



Jammu & Kashmir

9.11.1 Introduction

Jammu & Kashmir is the northern-most State covering an area of 2,22,236 sq km, which is 6.76% of the geographical area of the country. Physiographically, the state can be divided into three major regions namely Leh, Kashmir valley and Jammu. The average annual rainfall varies from about 600 mm to about 800 mm and the average annual temperature ranges from sub-zero to 40°C. The state is drained by a number of important rivers, which includes Jhelum, Chenab, Indus, Ravi and Tawi. The state has 15 districts, all of which are hill districts. The state does not have any tribal districts. As per the 2011 census, Jammu & Kashmir has a population of 12.54 million accounting to 1.04 percent of India's population. The rural and urban population constitutes 72.62% and 27.38% respectively. The population density of the state is 124 per sq km which is lower than the national average of 382 persons per sq km. The 19th Livestock census 2012 has reported a total livestock population of 9.2 million.

Table 9.11.1 Land Use Pattern

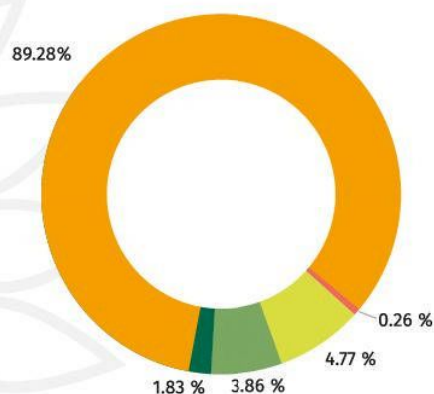
Land Use Types	Area (in 000' ha)	Percentage
Total Geographic Area	22,224	
Reporting area for land utilization(o)	4,012	100.00
Forests	2,254	56.20
Not available for land cultivation	573	14.29
Permanent pastures and other grazing lands	114	2.84
Land under misc. tree crops and groves	65	1.62
Culturable wasteland	134	3.34
Fallow land other than current fallows	16	0.40
Current fallows	114	2.84
Net area sown	741	18.47

(o): Excludes area under the illegal occupation of Pakistan and China
 Source: Land Use Statistics, Ministry of Agriculture, GOI, 2013-14.

9.11.2

Forest Cover

Based on interpretation of satellite data pertaining to Oct-Dec 2015, the forest cover in the State is 23,241 sq km, which is 10.46% of the State's geographical area. In terms of forest canopy density classes, the state has 4,075 sq km under very dense forest, 8,579 sq km under moderately dense forest and 10,587 sq km under open forest.



Forest cover of Jammu & Kashmir

Pie Chart showing forest cover of Jammu & Kashmir

■ Non Forest
 ■ Scrub
 ■ Open Forest
 ■ Mod. Dense Forest
 ■ Very Dense Forest

9.11.3

Forest Cover within and outside Green Wash Area

The State has reported a recorded forest area of 20,230 sq km which is 9.10% of the State's geographic area. The Reserved, Protected and Unclassed Forests are 87.21%, 12.61% and 0.18% respectively of the recorded forest area. Due to non-availability of digitized boundary of recorded forest area from the State, the updated green wash which is 24,466 sq km has been used and the analysis of forest cover within and outside this area is depicted below.

Table 9.11.2 Forest Cover within and outside Green Wash Area

Forest Cover within Green Wash (area in sq km)	
Very Dense Forest	3,698
Moderately Dense Forest	6,148
Open Forest	5,564
Total	15,410
Forest Cover outside Green Wash	
Very Dense Forest	377
Moderately Dense Forest	2,431
Open Forest	5,023
Total	7,831
Total Forest Cover	23,241
Tree Cover	7,815
Total Forest & Tree Cover	31,056
Of State's Geographical Area	13.97%
Of India's Forest & Tree Cover	3.87%
Per capita Forest & Tree Cover	0.25 ha

