

## 8.23 RAJASTHAN

### 8.23.1 Introduction

Located in the north west part, Rajasthan is the largest State of the country, having a geographic area of 34.22 million ha, which constitutes 10.41% area of the country. It lies between lat 23° 4' to 30° 11' N and long 69° 29' to 78° 17' E and shares international border with Pakistan in the west. The State can be divided into 4 major physiographic 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. Major rivers of the State are Mahi, Chambal and Anas.

The climate of the State varies from semi-arid to arid. The temperature in the State ranges from 25°C to 50°C except in winter when it drops down to zero degree in some parts. 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 total population of the State is 56.51 million (*Census 2001*), which constitutes 5.5% of the country's population. Of this, 77% is rural and 23% urban. Population density is 165 persons per km<sup>2</sup>. The Scheduled Tribes constitute 12.6% of the total population. 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. Land use pattern of the State is given in Table 8.23a.

**Table 8. 23a: Land use pattern**

Land Use	Area in '000 ha	Percentage
Total geographical area	34,224	
Reporting area for land utilization	34265	100.00
Forests	2606	7.61
Not available for cultivation	4306	12.57
Permanent pastures and other grazing lands	1707	4.98
Land under misc. tree crops & groves	14	0.04
Culturable wasteland	4908	14.32
Fallow lands other than current fallows	2444	7.13
Current Fallows	2415	7.05
Net area sown	15865	46.30

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

### 8.23.2 Forest Resources

The State is deficient in natural forest resource. The total forest area of the State is 32,488 km<sup>2</sup> which constitutes 9.3% of geographic area of the State. By legal status, Reserved Forests constitutes 37%, Protected Forests 53% and Unclassed Forests 10%.

Major forest types occurring in the State are Tropical Dry Deciduous Forest and Tropical Thorn Forest. Forests are mostly confined in eastern and southern parts of the State. The western part of the State is desert and is devoid of forests because of prevailing hot arid conditions.

### 8.23.3 Protected Areas

There are 5 National Parks and 23 Wildlife Sanctuaries, covering an area of 0.96 million ha which constitutes 2.80% of the geographical area of the State. 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 Siberian crane. 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.

### 8.23.4 Joint Forest Management

Joint Forest Management began in the State in 1991. There are 4,224 JFM Committees managing about 0.58 million ha of forest area as on March 2005, 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 0.2 million families belong to the Scheduled Tribes.

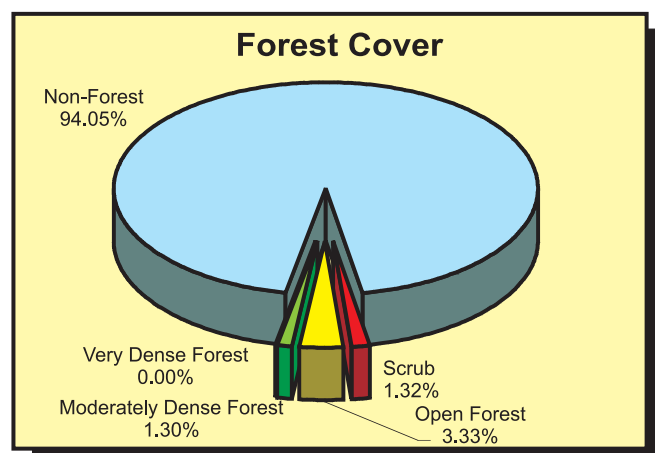
Source: *Proceedings of the National Workshop on JFM, MoEF, 2005.*

### 8.23.5 Forest Cover

The forest cover of the State, based on satellite data of October-December 2004, is 15,850 km<sup>2</sup>, which is 4.63 % of the geographic area. Very dense forest is 14 km<sup>2</sup>, moderately dense forest, 4,456 km<sup>2</sup>, and open forest, 11,380 km<sup>2</sup>. The forest cover of the State is shown in Fig. 8.23.

An increase of 29 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 8.23b reveals that there has been an increase of 2 km<sup>2</sup> in moderately dense



forest, and 27 km<sup>2</sup> in open forest. Further, scrub has decreased by 11 km<sup>2</sup>.

