

7.23 RAJASTHAN

7.23.1 Introduction

Rajasthan, the largest State of the country, is located in the northwestern part of the country. It has a geographical area of 342,239 km², which constitutes 10.41 % area of the country. It lies between latitude 23°4' to 30°11' N and longitude 69°29' to 78°17' E and shares international border with Pakistan in the west. Physiographically, the State can be divided into 4 major regions, namely, the western desert: with barren hills, level rocky plains and sandy plains, the Aravalli hills: running south-west to north-east starting from Gujarat and ending in Delhi, the eastern plains: with rich alluvial soils and the south-eastern plateau. Mahi, Chambal and Anas are three major rivers of the State.

The State has varied climate from semi-arid to arid. The temperature in the State ranges from sub zero to 50°C. The average rainfall ranges from 480 mm to 750 mm being as low as 150 mm in arid region and 1000 mm in southeastern plateau.

The population of the State is 56.51 million (Census 2001). Of this, 77% is rural and 23% urban. Population density is 165 persons per km². The Scheduled Tribes constitute 12.6% of the total population. The population is projected (by the Office of RGI) to be 65.65 million by 2009. Rajasthan has the second largest livestock population of the country, which is 49.14 million (Livestock Census 2003) and has increased marginally since the census of 1992.

The land use pattern is given in Table 7.23.1.

Table 7.23.1: Land use pattern

Land Use	Area in '000 ha	Percentage
Total geographical area	34,224	
Reporting area for land utilization	34,265	100.00
Forests	2,698	7.87
Not available for cultivation	4,262	12.44
Permanent pastures and other grazing lands	1,706	4.98
Land under misc. tree crops & groves	20	0.06
Culturable wasteland	4,611	13.46
Fallow lands other than current fallows	2,265	6.61
Current fallows	1,939	5.66
Net area sown	16,764	48.92

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

7.23.2 Recorded Forest Area

The recorded forest area of the State is 32,639 km² which is 9.54 % of the State's geographical area. Reserved Forests constitutes 38.16%, Protected Forests 53.36% and Unclassed Forests 8.48% of the total forest area.

7.23.3 Protected Areas

Rajasthan has 5 National Parks and 25 Wildlife Sanctuaries covering an area of 9,326 km² which constitutes 2.7% of the State's geographical area. Rajasthan has 2 Tiger Reserves namely, Ranthambhore and Sariska. Keoladeo Ghana National Park, Bharatpur is of international importance for its rich avifauna and for migratory birds. It is one of the heritage sites of the world and also one of the Ramsar sites. Sambhar Lake has also been designated under Ramsar Convention.

7.23.4 Joint Forest Management

Joint Forest Management started in the State in 1991. There are 4,224 JFM Committees managing about 0.58 million ha of forest area, which is about 18% of the forest area of the State. More than 0.4 million families are involved in this programme, of which around half of the families are from Scheduled Tribes.

Source: MoEF, 2005.

7.23.5 Forest Cover

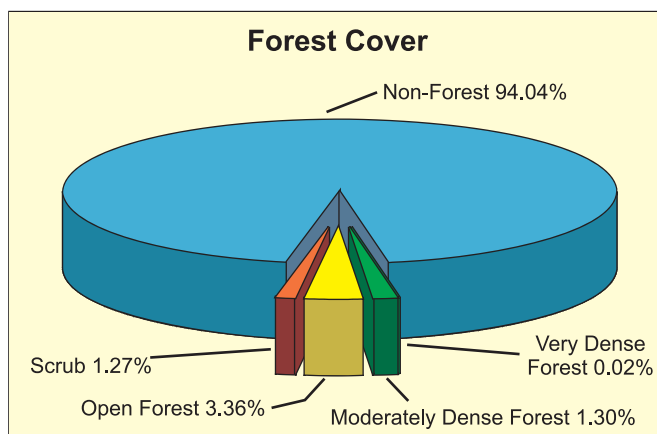
The forest cover in the State, based on interpretation of satellite data of Oct - Dec 2006, is 16,036 km², which is 4.69% of the State's geographical

area. In terms of forest canopy density classes, the State has 72 km² very dense forest, 4,450 km² moderately dense forest and 11,514 km² open forest. The distribution of forest cover of the State is shown in Fig. 7.23.

Comparison of the current forest cover (satellite data of Oct - Dec 2006) with the previous assessment (satellite data of Oct - Dec 2004) shows a gain of 24 km² of forest cover.

The change matrix, given in Table 7.23.2, reveals that there has been a decrease of 4 km² in the moderately dense forest and an increase of 28 km² in open forest.

On the basis of ground truthing by the officials of FSI, main reasons for the increase in forest cover were successful plantation of *Acacia tortilis* in sand dune areas in Barmer and Jaisalmer, increase in



Prosopis juliflora along dry rivers in Jalore and Kota, and protection in Ajmer, Bikaner, Sirohi, and Tonk districts.