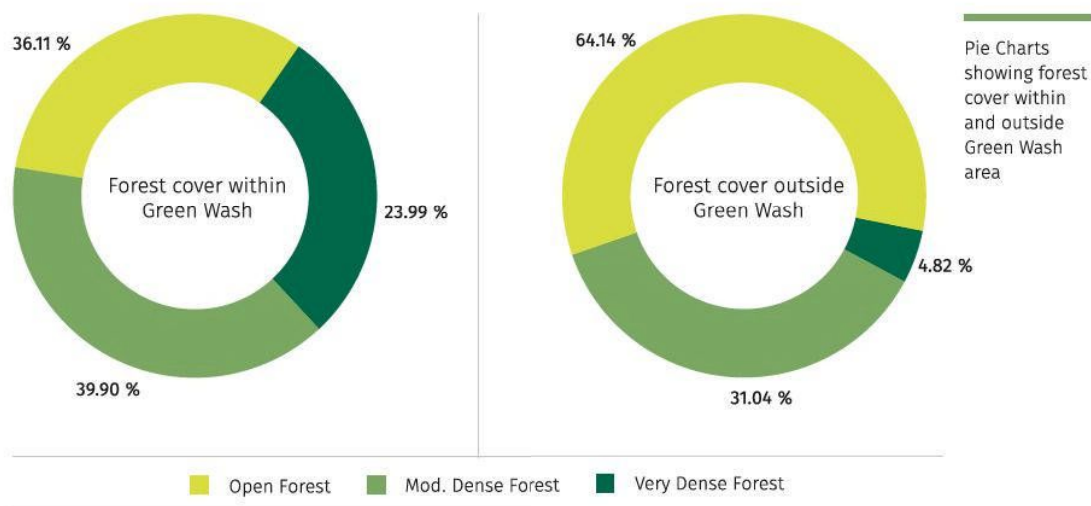


Table 9.11.3 Altitude-wise Forest Cover (Area in sq km)

Altitude Zone(m)	Geographical Area	VDF	MDF	OF	Total
0-500	5,084	1	227	681	909
500-1000	6,585	51	1,367	2,242	3,660
1000-2000	16,089	666	2,391	2,941	5,998
2000-3000	19,306	2,716	3,343	2,890	8,949
3000-4000	33,728	641	1,248	1,795	3,684
>4000	1,41,444	0	3	38	41
Total	2,22,236	4,075	8,579	10,587	23,241

(Based on SRTM, Digital Elevation Model)

Table 9.11.4 Forest Cover in different Patch Size Classes

S.No.	Patch Size Range in (sq km)	No. of Patches	Area(sq km)	%age
1.	≥ 0.01 ≤ 1.0	41,872	2,900	12.48
2.	> 1.0 ≤ 10	798	2,067	8.89
3.	> 10 ≤ 100	97	2,754	11.85
4.	> 100 ≤ 500	15	3,120	13.42
5.	> 500 ≤ 1000	4	2,874	12.37
6.	> 1000 ≤ 5000	5	9,526	40.99
	Total	42,791	23,241	100

Table 9.11.5 Growing Stock

	Growing Stock	% Contribution to country
Growing Stock in Recorded Forest Area	232.837 m cum	5.52
Growing Stock in TOF	146.082 m cum	9.11
Potential Production of industrial wood from TOF	2.80 m cum	3.76
Bamboo bearing area within forest area of the state	-	-
Total number of culms	-	-
Total green weight equivalent of culms	-	-

9.11.4

Carbon Stock in forest

The total Carbon stock of forests in the State is 275,926 million tonnes (1011,729 million tonnes of CO₂ equivalent) which is 3.90% of total forest carbon of the country.

9.11.5

Decadal Change in water bodies within Forest

An increase of 20 sq km has been observed in the water body coverage compared to 2005. The graphical and tabular comparison is depicted below.

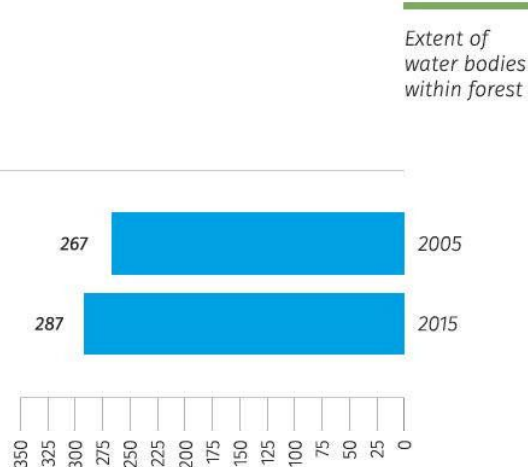


Table 9.11.6 Water bodies within Forest for the years 2005 and 2015

Area / Coverage	2005	2015
Extent of water bodies (sq km) within Forest	267	287
% of water bodies to Forest Cover	1.18	1.23

