

## 8.10 HIMACHAL PRADESH

### 8.10.1 Introduction

Himachal Pradesh, situated in the lap of Western Himalayas, has a geographic area of 5.57 million ha. The State is almost wholly mountainous with altitudes ranging from 350 m to 6,975 m above the mean sea level. It is located between lat 30°22' to 33°12' N and long 75°45' to 79°04' E.

Physiographically, the State can be divided into five zones, viz., Wet Sub-temperate zone, Humid Sub-temperate zone, Dry temperate-Alpine High lands, Humid Sub-tropical zone and Sub-humid tropical zone. The major rivers of the state are Satluj, Beas, Ravi, Chenab, and Yamuna. The average annual rainfall in the State is about 1,800 mm. The minimum and maximum temperature ranges between sub-zero and 35°C. Of the total geographic area, about 33% is under permanent snow cover/ glaciers and cold desert where it is not possible to grow trees due to physical limitations. The land use pattern of the state is given in Table 8.10a.

The total population of the State is 6.08 million (*Census 2001*). Of this, rural population is 90.20% and urban 9.80%. The population density is 109 persons per km<sup>2</sup>. The Scheduled Tribes constitute 4.02% of the population mainly distributed over 3 districts. The livestock population is 5.12 million (*Livestock Census 2003*), which has increased marginally since the census of 1992.

### 8.10.2 Forest Resources

The recorded forest area is 37,033 km<sup>2</sup>, which is 66.52% of the geographic area of the State but a

substantial area of this is under permanent snow and glaciers. By legal status, Reserved Forests constitute 5.12%, Protected Forests, 89.23%, and Unclassed Forests, 5.65%.

The six major forest types occurring in the State are Tropical Dry Deciduous, Subtropical Pine, Subtropical Dry Evergreen, Himalayan Moist Temperate, Himalayan Dry Temperate, and Sub-Alpine/Alpine forests.

### 8.10.3 Protected Areas

There are two National Parks and 32 Wildlife Sanctuaries in Himachal Pradesh covering an area of 0.72 million ha which constitutes 12.93% of the State's geographic area. The Great Himalayan National Park which is famous for snow leopard is situated in the State.

### 8.10.4 Joint Forest Management

Joint Forest Management began in the State in 1993. There are 1,690 JFM committees managing 0.42 million ha of forest area as on March 2005 which is about 11 % of the forest area of the State. About 265,000 families are involved in JFM, of which 36,000 families belong to Scheduled Tribes.

*Source: Proceedings of the National Workshop on JFM, MoEF, 2005.*

### 8.10.5 Forest Cover

The forest cover of the State, based on satellite data of October-December 2004, is 14,369 km<sup>2</sup>, which is

**Table 8.10a: Land use pattern**

Land Use	Area in '000 ha	Percentage
Total geographical area	5,567	
Reporting area for land utilization	4547	100.00
Forests	1094	24.06
Not available for cultivation	1121	24.65
Permanent pastures and other grazing lands	1529	33.63
Land under misc. tree crops & groves	57	1.25
Culturable wasteland	124	2.73
Fallow lands other than current fallows	13	0.29
Current Fallows	54	1.19
Net area sown	555	12.21

*Source: Land Use Statistics, Ministry of Agriculture, GOI, 2005.*

25.81% of the geographic area. Very dense forest accounts for 1,097 km<sup>2</sup>, moderately dense forest, 7,831 km<sup>2</sup>, and open forest, 5,441 km<sup>2</sup>. The forest cover of the State is shown in Fig 8.10.

An increase of 10 km<sup>2</sup> of forest cover has been assessed in the present assessment as compared to the previous assessment (based on satellite data of October-December 2002).

The change matrix, given in Table 8.10b reveals that there has been an increase of 10 km<sup>2</sup> in open forest. The increase in forest cover is mainly due to plantations in the districts of Bilaspur, Mandi, Kangra, Shimla, Sirmaur and Una both in government and private/ panchayat lands as observed by FSI officials during field verification.

