

## 7.11 JAMMU & KASHMIR

### 7.11.1 Introduction

Jammu & Kashmir is the northernmost State of the country, which shares international borders with Pakistan, Afghanistan and China. Famous for scenic beauty the State has a geographical area of 222,236 km<sup>2</sup> which lies between latitude 32° 17' and 37° 05' N and longitude 72° 31' and 80° 20' E. The State is divided into three geographical regions viz Ladakh, Kashmir Valley and Jammu. The higher regions are covered by Pir Panjal, Karakoram and Inner Himalayan ranges. The important rivers of the State are Chenab, Ravi and Jhelum. Land use pattern of the State is given in the Table 7.11.1.

The annual rainfall and temperature in the State range between 600 to 800 mm and sub zero to 40° C respectively.

As per Census 2001, the total population of the State is 10.07 million of which the rural population constitutes 75.12%. The population density is 45 persons per km<sup>2</sup>. The projected population of the State is 11.41 million (as projected by the Office of RGI, for the year 2009) which constitutes 1.06% of the country's population. The livestock population as per Livestock Census 2003 is 9.90 million.

### 7.11.2 Recorded Forest Area

The recorded forest area of the State is 20,230 km<sup>2</sup>. Reserved Forests constitute 87.21%, Protected

Forests 12.61% and Unclassed Forests 0.18% of the total forest area. About two third of the State's geographic area is under recorded forests. But a substantial part of this is not conducive for tree growth, being under permanent snow, glaciers and cold deserts.

### 7.11.3 Protected Areas

Jammu & Kashmir has 4 National Parks and 15 Wildlife Sanctuaries and 33 Conservation Reserves, covering an area of 14,997.86 km<sup>2</sup> which constitutes 6.75% of the State's geographic area. The Dachigam National Park is famous for Hangul. Wular lake, situated in Baramulla district, covering an area of 8,900 ha, is one of the wetlands of international importance, and has been designated as a Ramsar site.

### 7.11.4 Joint Forest Management

JFM started in the State in 1990 and has about 11% of the forest area under it. There are 2697 JFM committees managing 1,141 km<sup>2</sup> of forest area. The members are entitled to get a share of 25% of the net proceeds from the first major harvest of the plantation; and also collect grass, fodder, dry and fallen wood etc. free of cost.

Source: *Handbook of Forest Statistics, J&K Forest Department, 2006.*

### 7.11.5 Forest Cover

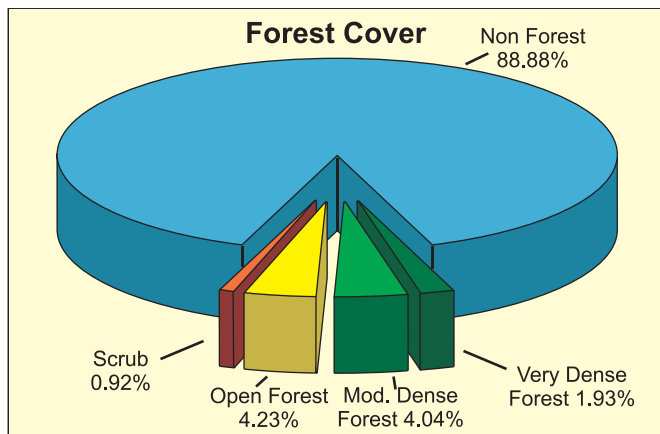
The forest cover in the State, based on

**Table 7.11.1: Land use pattern**

Land Use	Area in '000 ha	Percentage
Total geographical area	22,224	
Reporting area for land utilization	3,781	100.00
Forests	2,023	53.50
Not available for cultivation	582	15.39
Permanent pastures and other grazing lands	128	3.39
Land under misc. tree crops & groves	72	1.90
Culturable wasteland	146	3.86
Fallow lands other than current fallows	16	0.42
Current fallows	74	1.96
Net area sown	742	19.62

Source: *Land Use Statistics, Ministry of Agriculture, GOI, 2006.*





interpretation of satellite data of Oct 2006 - Jan 2007, is 22,686 km<sup>2</sup>, which is 10.21% of the State's geographical area. In terms of forest canopy density classes, the State has 4,298 km<sup>2</sup> very dense forest, 8,977 km<sup>2</sup> moderately dense forest and 9,411 km<sup>2</sup> open forest. The distribution of forest cover of the State is shown in Fig. 7.11.

Comparison of the current forest cover (satellite data of Oct 2006 - Jan 2007) with the previous assessment (satellite data of Sep - Dec 2004) shows a loss of 3 km<sup>2</sup> of forest cover.

The change matrix, given in Table 7.11.2, reveals that there has been a decrease of 3 km<sup>2</sup> in open forest.