District wise forest cover in different canopy density classes and scrub along with the changes compared to 2005 assessment is given in the Table 7.23.3.

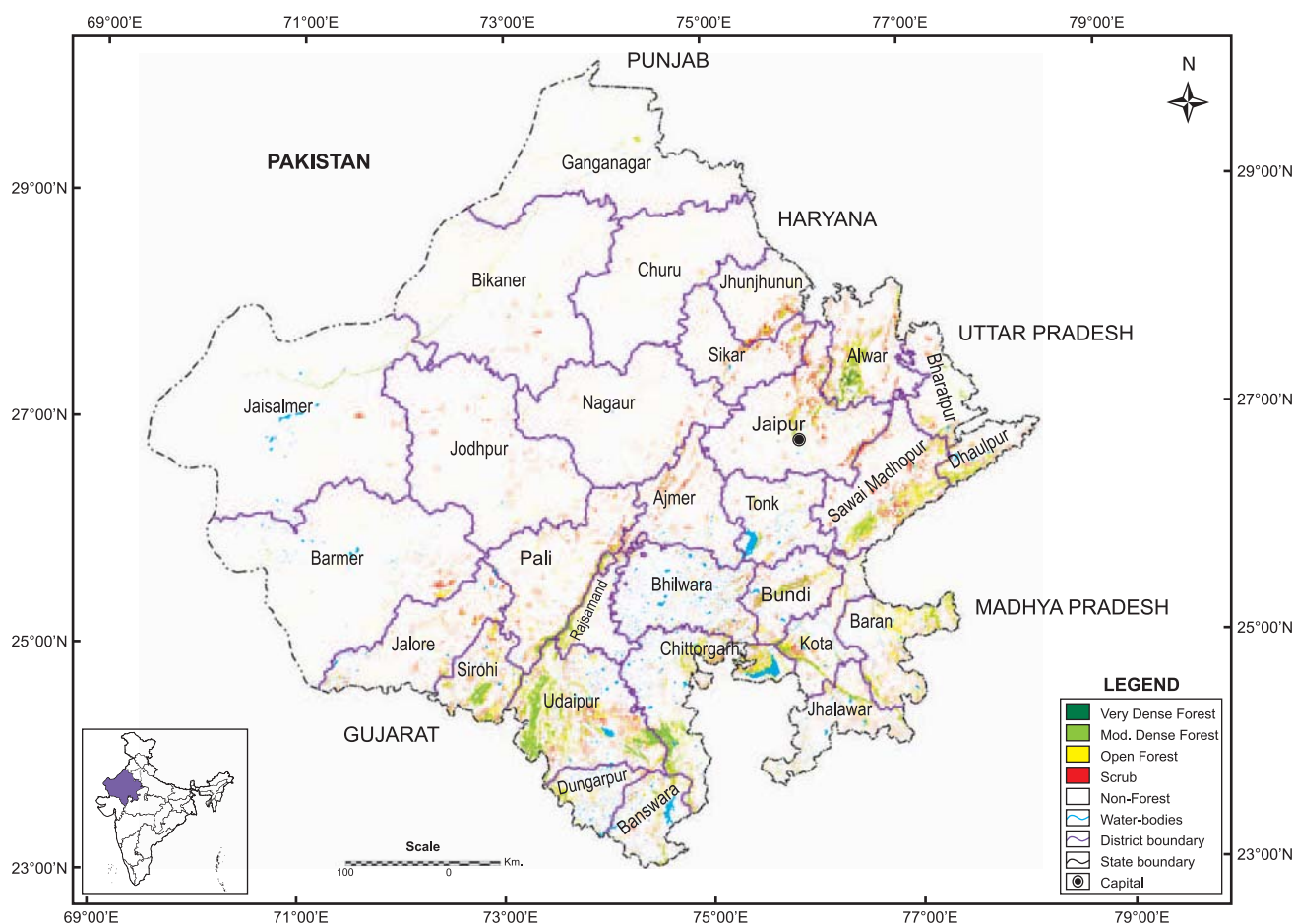


Fig. 7.23 : Forest cover map of Rajasthan

Table 7.23.2: Forest cover change matrix

(area in km²)

2005 Assessment (Data of Oct - Dec 2004)	2007 (Data of Oct - Dec 2006)					Total of 2005
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	72	0	0	0	0	72
Moderately Dense Forest	0	4,443	6	0	5	4,454
Open Forest	0	7	11,414	6	59	11,486
Scrub	0	0	19	4,298	39	4,356
Non-Forest	0	0	75	43	321,753	321,871
Total of 2007	72	4,450	11,514	4,347	321,856	342,239
Net Change	0	-4	28	-9	-15	

