM.

In 1991, Mutch *et al.* found that the teaching staff at IGNFA and the SFSCs readily accepted the need for syllabus changes. Indeed, they reported that a recent start had been made to update many of the outdated syllabi used at that time. Palit (1994) has reviewed some of the recent changes that have been made in the IGNFA, SFSCs, and Forest Ranger courses. Whilst he found the most recent IGNFA syllabus an improvement over the old one, there were clear deficiencies with regard to the skills and attitudes being taught. The syllabus still had a heavy technical emphasis on traditional forestry, and even this had not been adapted for the implementation of PFM. The revised syllabus for the SFSCs is similar to that for the IFS course and consequently suffers from the same deficiencies.

Mutch *et al* (1991) outlined a suggested approach for social science training for Indian forestry. They suggested that the basic objectives of social science teaching within the Indian forest services should be:

- to enable forest officers to distinguish in rural peoples key differences with regard to socioeconomic status, caste, and gender and to understand the significance of these differences for social forestry;
- to make foresters aware of the issues of rural poverty and thereby understand the problems of rural people, so they can communicate effectively with them; and
- to equip foresters with project planning skills, in particular for economic aspects.

They suggest that the methods taught should include:

- participatory rural appraisal, participatory mapping and modelling to reveal such things as natural resource use and seasonality;
- project planning techniques; project framework approaches, and cost benefit analysis;
- basic information gathering;
- participatory management, identifying user groups and stake-holders, negotiations on management of forest and community in social forestry programmes;
- systems of project evaluation and monitoring; and
- extension methods including visual materials, charts, and similar.

They also suggested that there should be differences in course content at the different levels of training (IFS, SFS, ranger) with more planning skills at the higher levels and more communication skills at ranger level and below. It is disappointing to note that their recommendations do not yet appear to have been taken up. Few of the above topics have been included in any of the revised syllabi. Whilst it is recognised that the DFFC can do little by way of changing the curricula taught outside the state, the senior staff of DFFC can have a positive influence on those responsible for curriculum development at IGNFA and the various colleges.

5.3.3 Training Methods

The revision of syllabi for IGNFA, IFS, and SFS training courses will not in itself be sufficient to ensure the delivery of sufficient new competent staff to successfully implement the new national forest policy. The methods used to facilitate learning are often as important for high quality training as the details of the course content. This is especially true in relation to the delivery of 'people-focused forestry' courses. The way in which young staff are instructed has a profound effect on the manner in which they operate subsequently as forest officers, not least with respect to forestry systems that are society based and socially dependent.

The training methods used at IGNFA and the other Indian Council of Forestr Research and Education (ICFRE) colleges were reviewed by the first Mutch report (Mutch *et al.* 1990). This suggested that there should be a reduction in the size of groups in training; a move from lecturing to interactive learning, a change of emphasis from teaching to learning, and encouragement of self motivated study. The extent of these changes in the past three years could not be assessed, but it is clear that even if a move in the right direction has been made more movement is likely to be necessary.

For high quality training, it is essential to provide effective teacher/trainer training to those who are to be deputed to training posts. As a minimum, this training should cover training methods, practical forestry skills, assessment methods, the design and production of training materials, participatory training methods, and planning forestry training programmes.

5.4 Training for Field Level Staff (Forest Guards and Deputy Rangers)

Until 1993, Deputy Rangers and Forest Guards in HP were trained only at the Chail Training School. However, massive recruitment,

promotions, and the limited thrust of training, meant that by 1993 there were 1,500 forest guards (1,200 Forest Department and 327 Forest Corporation) and 660 deputy rangers (605 Forest Department and 57 Forest Corporation) who had never received training. In order to train them, two new training centres were opened in November 1993, one at Sundernagar in Mandi district, the other at Kuther in Kangra district. In addition, the training schedule at Chail was rationalised to utilise the full training capacity. For two years clearing the backlog for forest guard training was emphasised and only forest guard courses were held. Between November 1993 and 1998 more than 900 forest guards of Forest Department received training. Deputy ranger courses were re-introduced in August 1995.

5.4.1 Forest Training Schools

The Forest Training School at Chail

The Forestry Training School at Chail (FTSC) was established in 1968. Prior to that State forestry training had been based at Junga (1949-52), Solan (1952-6), Mashobra (1956-64) and then Solan again (1964-68).

The original FTSC buildings were the property of the Maharaja of Patiala. Constructed in the early part of this century, they were originally built to house the stables and attendants of the Maharaja. In recent years, new buildings have been built to provide both improved teaching and hostel accommodation. Since it was established, the FTSC has provided both pre-service and in-service training for DFFC forest guards, foresters, and deputy rangers. Occasionally, the school provided training for candidates sponsored by other government departments, non-government organisations, externally funded projects, and ministerial staff of the Forest Department.

In 1987, a ten-year Master plan for the FTSC was drawn up by the DFO Chail. Some aspects of the plan have been successfully followed, others not. The plan presented a useful vision of what the DFFC wanted to develop at Chail.

- Courses Taught

The FTSC has offered a variety of pre-service and in-service training courses for Forest Rangers, Deputy Rangers, Forest Guards, and Administrative Clerks of the DFFC and the Himachal Pradesh State Forest Corporation. In addition short courses have been organised for non-government organisations and externally funded projects. Foundation Courses include the following.

- Forest Guards Course–This five and a half-month course has been offered regularly at Chail. In recent years, two courses have been conducted each year, each with 60 trainees. In 1993-1995, when forest guard training was prioritised, the FTSC conducted two courses a year with 120 trainees in each.
- Deputy Rangers Course–This is a three-month 'Capsule' course for promotee deputy rangers. The course was introduced in 1990 after a gap of three years. Prior to that an 11 month pre-service course was conducted for directly recruited deputy rangers.

A number of special courses has also been conducted including

- a three-month Wildlife Management course for deputy rangers and forest guards,
- a two-week course on Social Forestry for female forest guards,
- a one-week Wildlife Orientation course for recently promoted range officers.

- Training Methodologies

Whilst the lack of training resources at the FTSC limits the range of training methodologies that can be used, the more pressing problem is that of staff not having the experience and confidence to use interactive and participatory methodologies. With the large groups of up to 60 trainees at a time, the staff resort to formal lectures as the main method of information transmission. Even in this, they feel constrained by their own lack of

practical experience in the subjects they have to teach. On their own admission, many of the teaching staff use their own student notes as the basis for their formal lectures. This practice results in the trainees receiving a watered-down version of what is often inappropriate content delivered in an inappropriate way. Staff need to be trained teaching methods, and they also need an opportunity to build up their own practical experience of the subjects they have to teach. Only then will they gain in self-confidence and command a respect from the trainees that is built upon expertise rather than simply rank.

The DFO Chail, who has been trained overseas in practical forestry training methodologies, has recently made attempts at using more interactive training techniques. He found that they can be used successfully even with groups of over 100 trainees. This was illustrated by the feedback he gained from a class of 118 forest guards whilst teaching a new series of sessions on PFM. In one session he divided the guards up into 10 small groups and facilitated a discussion session on the topic of DFFC staff training needs for the successful introduction of PFM in Himachal Pradesh. The feedback from this session is presented in Box 5.1.

BOX 5.1
Training Needs of DFFC Staff for the Successful Introduction of PFM

- Knowledge about departmental policy
- Practical training
- Training in communication skills
- Listening skills
- PFM study tours
- 'T and V' training for staff so they can work with villagers
- More participatory training
- More publicity and extension
- Circle/division/range level weekly training
- Teamwork skills
- Local / vernacular materials

Note: As seen by the 35th batch of Forest Guards at the Forestry Training School, Chail, 1994

Forest Training Centre Sundernagar

Sundernagar Forest Training Centre (FTCS), located some 25 km from Mandi town, was built as part of the World Bank Social Forestry Project in 1992. The training centre is now being used to support the training offered at FTSC.

Forest Training School Kuther

The Forest Training Centre Kuther (FTCK), located in Nurpur Forest Division on the Kotla-Ranital road some 12 km from Kotla town, was built under the World Bank Social Forestry project in 1992 for training *'van sewaks'*. It is now used for training forest guards.

5.4.2 Strengths and Weaknesses of the Forest Training Schools

The strengths and weaknesses of the Forest Training Schools were investigated as a part of the assessment process of JPFM needs under the Himachal Pradesh Forestry Project.

The recognised strengths were as follow.

There are a considerable number of field-based training resources. The location of the FTSC in a sanctuary area of reserve coniferous forest has a range of positive advantages for the conducting of practical forestry training sessions, including JFPM. Recently an attempt has been made to construct a small nursery and arboretum. A small glasshouse can be used to demonstrate glasshouse and nursery techniques. The only practical classes that cannot be undertaken locally are those on tree felling. This is because of the felling ban in the forests.

Some staff in Chail and Sundernagar have been trained overseas in practical forest training methodologies. The staff numbers at Chail and Sundernagar have been strengthened since 1993 to deal with new training curricula. Chail has excellent facilities for trainees and a modern training block. Similarly, Sundernagar now has a newly built training block above the office block. Both the FTSC and the FTCS are now

well equipped with such things as teaching aids, computers, and overhead projectors.

The recognised weaknesses included the following.

Trainees are not provided with lecture notes. Many staff still lack training in teaching methodologies and practical experience of the subjects taught. The hostel facilities at Chail and the hostel facilities and training block at Kuther are inadequate.

5.4.3 Curriculum Development

Adequacy of Old Training Curriculum

The current provision of forestry training in the DFFC is based upon a long tradition of national forestry education and training and a more recent, but significant, history of state forestry training. For more than a century forest protection was the dominant goal of the national policy.

The 1988 national forest policy called for the fostering of a 'popular mass movement' of forestry awareness among villagers and tribal people, especially among women. This required a change of attitude in the forest services towards the public. Without exception, all DFFC staff consulted stated that the Forest Guard and Deputy Ranger curricula urgently need updating in line with these changes. Many of those consulted made the point that there is little point in training Forest Guards and Deputy Rangers in 'traditional forestry' when the DFFC is trying to introduce JFPM throughout the State.

In 1994, consultants stated that the syllabi of the Forest Guard and Deputy Rangers courses needed to be radically updated in line with the DFFC's stated policy of PFM. The training methodologies and courses adopted until 1993 in the Chail training school did not offer any learning opportunities related to PFM, and even the courses on social forestry used the classical theoretical approach.The consultants stressed that the mode of course delivery was as important as the course. People 'teach as they have been taught'. If Forest Guards and Deputy Rangers are continuously lectured to during their training, it is likely that they in turn will 'lecture' to villagers, and PFM will fail before it starts. Participatory and active learning methodologies are needed for the effective delivery of the curricula.

The consultants examined two model syllabi developed by the 'Neog Committee' in 1993: a nine-month introductory course for normal training, and a three-month 'Capsule Course' devised to assist in clearing the backlog of untrained guards. Although a short 'Capsule Course' has many attractions, the proposed content and style of training were not appropriate for PFM. Issues related to peoples' participation and social forestry took up 16 per cent of the proposed teaching time in the long course, and only 2.8 per cent (10 hours) of total teaching time in the short course. The syllabi offered no great improvement over existing syllabi.

Vision Statement

A vision statement and objectives for Forestry Training in Himachal Pradesh were developed during a training needs assessment study for the Himachal Pradesh Forestry Project (HPFD). The statement is given in Box 5.2.

PFM Training Agenda

Keeping in view the vision statement and objectives for the development of training schools, it is clear that much of the emphasis is on developing curricula for forest guards and deputy rangers which include social and participatory functions as well as basic forestry training. Special refresher courses (workshops and seminars) will be designed for range officers and IFS officers for the period 1996 to 2000 AD.

The forestry sector often seems to have difficulty in preparing financially viable projects and programmes, particularly in the higher hills. There is also a shortage of clear policy guidelines on the returns (economic and financial) to be expected from investments and programmes. Of late, there has been a greater emphasis on imparting training in socioeconomic qualitative techniques to

BOX 5.2
Vision Statement for Forestry Training

By the year 2000
The HPFP will be supporting and providing a range of high quality training courses/workshops for all levels of staff and collaborating village organisations, NGOs, and other institutions/departments.

The Forestry Training School, Chail, supported by the Sundernagar Forestry Training Centre and the Forestry Training Centre, Kuther, will be the best practical and participatory forestry training centre in the Himalayan belt.

All three training centres will be providing pre- and in-service, practical, high-quality participatory training, on and off campus, for the needs of

- DFFC and HPSFC,
- other government departments,
- NGOs,
- externally funded projects,
- other institutions,
- other clients,

have close links with

- local communities,
- local territorial divisions and circles,
- DFFC headquarters, Shimla,
- other projects on-going in the state,
- other institutions,
- NGOs,

and be lively, innovative and attractive centres for staff to work in.

foresters. It is now being realised that foresters generally do not have a business orientation and lack skills in investment preparation and financial analysis. They are also handicapped by the lack of separation between policing roles and production roles. Forestry personnel at the policy programme level need customised training in the forestry business environment.

The development of customised training packages is likely to take place around 2000 AD, after a thorough review of the achievements made in fulfilling the objectives of training laid down up to the year 2000 AD.

New PFM Oriented Training Curriculum

A new PFM oriented training curriculum was developed in a two week workshop held in 1995 at Sundernagar Training Centre. The curriculum was developed by trained and untrained forest guards and deputy rangers, staff from the Chail and Sundernagar training schools, and the Joint Forest Participatory Management Support Team for Kullu and Mandi Forest circles.

The aim of the curriculum development was defined as "*to enable forest guards and deputy rangers to learn basic field level forestry practices and acquire related special skills so they perform their tasks effectively in the context of the participatory approach to forest land management.*"

The steps were as follow.

1. Defining the aims and objectives of training
2. Defining the role of forest guards and their major tasks and sub-tasks

3. Critical review of existing curricula vis-à-vis job description
4. Conversion of list of tasks into titles of study
5. Identifying time required for each title of study and method for studying
6. Grouping of titles of study into units of study

The basic features of the curriculum developed and proposed for forest guards are summarised in Table 5.1.

The new PFM curriculum was introduced in April 1996.

5.4.4 The Present Quality of Forest Guard Training

Feedback was obtained from Forest Guards with regard to the quality of training at the three schools at a time when topics related to PFM had been introduced at Chail and Sundernagar. The results are summarised below.

Table 5.1: **Comparison of Existing and Proposed Curricula for Forest Guards**

Old Curriculum	New Curriculum
GENERAL PRINCIPLES	
Theoretical	Practical
Police pattern	Participatory
More emphasis on physical fitness	Induction of self defence
Designed per employer view to achieve the aims of trainees	Needs based to fulfill the actual objectives of the trainees and stakeholders view considered
Training after 5 to 10 years of service	Training on entry to the service or as soon as possible
No provision for refresher courses	Provisions for refresher courses
Subjects	Units
Subject Driven	Task Driven
Teaching methods not mentioned	Explained with time allocation
Knowledge based	Skill based
In accordance with traditional forestry	Designed as per changed job role
Syllabus only	Detailed written scheme
TOPICS	
Existing	**Proposed**
Silviculture and protection	Protecting forest land resources
Forestry projects	Practising sustainable silviculture and NTFP propagation
	Implementing participatory forest land resource management
Forest Utilisation	Managing and utilising forest produce including NTFPs
Soil Conservation	Performing soil and water conservation measures
Forest Engineering	Performing basic forest engineering and survey works
Wildlife	Conserving bio-diversity and wildlife management
Accounts procedure and law	Carrying out accounts and office procedure
Environmental conservation and ecology	Practising basic self defence and first aid

Source: Sharma, K. D., Divisional Forest Officer, 1993

- Major problems faced by the forest guards in their day to day work

- Meeting the firewood requirements of villagers. Firewood is needed for both cooking and heating. Although the villagers' requirements are legitimate, the guards are in perpetual conflict with villagers over illicit felling because of the insufficient amount of 'dry and fallen wood' in the forest.
- Encroachment of forest lands for agricultural purposes
- Grazing pressures on forests; people let their cattle loose even in new plantations.
- In the Kotgarh area, truckloads of unproductive cattle are brought and left in the forests by villagers during the summer months. As each guard's beat covers 12 to 15 sq. km. it is impossible for him or her to keep an eye on all of it all the time. Sometimes a guard is given a charge of two or three beats at the same time, which makes the problem worse.
- No villagers are prepared to act as witnesses for illicit felling of timber. The guards need witnesses for preparing offence reports. If they try to compel some villagers to agree to become a witness, political pressure is exerted on them not to do so.
- Related to this is the problem of guards not having any means to transport illicitly cut timber apprehended by them. If they leave it where it is found, it is likely to be stolen while they go to arrange transport.
- Working with, and dealing with, women. Fodder and firewood are mostly collected from the forest by women. The male guards face tremendous problems in dealing with women forest offenders.
- Controlling migrant grazers. In some areas, migrant grazers do a lot of damage. They also cut trees to build their temporary huts.
- Not knowing what to do because many villagers depend on illicit felling for their livelihood.

- Useful things learned from the training course

- Forest Law, forest utilisation, ecology, and environment
- The importance of working in cooperation with local people and taking their needs into account, e.g., in species' selection
- Learning about PFM was very useful, although it was felt that practical work on PFM should be included.
- The importance of listening skills, developing these was useful to enable them to understand villagers' perspectives
- Technical matters like raising nurseries properly, transplanting seedlings, and how to estimate seed requirements per hectare were useful.

- Value of the training course for solving their day to day problems as forest guards

- The emphasis on PFM and working in cooperation with people was found to be most useful for dealing with their day to day problems. However, there was considerable discussion on this. At both Chail and Sundernagar some of the trainees felt that simply seeking villagers' cooperation would not deal with the problems of illicit extraction for essential needs unless viable alternatives were provided. If villagers didn't have rights in forests it was necessary to find some way of meeting their forest product needs. The importance of support by senior officers for putting PFM into practice was also emphasised. Some guards felt that PFM was unlikely to help in dealing with problems of encroachment on forest lands, particularly when backed by political pressure. PFM would also not help in dealing with the most difficult problem of all–political pressure.

- Trainees' suggestions as to how the training course could be improved

- It should be given at the start of their service, not at the end.
- There should be more practical work.
- More teaching aids should be used, e.g., posters, charts, models.
- The length of the study tour should be increased to at least a month.
- A break in the middle of the course would be good.

- Simple local terms should be used instead of botanical names.
- The teachers should not be transferred in the middle of the course

- Other general comments

- There should be short refresher courses each year.
- The guards should be posted in areas where they know the local language.
- In Sundernagar and Kuther buses are needed for field visits, in Chail two are needed for the larger groups.
- There is a need for training in PFM (at Kuther none of the Forest Guards consulted knew anything at all about PFM).

5.5 Linkages with Other Institutions

5.5.1 Organisations and Institutes within Himachal Pradesh

Dr. Y. P. Parmar Horticulture and Forestry University, Solan

Forestry was introduced as a subject in the Horticulture and Forestry University, Solan, in 1976. In 1983 the university commenced a regular course in forestry leading to a BSc Degree. This course has an intake of 25 students per year. In addition, the university has 15 MSc forestry students and 15 Ph.D. forestry students.

The Forestry Faculty is partly funded by the DFFC. Each year a grant is paid to the university so that the research needs of the DFFC can be addressed. In the last two years the DFFC have taken a series of steps to ensure that they get 'value for money' from the university. A review of the appropriateness and quality of the forestry research was undertaken by the DFFC in 1995/ 1996. With the exception of some social forestry training for farmers, the training capacity of the university has not been used by the DFFC. With its excellent training facilities, the university is well placed to provide training. However, there is a real need for any training provided to be both practical and based upon current local experiences. Whilst the university has a track record of providing academic education, the university's capacity to provide practical up to date training on topics such as JFPM is far from proven.

A long-term strategy is needed to strengthen the existing linkages between the university and the DFFC. The first step would be for the DFFC to request the university to provide training in line with its current needs. The Department of Extension Education would be the best placed department to assist the DFFC with current needs in relation to PFM at ranger level. Training support is needed in order to build up a team of qualified and experienced PFM trainers. This could be provided through overseas' training for a selected group of staff. These staff should then be responsible for working with the DFFC to design and deliver a short in-service course for rangers on aspects of PFM. Close monitoring and evaluation of this process by the DFFC will be needed at all times. Only if the DFFC clearly state what their training requirements are can the university be expected to deliver the practical training required.

Agro-Economic Research Centre, Shimla University

The Agro-Economic Research Centre (AERC) of Shimla University has undertaken an evaluation of the Integrated Watershed Development Project. The centre has built up a good record of accomplishment of applied research work and has published a series of useful documents/ booklets. Whilst they are not specifically a training organisation the AERC has recently provided some monitoring and evaluation training for DFFC project staff. The staff of the AERC are keen to assist the DFFC in any way possible and would welcome stronger links.

Himachal Pradesh Institute of Public Administration

The Himachal Pradesh Institute of Public Administration (HIPA) offers a wide range of

short training courses for gazetted officers of the government. An annual series of courses is offered, and DFFC staff are invited to any relevant courses. The courses are advertised through the published annual calendar of courses.

Over the last three years the institute has designed and offered a range of short courses with a forestry/environmental content. These include the following.

- Course on Forestry in Rural Development (5 days)
- Construction of Roads under the Forest Conservation Act (3 days)
- Management of Environment in Mountainous Districts (3 days)

These courses are not designed for the DFFC, but for the Indian Administrative Service (IAS) officers from other departments. DFFC staff have played a significant role as faculty on all of these courses. In addition to conducting the 'regular courses' the present director of HIPA is keen to establish 'needs-based training' and is very open to suggestions for any specific training courses/workshops that may be required by the DFFC. Whilst the institute does not have the in-house skills required for certain specialised forestry and management training courses, it is well placed to buy in the required expertise from other institutes and organisations. The institute has excellent residential facilities and infrastructure and is well placed to provide training courses and workshops for senior DFFC staff.

5.5.2 National Organisations and Institutes

Wildlife Institute of India, Dehra Dun

The Wildlife Institute of India (WII) was set up in 1982. Since 1986, it has functioned as an autonomous institution of the Ministry of Forests and Environment. The mandate of the WII was to create a human resource base, a cadre of trained wildlife managers and scientists, both ecologists and socioeconomists.

The staff of the WII have built up experience of conducting courses in eco-development. Some of these courses have involved aspects of participatory forest management. The Director of the WII is keen to offer the training services of the institute to the DFFC.

Indian Institute of Management, Bangalore

The Indian Institute of Management has experience of conducting courses for IFS officers. Several of these courses have been aimed at bringing about attitudinal changes. Given their experience, the Director of the Institute is keen to assist in providing tailor-made courses for senior DFFC staff.

Indian Institute of Forest Management, Bhopal

Some time back the Indian Institute of Forest Management (IIFM) had no full time Director. Because of this, it has been difficult to ascertain the capability of the Institute. It is expected that in time the institute may be able to offer a range of relevant short courses and workshops for senior DFFC staff.

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Annex 1
Fact Sheet on Himachal Pradesh

Location Longitude: 75° 47' to 79° 04' E
Latitude: 30° 22' to 33° 12' N

Total Area 55,673 sq.km.

Population

Year	Total	Men	Women	Percentage Increase
1991	5,170,877	2,617,467	2,553,410	20.79
1981	4,280,818	2,169,931	2,110,887	23.70
1971	3,460,434	1,766,957	1,693,477	23.0
1961	2,812,463	1,451,334	1,361,129	17.87
1951	2,385,981			

Administrative Facts

No. of Districts	: 12
No. of Hill Districts	: 6 (Shimla, Kinnaur, Kullu, Lahaul and Spiti, Chamba, Sirmour)
No. of Plains Districts	: 6(Bilaspur, Hamirpur, Kangra, Mandi, Solan, Una)
Population in hills:	: 35%
Population in plains:	: 65%

Natural Resources (in sq. km.)

Total	**55,673**
Agriculture	9,656
Forestry	35,407
Barren/degraded land	1,461
Other uses	9,149

Status of Forest Resources (in sq. km.)

Total	35,407
Reserved Forest	1,896
Demarcated Forest	11,559
Undemarcated Forest	19,903
Strip Forest (Road/Railways)	11
Unclassed	680
Other Forest	954
Private Forest	404
Protected Area	5,664

National Parks	1,440
Game Reserves	18

Socio and Economic Information

Annual Economic Growth Rate(per cent)

Year	*Himachal Pradesh*	*All India*
1992 - 93	1.6	4.3
1993 - 94 (P)	3.4	4.3
1994 - 95 (Q)	5.2	6.2

P= Provisional, Q Quick

Total Number of Households

Number above poverty line	602,799
Number below poverty line	303,673

Land Holdings 1990-91

Size of holding (hectares)	Category of farmer	No. Of holdings ('000)	Area '000 ha	Average size of holdings (ha)
Below 1.0	Marginal	538 (63.8%)	218 (21.5%)	0.4
1.0 - 2.0	Small	168 (19.9%)	228 (22.5%)	1.4
2.0 - 4.0	Semi-medium	96 (11.4%)	261 (25.7%)	2.7
4.0 - 10.0	Medium	36 (4.3%)	207 (20.4%)	5.7
10.0 and above	Large	6 (0.6%)	100 (9.9%)	18.1
		44 (100.0%)	1,014 (100.0%)	1.2

Education

Total literacy in the state (1991 census): 100%

Men	:	75.36 %
Women	:	52.13 %
Number of school going children	:	1,262,000
Age group 6-11	:	690,000
12-14	:	331,000
15-16	:	215,000
17+	:	26,000

Social

Number of hospitals	:	776
Total number of villages	:	19,388
Villages with drinking water	:	16,807 (87%)
Number of villages electrified (1994)	:	100%

Annex 2
Acts, Rules and Notifications Applicable to Forest Lands in HP

(a) Acts Enforced by the DFFC

1. Himachal Pradesh River Rules 1971
2. Forest Produce Transit (Land Routes) Rules 1978
3. The Mandi Minor Forest Produce Exploitation and Export Act, 1997 Vikram Samvat (1937 AD)
4. The Chamba Minor Forest Produce Exploitation and Export Act, 2003 Vikram Samvat (1943 AD)
5. Chamba Minor Forest Produce Manufacture of Drug and Export Rules, 1947
6. Indian Forest Act, 1927
7. HP Private Forest Act, 1954
8. Rules under HP Private Forest Act, 1954
9. The Himachal Pradesh Forest (Settlement) Rules, 1965
10. Himachal Pradesh Forest (Sale of Timber) Act, 1968
11. Rules under Himachal Pradesh Forest (Sale of Timber) Act, 1969
12. Rules under Himachal Pradesh (Sale of Timber) Act (1st Amendment), 1984
13. The Wildlife (Protection) Act, 1972
14. Rules under the Wildlife (Protection) Act, 1972
15. The Himachal Pradesh Resin and Resin Products (Regulation of Trade) Act, 1981
16. Amendments to the Himachal Pradesh Resin and Resin Products (Regulation of Trade) Act, 1981
17. Amendment of the Himachal Pradesh Resin and Resin Products (Regulation of Trade) Act, 1981
18. Himachal Pradesh Resin and Resin Products (Regulation of Trade) Rules, 1981
19. The Himachal Pradesh Forest Produce (Regulation of Trade) Act, 1982
20. Amendment of the Himachal Pradesh Forest Produce (Regulation of Trade) Act, 1982
21. Himachal Pradesh Forest Produce (Regulation of Trade) Rules, 1984
22. The Forest (Conservation) Act, 1980
23. The Forest Conservation Rules 1981 as amended by the Forest (Conservation) Amendment Act, 1988

(b) Acts Enforced by the Revenue Department

1. HP Land Revenue Act 1953
2. The Punjab Land Revenue Rules (as applicable to HP) vide notification of 1949
3. The HP Cancellation or Remission of Assignment of Land Revenue Rules, 1956

4. The HP Land Revenue (Fees for Inspection and Copies of Extracts from Patwari's Records) Rules, 1980
5. The Himachal Pradesh Abolition of Land Revenue on Uneconomic Holdings Act, 1977
6. The Himachal Pradesh Land Revenue (Surcharge) Act, 1974
7. The Himachal Pradesh Utilisation of Lands Act, 1973
8. The Himachal Pradesh Utilisation of Lands Rules, 1973
9. The Himachal Pradesh Ceiling on Land Holdings Act, 1972
10. The Himachal Pradesh Ceiling on Land Holdings Rules, 1973
11. The Himachal Pradesh Utilisation of Surplus Area Scheme, 1974
12. The Himachal Pradesh Village Common Lands Vesting and Utilisation Act, 1974
13. The Himachal Pradesh Village Common Lands Vesting and Utilisation Rules, 1975
14. The Himachal Pradesh Village Common Lands Vesting and Utilisation Scheme, 1975
15. Notification and Rules under the Village Common Lands Vesting and Utilisation Act, 1974
16. The Punjab Village Common Lands (Regulation) Act, 1961
17. The Himachal Pradesh Land Preservation Act, 1978
18. Amendments of Land Preservation Act, 1978 for Kangra, Kullu, Mandi, Chamba, Bilaspur, Una, Shimla, Solan, Sirmour, Hamirpur and Kinnaur Districts
19. Amendments of Land Preservation Act, 1978 for Kangra, Kullu, Mandi, Chamba, Bilaspur, Una, Shimla, Solan, Sirmour, Hamirpur and Kinnaur Districts
20. Compounding of Forest Offences under Section 19 of the Land Preservation Act, 1978
21. Rules under Land Preservation Act, 1978
22. The Himachal Pradesh Land Preservation Rules, 1983
23. Rev.A dated 7th January, 1975 regarding Grant of Nautor Land
24. The Himachal Pradesh Government Letter No.9-13/71-Rev. A dated 10th/11th April, 1975 regarding Grant of Nautor Land
25. The Himachal Pradesh Government Letter No.9-13/71-Rev. A dated 19th December, 1975 regarding Grant of Nautor Land
26. The Himachal Pradesh Government Letter No.9-13/71-Rev.A, dated 18th May, 1976 regarding Grant of Nautor Land
27. The Himachal Pradesh Government Letter No.9-13/71-Rev.A, dated 21st August, 1976 regarding Grant of Nautor Land
28. The Himachal Pradesh Government Telegram No.9-13/71-Rev.A dated 19th July, 1978 regarding Grant of Nautor Land under Nautor Rule 27-B
29. The Himachal Pradesh Government Letter No.9-13/71-rev.B(I)dated 29.11.78 regarding Grant of Nautor Land
30. The Himachal Pradesh Government Letter No. Rev.B-9-13/71, dated 10.12.79 regarding Sanction of Land under Nautor Rules.
31. The Himachal Pradesh Government Letter No.9-13/71-IV. Rev.B, dated 23.4.82 regarding Grant of Nautor Land-Review of Policy Regarding
32. The Himachal Pradesh Government Notification No.9-14/75-Rev.A dated 15.10.75 Special Scheme for Grant of Nautor Land to Landless Persons in the State
33. Rules Governing the Grant of Nautor in the Undemarcated Waste of the Rupi Jagir in the Kullu Sub-Division
34. Rules for the Allotment of Plots in the New Bilaspur Township
35. Scheme for the Resettlement and Rehabilitation of Outsees of ACC Cement Factory Gaggal, District Bilaspur, HP
36. The Himachal Pradesh Government Notification No.10-5/73 Rev.Cell, dated 15.12.73 amending- Resettlement and Rehabilitation of Bhakra Dam Oustee (Grant of Land) Scheme, 1971
37. The Himachal Pradesh Government Letter No.10-5/73-Rev.Cell, dated 16th April, 1975 to Amended Resettlement and Rehabilitation of Bhakra Dam Oustees Scheme, 1971

38. The Himachal Pradesh Government Letter No.Rev.2F(8)-1/Vol.III, dated 13th March, 1990 regarding removal of encroachment
39. The Himachal Pradesh Government Letter No.Rev.D(F)6-6/86, dated 4th October, 1986 regarding dealing with encroachment of disputes as to boundaries
40. The Himachal Pradesh Government Letter No.Raj.2-A(4)-5/78, dated 15.1.80 regarding change of entries in Girdawari
41. The Himachal Pradesh Government Letter No. Raj. 2A(4)-5/78, dated 28.4.80 regarding change of entries in Khasra Girdawari
42. The Himachal Pradesh Government Letter No.10-5/73-II, dated 4.9.80 regarding change of entries in Khasra Girdawari
43. The Himachal Pradesh Government Letter No.10-1/73-Rev.B.II, dated 18.11.89 Govt. instructions regarding creation and maintenance of two pools under HP Village Common Lands Vesting and Utilisation Act, 1974
44. The Himachal Pradesh Government Notification No. Rev. D(D)1-18/85-1, dated 26.12.89 regarding entry of "*Khudro Darakhtan Malkiyat Sarkar*"

Annex 3
Definition of Right Holders

Punjab Government Notification No: 4117-D, Dated 26-4-48

1. In exercise of the powers conferred by section 32 of the Indian Forest Act, 1927, and all other powers enabling him in this behalf, the Governor of East Punjab is pleased to direct that Punjab State Government Notification No. 1590. Ft. dated 2nd June, 1941 is hereby cancelled.