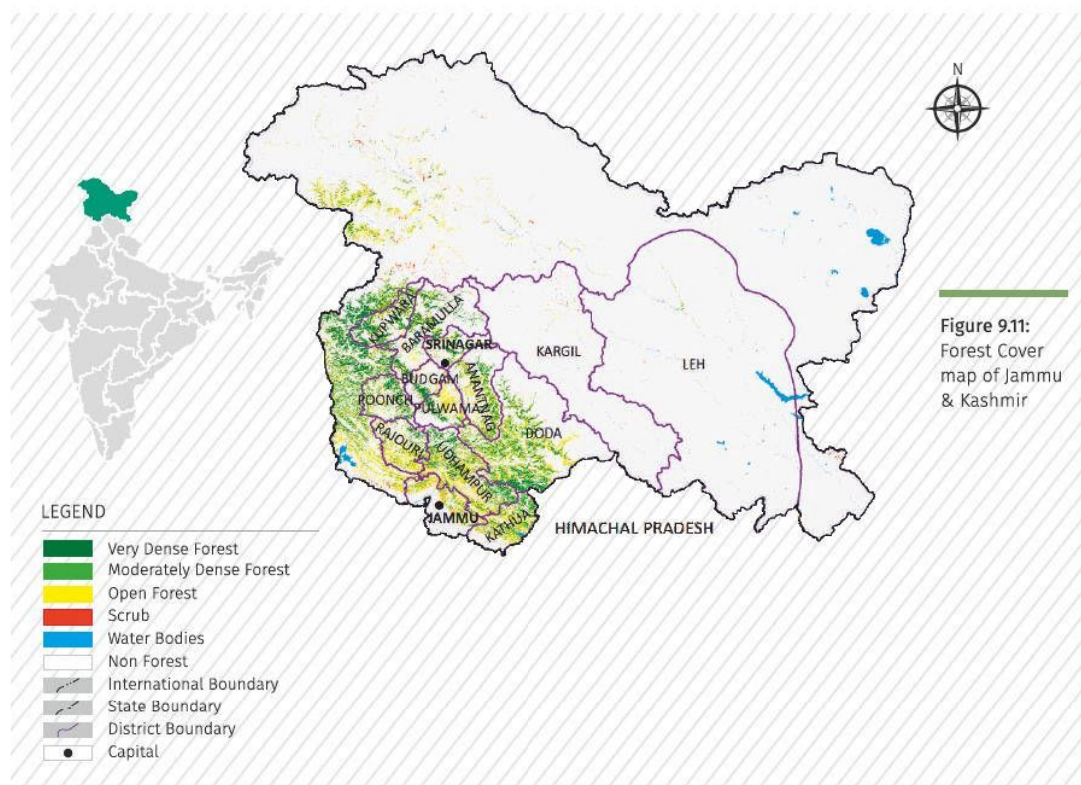


Table 9.11.7 District- wise Forest Cover							(area in sq km)	
District	Geographical Area	2017 Assessment			% of GA	Change *	Scrub	
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Anantnag ^h	3,984	149	617	621	1,387	34.81	-14	14
Baramulla ^h	4,588	445	321	391	1,157	25.22	34	15
Budgam ^h	1,371	108	69	135	312	22.76	61	17
Doda ^h	11,691	589	1,663	1,567	3,819	32.67	22	7
Jammu ^h	3,097	0	315	581	896	28.93	1	53
Kargil ^h	14,037	0	1	45	46	0.33	7	27
Kathua ^h	2,651	111	618	645	1,374	51.83	-24	7
Kupwara ^h	2,379	468	369	313	1,150	48.34	0	3
Leh ^h	45,110	0	14	78	92	0.20	-3	28
Outside LOC ^h	1,20,848	1,347	2,460	3,422	7,229	5.98	245	335
Poonch ^h	1,674	187	289	239	715	42.71	-13	4
Pulwama ^h	1,398	104	102	292	498	35.62	21	5
Rajouri ^h	2,630	48	437	759	1,244	47.30	4	8
Srinagar ^h	2,228	162	217	207	586	26.30	-41	8
Udhampur ^h	4,550	357	1,087	1,292	2,736	60.13	-47	42
Total	2,22,236	4,075	8,579	10,587	23,241	10.46	253	573

*Change compared to updated 2015 assessment.

Table 9.11.8 Forest Cover Change Matrix

(area in sq km)

Class	2017 Assessment					Total ISFR 2015 updated
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	3,652	251	70	1	87	4,061
Moderately Dense Forest	277	7,332	657	14	535	8,815
Open Forest	74	599	8,415	40	984	10,112
Scrub	2	8	39	386	190	625
Non Forest	70	389	1,406	132	1,96,626	1,98,623
Total ISFR 2017	4,075	8,579	10,587	573	1,98,422	2,22,236
Net Change	14	-236	475	-52	-201	

9.11.6

Reasons for change detected in 2017 assessment

The main reason for net increase of 253 sq km in forest cover in the State can be attributed to plantation and conservation activities as well as improvement in interpretation due to better radiometric resolution of the recent satellite data from Resourcesat-2.