On the basis of ground truthing by the officials of FSI and the information gathered from the State Forest Department, main reason for the decrease in forest cover in the districts Kathua and Udhampur is biotic pressure.

District wise forest cover in different canopy density classes and scrub along with the changes compared to 2005 assessment is given in the Table 7.11.3.

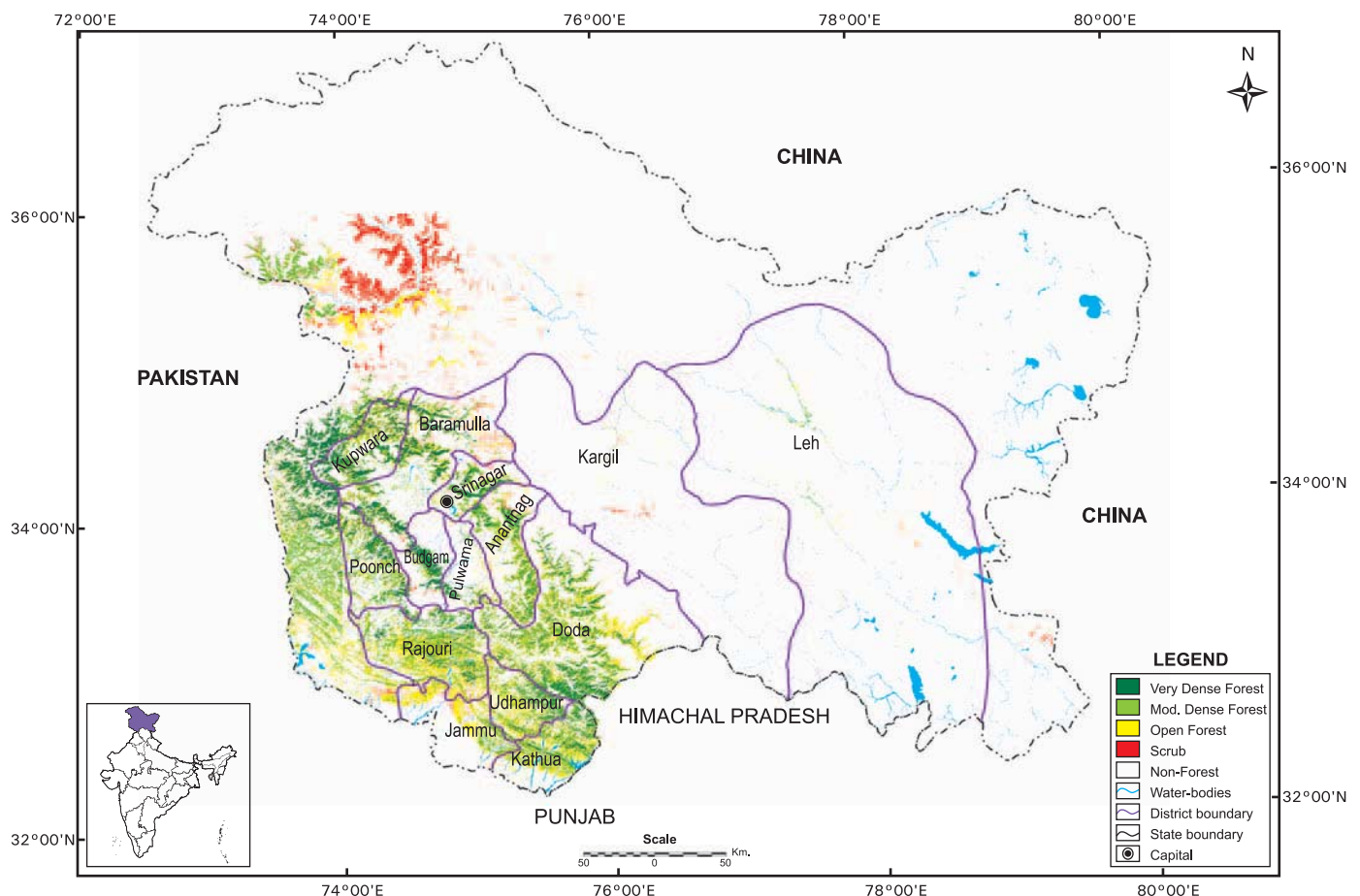


Fig 7.11 : Forest cover map of Jammu & Kashmir



**Table 7.11.2: Forest cover change matrix**

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

2005 Assessment (Data of Sep - Dec 2004)	2007 (Data of Oct 2006 - Jan 2007)					Total of 2005
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	4,298	0	0	0	0	4,298
Moderately Dense Forest	0	8,977	0	0	0	8,977
Open Forest	0	0	9,410	0	4	9,414
Scrub	0	0	0	2,036	6	2,042
Non-Forest	0	0	1	0	197,504	197,505
<b>Total of 2007</b>	<b>4,298</b>	<b>8,977</b>	<b>9,411</b>	<b>2,036</b>	<b>197,514</b>	<b>222,236</b>
Net Change	0	0	-3	-6	9	