2. The original definition of right holder as given in Punjab Govt. Notification No. 507, dated 7th November, 1896 will stand viz.,

"Right holder means a person to whom right has been admitted in the record of rights of any forests".

Annex 4

HP Kutlehar Forest (Acquisition of Management) Act 1992 (Act No. 19 of 1992)

Government of Himachal Pradesh
Department of Forest Farming and Conservation

(Authoritative English text of this Department Notification No. VAN (A) 4-3/91-Vol. II, dated 10th March 1995 (*required under Article 348(3) of the Constitution of India*))

No. VAN (A)4-3/91-Vol.II
Dated: Shimla-2, the 10th March, 1995

ORDER

In exercise of the powers conferred by section 9 and 10 of the Himachal Pradesh Kutlehar Forest (Acquisition of Management) Act, 1992 (Act. No. 19 of 1992), the Governor of Himachal Pradesh is pleased to authorise the Divisional Forest Officer, Una (HP) to enter any land or promises vested in the State Government under Section 4 of the said Act and:

a) to take over the possession of lands/buildings/trees and all other documents/properties relating to the Kutlher forests from Shri Mohinder Pal, former Superintendent of Kutlher Forests or any other persons in possession, custody and control of such property forthwith,
b) to make survey, examine and investigate matters preliminary or incidental in to the purposes of the Act; and
c) the receiver to take in the possession, custody or control, any books, documents or other papers relating to the management of Kutlher Forest transferred and vested in the State Government under the said Act.

BY ORDER
Financial Commissioner-cum-Secretary (Fts)
To the Government of Himachal Pradesh.

No. VAN (A) 4-3/91-Vol.II
Dated Shimla-2, the 10th March, 1995.
Copy forwarded to:

1 All the Administrative Secretaries to the Government of Himachal Pradesh.
2. The Principal Chief Conservator of Forests, Himachal Pradesh with 10 spare copies.
3. The Conservator of Forests, Dharamshala Distt: Kangra, Himachal Pradesh.
4. The Managing Director, HP, State Forest Corporation Ltd, Shimla171002.

Annex 5
The Indian Forest (HP Amendment) Act, 1968

The Indian Forest (East Punjab Amendment) Act, 1968, the Indian Forest (Punjab Amendment) Act, 1954 and the Indian Forest (Punjab Amendment) Act, 1962, in so far as these apply to the areas merged in Himachal Pradesh under section 5 of the Punjab Reorganisation Act, 1966 are hereby repealed.

Provided that such repeal shall not affect:

a) the previous operation of the Acts so repealed or anything duly done or suffered thereunder; or
b) any right, privilege, obligation or liability acquired, accrued or incurred under the Acts so repealed; or
c) any penalty, forfeiture or punishment incurred in respect of any offence committed against the Acts so repealed; or
d) any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation, liability, penalty, forfeiture or punishment as aforesaid; or
e) operation of section 39 of the Patiala Forest Act, 1999 BK which is a saving under section 7 of the Indian Forest (Punjab Amendment) Act, 1962

Any such investigation, legal proceeding or remedy may be instituted continued or enforced, and any such penalty, forfeiture or punishment may be imposed as if this act has not been passed.

(2) Subject to the provision of sub-section (l), anything done or any action taken (including any appointment or delegation made, notification, order, instruction or direction issued, rule, regulation, bye-laws or form framed) so far as it is not inconsistent therewith shall be deemed to have been done or taken under the principle Act as so amended;

Provided that all forests which, immediately before the commencement of the Indian Forest Act (Punjab Amendment) 1962 are, or are deemed to be, first and second class forests under the Acts repealed by sub-section (l) shall, respectively, be deemed to be reserved and protected forests for the purposes of the principle Act as amended by this Act.

Annex 6
The HP (Sale of Timber) Act, 1968

(Received the assent of the President of the India on the 12th November, 1968 and was published in RHP Extra, dated the 17th February, 1968 at P.145-148)

An Act to provide for the control of the sale of timber and establishment of sale depots for such timber in HP.

Be it enacted by the Legislative Assembly of Himachal Pradesh in the Nineteenth year of the Republic of India as follows:

1. **Short title, extent and commencement** – (1) This Act may be called the Himachal Pradesh Forest (Sale of Timber) Act, 1968.

   - It shall extend to the whole of Himachal Pradesh.
   - It shall come into force at once.

2. **Definitions** – (1) In this Act, unless the context otherwise requires—-

   a) 'Official gazette' means the Rajpatra, Himachal Pradesh and
   b) 'State Government' means the Government of Himachal Pradesh.

   (2) Words and expressions used, but not defined, in this Act and defined in the Indian Forest Act, 1927 (16 of 1927), shall have the meanings respectively assigned to them in that Act.

3. **Power to make rules, regulating sale of timber and the establishment of sale depots** — (1) The State Government may, by notification in the Official Gazette, make rules to regulate the sale of timber and the establishment of sale depots for such timber.

   (2) In particular and without prejudice to the generality of the foregoing powers, such rules may:

   a) prescribe the class of timber to which the rules shall apply;
   b) define what shall be deemed to be a sale depot;
   c) provide, for the establishment, registration, regulation and inspection of the depots, and the levy of fees for registration; prescribe the period for which registration shall hold good and the conditions under which timber may be brought to, stored at, and

removed from, sale of depots; and prohibit the sale of timber at or the establishment or maintenance of unregistered sale depots.

d) regulate the use of sale depot marks and the registration of such marks; prescribe the time for which registration shall hold good; and provide for the levy of fees for registration.

e) prescribe the registers to be maintained at sale depots and provide for the production of such registers before and for their examination by any forest officer authorised in this behalf by the Divisional Forest Officer.

f) prescribe, as penalties for the infringement of any rule made under this section, imprisonment which may extend to six months or fine which may extend to five hundred rupees or both. Double penalties may be inflicted where the offence is committed after sunset and before sunrise, or after preparation for resistance to lawful authority or if the officer has been previously convicted of a like offence.

(3) All rules made under the section shall be so made after previous publication in the Official Gazette.

(4) All rules made under this Act shall be laid before the Legislative Assembly as soon as may be after they are made.

4. **Application of chapter IX of Indian Forest Act, 1927**—The provisions of chapter IX of the Indian Forest Act 11927 (16 of 1927) with the exception of section 68 shall apply, so far as may be, to any infringement of the rules made under this Act as if such infringement were a forest offence under the Indian Forest Act, 1927.

5. **Indemnity for acts done in good faith**— No suit shall lie against any public servant for anything done by him in good faith under this Act.

6. **Repeal and savings**—The following Acts are hereby repealed:

- the Punjab Forest (Sale of Timber) Act, 1913 (3 of 1913), as applicable to the areas merged with Himachal Pradesh under section 5 of the Punjab Re-organisation Act, 1966 (31 of 1966); and

- the Punjab Forest (Sale of Timber) Act, 1913 (3 of 1913), as applicable to the areas merged with Himachal Pradesh (Application of Laws) Order 1949.

Provided that anything done, or any action taken or proceedings commercial or continued under the Acts hereby repealed shall be deemed to have been done, taken, commenced or continued under the corresponding provisions of this Act.

Annex 7

HP Public Premises and Land (Eviction and Rent Recovery) Act, 1971 (Act No. 22 of 1971)

(Authoritative English text of this Department Notification No.1-21/71-LSG, dated 5.6.1994
(required under clause (3) of Article 343 of the Constitution of India)

Government of Himachal Pradesh
Department of Forest Farming and Conservation
No.1-21/71-LSG
Dated Shimla-2, the 5th June, 1994

NOTIFICATION

In exercise of the powers conferred by clause (a) of Section-2 of the HP. Public Premises and Land (Eviction and Rent Recovery) Act, 1971 (Act No-22 of 1971) the Governor of Himachal Pradesh is pleased to appoint all the Divisional Forest Officers of the Forest Department to perform the functions of the Collector within their jurisdiction under the aforesaid Act in so far as the encroachments as well as unauthorised occupation of Forest Land is concerned with immediate effect.

BY ORDER

Commissioner-cum-Secretary (Forests)
to the Government of Himachal Pradesh.
No.1-21/71-LGC
Dated Shimla-2, the 5.6.1994

Copy forwarded to:

1. All the Secretaries/Joint Secretaries/Deputy Secretaries/Under Secretaries to the Government of Himachal Pradesh.
2. All the Heads of Departments in Himachal Pradesh.
3. The Controller, Printing and Stationery, HP Govt. Press for publication in the HP. Rajpatra (Extraordinary). It is requested that ten copies of the Rajpatra in which the above appears be supplied to this Department.
4. ALD, Law Dept. In the HP. Sectt. Shimla-2.
5. Guard file.

Under Secretaries (LSG) to the
Govt. Of Himachal Pradesh.

Annex 8

The Indian Forest (Himachal Pradesh Second Amendment) Act, 1991

(Authoritative English text Act No.15 of 1991)
(As assented to by the President on 9th July, 1991)

AN ACT

Further to amend the Indian Forest Act, 1927 (Central Act No. 16 of 1927) in its application to the State of Himachal Pradesh.

Be it enacted by the Legislative Assembly of Himachal Pradesh in the Forty-second Year of the Republic of India as follows:-

1. This Act may be called the Indian Forest Act, 1927 (Himachal Pradesh Second Amendment) Act, 1991.

2. In section 2 of the Indian Forest Act, 1927 (hereinafter called the principal) Act, 1991.

   a) in clause (6), the word "and" occurring at the end shall be omitted.
   b) in clause (7), for the sign ".", the sign word "; and" shall be substituted; and
   c) after clause (7) so amended, the following clause(8) shall be added, namely:-

   "(8)"Vehicle" means a wheeled conveyance of any description which is capable of being used for movement on land and includes a cart, trolley vehicle and a trailer but does not include bicycle and cattle".

3. In sections 26, 33 and 42 of the principal Act, for the words "six months" and "five hundred", the words "two years" and "five thousand" shall be substituted respectively.

4. For sub-section (2) of section 52 of the principal act, the following sub-sections (2) and (3) shall be substituted namely:-

   "(2) Any Forest Officer or Police Officer may, if he has reasons to believe that a vehicle has been or is being used for the transport of timber (excluding fuelwood) resin, khair wood and katha in respect of which a forest offence has been or is being committed, require the driver or other persons-in-charge of such vehicle to stop the vehicle and cause it to remain stationary as long as may reasonably be necessary to examine the contents in the vehicle and inspect all records relating to the goods carried which are in the possession of such driver or other person-in-charge of the vehicle.

(3) Every Officer seizing any property under this section shall place on such property a mark indicating that the same has been seized, and shall, as soon as may be, make a report of such seizure:

(a) where the offence, on account of which the seizure has been made, is in respect of timber (excluding fuelwood), resin, khair wood and katha which is the property of this State Government, to the concerned authorised officer under sub-section(I) of section 52-A; and

(b) in other cases, to the magistrate having jurisdiction to try the offence on account of which the seizure is made".

5. After section 52 of the principal Act, the following sections 52-A and 52-B shall be inserted, namely:

"52-A *Confiscation by Forest Officers in certain cases*

(1) Notwithstanding anything contained in this Chapter, where a forest offence is believed to have been committed in respect of timber (excluding fuelwood), resin, khair wood and katha, which is the property of the State Government, the Officer seizing the property under Section-section (1) of section 52 shall without any unreasonable delay produce it, together with all tools, ropes, chains, boats or vehicles used in committing such offence before an Officer, authorised by the State Government in this behalf by notification published in the Official Gazette, not below the rank of an Assistant Conservator of Forests (hereinafter referred to as the authorised officer).

(2) Where an authorised officer seizes under sub-section (1) of section 52 any timber (excluding fuelwood), resin, khair wood and katha, which is the property of the State Government or where any such property is produced before an authorised officer under sub-section (1), once he is satisfied that a forest offence has been committed in respect of such property, such authorised officer may, whether or not a prosecution is instituted for the commission of such offence, order confiscation of the property so sized together with all tools, ropes, chains, boats or vehicle used in committing such offence.

(3) a Where the authorised officer, after passing an order of confiscation under sub-section(2), is of the opinion that it is expected in the public interests so to do, he may order confiscated property or any part thereof to be sold by public auction.

b Where any confiscated property is sold as aforesaid, the proceeds thereof, after deduction of the expenses of any such auction or other incidental expenses relating thereto, shall where the order of confiscation made under section 52-A is set aside or annulled by an order under section 59 or section 59A, be paid to the owner thereof or the persons from whom it was seized as may be specified in such order.

52-B *Issue of show cause before confiscation under section 52-A*

(1) No order confiscating any timber (excluding fuelwood) resin, khairwood, and katha, ropes, chains, boats or vehicles shall be made under section 52-A except

after notice in writing to the persons from whom it is seized and considering his objections, if any;
Provided that no order confiscating a motor vehicle shall be made except, after giving notice in writing to the registered owner thereof, if in the opinion of the authorised officer it is practicable to do so, and considering his objections, if any.

(2) Without prejudice to the provisions of sub-section (1), no order confiscating any tool, rope, chain, boat or vehicle shall be made under section 52-A if the owner of the tool, rope, chain, boat or vehicle proves to the satisfaction of the authorised officer that it was used in carrying the timber (excluding fuelwood), resin, khairwood and katha without the knowledge or connivance of the owner himself, his agent, if any, and the person-in-charge of the tool, rope, chain, boat or vehicle and that each of them had taken all reasonable and necessary precaution against such use".

6. At the end of section 53 of the principal Act but before the sign "." the words, brackets, figures, sign and alphabet " or before the authorised officer under sub-section (1) of section 52-A" shall be inserted.

7. After the words "The Magistrate" occurring in the beginning of section 58 of the principal Act, the words, brackets, figures and alphabet "or subject to such rules as may be prescribed, the authorised officer under sub-section (1) of section 52-A" shall be inserted.
8. In section 59 of the Principal Act:

a) in the heading after the words "orders under section" but before the figure "55" the figure, alphabet and sign "52-A", shall be inserted:-
b) the existing section shall be re-numbered as sub-section (1); and
c) after sub-section (1) so re-named, the following sub-section (2) and sub-section (3) shall be added, namely"-

(2) Any person aggrieved by any order passed under section 52-A or section 59-A may, within thirty days from the date of communication to him of such an order, appeal to the Sessions Judge having jurisdiction over the area in which the property to which the order relates has been seized and the Sessions Judge shall, after giving an opportunity to the appellant and the authorised officer or the officer specially empowered under section 59-A, as the case may be, to be heard, pass such order as he may think fit confirming, modifying or annulling the order appealed against.

(3) The order of the Sessions Judge under sub-section (2) shall be final and shall not be questioned in any Court of Law".

9. After section 59 of the principal Act, the following sections 59-A and 59-B shall be inserted, namely:

"59-A *Revision*: Any forest officer not below the rank of Conservator of Forests, specially empowered by the State Government in this behalf by notification published in the Official Gazette, may, before the expiry of thirty days from the date of order of the authorised officer under section 52-A, *suo-moto* call for and examine the records of that order and may make such enquiry or cause such enquiry to be made and may pass such orders as he deems fit;

Provided that no order prejudial to a person shall be passed under this section without giving him an opportunity of being heard.

59-B *Bar of jurisdiction in certain cases*: Whenever any timber (excluding fuelwood), resin, khair, and katha together with any tool, rope, chain, boat or vehicle used in committing any forest offence is seized under section 52, the authorised officer under sub-section(1) of section 52-A or the officer specially empowered under sections 59-A or Sessions Judge hearing an appeal under sub-section (2) of section 59 shall have and notwithstanding anything to the contrary contained in this Act or in the Code of Criminal Procedure, 1973 (Central Act 2 of 1974) or in any other law for the time being in force, any other officer, court, tribunal of authority shall not have, jurisdiction to make order with regard to custody, possession, delivery, disposal or distribution of such property."

10. For section 60 of the Principal Act, the following shall be substituted, namely:

"60 — when an order for the confiscation of any property has been passed under section 52-A or section 55 or section 57, as the case may be or where on revision application made under section 59-A such order for confiscation has not been set aside, and the period limited by section 59 for an appeal from such order has elapsed, and no such appeal has been preferred or when, on such an appeal being preferred, the Appellate Court confirms such orders in respect of the property or a portion of such property, such property or such portion thereof, or if it has been sold under sub-section (3) of section-52-A the sale proceeds thereof, as the case may be, shall vest in the State Government free from all encumbrances."

11. After the figure "52" but before the sign, "." occurring at the end of section 61 of the Principal Act, the signs and words, " which is of section not the property of the Government and the withdrawal of any charge made in respect of such property" shall be inserted.

12. For the words, brackets and figures " the Code of Criminal Procedure, 1898 (5 of 1898)" occurring in section 67 of the principal Act, the words, brackets and figures " the Code of Criminal Procedure, 1973 (2 of 11974)" may be substituted.

Annex 9
Government of HP Forest Department Order on PFM

No. Forests (C) 3-4/80-V
GOVERNMENT OF HIMACHAL PRADESH
FOREST DEPARTMENT

DT. Shimla-2, the 12.5.1993.

Subject: Participatory Forest Management.

1. Whereas certain areas in the Protected Forests as also some areas vested in the government under the H.P. Ceiling on Land Holding Act, 1972, and Village Common Lands (Vesting and Utilisation) Act, 1974 and transferred or to be transferred to the Forest Department are barren or have degraded in the past due to heavy biotic pressure close to villages and whereas these areas need immediate treatment through protection, afforestation, pasture development, soil conservation etc. So as to arrest their further environmental degradation and to augment fuelwood, fodder, and small timber production for use by local people and whereas active participation of the local people is vital for planning, protection, afforestation, and judicious use for eco-development of aforesaid areas.

2. Now, therefore, in pursuance of Government of India's letter (No.6-21/89-FP) dated June, 1st, 1990 from the then Secretary (Environment and Forests) to Forest Secretary of all States, it has been decided by the Government to constitute Village Forest Development Committees for Joint Forest Management in the villages of Himachal Pradesh for planning, protection, afforestation, judicious use for eco-development of aforesaid areas thereby bringing 50% of the feasible areas under forest cover by 2000 AD. In accordance with the policy of JFPM, detailed rules/guidelines will be notified.

3. Procedure for constitution of Forest Development Committee:

i) Name of Committee : Village Forest Development Committee (VFDC).

ii) Definition : A Village Forest Development Committee is a non-political body representing all families of a Tikka / Village.

iii) Area selection : There shall be only one village Forest Development Committee (VFDC) in each Tikka/Village.

iv) Constitution : One adult male and female member of each family will be enrolled as a member of the General House of VFDC of the

village. Present Mahila Mandal, President, Yuvak Mandal, Members of *Panchayat* representing Tikka/Village will be nominated as members of the General House of the VFDC by DFO concerned.

v) Executive Body : The Executive Body will have 9 to 12 members including nominated ones. It will have President, Vice President, Treasurer etc. who will be elected by the Executive body itself. Two auditors will be elected in the General House.

A uniform representation shall be given to each group of 10-20 families and the executive body will have minimum 5 members from the Tikka/Village out of which 50% will be women.

Forest Guard will be ex-officio Member-Secretary of the Executive Body. One member of Gram *Panchayat*, one member from Antodaya family; one women either from Mahila Mandal or otherwise will also be nominated members of the Body.

vi) Meetings : There will be two meetings of the General House and four of the Executive Body in a year. DFO will convene the meeting with President of the Executive Body of VFDC and the Range Officer concerned twice in a year to review the progress of the work. Quorum will be 50% for these meetings.

vii) Registration : VFDC will normally be registered by the territorial Committee, Divisional Forest Officer.

viii) Management Plan : The Range Office concerned will prepare Integrated Resource Management Plan with the help of Executive Body which will be discussed with General House of VFDC and finally approved by the DFO.

ix) Duties of VFDC : To persuade the villagers to give the available areas for plantation. To assist the Forest Department in planning, protection, afforestation, judicious use of all existing rights and equitable sharing of usufruct and eco-development of the area as per approved management plan.

x) Responsibilities : It will be the responsibility of the committee i) to ensure just and fair distribution of the usufruct derived; 2) to ensure its management as per prescribed norm; 3) settlement of disputes between villages; 4) honour all the commitments.

xi) Power of the Committee : The committee will make its own bye-laws with the concurrence of concerned DFO.

The committee can recommend punishment to offenders including cancellation of membership and forfeit of their share in usufruct to the DFO concerned.

xii) Duties and Responsibilities of Forest Department : To explain Joint Management of Plan to the villagers. To recognise the VFDC in letter and spirit and give weightage to its recommendations. To provide technical know-how, administrative and managerial skills; in order to assist the Executive Body to carry out the responsibilities.

xiii) Power of the Forest Department : Membership of any individual from the General House/ Executive Body can be dissolved by the General House in consultation with the DFO. DFO can dissolve the Executive Body if it fails to fulfil its duties and responsibilities.

xiv) Dispute Arbitration Agreement : Appeal of the Termination of aggrieved/Executive Body will lie with the Conservator of Forests who will communicate his decision within a month's time and will be final.

xv) Usufruct sharing : The entire quantity of usufruct will be distributed to the villagers under the supervision of Forest Guard (Member Secretary). Twenty-five per cent of the net sale proceeds of final harvests will be given to the VFDC out of the plantations/coppice so raised and kept in a common fund of the committee known as Village Development Fund which can be utilised for village development works with the approval of General House and in consultation with the concerned DFO. The exercise of other rights viz., timber, fuelwood etc. will be exercisable as per provisions of Settlements.

P. T. Wangdi
FC-cum-Secretary (Forests) to the
Government of H. P.

No. Forest (C)3-4/80-V Dt. Shimla-2, the. 12.5.1993.

1. The Secretary to the Government of India, Ministry of Environment and Forests, Paryavaran Bhawan, CGO. Complex, B-Block, Lodhi Road, New Delhi
2. The Additional Secretary, National Wasteland Board, Ministry of Environment and Forests, Lodhi Road, Paryavaran Bhawan, New Delhi
3. All the Secretaries and Heads of Department in HP
4. The Principal Chief Conservator of Forests/All the Additional CCFs and Conservator of Forests in HP
5. All the Deputy Commissioners in HP
6. The Inspector General of Forests, Government of India, Ministry of Environment and Forests, Paryavaran Bhawan, CGO. Complex, Lodhi Road, New Delhi
7. The Conservator of Forests (C), Regional Office, SCO No.132-133, Sector 34 A, Chandigarh-160022

Under Secretary (Forests) to the
Government of Himachal Pradesh

Annex 10
In Service Training for Indian Forest Service Officers

The IFS Cadre is managed by the Ministry of Environment and Forests, Government of India. Since the mid 80s, officers in IFS are given in-service training as in the case of the other two All India Services, viz. the Indian Administrative Service and the Indian Police Service. Each batch of trainees consists of about 25 officers, with vertical integration, candidates being drawn from all ranks, Principal Chief Conservator of Forests down to Assistant Conservators of Forests. It is in-house training, with residential accommodation. The entire cost of training, including travelling, is met by the Government of India.

All the training courses are of five days duration (Monday to Friday) except for the computer courses which are of three weeks duration. Training is provided every year to every officer except that if an officer attends a computer course, he/she is not deputed for training for two years thereafter.

The subjects in which training courses are conducted presently are as follows:

1 Computers
2 Project identification, Formulation, Monitoring and Appraisal
3 PFM/JFM
4 Forest Tribal Interface
5 Training of Trainers
6 Wildlife Management
7 Conservation Biology
8 Forestry in Rural Development
9 Gender Issues in Forestry
10 Financial Management, Project Finances
11 Coastal Zone Management
12 Forestry Extension
13 Forest Management - New Challenges
14 Sustainable Development vis-à-vis Forestry
15 Management of Change in Natural Resource Use
16 Participatory Rural Appraisal
17 Communication and Presentation Skills
18 Agroforestry
19 Management in Government/Management for Excellence
20 Human Resource Development
21 Environmental Education and Awareness
22 Remote Sensing
23 Forestry Management and Administration

As regards career planning, so far it has been limited to exposing every officer to every discipline. The Ministry tries to ensure that an officer does not attend two courses of similar nature during his career. The Ministry is now trying to develop a data base with regard to the choice options of various officers, so that they can be offered opportunities for career development along their chosen lines. The Institutes selected by the Ministry for training of IFS Officers are listed below.

LIST OF TRAINING INSTITUTES (proposed for training)

1 Administrative Staff College of India, Hyderabad
2 Indian Institute of Management, Calcutta
3 Indian Institute of Management, Bangalore
4 Indian Institute of Management, Lucknow
5 Indian Institute of Management, Ahmedabad
6 Uttar Pradesh Administrative Academy, Nainital
7 Tata Energy Research Institute, New Delhi
8 CMC Ltd, New Delhi
9 Indian Institute of Forest Management, Bhopal
10 Tata Institute of Public Administration, New Delhi
11 Indian Institute of Social Sciences, Bombay
12 Wild Life Institute of India, Dehradun
13 Assam Administrative Staff College, Guwahati
14 Institute of Financial Management and Research, Madras
15 National Institute of Rural Development, Hyderabad
16 Institute of Management in Government, Cochin
17 National Institute of Bank Management, Pune
18 Indian Institute of Bio-Social Research and Development, Calcutta
19 Administrative Training Institute, Mysore
20 Sardar Vallabhbhai Patel National Police Academy, Hyderabad
21 Centre for Ecological Sciences, Indian Institute of Science, Bangalore
22 National Institute of Oceanography, Goa
23 Indira Gandhi National Forest Academy, Dehra Dun
24 Baif Development Research Foundation, Pune
25 Vaikunth Mehta Institute of Cooperative Management, Pune
26 Forest Survey of India, Dehradun
27 Centre of Science for Villages, Wardha
28 Centre for Cross Cultural Communication, New Delhi
29 Centre for Environment Education, Ahmedabad
30 Xavier Institute of Management, Bhubaneshwar
31 Society for Rural Industrialisation, Bariatu, Ranchi
32 Institute of Public Enterprise, Hyderabad
33 Indian Institute of Technology, New Delhi
34 LBS National Academy of Administration Mussoorie
35 Kerala Forest Research Institute, Peechi, Thrissoor, Kerala
36 Haryana Institute of Public Administration, Chandigarh
37 HCM Rajasthan State Institute of Public Administration, Jaipur
38 Indian Council of Forestry Research and Education, Dehradun

Every year two or three institutes are added to the list, occasionally a few institutes are deleted from the list for want of a positive response or negative feedback received from the trainees' assessment.

Annex 11
Renewed Efforts to Decentralise Forest Management through PFM in Kullu and Mandi Circles

1 INTIATION OF PFM IN KULLU CIRCLE

1.1 Review Workshops

Within a year of issuance of an enabling Government Order on PFM in May, 1993, review workshops were held in different forest circles to assess the reaction of various stakeholders concerned with forest management. Foresters of all ranks (from CF down to FG), NGOs, local leaders, representatives of *gram panchayats, mahila mandals, yuvak mandals,* and other community based organisations and other line departments participated in the workshops. The main objective was to check any undesirable spread of PFM so as not to dilute the quality of the concept (Sood MP, IIED, UK, 1996). A message was sent that since no activity targets are attached to the approach, social and equity issues should be given appropriate attention and PFM should not be taken as just another government scheme or project.

1.2 Kullu and Mandi Forest Circles and the Role of the ODA (DFID) Assisted Project

Kullu and Mandi forest circles have altogether a different responsibility as far as PFM is concerned. In these two circles, PFM is being initiated in an organised manner through an ODA (now DFID) assisted HP Forestry Project. The project, through its eight outputs, aimed to "establish the viability and cost effectiveness of new approaches to sustainable forest land management including Participatory Forest Management (PFM) in Kullu and Mandi circles and their replicability elsewhere in HP". Four outputs were directed towards building and enhancing the capacities of the Forest Department and local communities to respond to, and test and develop, participatory approaches in 20 locations. A broad milestone was to have 20 active village groups implementing respective PFM plans prepared after following a process approach during the three-year pilot phase (September 1994-1997). PFM here is essentially seen as an approach to open communication channels across services within FD, between FD and village groups, and amongst villagers on issues pertaining to forest management on lands which are near to villages and which are used frequently by villagers.

1.3 JFPM Support Team - An Organizational Innovation

Two Joint Forest Management Support Teams (PFMSTs) of four members each (1 DFO, 1 ACF, 2 RFOs) were created in each of the two circles. The rationale behind this decision was that territorial staff have many responsibilities and duties, and VFDC formation and micro-planning initially does require a lot of time and work. Since this was a new idea in its present form, a special team was needed to give the necessary push to enable the idea to take off and

facilitate the development of various processes in a cautious and effective manner. These teams undertook the following activities.

- Planning through annual PFM Action Plans
- Capacity building and reorientation of field staff and local people
- Training in necessary skills for PFM (communication and PRAs)
- Coordination and facilitation of field and village-level PFM exercises and support for conflict resolution
- Development of representative VFDCs and quality micro-plans
- Development and initiation of a PFM monitoring system for local process monitoring of PFM
- Acting as channel of communication, feedback, and mutual sharing of learning between various DFOs within circles and between two project circles, with Training Schools and with HQ
- Liaison with local NGOs and CBOs
- Documentation of various processes related to PFM and production of Training and Extension material
- Preparation of Operational Guidelines for PFM implementation.

The idea of imparting *in situ* training to officers and field staff on participatory approaches and further facilitation in micro-planning and group formation processes has worked well compared to the alternative option of imparting training in centralised schools and seeking help from outside NGOs. Now the department does have in-house capacity to undertake training in participatory approaches. The structure of PFMST offers another advantage in working as a team, instead of the conventional nomenclature of a division, as all the members could take up responsibilities depending upon their respective strengths and weaknesses and made use of the flexibility which is inbuilt in such team structures(Sood 1997).

These teams only played a facilitating role in the whole process and provided initial fillip, follow up guidance, and advice while the primary responsibility rested with the territorial units for planning and implementation of micro-plans including interaction with the VFDCs. This was done after learning from social forestry (SF) experiences where the idea of a separate SF structure hindered internalisation of SF philosophy within the territorial lines after termination of the project.

1.4 Annual PFM Action Plans

At the beginning of each year, the PFMST conducted and facilitated a 2-day circle-level workshop and territorial DFOs presented case studies and experiences of visits to various villages, which they specifically visited for the purpose. Based on discussions on selection criteria and after two days of reorientation for PFM, Parvati Forest Division was selected to be the first division for PFM initiation. The territorial officers and key field staff along with JFPMST then jointly devised an Action Plan for initiating and implementing PFM in each division, which formed the basic framework for the JFPMST to operate in territorial divisions and undertake agreed activities through the territorial staff. The PFM policy was discussed and its field implications were studied in view of existing legislations and forest settlement. The participants also discussed various criteria which could guide the selection of initial pilot locations for initiating PFM.

2 CAPACITY BUILDING AND REORIENTATION PROGRAMME (CBRP)

2.1 For Field Staff

The underlying aim and main emphasis was on initiating and bringing about an institutional change in thinking and practice within the DFFC and amongst villagers so that they understand and accept the need for participatory management of forest land resources. Therefore, capacity building and training were given priority. The core group of trainers in PFMSTs, the Training Schools, and in territorial positions was created through planned in-country and overseas' training courses. The CBRP was delivered mainly through training workshops and exposure visits.

2.1.1 Training Workshops

Field level training was carried out through a series of participatory training workshops conducted and facilitated by JFPMSTs with the twin objectives of reorientation and sensitisation and skill training of staff so that they are able to understand, accept the need for, and practice joint planning and management of forest land resources. JFPMST imparted training on different aspects of PFM through a variety of techniques. For most field staff, this was their maiden exposure to any training after pre or in-service foundation courses. Therefore, the lectures were cut to a minimum and workshop deliberations were mainly through team discussions and presentations, role plays, case studies, and other group and field exercises. The *in situ* training has proved to be an effective way of imparting skills to initiate PFM as participants felt relaxed and each workshop resulted in jointly devising an Action Plan for PFM. Subsequent workshops were facilitated with changed training objectives of monitoring and post-formation support issues.