The district wise forest cover in very dense forest, moderately dense forest, open forest and scrub classes along with changes compared to 2003 assessment, has been provided in Table 8.10c.

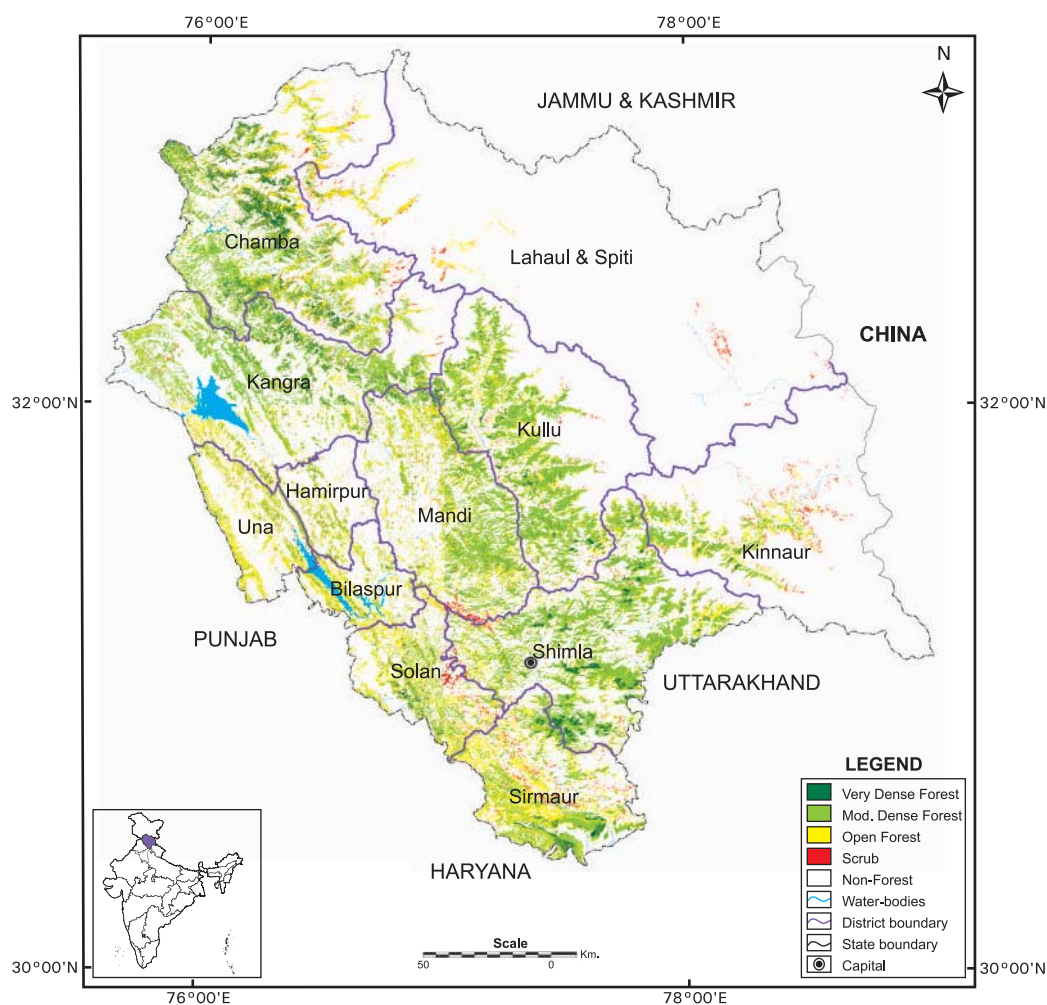
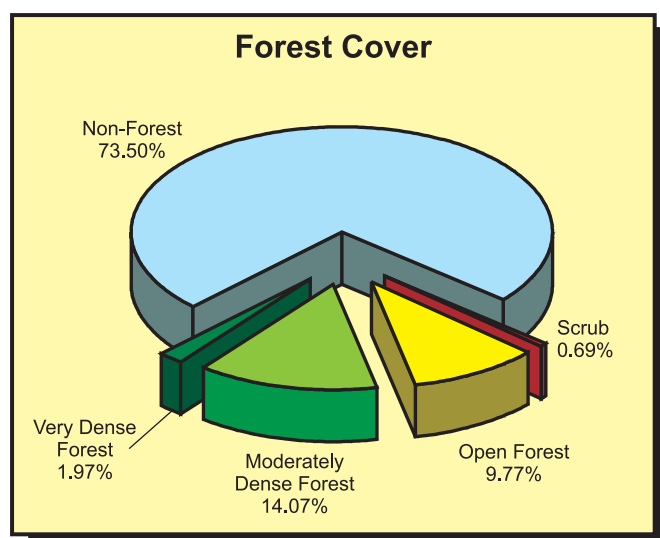