**Table 7.11.3: District-wise forest cover in 2007**

Number of districts: 14

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

District	Geographical area	Very dense forest	Mod. dense forest	Open forest	Total	% of G.A.	Change*	Scrub
Anantnag <sup>H</sup>	3,984	196	664	561	1,421	35.67	0	23
Baramulla <sup>H</sup>	4,588	438	280	441	1,159	25.26	0	86
Budgam <sup>H</sup>	1,371	121	64	40	225	16.41	0	4
Doda <sup>H</sup>	11,691	627	1,649	1,673	3,949	33.78	0	3
Jammu <sup>H</sup>	3,097	19	213	657	889	28.71	0	21
Kargil <sup>H</sup>	14,037	0	3	18	21	0.15	0	19
Kathua <sup>H</sup>	2,651	194	625	673	1,492	56.28	-1	6
Kupwara <sup>H</sup>	2,379	479	358	323	1,160	48.76	0	3
Leh <sup>H</sup>	45,110	0	46	58	104	0.23	0	9
Outside of Line of Control <sup>H</sup>	120,848	1,340	2,470	2,567	6,377	5.28	-1	1,793
Poonch <sup>H</sup>	1,674	174	331	222	727	43.43	0	10
Pulwama <sup>H</sup>	1,398	114	89	54	257	18.38	0	8
Rajouri <sup>H</sup>	2,630	83	604	588	1,275	48.48	0	6
Srinagar <sup>H</sup>	2,228	196	306	250	752	33.75	0	16
Udhampur <sup>H</sup>	4,550	317	1,275	1,286	2,878	63.25	-1	29
<b>Total</b>	<b>222,236</b>	<b>4,298</b>	<b>8,977</b>	<b>9,411</b>	<b>22,686</b>	<b>10.21</b>	<b>-3</b>	<b>2,036</b>

\* Change compared to 2005 assessment (revised).



### 7.11.6 Altitude Zone wise Forest Cover

Forest cover of the State in different altitude zones is given in Table 7.11.4.

**Table 7.11.4: Altitude zone wise forest cover**

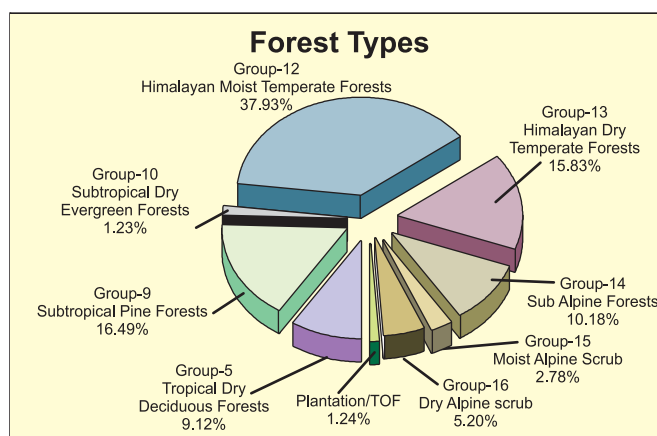
(area in km<sup>2</sup>)

Altitude Zone	VDF	MDF	OF	Total
0-500m	5	187	702	894
500-1000m	147	1,336	2,170	3,653
1000-2000m	680	2,522	2,136	5,338
2000-3000m	2,711	3,493	2,607	8,811
>3000m	755	1,439	1,796	3,990
<b>Total</b>	<b>4,298</b>	<b>8,977</b>	<b>9,411</b>	<b>22,686</b>

(based on SRTM Digital Elevation Model)

### 7.11.7 Forest Cover in different Forest Types

As per Champion & Seth Classification (1968), the State has 39 forest types which belong to 8 forest type groups viz Tropical Dry Deciduous, Subtropical Pine, Subtropical Dry Evergreen, Himalayan Moist Temperate, Himalayan Dry Temperate, Sub Alpine Forests, Moist Alpine Scrub and Dry Alpine Scrub. Distribution of forest cover in different forest type groups found in the State is given in the pie diagram.



### 7.11.8 Tree Cover

Tree cover of the State has been estimated using sample data of TOF inventory collected over a period of six years i.e. 2002-08. The estimated tree

cover in the State is 6,764 km<sup>2</sup> which is 3.04 % of the geographical area of the State. The forest and tree cover of the State is presented in the Table 7.11.5.

**Table 7.11.5: Forest & tree cover**

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

Category	Area	% of Geographical area
Tree Cover	6,764	3.04
Forest Cover	22,686	10.21
<b>Forest &amp; Tree Cover</b>	<b>29,450</b>	<b>13.25</b>