Table A1 illustrates the different level of workshops facilitated by the PFM Support Team Kullu in each division during the initial two years

All the RFOs, DRs, and FGs working in 12 ranges of three divisions of Kullu Forest Circle have been exposed to and have received basic training in participatory approaches through these workshops. However, due to careful development of processes in a limited number of pilot locations, very few field staff have had the opportunity to put these skills into practice. In all about 400-450 foresters have had some kind of exposure to participatory approaches in the state. Thus, there is a pool of staff with latent skills who, with the requisite support from senior staff in the range or division, will be able to initiate, spread, and support PFM activities in and outside these pilot locations. A 30-month (October 1997 to March 2000) plan has been prepared to provide them with an opportunity to carry forward the process of internalisation and spread of PFM approaches in their day to day working (DFFC-DFID 1997).

2.1.2 Staff Study Tours and Attachments

Staff Study Tours and Attachments were the other means of sensitising and exposing staff to participatory forest management approaches. About twenty such study tours and attachments have so far been organised for vertically integrated teams comprising 6-8 foresters of various ranks. This enabled them to get first hand interactive experience of PFM working in West Bengal, Gujarat, Madhya Pradesh, Orissa, and Karnataka. The tours were organised to places with PFM in different stages of its development so that the field staff could get an opportunity to

Table A1

Workshop	Participants	Objectives	Output
Circle level (2 days)	CF/DFOs/ACFs key RFOs	* Discuss aim and methodologies * Devise a Plan of Action for JFPM	Plan of Action for JFPM
Divisional level (2 days)	DFOs/ACFs/ROs key DRs and FGs	* Understand and accept the need for JFPM * Select Pilot Ranges and devise divisional plans	Divisional Action Plan for initiating JFPM
Range level (2 days)	RFOs/DRs/FGs of selected ranges	* To bring together ecological, social and economic information about the range * Understand what type of information is needed to practice JFPM * Help FGs design Beat profiles	Selection of pilot beats and villages
Beat level (7-8 days)	RFOs/DRs/FGs of selected ranges	* To acquire necessary skills * To practice PRAs and communication skills * Acquire micro-planning skills * Devise guidelines on approaches	Finalisation of pilot villages. Agreed guidelines for PFM

Source: Progress in PFM initiation in Kullu Circle - JFPMST Kullu

visualise their own role in this new management paradigm. The participants became more confident in finding solutions to various situations while forming VFDCs and preparing micro-plans.

2.2 Villagers' Reorientation Programme

After a minimum number of staff was sensitised and reoriented for initiating PFM, a supporting villagers' reorientation programme was also undertaken through the following.

Local leaders workshops were organised for village-level leaders, representatives of *panchayats* and other village-level organisations and village elders in an effort to raise awareness about PFM policy, build relationships, and muster support for PFM in Kullu valley (JFPMST Document No 8). This helped in averting possible conflicts between VFDCs and *panchayati raj* institutions. The initiatives of informal jungle and *gram* committees were identified and their existence acknowledged.

In addition, some local extension material was produced which included printing of pamphlets, leaflets, and user information on PFM policy in Hindi.

Open days were organised for students in rural schools in which 'on the spot painting', debate competition, and 'slogan writing competitions' were conducted on the PFM theme and philosophy to create an awareness amongst the future actors.

3 METHODOLOGY FOR PFM

3.1 Process Followed in Kullu Circle

Once the annual Action Plan for PFM for the circle was finalised, the JFPM Support Team undertook an intensive training programme for the selected divisions and ranges in participatory approaches (as shown in Table A1 above). The workshops, besides training and reorientation, helped in devising a mutually agreed joint strategy and approach for initiating PFM in pilot locations. The 8-10 day beat-level workshop included classroom theoretical sessions and field practice of participatory rural appraisal (PRA) and communication skills in selected villages. All the decisions pertaining to PFM were taken through the forum of these participatory workshops and, therefore, the field staff could relate to them and also owned the responsibilities. Emphasis was laid on the quality aspect of VFDC formation and micro-planning with special focus on equity, gender participation, and taking care of interests of marginalised groups like basket makers, artisans, and herb collectors.

3.2 Criteria for Selecting Initial Pilot Locations

The field staff and JFPMST together worked out a list of criteria which could guide the selection of initial pilot locations, and some of these were used too for deciding PFM working areas. But it should not be thought that one cannot start practising PFM until all these criteria are met. As experience from different locations later on showed, it always helps if a few critical points are considered before selecting a PFM working area, e.g., attitude and interest of staff, dependence of people on forest products, scarcity of forest products, existence of evidence of collective action like MMs, YMs, or other committees or traditions like *juari* (sharing labour), and lesser degree of conflicts amongst local people. But one can always initiate a process of dialogue in any situation without worrying too much about such criteria.

It might appear that these criteria led to the selection of locations and villages which pose few problems and are easy to work with. But in reality, all of the first ten locations in Kullu posed different sets of problems in terms of socioeconomic conditions, societal heterogeneity, forest boundaries, and forest farming linkages. The scaling up activities planned for the next three years (1997-2000) will neutralise any selection bias too.

3.3 Process Guidelines for Preparing Micro-plans and Forming VFDCs

The PFM processes were tested, developed and again field-tested during the first year in 1994-95 in four locations which were representative of Kullu Valley. These were then further improved by the JFPM Support Team Kullu as they gained experience by working on more locations during the subsequent two years. The Team then brought out a comprehensive set of Operational Guidelines for replication and spread of PFM approaches beyond the limited pilot locations, both within and outside the circle.

Table A2 illustrates the process of VFDC formation and micro-planning as being practised in Kullu circle (Sood, M.P, 1996 and DFFC, Kullu, 1997).

The JFPMST kept improving these guidelines as the field staff gained experience by working in the pilot locations. Even these are expected to see more changes as further learning from maturing VFDCs and local planning processes emerge.

Table A2

Step/ Activity	Methodology/ Tool
1 Selection of working area	1 Identify forests and hamlets provisionally using access map. 2 Identify key informants. 3 Identify users and focus groups.
2 Sensitisation (own and of people)	1 Use training workshops, exposure visits and range meetings for self training, reorientation and acquiring skills. 2 Use transactional analysis (PAC and strokes), motivation, communication and PRA techniques for peoples' sensitisation.
3 Information collection and joint analysis with people with the objectives of preparing a micro plan and VFDC formation	1 Collect existing information from CHFs, settlement report, range and other records. 2 For primary information, use social and resource map. 3 List all households and members for GH. 4 Explore use-pattern by preparing access map. 5 List major issues, problems and needs. 6 Analyse problems (problem tree) to find cause and effects by using seasonality, transects. 7 Find options (objective tree) for solutions. 8 Try to reach a consensus on each issue. 9 Also note down suggestions on local rules and bye-laws, roles and responsibilities.
4 Drafting of micro-plan after all information has been collected and everybody's viewpoint has been considered (for use in General House of villages)	1 Start developing the micro plan in consultation with people by analysing and interpreting information collected so far. 2 Conduct meetings with focus groups for information gaps (use PRA skills). 3 Always triangulate facts. 4 Be sure that all categories of users have been consulted. 5 Involve VFDC members in drafting the micro plan using all local material — the various maps and other charts should always be referred to while preparing the plan.
5 Group formation (VFDC) Conditions for calling a general house meeting: when enough information has been gathered and a tentative micro-plan has been loosely written; when each and every group/ household has been consulted and their point of view included in the rough micro plan; If there is full quorum; and if there is consensus on issues, options,	1 Call a General House meeting of all hamlets and ensure participation of women, more poor, focus groups and members of other Village Level Institutions. 2 Giving background, read out the draft micro plan in Hindi and local language. 3 Allow discussions to take place on each issue and option. 4 Finalise local rules and bye-laws; roles, responsibilities and duties of VFDC and dept. for each activity. 5 Note down everything in proceedings' register.

Table A2 (Con'td)	
Step/ Activity	**Methodology/ Tool**
activities, roles, responsibilities and duties	6 Facilitate in defining (clearly) sharing arrangements for expected forest products. 7 Modify micro-plan as suggested by people. 8 If micro-plan is approved, form a VFDC. 9 Encourage them to choose their representatives to Executive Body, give due representation to all sections and groups (gender, user, caste and poor).
6 Finalisation of micro-plan writing and approval by DFO	1 Write up the micro-plan with the EB of VFDC. 2 Include baseline monitoring indicators. 3 Approve and agree to micro-plan prescriptions and practices (DFC's approval).
7 Implementation	1 Plan out activities. 2 Ensure budgetary support to activities (SSPs). 3 Implement as per micro-plan, get the deviation, if any, approved by VFDC's general house.
8 Monitoring	1 Initiate monitoring process through a monitoring system which has been developed jointly by the local people, territorial staff and PFMST.

4 PROCESS APPROACH TO GROUP FORMATION AND MICRO-PLANNING

Following the process of VFDC formation and micro-planning, 15 VFDCs have so far been developed in three territorial divisions of Kullu Forest Circle and seven micro-plans, covering the area of these 15 VFDCs, prepared by the VFDCs and front line staff. The following case study of Bhullang VFDC by (Sood, MP, 1996) will further illustrate the development of PFM processes.

4.1 Case Study of Bhullang VFDC

The villages in Bhullang VFDC cover most part of Bhullang *Panchayat* and are located in Bhullang Phati and Khokhan Kothi. From the forest administration point of view, Bhullang Beat, Bhuntar Block, Bhuntar Forest Range of Parvati Forest Division are responsible for managing forests around this VFDC.

4.2 Selection

The area was first visited by concerned ACF, RFO, BO and FG in January 1995 and subsequently by CF and ACF JFPMST in February, and during Circle level Workshop this was finally selected as the first location in Kullu circle to initiate PFM in its present form.

4.3 Reorientation

The JFPMST conducted and facilitated reorientation and training workshops and provided on the spot training to field staff in policy, implications, information needs and skills like PRA and communication techniques in June-July 1995. (Table A1)

4.4 Initial PRAs

Some of the basic tools of participatory rural appraisal (PRA) like social and resource maps, transects, seasonality and ranking were practised during a Beat-level training workshop and further used in different hamlets between July and August 1995.

4.5 Household Interviews

As per information needs assessed during the Range-level workshop, a proforma was devised to interview households residing in various hamlets of Bhullang area. This 'survey' exercise using semi-structured interviewing techniques helped in building rapport, exchanging and sharing information on PFM policy, knowing peoples' point of view on what should be the management unit (which hamlets) and management boundary (which forests), their perception about forest management, and listing of emerging forest-related issues for further investigation.

4.6 Ice Breaking through Initial Activities

Initially people were not very forthcoming and were reluctant, but, as the dialogue progressed, people became more interactive. The local forest guard, in fact, had already negotiated with the communities to give up occupations like head loading of firewood from the forests to the urban markets in the valley and helped them take up tomato and vegetable cultivation by providing them access to technology and markets. But still local residents were not very optimistic about the foresters' sincerity as past forest committees formed by them under social forestry had not functioned properly and did not exist any more. Their immediate concern was to protect the adjoining Class III lands from encroachment by some influential individuals. In an effort to win over their trust and confidence, the RFO negotiated planting of that particular part of Khokhan UPF with oak and robinia species providing leaf fodder during monsoons and scarce winter months. For this he arranged 7,000 oak seedlings from a distant nursery. The oaks are a critical component of the hill farming system in this ecological zone, and these had become degraded due to overuse, thus villagers responded positively to this FD initiative and shared responsibilities for making that plantation a success. The successful establishment of this plantation, and the way it was negotiated with the primary users of that particular area, brought back peoples' faith in foresters and their sincerity for renewed consultations. Encouraged by this, they then laid down a demonstration plot during the 1995 monsoon in another degraded area of Khokhan III UPF for trying improved varieties of grass. This formed the basis for VFDC formation and developing a larger plan for the whole area used by the residents of Phati.

5 SOCIOECONOMIC PROFILE

5.1 Livelihood Pattern

The 12 hamlets of this VFDC have a dominant scheduled caste population but there is a great variation in landholdings. The wealthiest household is that of a Rajput who has 85 bighas, 3-4 have about 15 bighas each, and the remaining households have an average of 5 bighas of land. They thus have varied dependence on forests. People with smaller holdings and orchards depend more on forests. There is a distant user group comprising basket makers, who use cane (nirgal) stems for making baskets (*kiltas)* which they sell to people having orchards in distant locations. However, the species they use is found in distant forests (outside the VFDC's control). The user group of these basket-makers is indispensable to the adjoining farming communities of orchard owners and vegetable growers. Head loading was also frequently practised by the members of this VFDC until a few years back when the FG motivated them to take up vegetable growing. About half a dozen members still resort to this practice in lean farming seasons. Another means of income for some households owning horses is transportation of rations, farming produce, and building material from the road head near Mohal to different hamlets in the VFDC area which are located in the uplands. About a score of households have taken up cultivation of vegetables on leased lands on the valley bed near Mohal, and a similar number do

weaving to supplement their incomes. Women emerge as a strong user group with their separate needs and perception about forest management.

5.2 Firewood

Households with bigger orchards get sufficient firewood from their own lands, but others have to make frequent trips to collect the same from the forests. Women have to spend 7-8 hours to fetch the firewood from a distant sanctuary area and often have conflicts with villagers living around that sanctuary. Storage of firewood and dried grasses in houses make them vulnerable to fires during the winter months.

5.3 Fodder

The local residents have evolved a traditional system of 'caring and sharing' for using the leaf fodder from ban oak trees growing on Class III UPFs which have been divided amongst the households for decades. They practice a 3-year lopping cycle for harvesting leaf fodder, which provides the only green fodder during the scarce winter months. In addition, they resort to a mixed use of Class III lands through open grazing and a 'cut-carry-store-use' system for grasses with mutually agreed upon seasonal restrictions, which are followed by one and all in the VFDC area. The poorer households also enter into a bartering system with wealthier farmers by working for them in their orchards for grass and surplus firewood from lopping (Sood 1996). Women again are the prime users and processors of grasses and leaf fodder and have the main responsibility for grazing and upkeep of livestock.

5.4 Timber

There is an established procedure for management of Timber Distribution (TD) rights, although there is a feeling that the department's efforts to rationalise TD rights have made the procedure cumbersome and everybody does not get the TD with the same ease and effort. Equity in TD rights is one of the issues for which there was an immediate consensus amongst most households that it should be ensured by the VFDC.

5.5 NTFPs

Women and children from a very few families collect and sell mushrooms (*guchhi)* and *shingli mingli (Dioscorea spp)* which in a lean farming season becomes the only source of cash inflow along with labour by men of the same households. There is a group of families that use *nirgal* (cane) for basket making for which there is a ready market among orchard owners.

5.6 Existing Village Institutions

There is a strong institution of a *Devta Committee*, which has survived over the years, though, with a fast diminishing traditional role, if not acceptability, amongst local people. The local deity in Bhullang temple is the presiding deity in the *phati*. Unlike other areas in Kullu, there is no sacred grove attached to the deity but, nevertheless, this still remains the most forceful single binding force. Then there is a *panchayat* for which a *panch* (Member) represents the VFDC villages and the person is also nominated to the Executive body of the VFDC. There are two *mahila mandals* (MM) and a *yuvak mandal* (YM). Women normally participate in the VFDC meetings as MM members thus making it important to recognise this fact and strengthen these organisations.

5.7 Management Unit

During meetings, initially 9 hamlets were included in the VFDC, but as consultations progressed and the respective roles and implications of PFM became more clear, the list expanded to include 12 hamlets in the VFDC which was named Bhullang VFDC. It is best to leave options open till very late in deciding the boundary of a unit. Later on the members themselves opted for smaller sub-units within the VFDC. The most important factor to bear in mind is that all primary users should be part of the consultation and negotiation process so that they do not undo the efforts of the participating community.

Table A3 provides a picture of the different hamlets falling in the four sub-units of the Bhullang VFDC, along with some important information about the hamlets in the VFDC. This was gathered through household interviews and PRA exercises.

5.8 Management Boundary

The discussions on forest use pattern and PRA mapping revealed that residents of this VFDC were primary users of 104 ha of 1/44-Kawaragahar DPF and about 250 ha of Khokhan - III UPF. Tari ra Gran have full rights while residents of Bhullang and Mohal *phati* have all rights except grazing in Bhullang forests. However, in practice, residents of Mohal village use only timber rights in the upland forests. Meetings were held after discussion on the scope of the PFM micro-plan, issues and likely activities, and there was a consensus on including the above-mentioned forests under the purview of the micro-plan. Although the DPF was less degraded than the UPF, people wanted the DPFs to be part of the micro-plan as they planned an active protection strategy for these DPFs especially against fire damage and TD over-use. Thus with an understanding and following the government order on PFM, it was agreed that both the UPF and DPF would be included in the micro-plan, but the use and sharing of products from the latter would be administered by the existing forest settlement.

6 VFDC FORMATION

After frequent meetings with the RFO and the concerned beat guard, respective roles and responsibilities had become clear and people were willing to come forward and work together as a

Table A3

Sub Units	Hamlet in Each Sub-Unit	Total Household	Population	Livestock	Pvt. Lands Bigha
1	1. Tari ra Gran	38	226	225	290
2	2. Bhullang	31	194	144	212
	3. Sua	12	59	83	83
	4. Chera gran	18	88	104	117
3	5. Dodni age	16	98	32	49
	6. Beaseri	9	56	29	42
	7. Sharugran	8	33	10	32
	8. Raun	4	39	26	39
4	9. Kashamblidhar	18	41	28	31
	10. Shilla	5	28	30	82
	11. Chila age	21	106	63	76
	12. Bogi	3	9	3	10
	Total	183	977	777	1063

forest management group, provided their existence was recognised by the department. A general house was held on 15th October 1995 in which each household was represented. The FD was represented by the DFO and RFO besides local staff. The VFDC was formed and an executive of activists was also elected. The DFO then nominated individuals to give representation to women, poorer sections, and village-level organisations like the *mahila mandal*, *yuvak mandal*, and *gram panchayats* to initiate inter-institutional linkages. The executive has 13 members including five women.

6.1 Micro-planning and Approval Process

During detailed PRAs and consultations, another development took place and a joint decision was taken to sub-divide the VFDC area and villages in to four sub units. The traditional use of forest land and locally agreed boundaries were the criteria which defined these sub units. The objective of this division was to ease and localise the protection responsibility as the 12 hamlets are spread over a large area. The micro-plan was drafted by the Executive Body and the RFO in December 1995 and it was presented before the General House on Jan 10, 1996. The RFO read out the plan in Hindi before a General House that was also attended by the DFO and the JFPM Support Team members. Women and those in the rear were encouraged by the JFPMST to speak out on issues included in the micro-plan. Certain sections of women wanted some activities to be included in the plan and others to be prioritised. After a lot of discussion and negotiation, a consensus was reached on the first two years' activities.

The PFM micro-plan included

- use-rules (bye-laws) regarding tree forests and grasslands,
- a protection strategy, including vigils, patrols, and a system of local rules and fines,
- plantations in adjoining Class III lands with oaks, robinia, morus, deodar, walnut, etc.,
- a small temporary nursery for supplying seedlings to areas of the VFDC and others,
- a water tank for irrigation of the nursery as well as the fields downstream,
- bush cutting and cleaning in forests as prescribed in the working plan and also to meet the firewood requirement of local residents,
- fire protection measures, e.g., cleaning of fire lines, control burning, fire watchers, and patrols,
- silvi-pastoral planting in UPF of species of local relevance,
- some bio-engineering measures for land and *nalla* stabilisation.

Another important decision, which was mooted, accepted, and is being successfully implemented is the one taken on Timber Distribution rights. The VFDC members felt that all members should get an equal share of their rights and the guilty should be dealt with on equal terms. To bring equity in TD management, the VFDC is assessing the needs of applicants and is also ensuring its stated end use for domestic needs to check that it is being used for the purpose for which it is sanctioned.

The micro-plan was then approved by the DFO and is currently in the 3rd year of its implementation. In addition to a departmental monitoring and inspection system, the progress is reviewed by the VFDC in its general house meetings, which are held twice a year. Only the general house is empowered to alter or modify the plan.

6.2 Impact

As a result of recognition of their organisation by the Forest Department and subsequent implementation of the micro-plan, the VFDC has felt empowered. Although the VFDC and its activities are still in their infancy, the initial response has been very encouraging. There is a genuine acceptability of the micro-plan, although the executive body (EB) will need to be more accountable to its general house (GH) for more widespread ownership of the micro-plan prescriptions. The VFDC area has some of the best thriving plantations in the region, especially of oaks and robinia. The forest related disputes and offences have been reduced to almost negligible limits. The VFDC has also started monitoring the yield of cut grasses from planted areas by maintaining its own register. They have been able to assert their existence over other distant users from the valley bed who now have to seek the VFDC's permission for their timber rights as the VFDC is protecting their forests as well. The VFDC has starting negotiating with other village organisations and individuals from outside villages and have confronted them and dealt firmly when they tried to 'free ride' on its assets, the grass production areas. One of the indicators strongly displayed by the VFDC in owning the forests is an instance when the VFDC even took local foresters to task when they legally felled deodar trees for the construction of a fire watchtower without its permission.

The meeting structure of the VFDC has allowed continuation of the dialogue between forest staff and the VFDC. On average two GH and 10-12 EB meetings are held every year which are attended by the RFO and FG respectively, mostly in the temple complex. The traditional fear of the foresters has been converted into a relationship built on a shared perception and programme for forest development. With growing influence of the VFDC, the RFO and his staff members will need support and skills to define their relationship vis-a-vis other village institutions, especially the *gram panchayats*, and at the same time become a conduit for their communication with other development departments. The RFO and local FG have been able to handle the pressure arising out of role conflict and in fact feel relieved now. The protection responsibility of the FG has been shared considerably by the VFDC as the Bhullang VFDC covers all the villages in his beat.

7 VFDCS FORMED AND MICRO-PLAN DEVELOPED SO FAR

The milestones for PFM were kept on the lower side to enable field staff to develop the processes carefully and without rushing through the process. Since these initial VFDCs were to form future learning ground, due emphasis was laid on quality. No guidance was given based on experiences in other states or countries, instead the field staff were encouraged and supported by the JFPMST to respond differently to different field situations and let the process evolve on its own. Not even one format was prescribed initially.

7.1 Contents of a Micro-Plan

The micro-plans prepared jointly by these VFDCs and respective RFOs include the following activities.

- Natural regeneration
- Artificial regeneration including enrichment planting
- Subsidiary silvicultural operations like cleaning and bush cutting
- Fire protection measures including maintenance of fire lines, bush cutting, watchers and community patrol and vigil
- Minor soil and moisture conservation activities including bio-engineering measures
- Grassland development including new varieties

- Initiating some demonstrations
- Repair of small foot bridges and bridle paths to ensure easy access for undertaking effective patrolling
- Small temporary nurseries for supplying planting stock to nearby areas

On the villagers' request, some non-forestry activities were also listed and local foresters and DFOs are taking up the issues with their counterparts in other departments to pursue them to their logical conclusion.

7.2 Strength of PFM

One of the most innovative features of these micro-plans is the development of use rules and bye-laws—including a system of local fines for the active involvement of all members in micro-plan implementation. This system of devolved powers, though informal, has been very effective in bringing down the number of forest-related offences and disputes related to use of forest products. The implementation of these rules has also initiated a system of equitable sharing of products and responsibilities and has helped in offsetting professional biases. Another feature of these local rules and byelaws has been the diversity in their nature. VFDCs have the tendency to redefine the forest offences (as compared to their definition in forest acts). Each village group (VFDC) has its own definition of a forest offence and differing systems of fines and sanctions for different infringements. They vary from village to village depending on how much value different communities attach to various forest products and the protection efforts put in by them.

8 MONITORING PFM AND ITS IMPACT

After PFM had been initiated in a few locations, a need was immediately felt to develop a monitoring system, which could decentralise the monitoring process to front line staff and VFDCs. A series of workshops were facilitated with VFDC members, other local residents, territorial staff (from DFOs down to FGs), members of JFPMSTs, and outside facilitators. The different stakeholders brought out a list of various issues related to PFM or which could be impacted by PFM. The indicators for each issue were also listed through participatory discussions. A special focus has been laid on documenting all the processes initiated by the PFM approach and training is focussed on this aspect too.

The following issues are currently used by field staff (Source: Working Document No. 8 from JFPMST Kullu)

8.1 Issues

- Change in thinking and attitude of people
- Condition of forests
- Strong, cohesive and lasting committee
- Development of collaborative systems between VFDC and Department
- Change in thinking and attitude of forest officials
- Day to day requirements

8.2 Monitoring Tools

The following tools and methods are being put to use to monitor all the processes—including functioning of VFDC by the VFDC and the Forest Guard.

Monitoring Register (MR) to keep a record of forest offences, forest-related conflicts, and timber distribution rights.

Proceedings' Register (PR) to keep a record of all VFDC meetings, agendas, decisions, and decision-making processes' participation patterns.

The MR and PR are being maintained by FGs initially, but as VFDCs gain confidence, their members will be encouraged and trained by the FG and other trainers to maintain VFDC records to reduce their dependence on the department.

In addition to the above two registers, RFOs have been trained to document and maintain discussion notes of their meetings and dialogue with communities.

A Range PFM Discussion Register and **Community PFM Discussion Register** have also been started by some VFDCs and RFOs to document comments and observations of all touring forest officers.

A Circle-level Working Group on PFM has also been constituted under the chairmanship of the Conservator of Forests Kullu with DFOs, ACFs, JFPMST members, HQ staff, and members of local NGOs. It meets every three months. The forum has been utilised to discuss experiences and improve the approach by incorporating learning from field experiences. The list of PFM activities from VFDC areas are also framed in the form of an Annual Plan of Operations for demanding the corresponding budget from headquarters. The training needs and relevant training strategy are also devised in the meeting of this working group. Decisions are taken and conveyed to field units on issues emerging from PFM experiences and some of the issues are referred to the top for a decision. Considering its usefulness and importance, it is proposed to enlarge its membership base to include community representatives and some officials from relevant line departments.

9 INITIAL BREAKTHROUGH

With the support from the JFPM Support Teams, significant progress has been made in Kullu circle in the development of a process for implementation of PFM approaches. These are

- formation and development of team skills of the JFPM Support Teams and development of their working relationship with territorial units,
- development of a 'deep' participatory training process involving circle staff and its documentation to allow others to use it and conduct their own training programmes including training schools - a step towards internalisation of the PFM processes,
- development of a pool of trained field staff with latent capacity to act as local resource persons and practise participatory forestry if given the requisite mandate and support,
- development of a process of VFDC formation and micro-planning,
- development of a process with a simple format for preparing village-level micro-plans, and
- development of vibrant demonstrative VFDCs and micro-plan areas.

10 SOME EMERGING ISSUES

Before building opinion on the development of the HP PFM programme, it is worth taking note that the progress in PFM has not been consistent in non-project districts where the planning and management, barring a few schemes, remains non consultative. Due to lack of enough focus and absence of appropriate monitoring, foresters have neither been able to recognise the need for PFM

nor been able to respond to communities' initiatives, although the Government Order applies to the whole of the state. But now, with the government emphasising group formation and micro-planning for an increasing number of schemes, it is hoped that foresters in the field will at least give PFM a try and start the learning process. They will, however, need a lot of training and administrative support to be able to spread the consultative approach across their working environment.

Even in areas with a clear focus on PFM through the project agency, the mid senior foresters at district level have not been able to recognise the local rules and VFDC bye-laws as the existing forest acts do not provide for such a transfer of power and authority to village groups, and there is a feeling that the mandate provided by such acts and procedures is not conducive to collaborative management.

Although 20-30 locations are too limited an experience to come to any final conclusion, some of the emerging issues which might have long term implications for PFM in Himachal Pradesh are discussed in Box A1.

Box A1
Emerging issues

The Government Order (GO) needs modification

- to ensure that different institutional arrangements for forest management are allowable including formalisation of existing informal structures without changing them to VFDCs
- to provide more flexibility in terms of defining the unit of a VFDC and its membership
- to allow inclusion of non-degraded forests for 'protection' purposes in the micro-plans
- to suggest innovative quorums for village meetings to ensure participation of all sections of people, especially women

There is a need

- to follow the GO with comprehensive guidelines on PFM with a user friendly style and layout to enable field staff and community members to take decisions and follow state and national policies with a shared vision and understanding,
- to clarify the legal status of the VFDCs especially their authority to enforce local rules and bye-laws (which have been an innovative feature of the whole PFM approach) and their interaction with other village-level organisations,
- to evolve a supportive budgetary and approval system for funding and facilitating implementation of diverse activities brought out by the micro-plans,
- to internalise PFM processes within the territorial working of the department and reduce their dependence on JFPM Support Teams by modifying their job descriptions and performance appraisal methods,
- to prepare a strategy for post-formation support to VFDCs and field staff and continue the capacity building programme,
- to initiate a capacity building programme for VFDC members to enable them to perform the expected roles with the objective of reduced dependence on the department and to save foresters' time,
- to recognise women as a special focus group and strengthen their organisations
- to develop a strategy that enables and binds field foresters in non project areas to respond positively to genuine community initiatives for management partnership.

11 CONCLUSIONS

The solid and encouraging start made on the GoHP's Order on PFM (1993) together with the Forest Settlements of late last and early this century now provide a renewed opportunity to foresters and communities to build on this learning process and spread the participatory approaches to all areas where there are conflicting situations that demand consultative and interactive solutions. Poorer, marginalised groups and often ignored individuals can re-assert their rights through these VFDCs, which have the widest membership base of any village-based organisation. The experiment has proved that stake and authority in joint decision-making and in exercising local control over use rights for equity can motivate people even without providing immediate material or economic benefits. There is no dearth of community response to genuine initiatives. The foresters should capitalise on the skills acquired by them and the mandate provided by the government to establish effective and viable partnerships with local communities. A complimentary training and capacity building programme is already in place. Much, however, will depend on the strategic support they receive in terms of policy, budget, training, guidelines, incentives, and appreciation of their 'new jobs and performance', as also on forestry organisations' abilities to provide flexibility and space for such approaches to evolve and continue growing and to provide solutions to conflicting management issues, both ecological and social.

There is nothing wrong with the concept and philosophy of the PFM approach, but any approach is only as good as its practitioners.

A second series of participatory training workshops was held at range beat and village-level for selection of five new locations and the PFM process was initiated during 1996-97. As a result of these Range and Beat level workshops six more pilot locations were selected.

- Govertha in Baldwara range
- Chachyot in Nachan range
- Thalli in Karsog range
- Gulana in LadhBharol range
- Hiun in Urla range
- Nagan in Sadar range.

Micro-plans for Govertha, Thalli Hiun, and Gulana have been discussed in the general house of the VFDC and approved by the VFDC and DFO. The implementation process for these micro-plans has started. Draft micro-plans for Nagan and Chachyot have been prepared and discussed with villagers. Some advance work mentioned by villagers in Chachyot to be included in the micro-plan has been undertaken by the department.

So far 21 pilot locations have been selected after a consultation process with staff and local people. In 11 pilot locations, micro-plans are in operation and in the remaining locations draft micro-plans have been prepared.

Annex 12
Minor Forest Produce Exploitation and Export Acts of Mandi (1937) and Chamba (1943)

These acts are the only legislation that govern the exploitation and export of Minor Forest Products, now called non-timber forest products (NTFPs), in the state. Though this legislation was made by the erstwhile princely states of Chamba and Mandi, the exploitation and export of NTFPs in other parts of the State are being managed under the provisions of these two acts. Rules under the Chamba Act were framed in 1947.

The provisions of these two acts are woefully iinadequate to deal with the issue of NTFPs. The local people have rights and concessions to collect NTFPs granted under the forest settlements. As the issue of collective collection, processing, and trade of NTFPs is important for the PFM strategy, comprehensive legislation on all these aspects is required.

Part 4

Participatory Forest Management: Implications for Policy and Human Resources' Development in Jammu and Kashmir, India

P. Patnaik
S. Singh

1 Introduction

1.1 Background

Further details are given in the Fact Sheet for Jammu and Kashmir, Annex 1.

1.1.1 Location and Terrain

The State of Jammu and Kashmir (J&K) is the northernmost state of India. It lies between 32°17' and 37°N and 74°18' and 80°83' E. It has a total area of 101,387 sq. km.