Fig 8.10 : Forest Cover Map of Himachal Pradesh

**Table 8.10b: Forest cover change matrix**

(area in km<sup>2</sup>)

2003 Assessment(Data of Oct.-Dec. 2002)	2005 Assessment (Data of Oct.-Dec. 2004)					Total 2003
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	1,097	0	0	0	0	1,097
Moderately Dense Forest	0	7,831	0	0	0	7,831
Open Forest	0	0	5,431	0	0	5,431
Scrub	0	0	1	383	0	384
Non Forest	0	0	9	0	40,921	40,930
<b>Total 2005</b>	<b>1,097</b>	<b>7,831</b>	<b>5,441</b>	<b>383</b>	<b>40,921</b>	<b>55,673</b>
Net Change	0	0	10	-1	-9	

**Table 8.10c: District-wise forest cover**

Number of Districts: 12

(area in km<sup>2</sup>)

District	Geographic area	2005 Assessment				Percent of G.A.	Change	Scrub
		Very dense forest	Mod. dense forest	Open forest	Total			
Bilaspur <sup>H</sup>	1,167	11	93	258	362	31.02	1	4
Chamba <sup>TH</sup>	6,522	436	1,131	846	2,413	37.00	0	52
Hamirpur <sup>H</sup>	1,118	3	106	133	242	21.65	0	5
Kangra <sup>H</sup>	5,739	134	1,250	495	1,879	32.74	4	20
Kinnaur <sup>TH</sup>	6,401	16	324	257	597	9.33	0	67
Kullu <sup>H</sup>	5,503	117	1,297	527	1,941	35.27	0	22
Lahaul & Spiti <sup>TH</sup>	13,841	7	28	150	185	1.34	0	48
Mandi <sup>H</sup>	3,950	78	929	644	1,651	41.80	1	39
Shimla <sup>H</sup>	5,131	192	1,576	611	2,379	46.37	0	28
Sirmaur <sup>H</sup>	2,825	59	628	692	1,379	48.81	1	54
Solan <sup>H</sup>	1,936	39	311	473	823	42.51	0	38
Una <sup>H</sup>	1,540	5	158	355	518	33.64	3	6
<b>Total</b>	<b>55,673</b>	<b>1,097</b>	<b>7,831</b>	<b>5,441</b>	<b>14,369</b>	<b>25.81</b>	<b>10</b>	<b>383</b>

### 8.10.6 Tree Cover

Tree cover of Himachal Pradesh has been estimated following a sampling based approach. A separate exercise was carried out where high resolution satellite data (5.8m) has been used for identification of tree patches for field inventory. Field inventory has been carried out on 558

sample plots spread over 4 districts of the State between 2002-06 and the estimated tree cover in the State is 709 km<sup>2</sup>.

The Forest & tree cover of the State is presented in the Table 8.10d.

**Table 8.10d: Forest & tree cover**

(area in km<sup>2</sup>)

Category	Area	% of Geographical Area
Tree Cover	709	1.27
Forest Cover	14,369	25.81
<b>Forest &amp; Tree Cover</b>	<b>15,078</b>	<b>27.08</b>