Table 7.23.3: District-wise forest cover in 2007

Number of districts: 29**

(area in km²)

District	Geographical area	Very dense forest	Mod. dense forest	Open forest	Total	% of G.A.	Change*	Scrub
Ajmer	8,481	0	39	237	276	3.25	3	218
Alwar	8,380	59	336	812	1,207	14.40	0	256
Banswara [†]	5,037	0	83	292	375	7.44	1	86
Baran	6,992	0	149	940	1,089	15.57	0	113
Barmar	28,387	0	3	166	169	0.60	4	104
Bharatpur	5,066	0	34	202	236	4.66	0	90
Bhilwara	10,455	0	33	189	222	2.12	0	126
Bikaner	27,244	0	28	169	197	0.72	2	39
Bundi	5,550	0	146	307	453	8.16	2	145
Chittorgarh [†]	10,856	0	597	1,092	1,689	15.56	-2	158
Churu	16,830	0	5	84	89	0.53	1	6
Dhaulpur	3,033	0	82	337	419	13.81	0	56
Dungarpur [†]	3,770	0	44	208	252	6.68	0	43
Ganganagar	20,634	0	31	146	177	0.86	3	3
Jaipur	14,069	13	114	504	631	4.49	-1	432
Jaisalmer	38,401	0	47	115	162	0.42	4	30
Jalore	10,640	0	13	195	208	1.95	4	178
Jhalawar	6,219	0	83	313	396	6.37	0	90
Jhunjhun	5,928	0	24	169	193	3.26	1	187
Jodhpur	22,850	0	3	90	93	0.41	-4	104
Kota	5,443	0	155	460	615	11.30	3	102
Nagaur	17,718	0	11	108	119	0.67	0	99
Pali	12,387	0	214	444	658	5.31	0	273
Rajsamand	3,860	0	131	291	422	10.93	1	50
Sawai Madhopur	10,528	0	260	1,039	1,299	12.34	-1	465
Sikar	7,732	0	32	160	192	2.48	-1	185
Sirohi [†]	5,136	0	300	617	917	17.85	3	198
Tonk	7,194	0	33	133	166	2.31	3	56
Udaipur [†]	13,419	0	1,420	1,695	3,115	23.21	-2	455
Total	342,239	72	4,450	11,514	16,036	4.69	24	4,347

* Change compared to 2005 assessment (revised).

** Boundaries of three districts (Dausa, Hanumangarh and Karauli) not available. Their data are given jointly with those of the parent districts.

7.23.6 Altitude Zone wise Forest Cover

Forest cover of the State in different altitude zones is given in Table 7.23.4.

Table 7.23.4: Altitude zone wise forest cover

(area in km²)

Altitude Zone	VDF	MDF	OF	Total
0-500m	15	2,680	8,874	11,569
500-1000m	57	1,646	2,588	4,291
1000-2000m	0	124	52	176
Total	72	4,450	11,514	16,036

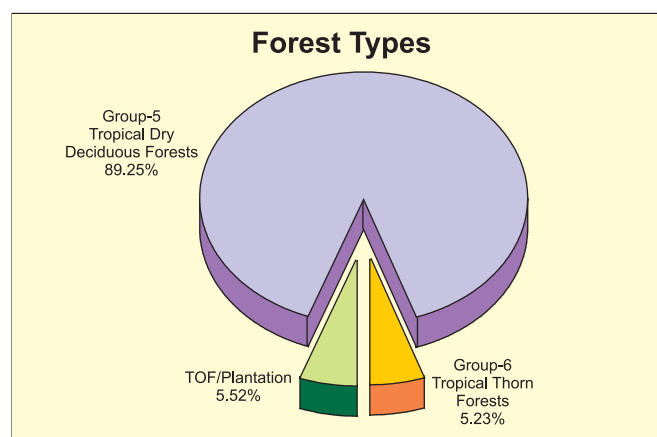
(based on SRTM Digital Elevation Model)

7.23.7 Forest Cover in different Forest Types

As per Champion & Seth Classification, the State has 17 forest types which belong to 2 forest type groups viz Tropical Dry Deciduous and Tropical Thorn Forests. Distribution of forest cover in different forest type groups found in the State is given in the pie diagram.

7.23.8 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 8,274 km² which is 2.42% of the geographical area of the State. Eleven districts of the



State (Alwar, Banswara, Chittorgarh, Churu, Ganganagar, Jalore, Kota, Nagaur, Pali, Sirohi and Udaipur) have been inventoried. The forest and tree cover of the State is presented in the Table 7.22.5.

Table 7.23.5: Forest & tree cover

(area in km²)

Category	Area	% of Geographical area
Tree Cover	8,274	2.42
Forest Cover	16,036	4.69
Forest & Tree Cover	24,310	7.11