The terrain is hilly and mountainous, with the exception of some plains in Jammu and the Kashmir Valley. The State can be divided into three distinct physiographic zones: Jammu, Kashmir, and Ladakh.

Jammu lies between 32°20' and 33°10' N and 74°45' and 74°55' E. The **Kashmir** Valley is an oval-shaped plain embedded in the mountains at an elevation of 1,585 masl, and lying between 33°15' N and 34°07'N and 74° and 75°10'E. **Ladakh** lies between the Himalayan and Karakoram Mountains. The main town of Ladakh is Leh, at an elevation of 3,517 masl and located at 34°10'N and 77°37'E.

1.1.2 Agro-Climatic Zones

Jammu and Kashmir State can be divided into five agro-climatic zones.

Sub-Tropical Zone

Parts of Jammu, Udhampur, Poonch, and Rajouri districts fall in this zone. The mean elevation ranges from less than 300 masl to nearly 1,350 masl. The main features are hot summers with monsoon precipitation and relatively dry but cold winters.

Valley Temperate Zone

This zone covers the Kashmir Valley and inner Himalayan valleys. The mean elevation ranges from 1,560 masl to about 4,200 masl. The zone has wet, cold, and snowy winters and relatively dry and moderately hot summers.

Dry Temperate Zone

This zone includes all areas above the outer hills including the major parts of the districts of Poonch, Rajouri, and Doda. The altitude ranges from 1,300 masl to more than 3,000 masl.

Cold Arid Zone

This zone covers the districts of Ladakh in the east and Gilgit and adjacent areas in the north-west. The altitude ranges from 2,900 masl to peaks of 7,200 to 8,400 masl. The main features are severe cold and dry winters with moderately hot summers.

Intermediate Zone

This zone covers the mid and high altitude areas of Doda, Poonch, Rajouri, and Udhampur. The rainfall pattern here resembles that of the Valley Temperate Zone in winter and that of the Sub Tropical Zone in summer.

1.1.3 Soils

The soils of Jammu and Kashmir are the result of climatic and geomorphic processes. They vary from skeltonised to deep alluvial soils. Mountain meadows, sub-mountain (podsolic) soils, and brown hill soils are mainly confined to Ladakh, Kashmir, and parts of Jammu. Deep alluvial soils are only found in the lower parts of Jammu.

1.1.4 People

In 1991, the estimated population of the state was 7.72 million, compared with 3.25 million in 1951. The population density in the state is 76 persons per sq. km., compared with a national average of 267. But the population is growing at a fast rate, at 2.97 per cent per year, which is 0.04 per cent more than the growth rate between 1961 and 1971. About 76 per cent of the total population live in rural areas.

1.1.5 Livestock

The total livestock population in J&K in 1982 was 6.01 million. By 1992 it had increased to 8.71 million.

Grazing Intensity

The increasing numbers of cattle, sheep, and goats is placing an immense pressure on the limited grazing resources within the forest area of J&K. Grazing is preventing forest regeneration and is a limiting factor to the success of Forest Department plantations.

Less than 50 per cent of the total forest area may be available for grazing as a result of inaccessibility, closure for regeneration of plantations, or closure of protected forests, national parks, and sanctuaries. If 3 million cattle graze in the available forest areas, then the grazing intensity is more than 3 cattle per ha. For proper grazing, each head of cattle requires 2 ha; thus the grazing intensity is at least 6 times the permissible limit. The ways to overcome this are to put more area under pasture, to raise fodder yield from forest areas, and to raise pasturage outside forest areas by closure and rotational grazing.

Nomadic Grazing

The major characteristic of grazing in the valleys and high mountain pastures is the age-old practice of nomadic grazing. Every year, nomads move down to the plains during winter with their livestock—large numbers of buffalo and cattle—especially to the warmer areas of Jammu, Himachal Pradesh, and the Punjab. Nomadic grazing is a direct consequence of the cold climatic conditions in the upper reaches of the State. In winter, these areas are covered with snow, grass is not available and pasturage is scarce. Thus the animals have to move to the warmer areas for fodder. This form of land use is considered bad, as it does not provide stability for the nomadic grazers and the continual movement deprives the nomads of socioeconomic benefits. Farmers in the neighbouring states, who also keep cattle, must compete for fodder with the herds of the nomads.

1.1.6 Forests

Approximately 20 per cent of the total geographical area of J&K state is forested (see Table 1.1). This is just above the national average of 19%, and far less than the desired coverage of 66% as per the National Forest Policy for the Himalayan region. Two-thirds of the total area of the state, however, is occupied by the vast cold desert of Ladakh. And forest cover in the

Table 1.1:

Region	Total Geographical Area (in sq. m)	Forest Area* (in sq. km)	Forest area as % of Total Area
Jammu	26,293	12,066	45.89
Kashmir	15,948	8,128	50.96
Ladakh	59,146	36	0.06
Total	1,01,387	20,230	19.95

* 'demarcated forest', see Annex 1

remaining forest region of Jammu and Kashmir is actually 47.8%. Before 1947, forest cover in this area was 52%, thus 4.2% or about 870 sq. km. of forest cover has been lost since then as a result of heavy encroachment and conversion of forests into non-forest uses.

Of the total forest area, about 5,000 sq. km., or one quarter, suffers from degradation of different magnitudes. Degradation results from the disproportionate growth in the human and livestock population coupled with deforestation and a widening gap between the demand and supply of forest produce. It is difficult for the Forest Department to meet the social demands of people on a sustained basis from the existing resources.

The forests in the state can be classified into three main types, sub tropical, temperate, and alpine, each with a number of sub-types.

Sub-Tropical Forests

The sub-tropical forests can be further classified into dry deciduous forests, pine forests, and dry evergreen forests.

Dry Deciduous Forests.These are found all along the foothills and are characteristic of areas that receive monsoon rains. The dominant species are *Acacia catechu, Lannea coromandelica, Dalbergia sissoo, Anogeissus latifolia, Aegle marmelos, Ehretia laevis, Kydia calycina*, and *Ougeinia oogenenesis*.

Pine Forests—Chir pine *(Pinus roxburghii)* forests cover the outer ranges between 800 and 1,800 masl. They are found in pure stands on the outer hills of Jammu. This species requires a well-drained soil and is found on quartzite and limestone formations. At suitable altitudes, chir pine easily colonises grassy slopes when protected against fire and grazing. Towards its lower limit it merges with dry deciduous forests, and at its upper limit it is associated with broad-leaved species like *Lyonia ovalifolia* and *Pyrus pashia*. At higher altitudes, blue pine and deodar establish themselves under chir pine and finally replace it. Hot dry slopes are often covered with gregarious patches of *Euphorbia royleana*, a thorny succulent, in association with *Rhus parviflora* and *Carissa spinarum*.

Dry Evergreen Forests—These forests are found at around 1,000 masl: that is in areas characterised by a hot dry season, with a marked cold winter and occasional frost. The species include *Mallotus philippinensis, Nyctanthes arbortristis, Cassia fistula, Dendrocalamus strictus*, and shrubs like *Carissa spinarum, Dodonaea viscosa, Woodfordia fruticosa, Adhatoda vasica*, and *Zizyphus* spp.

Temperate Forests

Temperate forests can be sub-divided into Himalayan moist temperate and Himalayan dry temperate forests.

Himalayan Moist Temperate Forests—The dominant species in this type are *Cedrus deodara, Picea smithiana, Abies pindrow, Pinus wallichiana*, and *Quercus semecarpifolia*. Other species found include *Euonymus tingens, Rhododendron arboreum, Meliosma* spp., *Carpinus viminea, Acer caesium, Fraxinus micrantha, Prunus cornuta*, and *Betula aloides*. Depending on the dominant species, the forests can be further sub-divided into types.

Moist deodar forests lie between sub-tropical pine forests and sub-alpine formations. They are mostly found between the altitudes of 1,700 and 3,300 masl, except on the northern slopes of the Pir Panjal Mountains, where they occur between the outer wet ranges and the inner dry zone The number of dominant species is small, and the species occur in more or less pure stands rather than in mixed ones. Depending on the altitude and aspect, the principal species are *Cedrus deodara, Pinus wallichiana, Picea smithiana*, and *Abies pindrow*. There is a small mixture of broad-leaved species, *Parrotia jaquemontiana* predominates in the west.

Kail (*Pinus wallichiana*) forests have a greater altitudinal range than other conifers (1,200-4,500 masl). The species merge with *Pinus roxburghii*, birch, and junipers at the lower and higher limits, respectively. Kail forms pure stands as riverine blue pine forests and is also found at

the lower edge of forests on moderate and gentle slopes in Kashmir Karewas, and areas adjoining villages.

Fir forests of *Abies pindrow* (silver fir) and *Picea smithiana* (spruce), with mixtures of blue pine, deodar, and some evergreen and broad-leaved species, are found above deodar forests at altitudes between 2,400 and 3,000 masl.

The common **shrubs** in these forests are *Rosa moschata, Lonicera quinquelocularis, Strobilanthes wallichii, Smilax vaginata, Viburnum cotenifolium, V. stellulatum, Asparagus* spp, *Jasminum humile,* and *Deutzia corymbosa.* Ground flora include *Viola canesens, Fragaria vesca, Ophiopogon* spp, *Polygonum speciosum, Impatiens* spp, *Vicatia conifolia, Valeriana wallichii, Ainslaea aptera, Galium* spp, and *Adiantum venustum.* Some common climbers are also found like *Hedera helix, Vitis himalayana, Clematis montana, and Jasminum officinale.*

Himalayan Dry Temperate Forests—The Himalayan dry temperate forests are mainly composed of conifer species. These forests are found in the inner ranges of the Himalayas at an average elevation of about 1,700m where the impact of the south-west monsoon is feeble, and the total annual precipitation is about 1,000 mm, usually in the form of snow in winter. The major species is deodar (*Cedrus deodara*), which occupies the zone ranging from 2,000-2,500 masl. Forests here are sometimes mixed with or replaced by *Pinus wallichiana* at lower altitudes with a warmer climate. Higher up, in moist locations, they are mixed with *Abies pindrow* and *Picea smithiana.* Broad-leaved associates of this forest type are *Acer caesium, Fraxinus micrantha, Quercus dilatata, Ulmus wallichiana,* and *Corylus colurna.* Shrubs like *Artemisia, Astragalus,* and *Ephedra rom* are also found.

Alpine Area

Forest type growth in the alpine area can be classified into moist alpine and dry alpine scrub.
Moist Alpine Scrub—This type of vegetation starts immediately above the tree line at 3,600 masl and extends up to 4,900 masl. The scrub areas contain stunted vegetation like *Juniperus squamata, J. recurva, J. macropoda, Rhododendron anthopogon,* and *Betula utilis,* alternating with meadows. Many herbaceous plants are found; including species from the genera *Gentiana, Saxifraga, Corydalis, Rumex, Cardamine, Thymus, Aster, Viola, Campanula, Fritillaria,* and *Epilobium.* Common grasses are *Agropyron* spp, *Bromus asper,* and *Poa annua.*

Dry Alpine Scrub—This type of vegetation is found in the inner ranges adjoining dry temperate forests at 3350masl. The vegetation is xerophytic with dwarf shrubs predominating. The common species found are, *Juniperus wallichiana, J. communis, Caragna brevispina, Artemesia sacrorum, Lonicera* spp, *Potentilla* spp, *Salix* spp, *Myricaria* spp and *Hippophae rhamnoides.* Herbaceous flora include *Sedum crassipes, Srosulatum* and *Androsace rom, Primula minutissima, Saxifraga* spp, *Leontopodin* spp, *Arenaria* spp, *Collianthemum kashmerianum, Draba gracillima, Potentilla fruticosa, Koleresia dutheii,* and *K. capelifolia.*

1.2 The Role of Forests in the Livelihood of Mountain People

Forests play an important role in increasing the productivity of agricultural land by provision of humus and leaf litter.

The forest topsoil is very rich and fertile. Local communities apply topsoil and leaf litter to their agricultural fields. These natural fertilisers are rich in nutrients and improve the texture of the soil, thereby enhancing the water-holding capacity, which results in an increase in agricultural yield. The forests themselves increase the rate of infiltration and decrease water runoff, thereby protecting agricultural fields from excessive erosion. Forests also serve as shelterbelts and windbreaks. They protect agricultural crops from extremes of temperature, and serve as a water bank regulating the water in springs and streams below.

In the past, the Shivalik belt from Ravi to Rajouri was covered with deciduous forests. There were large numbers of springs and a perennial flow of water in the gullies. The forests were full of wildlife,

and the forest communities, nomadic grazers, and wildlife lived in harmony with the forest.

With the increase in human and livestock populations, and because of forest encroachment, these forests became degraded. As a result, both the perennial streams and seasonal and permanent springs dried up. About 30 years ago, deep tubewells were dug to supply drinking water to the people living in the area. Now the water table has dropped and the Public Health Engineering (PHE) Department is facing difficulties in supplying drinking water to the communities living around the forests. With the depletion of forests in Poonch-Rajouri, part of Udhampur district, part of Doda district, and the Kandi areas of Kashmir province, people are facing water shortages, a non-existent problem in the past.

Shortage of fodder for local communities and nomadic grazers has also caused occasional conflict and at times explosive situations.

1.3 Forest Management

The term common property resources is not commonly used in J&K State. However, it applies in essence to the community forests that have been formed and are being managed under the Statutory Rules and Orders No. 61 (SRO-61) of 1992. In community forestry, the local communities and the Forest Department are partners in managing the forests.

Demarcated forests are the property of the state government. The government frames acts and laws from time to time for their protection and management. The local communities enjoy concessions in these forests to meet their bonafide requirements, but they do not enjoy concessions on all forest products. The government can withdraw these concessions at any time. Details of such concessions are given in the Kashmir Forest Notice, 1912, and the Jammu Forest Notice, 1912.

1.3.1 Traditional/ Indigenous Forest Management Approaches

Before 1947, informal community systems for the overall welfare of the village community existed in all villages and hamlets.

Forests were divided informally among villages or clusters of villages. Each village community met its requirements for fodder, fuelwood, and minor forest produce from its own forests, and would not interfere in the forests of other villages. No villager would encroach upon the forest land or harm the forest because they respected the forest and feared community sanctions.

Any disputes between individuals or groups of individuals within the village community were resolved by the '*bradari*', or in certain localities the '*bradari-bhaichara*' or '*panch*'. The Bradari was an informal body of people of high integrity and good understanding who commanded respect in the community. The governing body was non-elected and had no fixed number and was chosen from among all the individuals of a village. The decisions taken by the body were implemented faithfully. They were made after detailed deliberations and guided by past practices. Forests were effectively protected under such '*bradari*' or '*bradari-bhaichara*' systems.

Immediately after the independence of India from British rule, a new system was set up in J&K State. With the coming of many political parties, the traditional systems underwent change. Village communities became divided into political and ideological groups, creating tensions within them. Because of this, common property resources became the target of misuse, and forests were affected by encroachment, illicit felling, and other forms of degradation. Even so, most village communities still restrict their activities to their own village forest.

1.3.2 History of Forest Management before Independence

In earlier times, the administration of the forests was with the civil authorities. The Wazir-i-Wazarat was in charge of a district, while under him *tehsildars* managed the affairs of each *tehsil*. The office staff consisted of one moharrir together with the Wazir-i-Wazarat. An official, often illiterate, called a '*girdawar*', or '*kumbadan*', controlled outdoor work with a few '*rakhas*' or '*chaprassis*' working under him. The kumbadan collected the forest dues or '*rasums*' on the various articles consumed, initially from

individuals but later from village communities. This collection of revenue was the only work that was done, and no protection work was undertaken.

No records are available to show the extent to which forests were worked for timber in earlier times. Timber felling for export began in about 1855 AD (1912 Bikram Sambat) by traders from Punjab, and afterwards by state contractors. *Pattas* and written permits allowing the holder to fell a certain number of trees of any diameter anywhere he wished were granted on payment of a fixed sum per tree in advance. Supervision of harvesting was minimal. The permit holder or contractor felled trees in the places most convenient for him. For a long time, only local labourers were employed for log extraction. The villagers cut trees around their cultivated areas, near their villages, and as close as possible to floating streams. Forests in such localities still bear evidence of the devastation caused in the shape of stumps standing on agricultural lands, and bare areas with useless undergrowth.

The scientific management of forests in British India started with the appointment of a German-trained forester, Dr. Brandis, as the Superintendent of Forests, Pegu (Burma) in 1856. The appointment of Dr. Brandis as the first Inspector General of Forests of India during 1864 marked the initiation of planned forest management. It was Brandis who developed the principle of tree extraction: that in any forest the number of First Class trees (trees over prescribed diameter) felled in one year should be equal to the number of growing stock of second class trees. Within a few years, Brandis undertook extensive tours of the most valuable forests in the country with local conservators. He discussed and initiated the preparation of simple working plans for selected forests. In 1864, Brandis, Steward, and Wood prepared the "Valuation Survey Report on Bushar Forest" in the Punjab. To make headway in preparing simple working plans, Brandis was assisted by two other trained forest officers, Schlich and Ribbentrop.

In 1882, when the Forest Department was decentralised a new situation arose which caused a setback to the progress of working plans. Before that, the Department's affairs were in the hands of the Central Government, and the Inspector General wielded power. With decentralisation in 1882, the revenue from forests within their jurisdiction went to the local governments, and officers showing an increased surplus received pronounced recognition in the annual report, irrespective of whether the increase was from overfelling or not. As a result, even where working plans existed, the prescriptions therein could easily be deviated from, and even dodged by local officers under the direct influence of the local government.

In 1884, as a result of the efforts of Mr. Schlich, the Inspector General of Forests, the control of preparation of forest working plans and management of forests were brought under a Working Plan Branch created in the office of the Inspector General of Forests. The centralisation of the preparation of working plans resulted in an immediate spurt in working plan activities all over the country. During 1892, Mr D' Arcy wrote a monumental manual on forest working plans. Following this, the writing of working plans was standardised.

In 1891AD the State Forest Department of J&K was created, managed by the then mperial Forest Service (IFS) officer Mr. J. C. McDonell. In 1893 AD, the State Council passed the Forest Regulation No.1, and rules for protecting forests were drawn up. Demarcation activities commenced and surveys of boundaries were undertaken. The Department's capacity was increased to cope with the increase in work. Forest fires were discouraged and practically suppressed. Roads and paths were constructed to facilitate access to the countryside, felling of green trees was discontinued, and the energy of the Department was devoted mainly to working out the felled trees and logs/sleepers left in the forests by former contractors. The Department also felled dying and deformed trees that could not be expected to survive for long.

Scientific forest management started later in J&K State than in other Indian states, but it had the advantage of the experience gained in other states under British India, especially the

advantage of D. Arcy's manual on forest working plans prepared in 1892.

Mr. W. Mayes, an IFS officer, prepared the first working plan for Bhaderwah Forest Division in J&K State in 1902 unassisted by any trained staff. He not only completed demarcation of the forests, but stock mapped them, divided important portions into manageable units, described them, and even collected useful statistical data on single tree growth. Under this plan, selection felling of a limited number of trees over 7½ feet girth was prescribed in each compartment. In 1904, timber harvesting by the Department was abandoned, and the principle advocated in the Indian Forest Department of sale of standing trees to a purchaser was adopted.

The Kishtwar working plan was prepared in 1908, under which deodar forests were worked according to the Indian Selection System with exploitation of trees over 7½ feet in girth. Other species, including blue pine, were ignored and the felling cycle was fixed at 14 years. In 1912, the Kashmir Forest Notice and Jammu Forest Notice were issued. These notices gave the local community certain concessions, and in lieu of these concessions the communities were legally obliged to protect the forests. This was a historical event, which laid the foundation of joint forest management in J&K State. The concessions granted under these notices were incorporated in subsequent working plans.

Between the two World Wars, the activities of the Forest Department gradually increased and working plans were made for almost all the forests in the state. The more accessible forests of important commercial species were brought under a uniform system.

The Second World War was a setback to the progress of working plans, resulting in a chaos in forms and compartment histories. A special conference was held during 1945-46 at Dehradun in which techniques of partial enumeration were standardised and additions were made in the volume tables and yield tables. The post-war working plans stressed detailed stock mapping and collection of more statistical data on growth and yield of the forests. The old concept of having even-aged forest underwent radical change. In areas where establishment of regeneration was a great problem, advance growth up to 18 inches in diameter was considered as a future crop. Poles in the class between 18 and 24 inches in diameter were also considered as advanced growth.

1.3.3 History of Forest Management Post-Independence

As a result of serious political disturbances in 1947, many villages were burned along with many forest rest houses and other buildings. The state of instability worsened and forest protection was at its lowest ebb. Forests suffered heavy losses from illicit felling. All forest activities came to a halt. The main export line was lost as a result of the partitioning of the Punjab. Timber traders suffered heavy losses. Thakur Harnam Singh Pathania, the then Chief Conservator of Forests and a forestry stalwart of rare genius, proved equal to the task. He soon evolved multi-pronged strategies to bring forest working to normal. As a special relief measure, the government sanctioned 200 cu.ft. of deodar timber and 2 kail trees per family to rebuild houses.

During 1948-52, the timber depots were rehabilitated. Timber depots were established in Pathankot Punjab (India), the nearest railhead. Booms were constructed on the river Chenab at Akhnoor to enable timber traders to collect their timber to transport to Pathankot by road. Many relief and rehabilitation measures were undertaken to sustain forest lessees and make their return to work possible. The government of the time was liberal and announced many concessions when accepting Pathania's proposals. These measures, coupled with other administrative actions, returned forest management to normal.

However, the government then committed a mistake by launching a 'Grow More Food Campaign', under which people living in and around forests were asked to grow agricultural crops in forest land without trees in order to achieve self-sufficiency in food. This ill-conceived

policy laid the foundation for encroachment of forest lands. Although the government later halted this policy, it assumed alarming proportions in deodar, kail, and chir forests in subsequent years. The increases in the human and livestock populations, coupled with increased demands for timber and other forest produce, greatly raised the pressure on forest resources and led to the failure of natural regeneration.

Efforts to raise plantations did not succeed. Some senior foresters realised the ill effects produced by the degradation of forests and started experimenting on their own to find solutions. They were convinced that forests could only be protected with the willing co-operation of local communities. Village committees were constituted and proved successful in the protection of plantations. The Government of Jammu and Kashmir issued SRO No. 61 of 1992, which formalised Joint Forest Management (JFM) in J&K. But JFM did not make much headway because of militancy in the state. JFM is confined to demarcated degraded forests situated at low altitudes that are completely barren, and to the outside of demarcated forests, community lands, and Khalsa Sarkar areas. So far about 300 sq.km. of degraded forest and about 300 sq.km. of community land have been brought under JFM village plantations.

1.3.4 Silvicultural

Deodar-kail forests constitute 84% of the total forest area of J&K. Apart from their protective and aesthetic values, they are the main source of forest revenue, deodar being by far the most lucrative. As a result of strict forest and fire conservancy after 1892, major species like deodar regenerated well and were established rather sporadically everywhere. But the state of regeneration did not enable the separation out of areas large enough to form compartments or sub-compartments for management purposes.

In general, deodar forests on easily accessible grounds are managed under the shelter compartment system. The exploitable diameter is fixed at 75 cm (30 inches) which corresponds to a rotation of 150 years. Since deodar stands are scattered and advanced growth is abundant over large areas, the original uniform system of fixed periodic blocks has been modified to one of conversion. In this convention, sacrifice of immature stock is avoided. Trees less than 45 cm (18 inches) in diameter at breast height are taken as regeneration, and groups of trees in the 45-60 cm (18-24 inches) diameter class are also retained as part of the future crop. The resultant irregularity in the crop that will appear at the end of the conversion period is accepted as a necessary concomitant to the system. As deodar continues to live soundly beyond the rotation age, there is no fear of serious deterioration in the stocks. Deodar on steep and difficult terrain is managed under the Indian Selection System as applied to spruce and fir forests.

Kail is generally found mixed with deodar and cannot be separated out into convenient management units, therefore it is managed along with deodar as a subsidiary species. Pure patches of colonised kail are too young to warrant separate management.

2 Forest Policy

2.1 Historical Time-Line of Policy for Forest Management

1891. The J&K State Forest Department was created in 1891. Mr. J.C. McDonnel of the Imperial Forest Service (IFS) was appointed as Head of the Department. He was given a rank equivalent to Conservator of Forests. He helped in the consolidation of forests and concentrated on construction of roads and paths to open the country. Felling of green trees was stopped, and the energy of the department was devoted to working out of already felled trees and logs and sleepers left in the forests by contractors.

1902. Mr. W. Mayes, an IFS officer, prepared the first working plan in J&K State, for Bhadarwah Forest Division, in 1902. Under this plan, a limited number of trees over 7½ feet in girth was prescribed to be felled in each compartment (selection felling). The departmental working of forest was stopped, and the policy of forest working by the purchaser of a tree started, in 1904.

1908, Kishtwar Working Plan. The Kishtwar working plan was developed in 1908. Deodar forests were worked under the Indian Selection System with an exploitable girth of 7½ feet. Other species were not in demand, so no felling prescriptions were made for them. The felling cycle was fixed at 14 years.

Soon preparation of working plans was taken up for other divisions in J&K State and the Indian Selection System was adopted.

The concept of natural regeneration of forest had developed. It was realised that forests cannot regenerate unless they are closed to grazing, so closure rules were framed.

1912. The Kashmir Forest Notice 1912 was issued for Kashmir Province and the Jammu Forest Notice 1912 for Jammu Province on the 28th November, 1912. These legal documents laid the foundation for joint forest management in Jammu and Kashmir.

1914. The initial enthusiasm for the preparation of elementary working plans seemed to wear off. The apparent lack of enthusiasm might have been due to the outbreak of the First World War. The Department was busy with the work of meeting the enormous timber demand for the war. Preparation of working plans picked up momentum immediately after the war was over.

1932. A working plan was prepared by S. Sher Singh for Ramban Division for a period of 10 years (1929-1939). Previously, deodar had been managed under the Indian Selection System. Singh prescribed the Uniform System for deodar with intensive subsidiary silvicultural operations. His prescriptions were not followed, however, because of financial constraints. The result was that the clear felled areas became full of weeds and shrubs and could not be regenerated. Another working plan prepared for iolab forests in Kashmir Valley met with the same fate.

1934. Rules were promulgated for the formation of village forests (5th March 1934). The objective

was to protect and afforest undemarcated forest areas and waste *khalsa* lands (land belonging to the state) not under cultivation, for the benefit of agriculture and agriculturists and to prevent denudation and soil erosion. Under these rules, local committees were to be formed in each forest range to consider the question of protection of such waste, undemarcated forests and *khalsa* lands. Norms were laid for the formation of such committees. Proper procedures were given for selection of areas and for constituting village forests.

1939-1945, The Second World War. The Second World War was a great setback to the progress of scientific management of forests. Working plans that expired could not be revised. The normal work of posting entries in compartment histories and even submission of the control forms fell into disarray. And even worse, in many valuable forests felling was carried out with total disregard for the working plan prescriptions.

1947, Partition of India. In 1947, immediately after the partition of India, Pakistan invaded Kashmir, which affected forest management adversely. All forest activities came to a grinding halt. The working plans, which needed revision, were not revised for five years. With the efforts of the then Chief Conservator of Forests, revision of working plans started and, within 5 years, the plans were updated or revised.

The outstanding features of these plans were the collection of complete data on growth and yield and the preparation of more detailed stock maps. The old concept of even age of the crop underwent a radical change. Where natural regeneration had to be obtained within a given period, retention of the advance growth as a part of the future crop became an established practice.

1950, 'Grow More Food' Campaign. The state government started a 'Grow More Food' campaign, with the underlying idea of attaining self-sufficiency in food. Under this plan, however, forest areas were encroached. Although the campaign was halted immediately, it set a trend that could not be checked effectively.

1952, National Forest Policy of India. The salient feature of this policy was the focus on revenue generation from forests. According to this policy, the government started exploitation of forests without any attention to regeneration. The 'Grow More Food' campaign and the revenue earning policy led to a reduction in forest area and overexploitation of forest resources and contributed much to the degradation of forests.

1978, The Jammu and Kashmir State Forest Corporation Act (9th May, 1978). There was a lot of criticism in the press regarding the overexploitation of forests by forest lessees and damage to the environment, and this attracted the attention of the government. In order to improve forestry activities, the government formulated the Jammu and Kashmir State Forest Corporation Act of 1978 for better management of forests. Under this, all timber harvesting operations in forests were to be carried out by the State Forest Corporation only.

1987, Nationalisation of Forest Working Act of 1987. According to this Act, no private person could fell a tree in a demarcated forest. All Contractors and Forest Lessees had to stop their operations in such forests.

1988, National Forest Policy of 1988. The 1988 National Forest Policy was a modification of the earlier policy of 1952, which had more emphasis on revenue earning. This policy shifted the emphasis from revenue earning to forest conservation and maintenance of environmental stability through preservation of ecological balance.

1990, The Jammu and Kashmir Forest Policy of 1990. This policy also showed a shift in focus from revenue earning to forest conservation. The main objective of the policy is that forests must be managed to ensure environmental stability and maintenance of the ecological balance.

1990, Jammu and Kashmir Forest (Conservation) Act of 1990. By virtue of this Act, no forest land may be diverted for non-forestry use without prior approval of the State Cabinet.

1992, Jammu and Kashmir Order on Joint Forest Management Notification No. SRO 61 of 19-03-1992 (Annex 2). This is discussed in Sections 2.2.2 and 3.

1996. A democratically elected government came into power in J&K after seven years of central rule.

1997. The J&K Forest Act of 1930 was amended, giving more powers to Forest Officers to deal with forest offences more vigorously. A Forest Protection Force was set up to control smuggling of forest produce and to check all kinds of damage to forests. This force is being armed with sophisticated weaponry and communication systems to deal with the menace of smugglers and militants.

2.2 Present Day Forest Policy

2.2.1 National Forest Policy

The Indian National Forest Policy of 1988, the most recent national policy, is a modified version of the earlier forest policy of 1952. This policy emphasises forest conservation rather than revenue generation from forests, with a focus on preservation, maintenance, sustainable utilisation, restoration, and enhancement of the natural environment.

The major points in the 1988 National Forest Policy are as follow.

- Maintenance of environmental stability through preservation of the ecological balance and, where necessary, restoration where the balance has been disturbed by a serious depletion of forests
- Conservation of the natural heritage of the country by preserving the remaining natural forests, which contain a remarkable biological diversity of flora and fauna and many of the genetic resources of the country
- Controlling of soil erosion and denudation in catchment areas of rivers, lakes, and reservoirs for soil and water conservation, mitigating of floods and droughts, and reduction of siltation of reservoirs
- Halting the extension of sand dunes in the desert areas of Rajasthan and along coastal tracts
- Substantially increasing the forest/tree cover in the country through massive afforestation and social forestry programmes, especially on denuded, degraded, and unproductive lands
- Meeting the requirements for fuelwood, fodder, and non-timber forest products of the rural and tribal population
- Increasing the productivity of forests to meet essential national needs
- Encouraging efficient utilisation of forest produce and maximising substitution of wood
- Creating a massive people's movement with the involvement of women to achieve these objectives and to minimise human pressures on existing forests

2.2.2 Forest Policy in J&K

Process of Policy Making

The forest policy of J&K State of 1990 has evolved over the last 40 years through historical processes since Indian independence. It is the outcome of experience gained by foresters as a result of their failures and successes.

The policy was formulated by the State Government after detailed interaction with the Principal Chief Conservator of Forests, the Director of the Social Forestry Project, the Director of Environment and Remote Sensing, the Chairman of the Pollution Control Board, the Chief Wildlife Warden, the Chief Conservators of Forests of Jammu and Kashmir, and other stakeholders.

There was no direct involvement of non-government organisations (NGOs), social organisations, or universities in the formulation of the policy. Over the last 50 years, however, various organisations, the local press, and electronic media have indirectly influenced the State Government and senior foresters through discussions held at workshops and seminars, radio talks, and articles in the press. The most significant impact came from the *padyatra* (trek)

of Sunder Lal Bahuguna (the Chipko leader), who started his Kashmir to Kohima (2500 km) padyatra from Srinagar in 1981. The State Government constituted a Forest Advisory Committee in 1988 under the chairmanship of Mr. Bahuguna. The committee submitted its report to the State Government, explaining the problems of forest degradation in J&K State and proposing remedial measures. Discussions between Bahuguna and the Chief Minister, Dr. Farooq Abdullah, apparently influenced the state forest policy of 1990. Apart from the formulation of forest policy of 1990, other initiatives taken during the same years bear the testimony of the influence of Sunder Lal Bahuguna.

The roles of *Paryavaran Sanstha*, under the leadership of Maj. Gen. G.S. Jamwal, Shri Ashok Sharma, President, Enviro-Legal-Action, and Maj. Gen. J. S. Jamwal, President of the Association for Welfare and Rural Education (AWARE) (both NGOs), have been vital in creating environmental awareness among the people and senior government forest officers.

J&K Forest Policy of 1990

In 1990, the State Government took the following policy decisions to conserve the remaining forests.

- Forests must be managed to ensure environmental stability and for the maintenance of ecological balance, and emphasis on direct economic benefits must be secondary to this principal.
- The Forest Department and the Social Forestry Project should strengthen their communication and extension wings. They will ensure people's participation in extension programmes and involve non-government organisations (NGOs) actively in their programmes.
- Improved and modern management practices should be adopted to deal with forest fires.
- More stringent restrictions on transportation of timber out of the state should be ensured.
- Proper compensatory measures to take care of the forest areas lost to accommodate other developmental projects must be ensured.
- A Forest Research Institute will be set up to deal with practical problems related to the protection, conservation, and development of forests; social forestry; the utilisation of forest products; and wildlife management.
- A grazing policy will be formulated for the state in order to regulate grazing in forest areas.
- The volume of timber extracted from the state forests will be reduced to a sustainable level to meet genuine local needs.
- Existing forest wealth will be protected with the help of an elite Forest Protection Force.
- Greater effort will be placed on the rehabilitation of degraded forests.
- The forest area should be expanded by converting available wasteland to forest.
- Sustainable provision of fuelwood and fodder to the local people should be ensured.

The present forest policy covers the entire forest areas owned and managed by the State of J&K.

People living close to forests enjoy certain concessions under the Kashmir Forest Notice of 1912 (Annex 1) and Jammu Forest Notice of 1912 (Annex 2). In lieu of the concessions, they are required to provide assistance to the Forest and Police Departments in forest protection.

There is no provision for handing over any forest area to a forest community or any group for protection, management, and utilisation of forest produce. But it is believed strongly that active participation of local people is essential for the protection of plantations.

In 1992, the government issued a notification SRO No. 61, the Jammu and Kashmir order on Joint Forest Management (JFM) (Annex 3), laying down procedures for sharing benefits between people and the Forest Department.

3 Joint Forest Management

From the beginning of forest management in J&K, certain provisions were made for rights and concessions of local people in demarcated forests, in lieu of which they were legally bound to co-operate with the Forest Department for forest protection. Although cooperation was made mandatory, in practice it has remained limited.

It was with the initiation of the World Bank-aided Social Forestry Project in the state in 1982 that implementation of the concept of people's participation took a new turn. This project included a provision for agreements with village *panchayats* for forest management. However, the concept was not immediately implemented, as procedures for involvement of *panchayats* and their roles were not clearly defined. The *panchayats* were dissolved in 1984, breaking the only direct link between people and the project. The project authorities then decided to organise people in such a way that they participated in the development of areas close to their villages. A few village forest committees (VFCs) were formed during 1987-88 in Tulibal in Kashmir and Chinota in Jammu. Encouraged by the favourable response, the Social Forestry Project made vigorous efforts and constituted many more such committees.

3.1 Management of Local Forest Areas

In J&K State, all demarcated forests are under the control of the Forest Department. Forests are protected and managed, and the yield is realised, by the Department. The Principal Chief Conservator of Forests is the Head of the Department.

The State of J&K is divided into two regions, Jammu and Kashmir, each headed by a Chief Conservator of Forests. Each region is divided into circles headed by a Conservator of Forests. In general, three to five forest divisions constitute a circle. A Divisional Forest Officer heads the forest division. Each division is further divided into ranges, blocks, and beats, under the control of a Range Officer, Block Forester, or Beat Guard, respectively.

The Social Forestry Project is engaged in plantation works in the state mainly outside demarcated forests. The Project Director, an officer of the rank of Chief Conservator of Forests, heads the Project. The project has administrative units similar to those in the regions, with divisions, ranges, blocks, and beats.

In 1990, following the National Forest Policy of 1988, the Ministry of Environment and Forests directed state governments to involve village communities in the protection and development of degraded forest areas. By then, many VFCs had been established in J&K State. The SRO 61 issued by the State Government in 1992 gave legal status to the local committees, and since then committees have been constituted according to the provisions of these rules. So far more than 1,000 VFCs have been formed in the state. Two categories of area are distinguished under this order.

- Category A: Certain identified degraded forest areas in demarcated forests under the control of the Forest Department.

- Category B: Wastelands, community lands, and undemarcated forests (not under the control of the Forest Department).

Rehabilitation of degraded forests is undertaken by both the Forest Department and the Social Forestry Project, whereas plantations on community lands (like *khalsa, sarkar, kahcharai*, and *shamlat* lands) and government land outside demarcated forests are only done by the Social Forestry Project. Thus under SRO 61 Category A areas are being rehabilitated both by the Forest Department and the Social Forestry Project, and Category B areas only by the Project.

The objective is to raise village woodlots on Category B land to meet the fuelwood, fodder, and small timber requirements of local people, with their active participation in the regeneration, maintenance, and protection of plantations.

There is a great grazing pressure on land both from migratory grazers and from local livestock. The livestock owners are not in favour of closing areas for plantation; particularly migratory grazers, because it creates a hurdle to the movement of their cattle. Both the Department and the Project are facing great difficulties as a result of the non-availability of land to establish plantations.

There are standing instructions for Foresters and Forest Guards to find areas under their jurisdiction for plantation while performing their normal duties. Normally Foresters and Forest Guards seek the most influential people in their area and enlist their help in finding suitable areas for plantation. This starts an interaction between the staff and people residing near the selected areas. Sometimes people themselves approach field staff for such programmes. After regular interactions, a formal meeting is organised which is attended by a senior officer such as a Range Officer or a Divisional Forest Officer.

The senior officer addresses this group on the need to protect the forest and issues relating to the environment. The contents of SRO 61 are explained and the benefits to local people discussed in detail. The Department performs this kind of activity throughout the year. If a consensus is reached, the area is taken up for afforestation. The village elects an executive committee consisting of representatives of different groups in the village. Up to now, nomination by consensus has been the norm.

Six months before the close of the financial year, the government indicates the next year's plan. An annual plan is prepared, and agreements with village committees are signed. Fieldwork starts in consultation with the local committee after approval of the annual plan.

Village (Rehabilitation of Degraded Forests) Committees are constituted for protection and management of plantations in Category A areas, and Village Plantation (Protection and Management) Committees for those in category B areas.

3.1.1 Village (Rehabilitation of Degraded Forests) Committees

These committees are intended to assist the Social Forestry Project or the Forest Department in the selection of sites and of species to be planted. The committee members assist the department in the execution, protection, and management of plantations on forest land and prepare operational plans.

Members of the committee are entitled to collect products such as grass, fodder, and dry and fallen wood, free of royalty, with the permission of the Block Forester.

After consultation with all its members, the committee will share a minimum of 25 per cent of the proceeds from the sale of the produce from the first major harvest of the plantation in cash or kind among the members after deducting the costs incurred by the Forest Department. The Forest Department or the Social Forestry Project raises, protects, and maintains the plantations. Members are entitled to share the produce on the condition that they assist the Department in the protection of the plantations.

3.1.2 Village Plantation (Protection and Management) Committees

The functions of these committees are the same as those of the Village (Rehabilitation of Degraded Forests) Committees. The only difference is that the cost of planting, maintenance, and protection is borne by the Social Forestry Project for the first five years. Thereafter, management and protection of the plantation will be the responsibility of the Village Plantation (Protection and Management) Committee.

The Social Forestry Project will continue to monitor the management of plantations even after they have been taken over by the village committees. When the first major harvest is made, the Social Forestry Project will recover its costs (except the cost of seedlings) from the sale of fuelwood, timber, and/or poles, and the cash balance will be given to the committee. The committee will utilise the funds for replanting the area, for financing the establishment of additional woodlots, or in any other way for the benefit of the community.

3.2 Performance of Village Forest Committees

A study conducted on the village forest committees by the Society for Promotion of Wastelands Development has found the following.

- Protection of the areas has been excellent.
- Distribution of immediate needs from the closed areas has so far been effective in establishing the credibility of the Department. The distribution system shows that scarce resources have been distributed equitably, whereas the distribution of surplus has been based on consensus.
- The performance of the committees has been uneven in terms of the role played, and variability in performance is linked to the quality of interaction between the Department and the committees.
- Within the village community, the participation of different sections of the community has been unequal. Participation of the weaker sections of the society has been poor, and landless people, who are dependent on these plantations for their livelihood, may not be getting full benefits.

The results show that community participation has remained limited largely to protection. There has been some improvement in knowledge about work undertaken and some information about the rights, responsibilities, and management functions in the closed areas.

The World Bank, which supported the Social Forestry Project in J&K, has also highlighted the following major problems.

- Lack of leadership and interest in the village community
- Lack of a role and responsibilities for the participating community and of a policy on benefit sharing

The issues that have emerged, and that have to be solved for the continued and effective protection and management of planted areas, are as follow.

- The legal position of the village committees has to be made clear by clarifying the rights and responsibilities of all the parties concerned.
- The village committees need to be strengthened and should be capable of working as multifunctional agencies. They will need to be involved in the effective execution of management plans. This will require an environment of openness and information sharing by all concerned. At present, there is a pressure to generate employment by employing guards to protect plantations. This also indicates that the dependence of the rural population on forest resources is high. As an alternative, the income-generating capacity of a village community has to be ensured.
- The question of rights of nomadic grazers and the village community has to be resolved.

Creation of strong extension and training networks, formation of village forest committees, and preparation of joint management plans will play an important role in creating mass awareness and ensuring the effective participation of people in afforestation programmes. There should also be an adequate representation of women in social forestry programmes. The Social Forestry Directorate of J&K has initiated the formation of village-level forest committees in the state, in order to involve people in afforestation programmes, with a positive response.

3.3 The Role of NGOs in Joint Forest Management

Although there are many voluntary organisations working in the field of rural development in Jammu and Kashmir, there are few in the field of forestry. The following seven organisations are working for wasteland development and afforestation programmes in Jammu and Kashmir.

- The Himalayan Tree Society, Jammu
- The Tree Growers Society, Kathua
- The J&K Paryavaran Sanstha, Jammu
- Indian Council for Environment Legal Action, J&K Chapter
- The Himalayan Tree Farming Research and Demonstration Centre, Jammu
- The Common Cause Club, Poonch
- AWARE, Jammu

The extent of involvement of NGOs in the affairs of the state is insufficient compared to that of the Forest Department. Participation of NGOs in social forestry promotion in J&K needs to be enhanced.

3.4 The Potential for Joint Forest Management in Jammu and Kashmir

J&K faces great problems of poverty and unemployment of the people living around forest areas. People have many grievances against the Forest Department and the government as a result of earlier policies. There may be many other reasons for the ongoing militancy in the state, but one of the important causes is unemployment.

The last fifty years' experience shows that development with external financial assistance is not sustainable, and that development of local capabilities to improve financial resources is the best approach. Foreign financial assistance should only be used for technical know-how, education, training, and creation of infrastructure.

The state has a number of favourable factors for the promotion of JFM and community development. These include the availability of vast forest areas, experience of social forestry promotion over the last 15 years, a large pool of unemployed people living around the forests, and streams flowing through the forests.

If the government frames its policy for joint ventures with local people for planning, protecting, managing, and harvesting forest resources, there is great potential for raising medicinal plants, herbs, grasses, and shrubs of indigenous flora. This will not only create employment, it will also be a big source of income generation. To start with, a small pilot project can be initiated first, and the entire state then covered in a phased manner.

4 Human Resource Development

Although the Joint Forest Management order (SRO 61) was introduced six years ago in J&K, it has not been widely promoted because of the disturbances in the state over the last seven years. Regular activities of the Forest Department came almost to a halt in the entire Kashmir region and many parts of Jammu between 1989 and 1996 because of the poor peace and order situation. During these years, the state remained under the Governor's rule, and then under Presidential rule until September 1996. All this time, the government was fighting a proxy war with militancy, and its main attention was focused on the law and order situation.

Notwithstanding the difficult situation, the Social Forestry Project organised a state-level Joint Forest Management workshop at Patnitop in May 1994, at which an attempt was made to raise the awareness of local people on Joint Forest Management. A district level workshop was then organised at Udhampur in December 1994, as a follow-up to six village-level workshops held in the district. The intention of these workshops was to provide a forum for introspection and exchange of ideas between villagers and field staff at the grass roots' level for better understanding of JFM processes in general and SRO 61 in particular. Many valuable suggestions emerged in these workshops. Later, similar district-level workshops were organised in Kathua and Jammu districts.

4.1 Institutions for Human Resource Development

4.1.1 Universities and Colleges

The major Universities in J&K are Jammu University, Kashmir University, and the Share-i-Kashmir University of Agriculture, Sciences and Technology. These universities, and the colleges affiliated with them, provide learning opportunities in arts and sciences. A number of universities, and colleges affiliated with them, conduct seminars and symposia on environmental awareness and various related issues. These institutes are quite unaware of the Joint Forest Management concept, however, which has not yet been included in their curricula.

4.1.2 Government Training Institutions

Various government offices and departments have training institutes at the field level which impart relevant training to lower- and middle-level professionals.

Kashmir Forestry Training School, Chittarnar, Kashmir

The Kashmir Forestry Training School is located near Bandipur at Chittarnar. This institution was established in J&K State prior to the independence of India. The Institute provides in-service training to Foresters, and occasionally training for Deputy Foresters and Forest Guards.

A Deputy Conservator of Forests or Senior Assistant Conservator of Forests heads the school. He is assisted by two Forest Rangers and other supporting staff. Every year 20 to 25 Foresters are trained at this institute. The course curricula are shown in Table 4.1.

Soil Conservation School

The Soil Conservation School is situated at Miran Sahib, about 14 km from Jammu. It has a hostel, a museum, and a library.

The school provides in-service training on soil and water conservation to Foresters of the Forest Department and to candidates of the level of Sub-Assistant deputed from the Agriculture and Rural Development Department. The school has also started a course in forestry for Deputy Foresters and Foresters.

An officer of the rank of Deputy Conservator of Forests or Senior Assistant Conservator of Forests heads the school. He is assisted by Forest Rangers and other supporting staff. Some of the courses offered in the school are shown in Table 4.2.

The Forest Guards' School

The Forest Guards' School is located about 30 km from Jammu at Doomi (Akhnoor) on the banks of the river Chenab. Forest Guards are provided with six months in-service training in various topics as shown in Table 4.3.

Other Courses

The forestry training schools have recently been improved to impart special training to Foresters in computer applications. Special courses are being organised for new recruits to the Forest Protection Force, which was recently set up in J&K. The schools have the potential to cater to the special training needs for JFM and other emerging areas in forestry. The Indira Gandhi National Open University has expressed an interest in starting a study centre especially for JFM at the Forestry School, Miran Sahib, Jammu.

Table 4.1: Course Curricula at the Kashmir Forestry Training School

Courses	Laboratory Work Includes	Field Excursions Include
Siliviculture and Management Forest Engineering Forest Utilisation Forest Laws and Accounts Forest Protection Wildlife Management Forest Botany Soil Conservation	Identification of NTFP Identification of geological and entomological specimens Identification of barks, seeds and fruits Seed testing Logging operations	Field botany Nursery practices Use of survey instruments Depots and saw mills Industries and factories Tours are conducted within and outside the state.

Table 4.2: Courses Offered at the Soil Conservation School

Courses	Study Tours
Soil Conservation Soil Conservation Practices Biological Measures in Soil Conservation Forestry and Soil Conservation Agronomy Afforestation Soil Science Practical and Field Study in Soil Conservation Soil Conservation Laws	Within the state: Kathua, Billawar, Udhampur, National Highway, Kashmir Valley, and other districts Outside the state: Hoshiarpur, Mandi, Sunder nagar, Indo-German Agricultural Co-operative works in Himachal Pradesh, Pinjore, Chandigarh and the Punjab, Bhakhra Nangal Project, Forest Research Institute, Dehradun, Soil Conservation Training Centre, Dehradun, Indian Agricultural Research Institute, New Delhi

Table 4.3: **Course Offered at Forest Guards School**	
Elementary Silviculture • Identification of forest trees, herbs, shrubs, climbers, and grasses • Natural regeneration and dispersal of seeds • Nursery techniques/cultural operations • *Departmental works* • Including disposal of felling refuse, debris burning, controlled burning, sowing and planting, and demarcation	*Mensuration* • Measurement of standing trees, instruments, callipering rules, height measurement, log and scant measurement *Utilisation* • Marking of trees (types of marking, felling coupes, coupe register, and entries) • Types of felling damage • Stump counting • Resin tapping • Minor Forest Products'(MFP) collection

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Part 5

Participatory Forest Management: Implications for Policy and Human Resources' Development in Uttarakhand Himalayas, Uttar Pradesh, India

M. C. Ghildiyal

1 An Introduction to Uttarakhand

1.1 The Land

Paurnic scriptures refer to Uttarakhand as *Kedarkhand* and *Dev-bhumi*, which means the seat of the gods. This region is richly endowed with many natural bounties and thus has always been attractive to travellers. The total land area of Uttarakhand is 51,125 sq.km., which constitutes 17.4 per cent of the area of its parent state Uttar Pradesh (UP). Uttarakhand is divided into two revenue divisions, Kumaon and Garhwal, with a total of twelve districts, Almora, Pithoragarh, Nainital, Pauri Garhwal, Chamoli, Tehri, Dehradun, Uttarkashi, Deo Prayag, Bageshwar, Champawat, and Udham Singh Nagar. The four districts of Deo Prayag, Bageshwar, Champawat, and Udham Singh Nagar were only created recently, thus to avoid any confusion and overlap in this paper, all statistics are quoted in terms of the original eight districts.

This part of the Himalayas not only has a unique topography, soil, climate, flora, and fauna, but also a rich cultural diversity. In the scriptures this region has been referred to as the domain of *Pandavas*, or *Panchal Desh*. Evidence suggests that despite cold climatic conditions and rugged mountain tracts, this region has always been settled even in its remotest parts. Many rulers, kings, and dynasties have ruled the area. About 500 years ago, the area became divided into the two distinct regions of Kumaon and Garhwal. Today Kumaon comprises the districts of Pithoragarh, Almora, Nainital, Udham Singh Nagar, Bageshwar, and Champawat; and Garhwal those of Chamoli, Dehradun, Pauri, Tehri, Uttarkashi and Deo Prayag.

1.1.1 Uttarakhand: Longitudinal Zones

Uttarakhand lies between 29°5' N and 31°25' N and 77°45' E and 81°0' E. The whole area can be divided into five altitudinal zones.

Siwalik and *Terai*

The southern boundary of Uttarakhand is formed by the outer zone of the Siwalik Hills, which run almost parallel to the main Himalayas, and the lower valleys (Doons) in Garhwal and the *Terai*-Bhabar region (below 600 masl) in Kumaon. The area runs along the Himalayan foothills and is about 450 km long from east to west and about 12 to 60 km wide from north to south. The lower regions, known as the *Terai*, are fertile areas with mixed forests and swamps. The *Terai* has thick sal forests and grasslands, and the Bhabar area has dry sal forests with many broad-leaved species.

Lesser Himalayas

This region can be divided into a lower hill and an upper hill region.

The Lower Hill Region lies at 600 to 1,800 masl. It is the most densely populated region of Uttarakhand. Broad-leaved species and chir-pine forests are found in this area. Vast areas have been cleared in the past for human settlement, cultivation, horticulture, and other development work. Pressure on the forests is high because

people mainly depend on them to meet their fuel and fodder needs. Water is plentiful, a striking feature of the area, and there are many brooks and rivulets.

The Upper Hill Region lies between 1,800 and 3,000 masl. This region is mainly covered with oak and *deodar* forests. Villages are sparse compared to the lower regions, but the demographic pattern is changing fast as most tourist spots are located here. There has been an increase in the number of tourist hotels and an influx of people from the lower areas for employment, particularly in the Kumaon hills. Rainfall is somewhat lower than in other parts, but broad-leaved oak forests have given rise to a rich soil, especially in the northern aspects, and vast tracts of once rich oak forest areas have been converted into agricultural fields, mainly for potato production. People largely depend on forests for their fuel, fodder, and other minor forest product needs. Nomads from the lower areas move to these areas with their cattle for summer grazing.

The High Altitude Region

This area lies between 3,000 and 6,000 masl and is thinly populated. The most striking feature is the mainly green flat land known as *bugyals*. The *bugyals* are covered with snow during winter, but in summer hoards of nomads and their animals (sheep, goats, cows, and buffaloes) arrive here for grazing. This zone is very rich in medicinal plants and has fir, spruce, blue pine, and *Taxus* trees in the lower regions and birch and juniper trees in the middle regions. There are many shrines and the area is subject to heavy tourist pressure during the summer. Many makeshift restaurants and hotels mushroom between February and June every year, and this places a heavy pressure on the forest resources. *Bhojpatra* and *Thuner* (*Taxus baccata*) wood is usually burned. Vegetation is very sparse above 4,510 metres, and above this height the mountains remain covered with snow throughout the year.

The Great Himalaya

The high mountains lie above 6,000 masl. The prominent peaks in this area are Nanda Devi (7,818 masl), Trishul (7,122 masl), Dunagiri (7,068 masl), Bhandar Poonch (6,315 masl), Kedarnath (6,940 masl), Nandakot (6,861 masl), and Gangotri (6,672 masl). The glaciers of Pindari and Milam, the enchanting Valley of Flowers, and the Nanda Devi sanctuary are also located here.

Upper High Altitude Region

The northernmost region of Uttarakhand is part of the rain-shadow area of the high Tibetan plateau along the border with Tibet (China). This region consists of deep gorges, stones, barren areas, and snow. The main passes are Lepu Lekh (4,983 masl), Darma (5,642 masl), Kungari Bingrih (5,578 masl), Shalshal (1,515 masl), and Niti (5,044 masl). They are important trading routes. Rivers like the Alaknanda, Bhagirathi, Yamuna, and their tributaries have their origins in this region.

1.2 The People

Uttarakhand has always attracted settlers. In earlier times, these settlements were scattered and less dense, but over the years migrants from many different parts of the country settled here. The Shilpakars, locally known as Dom, are thought to be the aboriginal people of the area. And there are a few more tribes like Tharus and Boaksas whose social milieu is intricately interwoven with the forest, and who still lead a lifestyle in which their whole sustenance is from the forests. The Khasas, a nomadic tribe from Central Asia, entered the area from the north-west and were driven into the Himalayas during the thirteenth century. Between 254 AD and 1791 AD, many warriors from the plains, mainly the central Indian states of Maharastra, Gujrat, Madhya Pradesh, Rajasthan, and Delhi but also from Bengal and South India, came to this region to seek refuge. Bhotias from the border districts of Chamoli and Pithoragarh migrated in from Tibet during the seventh century.

The Katyris ruled the area from the latter half of the seventh century AD up to the twelfth century AD. The Mallas of Western Nepal then overpowered the Katyris, and the thirteenth century saw the advent of many smaller states,

prominent among them the Chandhas in the east and the Pamvaras in the west. In the late eighteenth century 'Kumaon' and in the early nineteenth century 'Garhwal' were ruled by the Gorkhas of Nepal, who in turn were overthrown by the British in 1815. With the exception of Tehri Garhwal, which was allowed to remain an independent state under the Pamvara rulers, the British annexed all of Garhwal (Pauri Garhwal) and Kumaon. In 1839, Garhwal was organised into a separate district with the headquarters at Pauri. The process of reorganisation was completed by the end of 1968, when the two separate divisions of Garhwal and Kumaon were created with their headquarters at Pauri and Nainital respectively.

The total population of Uttarakhand between 1901 and 1991, the overall rate of growth, and the rate of growth in rural areas, are shown in Tables 1.1. In 1991, according to the census, the total population of the region was nearly 6 million, about 4.2 per cent of the total population of the state of UP. The population growth statistics between 1901 and 1951 show a steady increase of 9 to 11 per cent per decade. After this the rate more than doubled and has remained high.

The population is concentrated in the central part of Uttarakhand, the northern part has a harsh climate that limits human settlement and agriculture, and the southern part is largely forested. The central zone has good soil, perennial water sources, and a fair climate. About 50 per cent of the total rural population lives in Kumaon. Nainital has the highest proportion of population in any district (20.8%), followed by Almora (17.9%), Pauri Garhwal (14.5%), Tehri (12.3%), Pithoragarh (11.7%), Dehradun (9.8%), Chamoli (8.5%) and Uttarkashi (4.5%). Apart from Nainital, the new district of Udham Singh Nagar, and Dehradun, the districts are largely rural - with urban populations ranging from 4 to 9 per cent, compared with 18 per cent in UP State.

The 1991 census report shows that about 60 per cent of the population is engaged primarily in agriculture. Agriculture, with an emphasis on animal husbandry, has always been the main occupation in the area. Arable production cannot support the households because the landholdings are very small and the agriculture is mostly rainfed, and villagers keep large herds of sheep, goats, cows, and other domestic animals which are almost totally dependent on the nearby forests for fodder. The livestock population increased by 12.5 per cent between 1982 (4 million) and 1993 (4.5 million). The human and livestock population densities in the area are shown in Table 1.2.

As a result of the increasing population, the division of land continues unabated and farmers find it difficult and uneconomical to work so hard for such a limited output. Previously a system of bartering of labour and cooperative farming was practised. But now farmers find it difficult to produce sufficient grain for their own consumption, and the majority have to rely upon part-time work like road construction, road

Table 1.1: **Growth of Population in Uttarakhand (1901-1991)**

Census Year	Total Population	% Increase	Rural Population	% Increase
1901	1,650,087	-	15,55,527	-
1911	18,30,822	10.95	17,08,910	9.86
1921	18,19,881	-0.60	16,89,767	-1.12
1931	19,77,065	8.64	18,46,786	9.29
1941	22,41,498	13.38	20,52,615	11.15
1951	25,18,355	12.35	22,26,699	8.48
1961	31,06,356	26.51	27,31,328	22.66
1971	38,22,010	23.04	33,31,023	21.96
1981	48,48,403	26.85	39,60,852	18.91
1991	59,26,146	22.22	46,40,209	17.15

Table 1.2: **Population Density in Uttarakhand in Relation to Geographic and Forest Areas**		
Population Density	Density with Respect to Geographical Area	Density with Respect to Forest Area
Human population per sq. km.	116	173
Number of livestock per sq. km.	88	190
Source: Forest Statistics (1997)		

maintenance, and seasonal work with the Forest Department to secure their living. The increasing population, and lack of adequate employment opportunities, have led to marginal lands and sub-marginal lands that used to be pasture being used for agriculture. Food grain has to be brought from the plains to supplement the meagre agricultural production.

A large part of the population, especially men, are employed in the plains in the army and many other jobs. As a result, women play a key role in fuelwood and fodder collection and agricultural activities, in addition to undertaking household chores and the care of children. Often girls have to leave school because of the pressure of household chores, especially the labour intensive activities of collecting water, fuelwood, and fodder. As a result of the marginalised agriculture and insufficient production, remittances from the male members of households are very important. The impact of this heavy workload on the life expectancy and quality of life of women in the middle hills is severe. Even so, male and female literacy are both 60 per cent or more, higher than the UP state average.

The *panchayat* institution has been strong in the hills and deals with such things as social disputes and arrangements for festivals.

1.3 The Forest

The official figure for the total area of forest and the area under different types of administration are shown in Table 1.3, and the amount in different districts in Table 1.4. The total area classified as forest is 34,247 sq. km., but only 40 per cent of this (or 13,700 sq.km.) actually has any vegetation, and the remainder includes about 10,400 sq. km. of snow-covered and rocky areas. The main forest species are oak, chir, and sal, which constitute about 18, 17, and 13 per cent of the total trees respectively.

Table 1.5 gives a summary of the overall condition of the forest area under the control of the Forest Department.

Table 1.3: **Uttarakhand Forest Area**		
Classification	Area (sq.km.)	Remarks
Total land area of Uttarakhand	51,125	17.37 % of UP state
Total Forest area in Uttarakhand (legal)	34,247	67.00 % of Uttarakhand
Total forest area under the control of UP Forest Department	23,668	69.1% of total forest area
Total forest area under the Revenue Department (Civil Soyam Forest)	8,014	23.4 % of total forest
Total forest area under community forests (*van panchayat*)	2,368	6.91 % of total forest
Cantonment, municipality, and private forest lands	197	0.57% of total forest area
Source: Uttar Pradesh Forest Statistics, 1994		

Table 1.4: **Uttarakhand Forest Area Statistics by District (in sq.km.)**						
District	Total area of district	Forest under the Forest Dept.	Civil Soyam	*Van Panchayat*	Private	Total Forest Area
Almora	5,385	1,472	1,821	628	1	3,922
Pithoragah	8,856	1,378	1,210	715	-	3,302
Nainital	6,794	3,614	192	207	22	4,035
Garhwal	5,440	2,403	1,806	296	6	4,512
Chamoli	9,125	3,639	1,043	522	-	5,203
Tihri	4,421	2,694	1,278	-	-	3,972
Dehradun	3,088	1,513	516	-	169	2,198
Uttarkashi	8,016	6,955	148	-	-	7,102
Total	51,125	23,668	8,014	2,368	198	34,247
Source: UP Forest Statistics, 1994						

1.3.1 Forest Types

The forests of Uttarakhand can be classified into three broad categories.

Sub-Tropical Deciduous Forest

These forests are found below 1,200 masl in the sub-Himalayan region and can be further divided into two types: moist deciduous forests and dry deciduous forests. The moist deciduous forests are found mostly in the *Terai* region. The major species are sal, teak (introduced), and *sissoo*. Large grassy patches with *semal* trees and marsh are a special feature of the area. Bamboo is also found in wetter places. The dry deciduous forests are found in the western *Terai* and some sub-Himalayan zones in Garhwal and Bhabar in Kumaon in areas with a long dry season. The main species are sal, *sissoo*, and *khair*.

Table 1.5: **The Quality of the Forest Area under the Forest Department**	
Forest Condition	Area (in sq.km.)
Usable and productive	11,901
Inaccessible	1,058
Low density forest	942
Plantation	616
Plantable area	888
Riverine area	171
Grassland/open area	1,780
Very low density	810
Snow-clad area	3,080
Rest	2,403
Total	23,668

Temperate Forests

There are two distinct types of temperate forest in Uttarakhand: moist temperate forests and dry temperate forests. Moist temperate forests are generally found between 1,800 and 2,800 masl, but can extend from 1,500 to 3,500 masl on valley slopes where the annual rainfall exceeds 150 cm. Chir is the dominant tree species in many places; broadleaved species such as *ayar*, *mehal*, and *kaphal* are found in association with chir on north-facing slopes where the soil is deep and there is more soil moisture. A banj oak zone forms the lowest forest belt, and *kharsu* oak occupies the highest zone. *Deodar* and fir trees are found at high altitudes. Dry temperate forests, with *deodar*, oak, and maple, are found on the leeward sides of hills where the annual rainfall is less than 100 cm. They occur in scattered locations in Pithoragarh and Chamoli districts.

Alpine Forest

The alpine forests can be sub-divided into three types: sub-tropical pine forest, sub alpine/moist alpine forest, and dry alpine forest. The main tree species found at different altitudes are silver fir (*Abies pindro*), blue pine (*Pines excelsa*), spruce (*Picea smithiana*), cypress (*Cupressus*

torulosa), *deodar* (*Cedrus deodara*), and rhododendron. Blue pine and spruce are mainly found in Garhwal. The potential range of cyprus and *deodar* is between 2,015 and 3,100 masl on northern aspects. Dry alpine scrub is found in Uttarkashi, Chamoli, Tehri, and Garhwal districts. In some places, birch and alpine pastures are interspersed with sub-alpine and dry alpine forests.

1.3.2 Distribution of Forests

The proportion of forest at different altitudes is shown in Table 1.6, and the major tree species in Table 1.7.

The *Terai*, Bhabar, lower Siwalik, and Dun Valley areas, which lie below 600 masl, contain 25 per cent of the total forest area. The next higher belt of forest contains mainly chir and oak forests and constitutes about 67 per cent of the total forest area. This belt is the most threatened from an ecological and conservation point of view, because of human settlement and tourism and the resultant biotic pressure.

1.4 People and the Forest

The rural communities in Uttarakhand draw almost all their sustenance from forests. The forests provide fuelwood, water, supplementary wild food (such as wild fruit, honey, and mushrooms), medicinal herbs, timber for home construction and agricultural implements, and inputs for agriculture, horticulture, and livestock rearing. Those urban people who do not live in close proximity to the forests, also depend on them indirectly.

According to one study, each kilocalorie of agronomic yield in Uttarakhand requires the expenditure of 7 kilocalories of energy from adjoining forests. Another study estimated that in Uttarakhand about 15 ha of forest were required to maintain one hectare of agricultural land on a sustainable basis. This ratio has been under constant stress as a result of the dwindling quality of the forests, overgrazing, and the extension of agriculture on to marginal and unproductive lands. A study done in Chamoli district showed that to maintain the forests the

Table 1.6: The Distribution of Forest Area in Uttarakhand by Altitude

Altitude (masl)	% Total Forest Area	Altitude (masl)	% Total Forest Area
Below 300	12.8	1500 - 1800	11.8
300 – 600	12.3	1800 - 2100	9.9
600 – 900	7.9	2100 - 3000	18.9
900 – 1200	8.4	3000 - 3450	7.5
1200 – 1500	10.5		
Total			100.0

Table 1.7: The Major Tree Species in Uttarakhand Forests

Species	Percentage
Pinus roxburghii	17.0
Quercus leucotrichophora	12.5
Shorea robusta	12.3
Low level misc. spp	11.1
Quercus floribunda and *Q. smithiana*	5.1
Abies pindro and Picea smithiana	3.6
Plantations	3.3
Populus ciliata	1.2
Cedrus deodara	0.8
Pinus wallichiana	0.7
Acacia catechu	0.6
Cupressus torulosa	0.3

Source: Forest Statistics, 1994

ratio between the total number of animals (in cow units) and land available should not exceed 0.41 cow units. The situation in Garhwal division provides an example of present day practice. The total number of animals according to the 1988 census is shown in Table 1.8. The total suitable forest area in Garhwal division is 263,000 ha, thus the ratio of animals to land area is 1.37 cattle units, more than three times the carrying capacity, and it is increasing every year as a result of the dwindling quality of the forests. This situation is not very different in other areas of Uttarakhand.

The scenario in *van panchayat* and Civil Forests is still worse because of overuse and easy accessibility. There are sporadic examples of good conservation efforts being made by *van panchayats*, but these measures have only been possible because of extraction of forest products from adjoining Reserve Forests.

The people of Uttarakhand have enjoyed rights and concessions on forest produce for domestic needs from historical times. Before the advent of British rule in the area and the introduction of regulated forestry, people had unlimited rights with open access to all forest areas. During the Katuri and Chand dynasties, it is said that the forests were managed as public property and everybody had equal rights to them. Before British rule, the only regulations of people's rights in forests and to forest products were those related to customs, but these were adhered to strictly because of religious faith and the fear of social sanctions. These customary rights continued to be exercised by local people even after regulatory guidelines on forest management were imposed by the British because the population was small, infrastructure was not developed, and forest produce was available in plentiful supply. Now rising needs and demands have led to reckless degradation of forests in areas outside Reserve Forests, and adverse effects on Reserve Forests in close proximity to villagers.

At present, villagers have a right to enter almost all categories of forest to collect fuelwood and fodder. In the Reserve Forests, it is the duty of the forest guard to regulate grazing, fodder, and fuelwood collection from the viewpoint of scientific management and according to the prescriptions of the working plan. But it is difficult for a forest guard to control the vast areas under his control, and he/she is likely to be confronted by social sanctions and public wrath if he/she tries to stop illegal grazing and collection of fuel and fodder.

The commercial use of forests dates back to 1850 when the *deodar* forests of Yamuna Valley were leased to contractors for the production of railway sleepers. During World War II, the forests were exploited commercially to meet the timber demands for defence purposes. After partition in 1947, forests were cleared in the *Terai* to help with resettlement of the influx of refugees. Forests have also been cleared for other development activities, especially in the foothills. Tables 1.9, 1.10, and 1.11 list the extent of various non-forestry uses of, or affecting, forest land in the *Terai*, and Table 1.12 shows some details of the area of forest land used for non-forest purposes in hill areas.

With the enforcement of the Forest Conservation Act 1980, the process of conversion of forest land for non-forestry use slowed down. Table

Table 1.8: Livestock Numbers in Garhwal Division

Livestock Type	No. of Animals According to 1988 Census	Cow Unit Equivalents	Total Cow Units
Cows	224,479	1	224,479
Buffalo	63,140	1.5	94,710
Sheep and goats	182,715	0.2	36,543
Others	2,837	1.5	4,256
Total	473,171		359,988

Source: Working Plan, Garhwal Division

Table 1.9: **Names and Size of Reservoirs on Forest Land**	
Reservoir	Area of Forest Land Used (ha)
Ramganga	8,391
Kaluwala	71
Pili	1,114
Tumaria	3,723
Kosi	41
Tumaria feeder	6.2
Baur	1,521
Haripura	903
Bhakra	16
Haldwani diversion channel	1.8
Behgul	2,210
Dhora	1,565
Survinadi barrage	13
Kutna canal	3
Nanak Sagar	1,073
Source: Rawat (1991)	

1.13 shows the total area of forest land in Uttar Pradesh given for non-forest use from 1980 to 1997.

Construction of big dams like the Tehri has sparked strong protest in the hills, not only because of environmental and seismological considerations, but also because these big projects affect local communities, and especially poor people. Such projects force them to vacate their ancestral homes and fields and adopt new lifestyles that are not always suitable. A big dam project called Pancheshwar over the Kali Nadi near Pithoragarh on the border with Nepal is being planned, but construction work has not yet started.

Some deforestation has also taken place to boost horticulture. In the sixties and seventies, there was considerable deforestation in the oak zone in Kumaon for apple production. However, this

Table 1.10: **River Valley Projects in Uttarakhand**		
Project (River)	Year(s) of Commissioning	Capacity (MW)
Khodri (Tons)	1983 - 1984	120
Dhalipur (Yamuna)	1965 - 1970	334
Dhalipur (Yamuna)	1965 - 1970	51
Chhibro (Yamuna)	1974 - 1976	240
Kulhal (Yamuna)	1974 - 1976	30
Maneri-Bhali-I (Bhagirathi)	1984 - 1985	90
Chilla (Ganga)	1980 - 1981	144
Kalagarh (Ramganga)	1974 - 1977	198
Khatima (Sharada)	1954 - 1956	41
Source: Kharkwal (1993)		

Table 1.11: **Projects under Investigation or Construction**		
Project	River	Anticipated Capacity (MW)
Vishnupryag	Alaknanda	360
Utyasu	Alaknanda	330
Pala-Maneri	Bhagirathi	400
Maneri-Bhali (Ph.II)	Bhagirathi	304
Tehri	Bhagirathi	2000
Koteshwar	Bhagirathi	400
Kishau	Tons	600
Lakhwar	Yamuna	300
Byasi	Yamuna	120
Katapathar	Yamuna	19
Khara	Asan	72
Tanakpur	Sharda	120

Table 1.12: **Forest Area Lost for Various Purposes in Hill Areas (sq. km.)**						
Year	River Valley Projects	Agricultural Use	Road Construction	Industry	Other	Total Area Lost
1951-73	932	799	34	193	199	2,155
1973-74	0.41	1.78	0.78	0.62	0.13	3.72
1974-75	0.02	38.95	3.33	0.41	1.86	44.57
1975-76	3.12	0.01	7.86	-	3.75	14.79
1976-77	87.32	2.89	1.45	0.23	8.54	100.43
1977-78	-	-	0.69	-	84.03	84.72
1978-79	-	0.07	-	39.99	4.29	44.34
Total area	1023	841	48	234	302	2,448
Per cent	42	34	2	10	12	100

Table 1.13: **Area Given in Uttar Pradesh for Non Forestry Use (1980 to 1996 - 97)**	
Period	Hectares
Up to 1980	230,005
1991 - 92	20,407
1992 - 93	308
1993 - 94	1,145
1994 - 95	1,014
1995 - 96	188
1996 - 97	516
Source: Forest Statistics (1997)	

process has now stopped. In 1991, the total area of apple orchards in Uttarakhand was 23,342 ha. Oak forests were also exploited until the early seventies for charcoal production.

2 Forest Acts, Policies and Land Settlements

Uttarakhand is a part of the State of Uttar Pradesh of India. Forest management in the region is affected by Forest Acts and Policies that apply to the whole country as well as by those specific to the state of Uttar Pradesh.

2.1 Historical Timeline of Development of Forest Acts and Forest Policies

Table 2.1 provides a chronological history of the evolution of forest acts and policies.

Table 2.1: **Historical Timeline of Development of Forest Acts and Forest Policies in the Uttarakhand Area**

Year	Name of the Act or Policy
1855	The **Charter of Indian Forestry**, August 1855. This charter was intended to restrict and regulate the unchecked exploitation of forests by private individuals.
1865	The **Indian Forest Act of 1865**. This Act emphasised protection of forests and judicious use of timber. However, prevalent usages were conceded as rights, justifying the creation of government reserves. This act indicated the start of objective-oriented forestry, with greater control by the state over forest resources that had earlier been open for public use.
1878	The **Indian Forest Act of 1878** replaced the 1865 Act. Under this Act, forests were categorised into Reserve, Protected, and Village Forests. The basic aim of the Act was to remove local rights in the Reserve Forests and keep them exclusively as government reserves. Protected Forests were those forest areas where it was not possible to reduce local use, while Village Forests were to be assigned to villagers to fulfill subsistence needs. The Village Forests were to be created from parts of the Reserve Forests to meet the needs of the local communities and were to be managed by these communities under the supervision of the Forest Department. The latter provision remained largely unused until 1931 when it was used in Uttar Pradesh to constitute *van panchayats* or community forests. This Act was an extension of the government policy of establishing control over forests. It also made several provisions for the imposition of duties on timber. This duty later became one of the major sources of government revenue.
1894	The **Forest Policy of 1894**. The main features of the 1894 Policy were as follow. 1. Management of forests was promoted for the general well-being of the country.

Table 2.1: **Historical Timeline of Development of Forest Acts and Forest Policies in the Uttarakhand Area (Cont'd)**	
Year	**Name of the Act or Policy**
	2. The need for maintenance of adequate forest cover was recognised for the preservation of the climatic and physical conditions of the country and for the fulfillment of people's needs subject to the following conditions: • permanent cultivation should come before forestry; • the fulfillment of the needs of the local population at non-competitive rates, if not free, should override all considerations of revenue; • after the fulfillment of the above conditions, the realisation of maximum revenue should be the guiding factor. Although the 1894 Policy advocated the need to meet the needs of local communities, it emphasised maximising revenue generation, and in practice forest management became more and more revenue oriented. The policy also classified forests according to their primary function, that is protection, commercial production, minor forests, and pasture lands.
1894	The **Land Acquisition Act** was introduced.
1927	The **Indian Forest Act 1878** was **re-enacted**. This act contained all the major provisions of the earlier Act, the amendments made included those relating to the duty on timber. This Act is still in force, together with several amendments made by the State Government from time to time. Under Section 28 of this Act, provisions were made to create village forests within Reserve Forests or on any government-owned land.
1931	A government order on 13th July 1931 notified **a Set of Rules for the Management of Panchayat Forests** in Kumaon. *Van panchayats* could be formed in any areas within the *sal assi* settlement boundary of the village where the residents had rights.
1935	The **Indian National Park Act** was promulgated (UP Act No. 1 of 1935) and the first Indian National Park ('Heilly National Park', later renamed 'Corbett Park') was created in the foothills of the UP Himalayas.
1948	The **UP Private Forest Act of 1948** (UP Act No. VI of 1949) was introduced. This Act tried to regulate the use of land under private ownership with forest land, wasteland, or lands uncultivated for seven years or more and 50 acres or more in size. It also attempted to stop the use of forest lands for cultivation.
1952	The first **Forest Policy** after independence was announced (Resolution No. 13 - 1 / 52 F dated 12th May 1952). Even though the new policy emphasised the ecological and social aspects of forestry, it had clear signs of caution for the unrestricted use by village communities of the forests adjoining villages. It stressed that the needs of the local population must be met to a reasonable extent, but not at the expense of national interests. However, the ecological considerations envisaged in the policy were not followed, and in the following four decades there was a large-scale conversion of 'low value' mixed forest into 'high value' plantations of commercial species such as *Eucalyptus* and teak, especially in the *Terai*.
1972	The **Wildlife Protection Act** was promulgated. This Act tried to regulate hunting and promote conservation of endangered wild animals by classifying animals into various status levels under schedules framed under the Act.

Table 2.1: **Historical Timeline of Development of Forest Acts and Forest Policies in the Uttarakhand Area (Cont'd)**	
Year	**Name of the Act or Policy**
1972	The UP Government **UP Panchayat Forest Act 1972.** This used the provisions of Section 28 of the Indian Forest Act of 1927. "Formation of village forest. 1. The State Government may assign to any village community the rights of government to or over any land that has been constituted a Reserve Forest and may cancel such assignments. All forests so assigned shall be called Village Forests. 2. The State Government may make rules for the regulation and management of Village Forests; prescribing the conditions under which the community to which any such assignment is made may be provided with timber or other forest produce or pasture, and their duties for the protection and improvement of such forests. 3. All provisions of this act relating to Reserve Forest shall (so far as they are not inconsistent with the rules so made) apply to Village Forests." This law was applicable to Nainital, Almora, Pithoragarh, Garhwal, and Chamoli districts.
1974	The **UP Forest Corporation Act of 1974** was introduced (UP Act No. 4 of 1975). The main focus of the act was to create a corporation to: • undertake removal and disposal of trees and exploitation of forest resources entrusted to it by the State Government; • prepare projects relating to forestry within the State; • undertake research programmes relating to forests and forest products and render technical advice to the State Government on matters relating to forestry; • manage, maintain and develop such forests as are transferred or entrusted to it by the State Government; and • perform such functions as the State Government may, from time to time, require. However, ever since the establishment of the corporation, it has been primarily associated with the removal and disposal of forest products like timber and *tendu* leaves. In the hills, logging, removal, and disposal of all timber and small wood is allotted to the corporation by the Forest Department on a royalty basis.
1976	The **UP Resin and Other Forest Produce Act of 1976** (UP Act No. 13 of 1976) was promulgated. Under the provisions of this act, the tapping, sale, and purchase of resin were brought under total state control. State permission before transport, manufacture, or sale of resin products was also made mandatory.
1976	The ***Van Panchayat* Rule of 1972** was **amended**.
1976	The National Commission on Agriculture (NCA) advocated change from conservation-oriented forestry to a more dynamic programme of production forestry. Social forestry schemes were started on a large scale in the plains' areas of the state, but the old style of working continued in the hills.
1980	The **Forest Conservation Act of 1980** prohibited the use of forest land for non-forestry purposes. It also prohibited the establishment of plantations of horticultural crops, palm oil trees, or medicinal plants on forest lands without prior permission from the Government of India.
1981	On March 18 1981, **felling of green trees was banned** in UP hills above 1,000 masl. However the ban did not apply to trees to be felled to meet the demands of right and concession holders.

Table 2.1: **Historical Timeline of Development of Forest Acts and Forest Policies in the Uttarakhand Area (Cont'd)**	
Year	**Name of the Act or Policy**
1988	The **Forest Policy of 1988** was introduced. The policy gives a higher priority to environmental concerns than to earning revenue. It discourages monocultures and promotes mixed forests. Emphasis is also placed on satisfying the minimum needs of the people, especially tribal people, by providing fuelwood and fodder. This policy gives a clear indication of the need to involve people in the conservation of forests and forest resources.
1990	The **Government of India** issued a **resolution** on 1st June 1990 making it possible for the Forest Department to involve people in the management of forests and to share economic benefits with the communities.
1991	The **Wildlife Protection Act of 1972** was **amended**. In addition to including stringent conservation rules and provisions, the hunting of any wildlife for game purposes was banned.
1997	The **Uttar Pradesh Village Forest Joint Forest Management Rules of 1997** were promulgated under Section 28 of the Indian Forest Act of 1927. This Act allows direct economic benefits to the beneficiaries from forest management, in contrast to the *van panchayat* rules in which any benefit is given to the *van panchayat* body which can use the fund for the growth and upkeep of the jointly managed forests.
1997	The **Draft *Van Panchayat* Rules 1997** were prepared to replace the 1976 Rules and are under consideration by the State Government.

The timeline of development of forest acts, policies, and land settlements, clearly shows that the government has been increasingly concerned about the conservation of the country's forests. Although no separate policy has been announced for the hills, specific references have been made within the general forest policy of the country. For example, the 1952 policy emphasised the need to halt the denudation of forests in the hills and for conservation of catchment areas of rivers and other water resources. However, this policy was not followed because of the ever-increasing demand for construction of roads, irrigation canals, and hydro-electric projects in the Himalayan region. The current policy of 1988 has made the following recommendations for the hill areas.

- "Existing forests and forest lands should be fully protected and their productivity improved. Forests and vegetative cover should be increased rapidly on hill slopes, in catchment areas of rivers, lakes, and reservoirs, around ocean shores and on semi-arid and desert tracts." (3.1)
- "The national goal should be to have a minimum of one third of the total land area of the country under forests or tree cover. In hill and in mountainous regions, the aim should be to maintain two thirds of the area under such cover in order to prevent erosion and land degradation and to ensure the stability of the fragile ecosystem." (4.1)
- "Schemes and projects which interfere with forests that clothe steep slopes, catchment areas of rivers, lakes and reservoirs, geologically unstable terrain, or such other ecologically sensitive areas, should be restricted." (4.3)

The process of framing policies and enacting various Acts has been top-down. From the stakeholders' point of view, the policies and acts have been regulatory in nature resulting in restrictions on access to natural resources. Although people's demand for forest products was taken care of during settlement operations, the demand was restricted to varying degrees depending on the local conditions.

3 Community Forestry (*Van Panchayats*) in Uttarakhand

The *van panchayats* of the UP hill areas are a testimony to innovative management techniques for natural resources. Local communities were involved in forest management in 1931, following many years of intense agitation and protest against the British policy of extending state control over forests. The Kumaon Forest Grievance Committee was set up to resolve the problem in 1921. The Committee recommended the creation of Class I and Class II areas among the new reserves. Class I Forests were under the control of the Civil Administration and further classified into Civil, Soyam, and *Van Panchayat* Forests. In July 1931, *Van Panchayat* Rules were introduced under the District Scheduled Act of 1874 and the formation of *van panchayats* was started. A more powerful Act, invoking the long neglected Section 28 (Village Forest Formation) of the Indian Forest Act of 1927, was made in 1972 and modified in 1976. At present the *van panchayats* are managed under this Act. However, as a result of the dual control of these forests by the Revenue and Forest Departments, the proper management and upkeep of forests, sustainable use, and full community involvement has not really been achieved under the *van panchayats*. In 1982, the UP Government set up the Sultan Singh Bhandari Committee to review the *van panchayat* Act of 1976 and to suggest ways for further consolidating the provisions of the Act. The committee submitted its report in 1983. Several meetings were held with *van panchayat sarpanches* between 1983 and 1988. The Commissioner of Kumaon then published a tentative draft rule for general public review and suggestions for enactment in 1989. The draft rules are still under the consideration of the government.

3.1 Current Legal Provisions, Functions and Procedures of *Van Panchayats*

3.1.1 Areas Where Van Panchayats Can Be Formed (Section 5)

A *van panchayat* can be formed on any government land within the *sal assi* boundary of a village, including Civil Forest, Class I, and Class II Reserve Forest lands.

3.1.2 Procedure for Forming Van Panchayats (Sections 6-10)

If a village wishes to form a *van panchayat*, the village assembly must pass a resolution with a two-thirds majority and submit an application to the sub-divisional magistrate (SDM) for registration. On receipt of the application, the SDM asks the *patwari* to conduct an inquiry and submit a report on the appropriateness of forming a *van panchayat*. The SDM then inquires among the villagers and residents of neighbouring villages if they have any objections. The inquiry made at this stage is meant to ensure that most villagers are willing to form a *van panchayat*, and that the rights of the villagers and neighbouring villagers are safeguarded. After following up on any objections, the SDM forwards the application with his recommendations to the district magistrate (DM). The DM then directs the forest *panchayat*

inspector (FPI), through the SDM, to hold an election to constitute a *van panchayat* committee of 5 to 9 members. The date, time, and place of the election are notified in the village through the chairman of the village assembly (*gaon sabha*) and the village *patwari*. Anyone who has the right to vote and fulfills the following requirements is eligible to stand for membership of the *van panchayat* committee. Candidates

- should be above 18 years of age;
- should possess good moral character and should not have had any court conviction for any crime such as cheating, or fraud;
- should not be a defaulter on a loan repayment to the *gram panchayat* or any other organisation;
- should not hold any position of profit in any government or semi-government organisation'; and
- should possess a sound mind and not be suffering from contagious diseases.

Once a *van panchayat* committee is formed, an *amin* (surveyor) is asked to survey the area of the *van panchayat* and prepare a map and a *khasra* (a document showing rights of possession and ownership of land). At the same time, the elected members of the committee frame laws under the direction of the FPI. All these documents are sent to the *forest panchayat officers* (FPOs) who, after scrutinising them, forward them to the DM who sends them to the commissioner for approval and sanction. All the expenditure incurred in the survey and preparation of maps and *khasra* is born by the villagers. The official forms used during the formation of *van panchayats* are listed in Table 3.1.

Under Section 11, the villagers are required to submit a draft working plan for the management of the forests. Under Section 13, the conservator and DFO concerned must be informed about the formation of a *van panchayat* once the process is complete.

Table 3.1: **List of Forms Used in the Formation of *Van Panchayats***

Form No.	Title	Description
:-	Petition	A petition from the village calling for formation of a *van panchayat*, signed by at least 2/3 of the adult residents of a village. Sent to the DFO.
KPF 5	Notice	Sent by the Sub-divisional Magistrate (SDM) via the *patwari* to the interested village and adjacent villages, apprising them of the proposed formation and inviting objections if any within 30 days.
KPF 8	*Karyalay, Van Panchayat Nirikshak*	From the SDM to the relevant *patwari*, asking for village information as per the 12 point schedule.
KPF15	Notice *(Suchna)*	From the SDM to the petitioning village, giving the date for demarcation of the *van panchayat* boundary and for hearing and settling objections of other villagers.
:-	*Khasra Hathbandi Van Panchayat*	The area of different categories of Reserve and Civil Forest included in the *van panchayat* and details of boundary pillars.
KPF 3	*Chunav patra*	List of the elected members and *sarpanch* of the *van panchayat* and signatures of residents on the reserve side of the form.
KPF 6	Agreement	Duties of the *van panchayat* (including registers to maintain) which are agreed to and signed by the *panches*.
CK 53	Form No. CK 53	Details of the *van panchayat* formation process (with dates), including checks on whether various steps were followed, sent to the commissioner for approval.
:-	*Yojna*	A management plan for the *van panchayat* and bye-laws for the *van panchayat* (standard), signed by the *panches*.

3.1.3 Functions of van panchayats

The members and *sarpanch* are elected for five years. At the village-level, a *van panchayat* committee headed by the *sarpanch* is the sole arbitrator for management of the *van panchayat* forest. The election to a *van panchayat* committee is conducted under the supervision of an officer nominated by the SDM. In most cases, members in *van panchayat* committees are represented in proportion to the number of households belonging to the *van panchayat*. All decisions are taken by a two-thirds majority. *The patwari* and a nominee of the DFO can attend the meetings, which are held every quarter, but they do not have any voting rights (Section 16).

Van panchayats, being under the administrative control of the Revenue Department, are supervised and regulated by the SDM or DM and their subordinates. However, the Forest Department is responsible for the preparation of working plans, marking of trees for auctions, resin tapping, and giving permission to extract non-timber forest products (NTFP). The officers in the two departments at different levels associated with *van panchayats* are summarised in Table 3.2.

According to the *Van Panchayat Niyamavali* of 1976, the *van panchayats* have the following responsibilities (Section 18):

- to protect and develop the forests falling under their jurisdiction;
- to fell only those trees that are marked by the Forest Department and that are silviculturally available;
- to distribute equally the (fresh) products among the right holders;
- to demarcate boundaries by building boundary walls, pillars, or similar, and to prevent encroachment of the forest land;
- to close 20 per cent of the area to grazing; and
- to protect forests from illegal felling and fire.

The *van panchayats* possess the following powers (Section 19).

- *Van panchayats* enjoy the powers of a forest officer.
- They can sell fallen twigs and grass for the bonafide domestic use of the right holders in the village with the prior approval of the DFO. They can levy and realise fines up to Rs. 50 and can compound cases up to Rs. 500 with the prior approval of the Deputy Commissioner.
- They can confiscate implements used for illicit lopping.
- They can impound stray cattle.
- With the previous approval of the DM, they can sell stolen timber and other stolen forest products seized by them.
- *Van panchayats* can issue permits for the collection of fuel, fodder, slate, and boulders and realise fees. However the approval of the Deputy Commissioner is required for removal or sale of any other kind of forest

Table 3.2: **The Different Levels of Officers in the Revenue and Forest Departments Associated with *Van Panchayats***

Level	Revenue Department	Forest Department
At the district level	District magistrate	Conservator of forests (CF) Divisional forest officer (DFO)
At the subdivision and *tehsil* levels	Subdivision magistrate (ex-officio) Forest panchayat inspector (FPI) Forest panchayat officer (FPO)	Subdivision officer, forests (SDO) Range officer Forester
At the village level	*Patwari* , *sarpanch*, *van panchayat*, and *van panchayat* committee	Forest guard

product, and the DC will in turn seek the opinion of the Forest Department. The Forest Department can only mark trees and ensure their disposal through the Forest Corporation. In the case of auction of forest products, confidential estimates are to be prepared by the Forest Department. After fixing the confidential value, items up to Rs. 5,000 can be auctioned by the *van panchayats* themselves.

- The *sarpanch* can, with the approval of the committee, mark one tree and sell to a right holder for domestic use.
- *Van panchayats* can form their own byelaws.
- *Van panchayats* may not extract resin on their own.

Section 21 makes it mandatory for the Forest Department to prepare working plans for *van panchayats* that *van panchayats* are supposed to implement. Any deviation can be approved by the chief conservator of forests (CCF) concerned (Section - 22).

Every year, starting from 1st April, *van panchayats* must prepare a budget of their income and expenditure. The Deputy Commissioner, in consultation with the DFO, approves this budget. There is provision for audits of *van panchayats* by the Chief Audit Officer of Uttar Pradesh under Section 36.

Under Section 33, the following revenue authorities are entrusted with the responsibility of inspecting *van panchayats* every three years. A copy of the inspection note has to be sent to the CCF and CF concerned.

- Commissioner - Five inspections per district.
- Deputy Commissioner - Fifteen inspections in their respective districts.
- Forest *Panchayat* Officer/SDM - Twenty-five inspections.
- FPIs - At least 33 per cent of all *van panchayats* under their command.

Apart from the above inspections, the Forest Department (FD) is also supposed to inspect the functioning of *van panchayats* with the help of specially appointed staff.

3.1.4 Income and Expenditure

Ten per cent of the total income of the *van panchayat*, goes to the FD for services such as the valuation of trees and marking trees for felling. Of the remainder, twenty per cent is given to the *zila parishad* (district council) for development of the area; 40 per cent is kept with the DM in the *van panchayat* account and can be spent by the *van panchayat* committee with the prior approval of the DM to provide community services and amenities like village roads and schools; and 40 per cent goes back to the FD for preparation and execution of development programmes for the *van panchayat* forest and for stationery, stamps, the travel allowance (TA) expenditure of the *sarpanch*, and other expenses.

3.2 *Van Panchayat* Statistics

By the end of 1997, nearly 5,000 *van panchayats* had been formed in Uttarakhand covering about 469,326 hectares, or 14 per cent of the total forest area.

The rate of formation of *van panchayats* fluctuated after promulgation of the *Van Panchayat* Act in 1931. A study conducted in Kumaon Division of Uttarakhand revealed that the process was very slow at the beginning, with the number of *van panchayats* formed peaking during the sixties and seventies (Table 3.3). After 1980, there was a steep decline in formation.

There are 15,166 inhabited villages in Uttarakhand, so the potential number of *van panchayats* is quite high. However, even the *van panchayats* formed so far are not all ecologically viable or capable of sustainable use and management, simply because the *van panchayat* areas are too small or scattered. Banerjee conducted a study of *van panchayat* size in Almora, the district with the most *van panchayats*. Only 28 per cent had an area of more than 50 hectares, 25 per cent had areas between 25 and 50 hectares, 28 per cent had an area of between 10 and 25 hectares, and 19 per cent had areas of between 1 and 10 hectares.

Table 3.3: **Formation Rate of *Van Panchyats* in Kumaon**			
Decade	Number of *Van Panchayats* Formed		
	Nainital	Almora	Pithoragarh
1920 - 30	-	9	17
1930 - 40	17	80	37
1940 - 50	41	320	176
1950 - 60	62	290	25
1960 - 70	60	331	298
1970 - 80	20	591	289
1980 - 90	2	100	75
1990 -	1	10	17

The overall distribution and total area of *van panchayats* in the eight districts in Uttarakhand is shown in Table 3.4.

3.3 Problems of *Van Panchayats*

Most of the problems that are faced by *van panchayats* in their day-to-day functioning can be grouped under three major headings: pre-formation problems, post-formation problems, and management and technical problems.

1.3.1 Pre-Formation Problems

Land Availability

Identification and availability of suitable land of suitable size adjoining a village is a major problem. According to Section 5 of the *Van Panchayat* Rules of 1976, *van panchayats* can be formed within the *sal assi* boundary of a village on any uncultivated land. Both Reserve Forests (under the Forest Department) and Protected Forests (under the Revenue Department) are included within *sal assi* boundaries. The process of formation of *van panchayats* is the prerogative of the Revenue Department, thus where formation of a *van panchayat* involves Reserve Forest it is difficult to resolve the matter between the two departments. The amount of Civil Forest land available for a village is a further limiting point, because such lands are not equitably distributed.

Encroachment

Civil Forest lands have often been encroached on by extension of cultivation and other non-forest activities. Formation of *van panchayats* on such lands is not supported by parties with

Table 3.4: **The Distribution of *Van Panchayats* by District**					
District	No. of *Tehsils*	No. of Blocks	No. of Inhabited *Van Panchayats*	No. of *Van Panchayats*	No. of Deputed FPIs
Nainital	8	15	1799	205	1
Almora	4	14	3024	1770	4
Pithoragarh	6	12	2186	1021	4
Kumaon Total	*18*	*41*	*7009*	*3056*	*9*
Chamoli	6	11	1569	658	1
Uttarakashi	4	6	678	26	-
Pauri	5	15	3205	947	1
Tehri	4	10	1959	45	1
Dehradun	2	6	746	159	-
Garhwal Total	*21*	*48*	*8157*	*1811*	*3*
Grand Total	39	89	15,166	4,867	12

vested interests in these non-forest uses. Identification of the exact area of encroachment is another problem because of the absence of proper records.

Leadership Identification

Most villages remain the stronghold of elected *gram pradhans*. Under their influence, no one attempts to take on the responsibility for formation of *van panchayats*, or the matter is relegated to the lowest rung of preference. Even if someone does venture to take up the matter on their own, he or she does not get effective help from the *gram pradhan*.

Financial Constraints

The villagers are supposed to provide financial support for the preparation of maps and *khasaras*. The leader has to go to the block office, range office, and DFO office many times to collect records. Travelling costs and other inherent costs are a limiting factor in poor villages.

Lengthy Official Procedure

The settlement of disputes, identification and removal of encroachments, issue of notices, hearing of objections, setting up of the *van panchayat* committee, and holding of elections, take a long time. The number of FPIs to support these activities is low, and they are poorly reimbursed for expenses such as travelling. If there is any litigation, the matter can take unusually long. A study done by the Centre for Development Studies of the Uttar Pradesh Academy of Administration (CDS-UPAA) found that the time taken for formation of a few randomly chosen *van panchayats* in Kumaon division varied from 6 months to 7 years (Table 3.5).

3.3.2 Post- Formation Problems

Voluntary Involvement

Success of the *van panchayats* depends upon the interest, innovative ability, and involvement of the *van panchayat sarpanch* and the committee members in conserving and improving the forest. Calling regular meetings, and involving all beneficiaries and stakeholders in activities, requires a lot of work. In reality, barring a few areas, these prerequisites are hardly met. Since most villagers meet their demands for forest products from the Reserve or Civil Forest areas, and very few *van panchayats* can meet all the fuel and fodder demands of the villagers, *van panchayat* activities suffer from neglect and apathy.

Awareness of Rules and Regulations

Knowledge about the *Van Panchayat* Rules and the provisions of related acts like the Indian Forest Act (IFA), the Resin Tapping Act, and the Forest Conservation Act are low, even among the *van panchayat sarpanches* and committee members. Even the revenue officials at sub-division and block levels, and the forest officials at range level, are largely unaware of these rules and acts. The villagers are unaware of their duties and powers and, in absence of a proper knowledge of the rules, the government officials fail to provide appropriate help in cases of disputes or problems. No concerted efforts have been made to raise awareness about these rules among *van panchayat* members and field level Revenue and Forest Department staff.

Boundary Settlement

Fixing the natural boundary and setting of boundary pillars is a matter of prime importance.

Table 3.5: **Time Taken to Form *Van Panchayats***

Village	District	Time Taken for Formation	Notes
Ramela Dugree	Pithoragarh	6 Months	Usual time
Gengora	Almora	18 Months	Litigation
Khurapanth	Almora	12 Months	Usual time
Unial Gaon	Almora	7 Years	Lengthy litigation
Audholi	Almora	15 Months	Usual time
Ralakot	Almora	6 Months	Usual time

However, this can only be done if proper funds are provided to the *van panchayats* and all *van panchayats* possess clear and easily understandable maps and records. In practice, these are generally not available.

Gender Bias

Women are not provided with mandatory membership in the *van panchayat* committee under the *Panchayat* Rules, in spite of the fact that they are the key players in forest product collection. Women tend to be extremely busy and have little time to attend meetings. Above all, women have very poor access to information. Traditionally they are quite aware of rotational grazing and selective and regulated lopping, but community resources can only be maintained when all stakeholders share equal responsibility for their management.

Poor Maintenance and Inspection of Records

Regular inspection of records by Revenue and Forest Officers is mandatory after the formation of *van panchayats*. The following records should be maintained by the *van panchayat*:

- Maps and area records
- Meeting register
- Cash book
- Receipt book
- Post office savings' pass book
- Voucher file
- Stock book
- Fine register
- Permit book and file
- File of standing orders
- Inspection register
- Tree marking hammer and seal
- Pending revenue realisation / payment register.

However, in practice, as a result of financial constraints, absence of knowledge, and poor infrastructure, *van panchayats* do not maintain proper records and records are seldom checked.

Liaison Problems

Regular liaising with the FPI, FPO, the Revenue Department, the Forest Department, and the *gram pradhan* is required for proper functioning of *van panchayats*. This work can be burdensome for a poor, ill-informed, and ill-equipped *van panchayat sarpanch*.

Holding of Elections

Timely holding of elections demands the full involvement of the FPI. Because of the FPI's heavy work burden, however, elections are often either not held as per schedule or they are held in great haste. This mars the process of correct identification and selection of appropriate leaders. The election of the *van panchayat sarpanch* thus becomes a task of asking volunteers to undertake an unwanted job.

3.3.3 Management Problems

Non-release of Share of Revenue

The *van panchayats* have a right to 40 per cent of the 90 per cent of income available for community development work. However the money is kept at the DM office level and is difficult to access. One study (Saxena 1987) revealed that in Almora district alone the total accumulation in the capital account of the *van panchayats* was Rs 12 million. Many *van panchayats* do have sufficient money in their account, but it remains unused as a result of lack of proper guidance and knowledge.

Non-release of Funds to the Forest Department

No funds are available in the *van panchayats* for the development of the *van panchayat* forests. This work is the responsibility of the FD, and the FD should get 40 per cent of the revenue for development for this responsibility. In practice, the FD rarely gets this share, and in reality the FD pays little attention to this additional responsibility.

Absence of Technical Knowledge

There is a total absence of technical knowledge of forestry among the *van panchayat sarpanches*, committee members, villagers, and even FPIs. This leads to apathy towards conservation measures, and thus deprives local landless people

and unemployed youths of employment opportunities in forestry activities carried out by the Forest Department. Work has started recently on converting the Forest Training Institute at Haldwani to a Forestry and *Van Panchayat* Training Institute. A 15-day course for *van panchayat sarpanchs* has started, and so far 356 *sarpanchs* have completed more than 69 such courses. However capacity building is necessary on a large scale not only for the *sarpanchs* but also for young people and women.

Over-Burdened FPIs

There are only 14 FPIs in Uttarakhand to supervise about 5,000 *van panchayats*, which means that each has responsibility for about 400 *van panchayats*. Even if an FPI worked 365 days a year, they could not visit every *van panchayat* once.

Financial Problems

In the case of disputes, non-payment of fines, or realisation of revenue, litigation has proved to be a burden for *van panchayats* as a result of financial constraints.

3.3.4 Other Common Problems

Insufficient Authority for the *Van Panchayats*

The *Van Panchayat* Rules of 1976 do not give sufficient financial and administrative autonomy to the *sarpanch* or the committee. For example, Section 17 of the Rules requires prior approval of the Deputy Commissioner before a watchman or any paid staff can be hired by the *van panchayat*. An offence involving a sum of more than fifty rupees can be compounded only with the previous approval of the Deputy Commissioner. Similarly, permission is required for the auction of any seized property (for example, stolen timber). The *van panchayat*, on its own, cannot even sell surplus forest produce from the area to the rightholders for their domestic use without obtaining prior approval from DFOs. Even if trees exempted under the Tree Protection Act of 1976 are available for commercial sale, permission is required from both the Collector and the DFO, and action to mark and sell the trees can only be taken by the DFO. The *van panchayat* can only sell fallen wood and grass for domestic use by the villagers, provided such sales do not violate the provisions of the working plan of the *van panchayat*, which is supposed to be prepared by the Forest Department.

Ecologically Poor Area of the *Panchayats*

A study conducted by Banerjee in Almora showed that the majority of *van panchayats* had areas of less than 50 hectares, and that these were not always compact but were scattered in different places. No forest can survive if it is continuously being used unless it is large enough to regenerate itself. This is the reason that villagers largely depend upon Reserve and Civil Forest for their day to day needs, while their own *panchayats* suffer from utter neglect.

Unrestricted Grazing

Overgrazing is prevalent in *van panchayat* areas as a result of financial problems, apathy, ignorance, the absence of watchmen, the absence of social fencing, and/or excessive numbers of cattle. The *sarpanch* and committee members often fail to close 20 per cent of the area to grazing as envisaged in Section 18 of the *Van Panchayat* Rules. In many instances, people from adjoining villages also graze their animals in the *van panchayat* area but the *van panchayat sarpanch* fails to check this in the absence of social fencing and watchers. Roadside *van panchayats* suffer, especially from excessive encroachment and biotic pressure.

Availability of Water

Most of the *van panchayats* have seen their water reduced as a result of the loss of forest cover, and water scarcity is a general problem. Villagers have to travel far to fetch water for their domestic needs. Forestry activities like the establishment of seedling nurseries cannot be undertaken, even if people are willing.

Problems of Oak *Panchayats*

Van panchayats that have predominately oak forests suffer from lack of funds because they

cannot extract resin, or dead and uprooted trees, like in pine forests. Although the forests are most important from an ecological point of view, these *van panchayats* suffer economically.

3.4 The Present Scenario

Notwithstanding the 66 years of existence of *van panchayats*, and the fact that the UP hill areas in one sense pioneered the introduction of community management of forests in India, community forestry in Uttarakhand has failed to evolve. There also appears to be a general lack of interest in local communities to promote it. Some of the reasons for this are discussed below.

- The gap between the demand and supply of forest products to meet the needs of the ever-increasing populations of both humans and cattle has resulted in fast depletion of forests. As forest products are not available in nearby forest areas, villagers have had to travel further to collect their products.
- The government considered that the objective of granting rights and concessions to forest products to local people was to enlist the cooperation of local communities in the protection of forests. But although people are conscious of their rights, they are indifferent to their duty to protect and manage the forests. The deteriorating law and order situation worsened the protection of forests.
- Lack of awareness amongst people of the intangible benefits from forests related to soil, water conservation, and ecological balance is another factor contributing to the lack of interest in forest management.
- Women and children mostly carry out the collection of firewood and fodder. A study done by a women's organisation showed that women's share in most household activities is higher than that of men (Table 3.6). While controlling excessive lopping and collection of fodder and grass are considered to be the duty of the Forest Department staff, imposition of fines on women and children, and confiscation of their tools have always been contentious issues with the communities. On the one hand villagers have to collect fodder and fuelwood, on the other the Forest Department staff must attempt to control overuse because of laws and the prescriptions of the forest working plans.
- Management of Civil Forests has suffered as a result of their ambiguous status. The change in legal status of Protected Forests to Civil Forests has not been able to protect the Civil Forest from overexploitation and unscientific harvesting. People have lost interest in their management with the loss of their productivity and utility. Depletion of the forest cover in Civil Forest areas has increased the pressure on Reserve Forests and *Panchayat* Forests. Areas are also being encroached on for non-forestry work.
- The rapid creation and development of a road network in the fifties and sixties, and slow but steady continuation thereafter, had a big impact on the social milieu of the hill people. Roads brought many new immigrants, and at the same time theft from forests for commercial purposes started as a result of the easy accessibility and openness of the forests and the very poorly equipped forest staff.

Table 3.6: **Women's Share in Household Work in Uttarakhand**

Work	by Women	by Men
Collection of fuel	91.73	8.27
Collection of fodder	99.01	0.99
Fetching water	83.38	16.62
General agricultural work	88.32	11.68
Collection of manure and manuring of the fields	80.59	19.41
Watching and warding of cattle	78.17	21.83
Plantation work	98.74	1.26
Cooking	98.20	1.80
Cleaning of fields (weeding)	98.92	1.08

Source: Uttara 1997

- The demand for forest products has increased many fold with the phenomenal rise in population, whereas the availability of forest products has decreased from the areas earmarked for supply for the villages. This has created a problem.
- In terms of quality, the *van panchayats*, which are supposed to sustain all the fodder and fuel requirements of a village, are today very poor. The density and quality of these forests and of Civil Forest areas are declining. Civil Forest areas are now generally totally bare with sporadic stands of trees. There are many *van panchayat* areas with good stocks of forest where the community is taking care to save them from over-exploitation, but these forests are being saved at the cost of nearby Reserve Forests because the villagers use these to collect forest products. Despite stringent laws, it has not been possible to protect Reserve Forest areas close to villages from degradation.
- In Uttarakhand the total number of inhabited villages is 15,166, but only 4,867 *van panchayats* have been created (Table 20). Of these *van panchayats*, less than 20 per cent are are able to meet the needs of the community. As a result, Reserve Forests, for which villagers feel no sense of ownership, have been overused.
- A recent study by Banerjee of 30 randomly selected *van panchayats* in Kumaon and Garhwal revealed the following.

  - The villagers met more than 80 per cent of their fuel, fodder, grass, fallen leaves, and water demands from nearby Reserve or Civil Forests.
  - *Van panchayats* with an area of 150 hectares or more in a compact block and lying close to good Reserve Forests are relatively better protected and provide some services to the local community. *Van panchayats* with an area of 70 hectares or less, and/or which are scattered and further away from Reserve Forests, are degraded and do not provide much produce for the villagers. In some cases, women belonging to such *van panchayats* even travel by bus to collect products from distant Reserve or Civil Forests.
  - Very few *van panchayats* have their own water resources. In many cases, they have always lacked such resources because of the very small size of forest area, but in some cases forest degradation may have had an impact on the water-retaining capacity of the forest. For example, as a result of the regular removal of non-timber yielding trees called '*kukat*', water sources have dried up in some areas. The water sources in the very few *van panchayats* that still have their own sources, have their origins in nearby Reserve Forests.
  - A piece of forest only 60-70 hectares in size cannot retain much tree cover, especially if it is regularly used. A forest is a complex ecological unit which develops after many centuries of biotic and abiotic interactions. These give rise to the biodiversity, rich soil cover, and fresh water springs, that are a must for human survival. Small pieces of isolated forest cannot remain ecologically viable.

Despite having well-formulated laws and rules, the *van panchayats* have largely failed to achieve their objectives as a result of years of neglect, disuse, and apathy on the part of both the people and the government authorities. Degradation of *van panchayats* has encouraged people living in adjoining areas to gradually extend their cultivation onto the *panchayat* lands. *Van panchayats* also suffer heavily from unchecked mining and stone quarrying for construction, and many also suffer from illicit felling, poaching, and illegal tapping of resin. The basic difficulty in protecting *Panchayat* and Reserve Forests from fire and biotic pressures has been the lack of initiative on the part of both the communities and the Forest Department.

Community forestry in the UP hills in the shape of *van panchayats* provided a model for Joint Forest Management (JFM), which is now being discussed increasingly in all forums. There is increased realisation of the need to involve people in the care and share of forests at every possible

level. JFM rules were framed in 1997 with the aim of retaining the interest of stakeholders (villagers) by increasing the proportion of revenue accruing to village communities. Effective steps should be taken to remove all the gaps in the *van panchayat* system and to strengthen *van panchayats* so that they can become capable and self-sufficient.

4 The Basis and Rationale for the Introduction of Joint Forest Management (JFM) in Uttarakhand

4.1 The Cultural Basis and Advantages of Introducing JFM

The rich cultural heritage of Uttarakhand provides perhaps the strongest basis for the introduction of JFM in this region. This introduction will actually be a step towards reviving the practice, once widely prevalent in this region, of community management of natural resources. The strong cultural values of the people of Uttarakhand can be described in terms of their strong sense of tradition, closely knit social structures, capacity for hard work, legacy of mutual trust and faith, lack of orthodoxy, and celebration of religious festivals together in a participatory way. Most people in Uttarakhand are highly religious and attached to nature, as shown in many rituals like daily tree and sun worship. Many villages have their own *gram-devata* (village god) and *bhumi-devata* (land deity). And many folk songs sing the praise of the forest as one of the almighty's manifestations that provides good health to all people. In short, the cultural ethos puts a high value on nature and its creations, especially trees.

Another striking tradition is that of settling disputes through the mediation of the people in *panchayats*. People only resort to the courts or the police in extreme cases. Harmony and closeness is thus second nature in hill communities. Women, who form the backbone of Uttarakhand society, always go in groups to collect fuelwood, fodder, and water, singing folk songs to while away fatigue and boredom. Not only do people carry out various cultural operations together, they also barter labour through an *alta-palta* system. Thus the social and cultural bonds and deep association with forests provide a good basis for the introduction of JFM.

For all practical purposes, the attitude of the people towards the management of Reserve Forest depends on how close to the forest they live. As a rule, those who live near the forest dislike restraints and regulations and often do not see any justification for them, and those who live far away are not interested. Local people are generally intolerant of purely protective regulations. This is especially true in the case of degraded forests, where forest management is limited to stopping people from using the forest, the reasons for the restrictions are generally not well understood, and the forest guard is little more than a forest policeman. Even so, there are many areas in Uttarakhand, especially in remote areas, where people have cooperated well with the Forest Department for a fairly long time, and where department plantations and other forestry work have been successful. A study has reported that a large number of villages in Tehri Garhwal district (Pratap Nagar block) voluntarily protect chir forest, pine and *deodar* mixed forest, and other forest areas and patches of *Bauhinia retusa*. In Motana village, a women's group (*mahila mandal*) is protecting three blocks of Civil Soyam lands where only shrubs grow. These are harvested by the women for fuelwood in a three-year rotational cycle. Tables 4.1 to 4.3 show some details of these voluntary protection activities.

Table 4.1: Number of Villages Voluntarily Protecting Forests

Area	Total No. of Villages	Villages Protecting Forests		Area Protected (ha)	Total Area (ha)	Average Area Per Village(ha)
		No.	(%)			
Balganga range	80	26	33	1021	1131	43.5
Dharkot range	35	6	17	392	392	65
Forest beat Dhung	25	10	40	285	349	34.9
Total	140	42	30	1698	1872	44.5

Table 4.2: Species Being Voluntarily Protected by the Villagers

Area	No. of villages	Number of Villages Protecting a Particular Species			
		Banj (oak)	Chir	Chir/oak mix	Kukat (including *bauhinia retusa*)
Balganga range	26	3	4	19	NA
Dharkot range	6	4	NA	NA	2
Forest beat Dhung	10	8	NA	NA	2
Total	42	15	4	19	4

Table 4.3: Duration of Protection by Villagers

Area	Total No. of Villages	Number of Villages by Duration of Protection				
		50 Years	30 Years	20 Years	10 Years	Less than 10 Years
Balganga range	26	7	10	9	NA	NA
Dharkot range	6	1	NA	NA	5	NA
Dhung beat	10	NA	NA	7	NA	3
	42	8	10	16	5	3

4.1.1 Consolidation of Areas

An area of approximately 8,014 sq.km. of the 34,247 sq.km. of forest in Uttarakhand (23.4%), is Civil Forest, i.e., a common resource. However, these areas suffer from a lack of proper care and management. They need to be brought under the control of the Forest Department or under a community management system. The latter is preferable, since these areas were traditionally under community control. The Civil Forest areas are largely devoid of forest cover, however, and reforestation efforts have the highest priority. Good rootstocks are available in many civil areas, especially in the oak region, and offer the possibility of rehabilitation simply through protection. It should be easy to rehabilitate the Civil Forest areas under a Joint Forest Management system.

4.1.2 Availability of Fuel and Fodder

The success of JFM is likely to depend largely on how long it takes for the participating community to obtain a return. Fodder and fuel are the top priorities for local people. Thus forests can only be saved if the production of grass and fodder is increased several-fold to meet the demands of the increasing population. Fuel and fodder are already scarce commodities, thus JFM should be welcomed by village communities since people will have a stake in the programme.

4.1.3 Direct Financial Gains

In the long run, the extent of involvement of the public in the management of forests depends on how effectively they obtain direct financial gains in the form of cash or employment. The JFM rules promulgated recently in UP ensure a

direct financial gain for the stakeholders. This provision was missing in the *Van Panchayat* Rules. Under JFM, the capacity of local young people will also be enhanced. They will have the possibility of employment both during the project period and later.

4.1.4 Regulation of Biotic Interference

Forests suffer most as a result of the ever increasing biotic pressures that result from the population explosion of cattle and humans. This problem could not be controlled under regulatory forestry where the stakeholders were not involved. If JFM is adopted, the village community will take over the responsibility for protection of the forests and will try to reduce the number of unproductive cattle to ensure a sustained supply of fodder. This objective can be achieved by educating people and arousing awareness of the need to conserve the forests to ensure conservation of soil and water. This, complemented with a family planning programme to tackle the problems of the increasing human population, should lead to a reduction in the biotic pressures on forests.

4.1.5 Harnessing the Potential of Degraded Areas

Both Civil Forest areas and Reserve Forest areas lying close to villages have become degraded as a result of over use. Afforestation of these areas would require large amounts of money, whereas natural regeneration through voluntary community protection would cost much less. Not only this, the flow of NTFPs from naturally regenerated forest could generate more income for local people. The potential for growing medicinal herbs is also very high in these areas. Women, who are the real stakeholders of the forest, can be involved effectively in these activities. This would not only help to improve their financial status, it would also help regeneration of the degraded areas.

4.1.6 Checking Encroachment and Other Illegal Activities

The Forest Department alone cannot save invaluable forest from degradation, not least because the Department cannot continue to increase its staff to match the ever-growing pressure of encroachment and illegal activities by unscrupulous people. If the local communities are involved as custodians of the common resource, these problems can be tackled more effectively. This is one of the major objectives for the introduction of JFM in Uttarakhand.

4.1.7 Capacity Building

Seventy years of community forestry in Uttarakhand have shown that capacity building, in the form of imparting knowledge on rules and regulations, rights and privileges, and technical aspects of forestry, is a necessity for the successful joint management of common resources like water, land, and forest. Joint Forest Management will include large-scale capacity building of all the stakeholders and effective monitoring of progress, and will thus be a departure from the *van panchayat* system.

4.1.8 Changing Attitudes and Liaising

Attitudinal changes of both government personnel and communities are necessary for the success of conservation of natural resources like forest. Joint Forest Management is a part of the ambitious UP Forestry Project, which envisages a total change in the process, but JFM will be introduced initially in a cautious manner. This will be a step towards bringing about an attitudinal change at all levels of the administration. Attempts will also be made to integrate forest management with other developmental activities being carried out at district and *panchayat* levels so that the thinking of the local people, who now regard forest conservation as a major hurdle against local development, can be changed so that they become partners in the conservation of forests.

4.1.9 Protection of Plantations

Almost all the forest divisions in Uttarakhand have been establishing plantations every year. These plantations are protected by government hired watchers for the first three years of reforestation work, but plantations require at least 10 to 15 years of protection. Introduction of

JFM will help automatically to provide voluntary protection of the plantations carried out by the department. In return, communities will be able to take out grass and extra growth in the plantations. Plantations in close proximity to villages will benefit most from this arrangement.

4.1.10 Policy Directives

The new Forest Policy and the Government of India Guidelines (June 1990) don't distinguish between fringe or interior areas. All forest land is supposed to be brought under the fold of the changed objectives of environmental benefits, biodiversity conservation, meeting local peoples' demands, and involving people in programmes of protection, conservation, and management of forests. Introduction of JFM in selected areas will be an initial step in implementing the policy directives and will also serve to show how this new approach helps ameliorate the bad state of forests.

4.1.11 Environmental Reasons

Agriculture in Uttarakhand is not very productive, even though it is a basic way of life and an age-old practice. Extension of agriculture to marginal lands with faulty land use practices can cause negative environmental impacts. Under JFM, large-scale capacity building will be initiated and all these problems will be addressed. Soil and water conservation through tree farming on suitable lands will be encouraged. This will also help to reduce the pressure on existing forests.

4.1.12 Advantages Compared to Van Panchayats

The advantages of JFM over *van panchayats* include the following.

- Under JFM, 250 to 300 ha areas will be taken for community management, whereas the area of most *van panchayats* is less than 50 ha.
- Villagers will prepare their own micro-plans with the help of the Spearhead Team, execute and monitor the project, and spend the money allocated for forestry development.
- There will be direct monetary benefits for the stakeholders.
- There will be fewer legal problems.
- Non forestry activities will be taken up on a priority basis in JFM areas and will be undertaken in conjunction with other district development plans.

4.2 The Uttar Pradesh State Forestry Action Programme

A State Forestry Action Programme (SFAP), with greater emphasis on participatory forest management, was put forward in Uttar Pradesh in 1995. The broad objectives of the programme are, in accordance with the National Forest Policy of 1988, to ensure environmental stability and the maintenance of ecological balance, to ensure conservation of the national biological heritage, to increase the sustainability of the forest and tree cover on forest and farm lands, to increase the productivity of forests, and to ensure the participation of local people in the management of forests.

The broad objectives of this plan would involve a change in the departmental working approach as follows.

- A change in the role of the UP Forest Department (UPFD) from a predominantly regulatory approach to one in which communities are treated as equal partners in the management of forest resources. Stakeholders will be enabled to make decisions and to manage and protect forests, thus ensuring the appropriateness and the effectiveness of the micro-plan, whilst the UPFD remains the custodian of national interests.
- A change in management systems to one that is client-oriented and adaptable, based on decentralisation of decision-making, and improved planning, monitoring, and evaluation,.
- Human resource development linked to role definition, skill-gap analysis, and appropriate manpower planning and management.

Even though the project area is intended to cover the entire state of Uttar Pradesh, hill areas will benefit most because they contain most of the forests. The project is intended to be implemented over a four-year period. It has four main components.

- Changing the approach of the UPFD, improving manpower planning, changing process and skill-gap analysis. This would be introduced together with competency-based training, improved planning, monitoring and evaluation procedures, and the necessary management information systems.
- The project is intended to finance a variety of interventions for forest resource development, including management of intact and degraded natural forests, farm forests, and community forests. Priority will be given to community participation in natural forest management through Joint Forest Management, although certain less degraded areas would continue to be managed by the UPFD. Farm forestry will be a purely private sector matter. The project will also support urban forestry activities and programmes of silvipasture development.
- Continuation of selected long-term species' trials and observation plots will be promoted, together with provision of the necessary equipment and training to develop linkages with a research database. A planting material improvement programme will be implemented to ensure better quality seeds and seedlings. A Pasture Development Unit and demonstration plots and fodder seed production plots will be established. A fire protection strategy will be developed for the state.
- Under this project, long-term strategic planning will be undertaken for biodiversity conservation in the state, both within and outside Protected Areas (PAs). Improved management will be introduced in 15 priority PAs linked to eco-development programmes to provide alternative sources of incomes for local communities. Associated research and public awareness programmes will also be implemented.

4.3 The World Bank Project

The World Bank assisted Himalayan Watershed Management Project was started in 1983-84 with an area development approach encompassing all land-based activities. The project suffered from a basic weakness in the early stages resulting from the lack of involvement of local people at the time of planning and implementation. This weakness was avoided in the follow-up Doon Valley Project, which was started in 1993.

The experience gained during this project suggested that the ideal model for JFM should integrate all land-based activities like forestry, soil conservation, minor irrigation, horticulture, agriculture, animal husbandry, use of non-conventional energy, and skill development to supplement local incomes and involve local people using a participatory rural appraisal (PRA) approach.

As a part of the above project the World Bank has now planned the 'UP Forestry Project', with an intended date for start of implementation in 1999. JFM is a major component of the five-year project, and forms the basis of the approach to forestry development and conservation. The approach is described in more detail in the following sections.

4.3.1 The Main Features of the World Bank Guidelines for JFM

The World Bank funded project will operate in the central Himalayas (Uttarakhand), the *Terai*, and parts of the Vindhyan region. Project finance for forest development and management activities, such as fencing, soil working, planting, and protection is linked with activities to promote the sustainable use of forest resources and to meet other community needs. The programme is based on site-specific village micro-plans, developed through a participatory process, leading to the formation of a Village Forest Committee (VFC) or the strengthening of existing forest *van panchayats*. The micro-plan forms the basis of formal agreements that set out the rights and obligations of both the local community

and the UPFD. The micro-plans cover Reserve Forests, Civil Forests, *Soyam* lands, and *Van Panchayat* Forests in the hills. The benefit sharing arrangements differ for the different types of land.

In order to ensure sustainability, local ownership, and responsibility, communities are asked to decide the level of their contribution to the scheme. Details of appropriate mechanisms for community contributions are agreed at the appraisal stage. Communities that opt to contribute labour for forest development receive an equivalent cash payment deposited in a Village Development Fund, which is established by the VFC, for undertaking non-forestry activities specified in the micro-plan.

The success of JFM will largely depend on the availability of trained staff who have a commitment to the participatory process, and for this reason orientation workshops and other measures to identify and develop appropriate staff competencies form an important part of the human resource development component of the project.

The phasing of project-financed activities is explicitly linked to the availability of trained staff. It is estimated that a total of about 1,160 communities (744 in the hills) will be involved over the four-year project period, managing and protecting about 210,000 ha of forest land for which detailed village micro-plans will have been completed.

The project is also financing the development of approximately 7,000 ha of forest on community lands in the plains, to be managed by 350 communities. The same principles of micro-planning with community participation will be applied. This will represent a significant departure from the community plantations developed under previous social forestry programmes. Similarly, strip plantations financed under the project will be based on agreements reached with communities, and the UPFD will propose benefit-sharing management appropriate to the nature of these plantations.

JFM Implementation plans will be undertaken through the Territorial Wing of the UPFD. The CF will have overall responsibility for the programme in each Circle. At the Divisional level, the DFO will take a lead role in promoting a participatory approach by building divisional teams across the hierarchical structure of the UPFD. He will also ensure co-ordination with other government agencies through the District Project Implementation Committee.

The Spearhead Team will prepare village micro-plans, and will also provide practical on-the-job training on the principles and practice of participatory village planning and programme implementation to rangers, foresters, and forest guards within the Division during the preparation of micro-plans. Once trained, these staff will play an advisory role to communities, with a major responsibility for timely and appropriate implementation of the agreed plan. At the community level, responsibility will lie with the Village Forest Protection Committee (in the hills the name *van panchayat* has been retained), which includes representatives from every household in the village. The nature of micro-plans, their financial implication, management of funds, and the phasing of the programme will be looked after by the Project Unit (PU) and the CF Project Planning Committee will monitor micro-plans and expenditures to ensure that the concerns of disadvantaged people are adequately addressed.

As a key component in project implementation, the project will support the operation of Spearhead Teams and related FD staff in all the steps in participatory planning leading to the implementation of micro-plans. The primary function of the Spearhead Teams will be to facilitate the preparation of JFM micro-plans. Training of teams will give priority to their facilitating role in order to avoid top-down and supply-driven micro-planning. Spearhead Teams will be formed in each division under the day day-to-day guidance and supervision of the DFO. Each Spearhead Team will consist of an Assistant Conservator of Forests (ACF), a Ranger or Deputy Ranger, a Forester or Forest Guard, and two NGO social motivators. The social

motivators will be recruited under contract with NGOs and one will be a woman. Both will have qualifications, seniority, and rank comparable to an ACF or Ranger. Spearhead Teams will directly support the development of micro-plans, and train and assist the Range Level Micro-planning Teams to support participatory planning within their respective ranges.

The Spearhead Teams will also provide on-the-job training in participatory planning and programme implementation to Rangers, Foresters, and Forest Guards in four Ranges in each Division every year. After initial training, territorial staff in each range will jointly form a Range Level Micro-planning Team (RLMT) headed by a Forest Ranger. The specific responsibilities of Spearhead Teams will be to provide continuous training and guidance to the RLMT; to assist the RLMT in PRA, environmental stakeholder identification, and the identification of forest user groups for JFM; and to assist forest user groups and RLMT in micro-planning and completion of agreements between *van panchayats* or VFCs and the FD. As resident territorial staff, the RLMT will play a continuing and longer term advisory role to VFCs and *van panchayats* in the timely and appropriate implementation of the micro-plans. The technical advisory efforts of the range-level staff will be supplemented by NGO support for VFC and *van panchayat* capacity building. The capacity and quality of performance of Spearhead Teams, and in particular the RLMT, will be a priority subject for the bi-annual JFM review workshops.

The project will assist the FD in financing forest development and management activities based on site-specific micro-plans as agreed between the FD and VFCs or *van panchayats*. According to the JFM rules, JFM will only be implemented on degraded forest lands. Most activities will be concentrated in the hills, where 50 of the planned 69 Spearhead Teams will be established, and about two thirds of the projected 1,060 micro-plans will be developed.

The number of communities involved and the number of plans prepared will be linked to the capacity to train staff and Spearhead Teams to implement activities. In order to ensure that the ownership of micro-plans lies with the forest user group, Spearhead Teams will support the micro-planning process in a way that allows adequate time for all members of the forest user groups to be involved and develop their own priorities and plans.

During the preparatory year, Spearhead Teams will be formed in 9 divisions and some will assist forest user groups in finalising micro-plans. The project will start supporting the implementation of these plans by the beginning of project year 1. Fifteen Spearhead Teams will be formed in each of the subsequent project years, to give a total of 69 teams formed during the project period. Each Spearhead Team will prepare one micro-plan in the first year after training. In the second year after training, each Spearhead team will again prepare one micro-plan, while at the same time providing on-the-job training to four RLMTs. In subsequent years, Spearhead Teams will prepare two micro-plans per year while continuing to provide technical support to the RLMTs. In the first year, RLMTs working under the guidance of a Spearhead Team will prepare one micro-plan. In subsequent years, the RLMTs will prepare two micro-plans per year. The first three JFM micro-plans in the hills, and one each from the *Terai*, plains, and Vindhan regions, will be reviewed by the World Bank prior to their agreement and implementation.

4.3.2 Plan Implementation

Implementation of each 5-year micro-plan will start after signing of the agreement between the VFC or *van panchayat* and the FD. With assistance from the World Bank, the FD will finance site enhancement, protection, and enrichment planting activities. The forest user group will contribute with agreed inputs such as labour, protection, and other materials. The VFCs will prepare annual workplans based on the activities described in the micro-plan and provide details of the necessary budget. The DFO and VFC or *van panchayat* will agree on the annual work plan (and budget) as a basis for the release of funds from the FD.

Monitoring and evaluation of JFM and community forestry will aim at establishing a process of learning that is based on a 'learning-by-doing' strategy. The lessons learned through monitoring will be fed back into project activities, and implementation and regular reviews will also feed back into training and capacity building activities.

Implementation Arrangements

The overall responsibility for the JFM programme development and co-ordination in the Project Unit (PU) will lie with the CF Process Change Group assisted by a Deputy Conservator of Forests (DCF) with specific responsibility for the programme. The JFM Departmental Working Group will have the responsibility for ensuring the consistency of the approach to JFM in various parts of the state. At the central PU level, the CF Planning and Monitoring Unit will monitor micro-plans and expenditure based on inputs from the DFOs.

JFM implementation will be carried out through the Territorial Wing of the FD. The CF will have the overall responsibility for the programme in each Circle. At the divisional level, the Divisional Forest Officer (DFO) will have the following major responsibilities:

- taking a lead role in promoting participatory approaches by building Divisional Spearhead and Range Level Micro-planning Teams;
- prioritising, and initially selecting sites for JFM ;
- approving JFM micro-plans in consultation with the Divisional Level Committee for JFM (and according to the JFM rules);
- releasing funds for VFCs and *van panchayats* to implement micro-plans; and
- playing a key role in progress monitoring of the JFM programme and in the bi-annual review workshops.

The DFO, with other territorial staff, will be responsible for developing community-based management arrangements for existing community forests on *gram sabha* land. The principles of participatory planning and formation of VFCs will also be applied here.

Funding Arrangements

Funds for JFM will be allocated by the project to each division by November of each year for the following year's activities. Allocation to the JFM Fund in each division, compared to the total funds for works, will be consistent with the overall divisional strategy. The amount will be based first on the 'spillover' from previous committed work plans, and second on the estimated number of micro-plans to be implemented.

Divisional budgets for JFM and community forestry will be based on the estimated numbers of villages/micro-plans in the division to be included in the programme. It is assumed that, for the purposes of budgetary planning, each village in the hills will have an average of 300 ha of forest land under JFM as a result of the programme. The 300 ha will consist of a site-specific combination of Reserve Forest, Civil *Soyam* land, *van panchayat* land, and community/*panchayat* land. The forest land available for JFM in villages in the Vindhyan and *Terai* regions will be less than in the hills.

Each JFM micro-plan will contain a detailed 5-year budget for forest management and development including cost and benefit sharing arrangements.

Approval and funding procedures for micro-plans are laid down in the JFM rules. The micro-plan needs to be approved by the DFO (in consultation with the Spearhead Team and the divisional level JFM committee). The DFO will be responsible (in consultation with the range level staff/RLMT, Spearhead Team, and the Divisional Committee) for the release of funds to the VFCs or *van panchayats* on the basis of an approved micro-plan and detailed annual plans. As a precondition for release of annual instalments, the VFC has to submit annual accounts after verification by the Range Level Committee on the progress of activities already funded.

The DFO will transfer funds directly to a bank account operated by the VFC or *van panchayat*. In the case of the VFC, which is a sub-committee under the *Gram Sabha*, the Pradhan will open a specific bank account or keep a separate account under the *Gram Sabha*'s general account. Expenditure for specific micro-plan activities has to be authorised against the signature of the Pradhan and Secretary of the VFC. In the case of a *van panchayat*, funds will be transferred to the *van panchayat* bank account with expenditures authorised against the signature of the *van panchayat sarpanch* and secretary (*panchayat van vanvid*).

Benefit and Cost Sharing

The purpose of introducing benefit and cost sharing is to ensure sustainability by creating a sense of commitment to forest management and providing a framework within which decisions can be taken based on known costs and expected benefits and to limit total expenditure.

The distribution of benefits among the village community will be done as follows:

- distributed among all members of the forest user group according to criteria laid down in the micro-plan, or
- invested in other village development work. In this case, the activities and budget for village development work will be included in the annual plan and budget prepared by the forest user group according to the JFM rules. One of the capacity-building activities of NGOs will be to support forest user groups in planning and budgeting for such development activities.

The arrangements for cost-sharing will be as follow.

Overall, the total cost of a micro-plan should not exceed Rs 8,000, per ha. This means that during the micro-planning process, agreement must be reached on the relative desirability of bringing areas under protection and/or planting, given the costs and conditions set out below.

- General management, including the development of management arrangements, demarcation of the area, rotational patrolling, and general protection, will not involve any financial costs but, depending on the need and the arrangements agreed, will require time from each household.
- The actual requirements for site enhancement through protection from fire, grazing, and illicit felling using various methods of protection, will vary from village to village and therefore a project wide norm has been determined. The project will pay a fixed sum of Rs. 660 per ha for each year for effective protection for the first 5 years of the micro-plan. The agreement between the FD and the VFC will define the (site-specific) indicator (s) that will be used to determine 'effectiveness' and therefore to release payment. Money will be paid into the Village Development Fund which can be used to fund agreed activities. In the first year, the DFO may approve the release of money in advance as a measure of good faith. Subsequent payments will depend on effective protection. Payments will be limited to five years, thereafter the flow of benefits is expected to ensure the sustainability of the arrangements.
- The need for enrichment planting varies throughout the area. A maximum of Rs. 8,000 per hectare will be granted, this figure based on a rough estimate of the planting requirements for a typical VFC in the hills. The FD, with the support of the IDA, will finance up to 80 per cent of the forest enrichment planting activities planned for the first 5 years of the micro-plan period. In order to ensure local commitment and ownership, and so that micro-plans reflect the goals of user groups, it is expected that the forest user group will provide 20 per cent of the costs of forest enrichment planting. The FD will deposit its share in the Village Development Fund. This money is not transferable to other activities.
- Inflows into the Village Development Fund account will include the contribution to protection costs from the FD, the costs of planting, and the VFC's share of benefits ac-

cording to the agreement. The VFC can use the fund for forestry related fees or fines that are collected as part of their management arrangements. The account will be known as the Village Forest Development Fund (VFDF). Expenditure from the VDF will be to meet the costs of planting, to meet any other management costs, and to distribute individual shares of benefits to members as laid down in the rules. The share of the benefits to be retained for re-investment in forest management will be earmarked within the account or held in a separate, subsidiary account.

- A Forest User Group may decide to invest funds received from the FD for forest protection in other community development activities as presented in the micro-plan's non-forestry activities. In this case, the forest user groups have to undertake the protection activities themselves.

4.3.3 Criteria for the Selection of Villages for the Implementation of JFM

The proposed JFM guidelines (appended to the JFM rules) outline the criteria for selecting sites for JFM activities. The DFO (in consultation with the divisional level JFM Committee) is responsible for the initial selection of sites/villages. The following criteria are applied.

- Step 1: Sufficient degraded forest land (reserve, community or civil-soyam) is available to attract the interest of the community.
- Step 2: The village population has a traditional dependence on forests for their daily needs and general livelihood (i.e., they should be traditional users of forests as opposed to recent entrants extracting forest products for purely commercial purposes).
- Step 3: The village has one or more respected persons who will provide constructive and participatory leadership.
- Step 4: The village is socially homogeneous or, if heterogeneous, does not have conflicts over resources or political rivalry between sub-groups or individual households. It has a high degree of economic and financial equity.
- Step 5: The village has a history of joint community action (*sramadhan*).
- Step 6: The physical boundary of the village is clearly demarcated and there are no serious conflicts over forests/natural resources with neighbouring villages.

When sites have been chosen, the process of participatory planning and formation of a VFC starts. For the process of identifying forest user groups(s) in a chosen village, and for micro-planning, additional guiding criteria are applied as outlined above under steps 2 and 3 in the Participatory Planning for JFM (Project Support section). Villages (or sub-villages) initially selected may be excluded if the PRA (Step 1) and Stakeholder Identification (Step 2) do not result in the identification of forest user groups willing or able to participate in JFM according to the existing rules/guidelines and criteria for micro-plan preparation.

4.3.4 Criteria for NGO Selection

The criteria for the selection of NGOs to be involved in the project to support Spearhead Teams and eco-development for community forestry, or to be eligible for funding from the project's special NGO fund, are as follow.

- As a part of the legal requirements, the NGO should be registered under relevant State Law.
- The NGO should demonstrate internal stability and have an activity record of at least 3 years from the time of registration.
- The NGO should have at least 2 years experience in forestry and natural resource management or at least 2 years experience in watershed management and related community development activities.
- The NGO should have experience in PRA training and implementation, and in other participatory processes related to planning, implementation, and monitoring (including reporting) of projects.
- The NGO should have experience in collaboration with local authorities,

panchayats, and government departments.
- The NGO should have practical, theoretical, and technical expertise in forestry or forestry related activities.
- The NGO should demonstrate experience in project budgeting and accounting. It should also demonstrate the ability to maintain accounting records regularly and have audited annual statements of income and expenditure.
- For project activities requiring field activities over a larger area, the NGO should have an adequate number of trained field staff who are conversant with the local dialect and customs and have a good knowledge of the socioeconomic and political situation of the area in which they will be operating. The field staff should have at least 2 years of work experience in the organisation, and they should possess skills in communication and rapport with villagers in general, local leaders, and authorities.
- The NGO should not be affiliated to any political party.
- The NGO should be able to document its qualifications and track record based on available documents and ongoing project activities.

4.3.5 Participatory Planning for JFM

The process of participatory planning for JFM involves the following 5-step sequence of activities to be undertaken by Spearhead Teams in consultation with communities.

- Scoping using participatory rural appraisal (PRA)
- Stakeholder identification and social targeting
- Micro-planning using PRA
- Formation of a VFC
- JFM agreement

This generic sequence of activities is the project's first guidance in initiating JFM activities. Each step described in more detail below. The project approach is 'learning by doing' and lessons learned during implementation will be documented through regular review workshops and monitoring that will feed into the Forest Management Information System. The lessons learned will be incorporated in the recurrent training of Spearhead Teams and their field activities. In addition, a JFM Source Book will be developed as a basis for training courses and field implementation. The Source Book will be completed by the end of the 4-year project period and will subsequently guide the expansion of JFM throughout the state.

Scoping Using Participatory Rural Appraisal

Spearhead Teams will conduct PRA exercises as the first step in understanding the social configuration and natural resources of the village. This will also enable the Spearhead Team to take major decisions on the involvement of the village in the programme. Although PRA is a participatory and joint exercise between the community and the Spearhead Team, it is also meant to be a benchmark for decision-making by the team on how to identify the forest user group that will participate in preparing the micro-plan and sign the agreement with the FD for its implementation. Selection of the forest user group will be based on stakeholder identification and social targeting according to the criteria outlined below. PRA will be used to assess the following.

- The social structure of the village including caste, economic stratification, land tenure groups, occupations, village institutions and leadership
- The functioning and performance of existing *van panchayats*, other village institutions in resource management, problems and complaints, and suggestions for improvements
- The natural resource base in general, including the extent and nature of cultivated lands, water resources, livestock ownership, and forests used by the community
- The forest resources in particular (as part of the environmental assessment), including location and area, categories and condition, and current patterns of use by different user group categories according to criteria like caste and gender
- Expressed problems, needs, and priorities of different groups

Stakeholder Identification and Social Targeting

The PRA exercise should lead to the identification of different interest groups, or stakeholders, within a village. The objective of stakeholder identification is to ensure that the interests of all the people who depend on forests is addressed. Stakeholders will be identified on the basis of some, if not all, of the following criteria: gender, caste, level of poverty, dependence on forests, resource endowment, occupation and residence, and political influence. The problems and priorities of each stakeholder group will be assessed through separate focus group interviews. The Spearhead Team will then try to build consensus in the community on its development priorities for the forests and related natural resources. This may result in the identification of stakeholder groups with different interests and forest use patterns. A consensus on the shared use of forests among these groups may be possible, in which case they will work out a joint micro-plan that reflects their respective interests.

The purpose of social targeting is to identify real forest users who will prepare their own micro-plan, form their own committee, and sign an agreement with the FD on the implementation of the plan. Social targeting will lead to the identification of forest user groups without any conflicting interests that may undermine the cohesion of the group and lead to failure in forest management. Social targeting may therefore result in sub-villages, castes, or occupational groups constituting themselves as independent user groups, each of which will then prepare its own micro-plan and form its own committee. Social targeting may also lead to the exclusion of a part of a village if a particular sub-group is not relevant to the objectives of JFM or community forestry. Social targeting is the most difficult step in participatory planning since it may involve difficult and sensitive choices on the part of the Spearhead Team. Well-conducted PRA and stakeholder identification will, however, make social targeting an easier task. The Spearhead team will apply the following criteria in the identification of forest user groups for JFM.

- Preference will be given to user groups whose access to forest products is restricted by protection. They will have the first claim on benefits.
- Preference will be given to poorer groups whose livelihoods traditionally depend on forest products (i.e., resource-poor and vulnerable groups).
- Priority will be placed on identifying women as a separate user group because of the prevailing gender division of labour in relation to the use of forests.
- An effort will be made to avoid the inclusion of stakeholders and individual households who have an adverse effect on the subsistence-based use pattern of poorer and vulnerable groups and/or on the sustainable management and development of forests.

Social targeting with these criteria will ensure that the poor or assetless and women obtain their share of benefits from JFM. These measures are not intended to turn forest user groups into organisations of the poor or into women's groups, but the principle of representativeness implies that all interest groups should have a stake in forest management for it to be successful and sustainable.

Micro-Planning Using PRA

Village micro-plans for JFM will be prepared with the full participation of all members of forest user groups and even before the formation of the VFC. Once again, PRA will be conducted, but within the more narrow and operational framework of determining the priorities and components of the micro-plan. In the case of *van panchayats*, the Spearhead Team will ensure that all voices are heard, and not only those of the *van panchayat sarpanch* and committee members.

The micro-plan will contain a 5-year forest development and management plan. In those project areas selected for assisted natural regeneration, the JFM micro-plan, once completed, will become an integral part of the detailed site-specific plan for the area. The

project will support the FD in financing the plan for a 4-year period.

The participatory planning process will allow villagers to bring forward all their development priorities. They may decide to prepare a general rural development plan, although the plan will have to contain a component on forestry development and management. Or, they may decide to prepare a plan with an exclusive focus on forestry. The project will only finance forestry related activities. In order to ensure transparency, micro-plans will also describe all details of cost and benefit sharing arrangements. This will encourage accountability on the part of the VFC and *van panchayat* committees vis-a-vis their constituencies, which may include several sub-groups each with a specific stake in one or more components of the micro-plan. Given the regional differences and specific needs of communities, it is not possible to prescribe all activities in a micro-plan. However, in order to meet the overall objectives of the project, and the objectives of the JFM component in particular, the activities to be considered in micro-plans will follow the criteria outlined below. Priority will be given to the following.

- Activities supporting the sustainable development and management of forests that also meet different needs of the villagers
- Activities reducing pressure on and restoring forests (i.e., contributing to generation of biomass like fuelwood and fodder)
- Activities meeting women's needs that support their involvement in forest management
- Activities that will compensate those whose incomes have been reduced by the imposition of forest protection
- Income-generation activities in support of the needs of the principal users of forests affected by protection arrangements

Formation of the Village Forest Committee

The VFC will be formed in accordance with the rules of the UP *Panchayati Raj* Act (Sections 29-6) of 1947 that allows for the constitution of sub-committees of a village *panchayat* (*gram sabha*). The *gram sabha* concerned will delegate its powers to the VFC in a way that allows for autonomous decision-making, planning, and management of activities and finances. The Spearhead Team will assist the forest user group in the process of electing VFC members representing all the sub-groups who will have an active role in the implementation of the micro-plan and share the benefits.

The composition of the six-member VFC is also spelled out in the JFM rules. The *gram* (*sabha*) *pradhan* is the ex-officio chairman of the VFC and the local Forester/Forest Guard is a non-voting member secretary. The functioning of the VFC will be carefully monitored in regular JFM review workshops with regard to its impact on the functioning of the forest user group, commitment to implementation of the micro-plan, and cost/benefit sharing. The project's NGO Fund will finance NGOs to support further capacity building of VFCs during the implementation of the micro-plan (see the paragraph on NGO funding below).

JFM Agreement

The 5-year JFM micro-plan will form the basis of the agreement between the VFC/*van panchayat* and the FD. A draft agreement format prepared by the FD will be used as a model, although the final contents of the agreement will be subject to the outcome of negotiations between the VFC/*van panchayat* and the FD in which all members of the forest user group will participate.

The agreement will specify the detailed budget for all activities (as in the micro-plan), cost and benefit sharing arrangements (as in the micro-plan - a detailed description of benefit sharing arrangements in the micro-plan will ensure transparency), FD financing procedures (to the Village Development Fund and VFC/*van panchayat* bank account), and all other roles and responsibilities of the FD and VFC/*van panchayat* during plan implementation.

4.3.6 Guidelines for JFM Micro-plans

General Guidelines

The general guidelines are as follow.

- The maximum area of a VFC micro-plan will be about 300 ha.
- Two categories of activities within the micro-plan will be funded by the project: rehabilitation through planting, and rehabilitation through protection.
- The average cost of micro-plan implementation will be about Rs. 7,000 per hectare, giving a total cost of micro-plan implementation over 300 ha of about Rs. 2.1 million. The cost is based on the assumption that 15 per cent of the area will be planted and the remainder protected and rehabilitated.
- The VFC will provide protection for the whole area either by employing someone or through shared responsibilities. This is assumed to be at the rate of 1 person per day per 30 ha.

Rehabilitation through Planting

- Planting will vary in intensity throughout the area, but the average cost for rehabilitation through planting should not exceed Rs 8,000 per hectare.
- Villagers will have to contribute 20 per cent of the cost of planting.
- High quality planting material will be used, the assumed cost is Rs. 6.00 per seedling.
- Funds for planting cannot be spent on other activities.

Rehabilitation through Protection and Management

- For areas to be rehabilitated through protection, the VFC will receive a fixed sum of Rs. 650 per year for every hectare of effective protection during the first 5 years of micro-plan implementation. This will cover all non-planting costs including, for example, the cost of wall construction, fire lines, controlled burning, and demarcation of areas for rotational grazing.
- The micro-plan and the agreement between the FD and the VFC will define the (site-specific) indicator(s) that will be used to determine the effectiveness of protection to release payment.
- Money will be paid into the Village Forest Development Fund (VFDF) and may be used to pay for any activity in the Village Development Plan.
- In the first year, the DFO can approve the release of the money in advance as a measure of good faith. Payment will be limited to five years, thereafter the expected flow of benefits should ensure the sustainability of the arrangements.

4.3.7 Voices from the Field

The World Bank funded UP Forestry Project envisages public participation at every feasible level. Before launching the project in April 1998, large-scale preparatory workshops, sensitisation seminars, and capacity building workshops were conducted between October 1996 and December 1997 at the regional, district, and village-levels. An NGO called the Centre for Development Studies of the UP Academy of Administration (CDS-UPAA), Nainital, has played a key facilitatory role in conducting the workshops, and in the consolidation and synthesis of the various workshop recommendations. These recommendations will be followed in the course of project implementation. The gist of the main recommendations from the different workshops is given below.

Recommendations of the NGO Workshop

- The existing structure of *van panchayats* should be used for the implementation of JFM.
- In those areas where *van panchayats* do not exist, an attempt should be made to creating them on a massive scale.
- The number of *van panchayat* inspectors should be increased to facilitate the formation of *van panchayats* in Dehradun, Tehri Garhwal, and Uttarkashi districts where there are none at present. These officials will not only gear up the formation of *van panchayats* but will also speed up the process of JFM.
- There is a need to conduct a detailed study of the operational difficulties in the formation of *van panchayats*, especially in view of the *Van Panchayat Niyamawali* (Rules) as they exist today. The study is of extreme importance in view of the requirements for the micro-plan component of JFM.

- The constitution of JFM should be on a similar pattern to that of a *van panchayat* committee, with 6-9 members. However, nominees of the Revenue and Forest Departments and NGOs should be co-opted as additional members with no voting rights. The role of these co-opted members should be purely advisory.
- Implementation of the JFM project component should be on a District Rural Development Association (DRDA) pattern for the purposes of devolution of funds, i.e., the flow of funds for the project should go directly to the JFM body and the range level tier should be used primarily to conducting monitoring and evaluation work.
- While preparing the micro-plan for each JFM command area, emphasis should be given to looking at forests being beyond the means of generating income, and hence all the possible existing benefits of forest products must be documented.
- While preparing the micro-plan, a complete assessment of the existing carrying capacity of the JFM command area concerned should be made.
- Preparation of the micro-plan must be based on the village ecosystem, and subjects like fodder development and non-timber forest product promotion must be given special consideration.
- Villagers, who have drawn their sustenance from forests, have a cultural and emotional relationship with forests. They also have a deep and traditional knowledge of the management and use of forest resources. Importance must be given to their indigenous knowledge and culture while preparing micro-plans.
- A preparatory workshop should be organised for scheduling the agenda and providing detailed guidelines for conducting range-level workshops. The objectives of JFM should be made clear to all concerned in the implementation of this project through such workshops. The agenda of this workshop should also attempt to arrive at a consensus for standardising the methodology to be used in range-level workshops in order to send a clear-cut message about the project.
- For successful implementation of the project it will also be useful to sensitise all the officials of the district administration, forest department, and revenue department who are likely to be directly or indirectly associated with the project at different stages.
- The NGOs will act as motivators and leaders in the planning and successful implementation of JFM. Later, they may also monitor and evaluate the programme. However, the credibility and sincerity of some of the NGO workers is doubtful. They should be extremely committed to their cause and function as a bridge between the people and the government.
- *Mahila mangal dals*, or local women's groups, in the villages of Uttarakhand region should be considered as NGOs, since women in rural areas are the main working force and their subsistence is largely forest based. This is considered necessary because there is a paucity of women's NGOs as well as of women working in NGOs as community motivators.
- The Forest Training Institute Haldwani and other Institutes should also conduct motivational training for Forest Department staff, NGOs, *van sarpanches*, and *mahila mandal dals* to help spread the message of JFM through *van panchayats*.
- Two Spearhead Teams should be constituted, one each for the Kumaon and Garhwal regions, taking due care and precautions in the selection of their members.
- Each Spearhead Team should prepare two pilot micro-plans for the identified JFM command areas. The final decision taken on the modalities of completing the task of preparing the micro-plans should be taken on the basis of the experience so gained by the two Spearhead Teams.
- Although NGOs possess a lot of experience, capacity, qualifications, and specialisations in different fields, these may still not be enough. In order to clearly understand and visualise the role of NGOs in JFM, a survey should be conducted to identify NGOs that are suitable in the context of the requirements of the programme, and only such NGO's should be invited to collaborate.

- Assistance should be solicited from NGOs at various stages of JFM to disseminate awareness among *van panchayats* and villagers, to develop their capacities and skills, and to strengthen their organisation.
- Cooperation should be sought from NGOs in the preparation of training packages and organisation of training programmes for the capacity-building of Spearhead Groups, *van panchayats*, *mahila mandal dals*, and Forest Department officials.
- NGOs should also be involved in the preparation of micro-plans and in monitoring and evaluation of the work done under JFM at different stages.

Other Related Recommendations

- An organisation of *van panchayats* should be created at the district and state levels.
- There is a need to carry out a specific study of the land that has been abandoned by absentee landlords in Uttarakhand region so that such land can be reclaimed for JFM with the consent of the owners.
- A research programme should be undertaken to study the possibility of consolidating landholdings in the Uttarakhand region. The CDS-UPAA Nainital can co-ordinate this task.
- A survey and documentation of Civil Soyam forests should also be undertaken by CDS-UPAA Nainital along lines similar to that of the *van panchayats'* survey for implementation of JFM.
- Sensitisation of people's representatives like Members of Parliament, Members of Legislative Assembly (MLAs), chairmen, *zila panchayats*, *block pramukhs*, and *gram pradhans* should also be initiated to familiarise them with the aims and objectives of JFM and solicit their support for implementation of the project.

Recommendations of Field Level Workshops

Field-level workshops were conducted between January 1997 and March 1997 in all the divisions of Uttarakhand. The public responded very enthusiastically and even village women attended these workshops with avid interest and gave very useful suggestions. The objectives of these workshops were two fold. Firstly, they were to sensitise range-level staff, village-level people, *van panchayat sarpanchs*, and local NGOs, and to get to know their views about the ways in which JFM could be introduced successfully. Secondly, they were to verify the suitability of areas selected for the introduction of JFM during the module development workshop.

On average 45 participants took part in each of these workshops. The recommendations and sentiments expressed during the workshops show clearly that JFM can be a reality in Uttarakhand if some of the basic problems of the villagers are addressed first, and if this novel programme is implemented with all sincerity by the Forest Department and other related government departments. Some of the basic problems that need to be addressed first for the implementation of successful participatory forest management are identified below.

- Alternative arrangements must be made for fuel and fodder supply during the formative years of JFM. This problem can be solved by not allotting dead and uprooted trees to the *van nigam*, as currently done, but instead giving local villagers access to these forest products at concessional rates.
- There have been no elections in *van panchayats* in many areas. Elections should be held immediately and meetings held on a regular basis. There should also be greater involvement, and the revenue authorities should pay greater attention to the *van panchayats* by posting more staff.
- Lack of water during the dry season is a limiting factor. Serious thought should be given to rejuvenating drying streams. Repair of non-functional water pipelines should also be taken up.
- Encroachment should be halted in the areas where JFM will be launched, otherwise it will dampen the enthusiasm of others.
- Dairy, fruit, and NTFP cooperatives should be created alongside JFM so that marketing facilities can be provided for the villagers.
- Proper training should be arranged for capacity building of villagers on methods of lopping, grass collection, stall feeding, plan-

tation and seed collection, identification of local herbs, shrubs, and trees and their uses, better use of dung, and water and soil conservation. These capacity-building activities should be arranged before or during the project. Until and unless a traditional attitude towards overuse of forest products is changed, it will be difficult to attain the objectives of JFM.

- Proper demarcation and settlement of disputes should be done before JFM implementation and, as far as possible, JFM should be kept free from party politics.
- Gainful employment for local educated and uneducated young people should be given consideration under the project because most illegal activities are taken up by unemployed youths and not by older people.
- Consolidation of very small *van panchayat* areas should be taken up before introducing JFM in such areas. Consolidation can proceed side-by-side with increasing the area of *panchayats* to make them ecologically viable by including Civil Forest and degraded Reserve Forest.

Some other recommendations

- Micro-planning for an area should be people oriented, and the people should prepare the plans themselves. Forest department personnel should only have an advisory role.
- In areas where there are only *banj* (oak) trees, an effort should be made to develop the best use of oak seeds and leaves.
- Only the rill method should be used to tap resin from chir trees.
- *Sarpanchs* should be chosen with the utmost care. The *sarpanch* should be provided with all information as and when they require by the local Range Officers. The attitude of the Range Officer and his office members should be cooperative in this matter.
- Better road management and introduction of better quality cattle should be tried.

4.3.8 Present Status (1988)

The villages to be included in the JFM Project in the first year have been selected. So far 26 Spearhead Teams involving 69 forest personnel and 62 NGO members have been trained and are now preparing micro-plans for the areas listed in Table 29. The World Bank has already approved one model micro-plan for the hill region, and all the micro-plans being prepared in the hill region are being based on this model, with site specific changes as required. The first model micro-plan for the *Terai* region is under consideration.

4.4 Human Resource Development

The Uttarakhand region of the UP Forest Department has a Range Officer Training Institute at Haldwani which was recently upgraded to an institute for training *van panchayat sarpanches* and renamed the Forestry and *Van Panchayat* Training Institute (FVTI). In addition, there are two Forest Guard schools, one at Tarikhet in Almora and one at Dakpatthar in Dehradun.

Every year, 30 to 40 range officers and 50 to 60 *van panchayat sarpanchs* are trained at the FVTI, Haldwani, and 20 to 25 forest guards are trained at the two forest guard schools. However, both the courses for range officers and those for forest guards lack topics related to participatory management of forest and PRA techniques. Now that the emphasis in the UPFD has changed to focus on participatory management, the curriculum should be revised.

The Forest Department also has a large number of other types of employee like resin *moharrirs*, plantation *jamadars*, and seasonal helpers in nursery and various forestry work. Training will have to be arranged for all forest personnel at every conceivable level to facilitate the process and attitudinal change envisaged by the project. Efforts are already being made in this direction. Development of professional competence among development functionaries was advocated in the National Forest Policy of 1988. This will entail a change in the work style and job requirements of UPFD staff at all levels, changes in attitude, and changes in outlook, changes in functional relationships with other staff within UPFD and with the public, and changes in competence and

professional and technical skills. A brand new approach to human resource development (HRD), in which roles are clearly defined, will be needed to bring about such changes. Once roles have been defined, functionaries can be selected, assigned specific training, and thereafter assigned to specific jobs. The UP Forestry Project envisages several job-specific and site-specific training programmes under its HRD component during the next four years (from March 1998 onwards).

Non-government organisations (NGOs) will make a major contribution to the implementation of the JFM and Eco-development Programmes under this project because many NGOs have extensive experience of using participatory processes in rural development. Suitably experienced NGOs will be sought to assist with the orientation and training of UPFD staff and with the implementation of village-level programmes. Suitable NGOs are being identified to assist with workshops for the orientation of senior UPFD staff and, wherever possible, to provide women staff to work in Spearhead Teams as members. Training on PRA and other necessary skills is being given to all the members of the Spearhead Teams.

4.5 The Potential and the Challenges

The greatest potential factor for the success of JFM in the UP hills is the strong base provided by the *van panchayat* system, which is more than 65 years old. The concept of Joint Forest Management is not unfamiliar to the people of Uttarakhand, but modern JFM does not envisage or expect only partial participation of people through a village *sarpanch* as is happening today in the *van panchayats*. Under JFM, each and every member of the village protection committee, whose membership will continually change, will have to perform his or her own role in forest conservation. At the same time, any accrued economic benefit must be shared equally, which is not happening at present either. In the hills, the aim of JFM may not be to obtain direct benefit in the shape of timber—the basic idea in these areas is to conserve biodiversity, soil, and water. Thus JFM in the hills will have to obtain economic benefits from forestry work in association with the Forest Department and through harvesting NTFPs.

A study conducted by the Centre for Minor Forest Products, in Dehradun in the Kumaon region, showed that there is a great potential for raising medicinal plants, bee keeping, resin tapping, and production of grass. Rearing of silkworms on oak leaves is also a new prospect. Markets exist for these products.

The present system of resin tapping and *jaributi* (medicinal plants) collection by the Forest Department and some other governmental agencies can be taken over by the JFM village committee and involve all the local unemployed young people. Large tracts of denuded Civil Forest lands can be used productively for large-scale pine plantations and medicinal herb production with technical support and supervision from the Forest Department. However, the greatest challenge in realising the objectives listed above is to prepare local people and government officials mentally and to help them accept the concept of JFM. After about 100 years of one-sided management and protection by the Forest Department, and 65 years of apathetic treatment of *panchayat* and Civil Forests, it is not possible to inculcate JFM in the minds of people overnight.

Several village *sarpanchs* in Nainital were contacted by this study team. After hearing at length about several aspects of JFM, the villagers finally concluded that JFM was nothing but a novel and clever method that the Forest Department was using to annex *panchayat* forests. Thus there is need for wide-scale training at every possible level to sensitise government officials and villagers about the benefits of JFM. Mere classroom training will not achieve the objectives. The trainees will have to go to the field with the trainers and discuss various issues. Every batch of trainees should comprise 50 per cent government officials and 50 per cent villagers and local people. The trainees should be encouraged to prepare JFM micro-plans for the selected areas. Only mental acceptance on the part of both the government and the public will ensure the success of JFM in the UP hills. This is perhaps the first and the greatest hurdle.

Re-classification of all protected land, i.e., Civil Forest, and allotment of these lands to JFM is another necessary step if JFM is to be successful in the hills This is necessary because small areas of 50 to 60 ha are not ecologically viable in the long term. Thus the available area must be increased. Choosing Civil Forest areas to do this is appropriate because it is not possible to put large areas of Reserve Forests under JFM until or unless its success is assured.

Teaching local communities better methods of agriculture, fodder collection, stall feeding, and providing fire protection training, are some of the other challenges that will have to be met at the beginning. Challenges and difficulties always pose some problems before activities are implemented, and the introduction of JFM in the UP Hills is no exception. With the historical basis of the *van panchayat* system, JFM in the UP Hills is bound to be a success if handled properly and sensibly.

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