The increase in the forest cover in the district of Bhilwara, Boondi, Ganganagar, Jaipur, Jaisalmer, Kota, Pali and Udaipur is mainly on account of plantations of

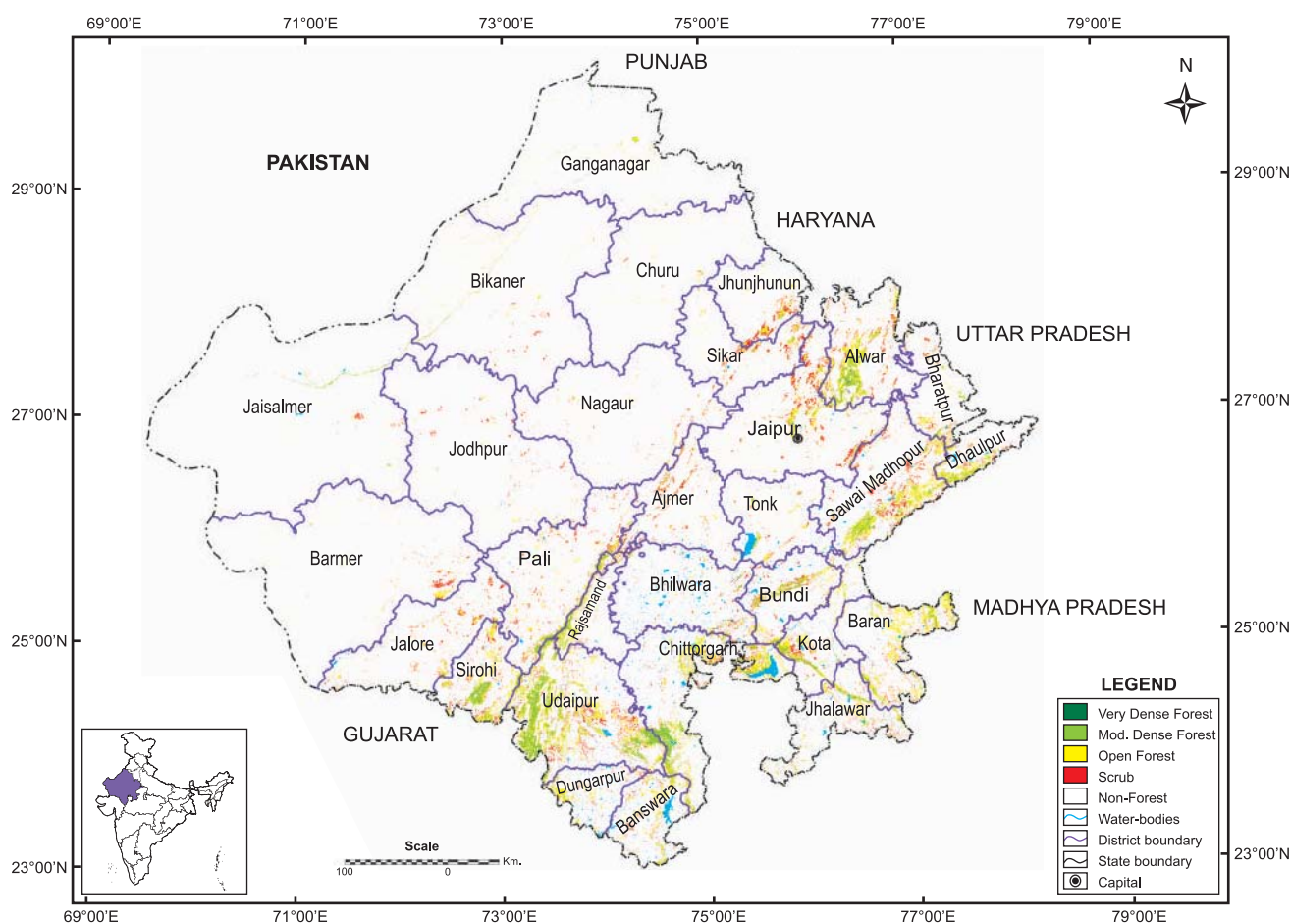


Fig. 8.23 : Forest Cover Map of Rajasthan

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Eucalyptus, Neem and Acacia species and regrowth of *Anogeissus pendula* & *Prosopis juliflora* as observed by FSI officials during field verification.

moderately dense forest, open forest and scrub, along with the changes compared to 2003 assessment, have been provided in Table 8.23c.

The district wise details of very dense forest,

**Table 8.23b: 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	14	0	0	0	0	14
Moderately Dense Forest	0	4,454	0	0	0	4,454
Open Forest	0	2	11,340	0	11	11,353
Scrub	0	0	15	4,513	10	4,538
Non-Forest	0	0	25	14	321,841	321,880
<b>Total 2005</b>	<b>14</b>	<b>4,456</b>	<b>11,380</b>	<b>4,527</b>	<b>321,862</b>	<b>342,239</b>
Net Change	0	2	27	-11	-18	

**Table 8.23c: District-wise forest cover**

Number of Districts: 29\*

(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			
Ajmer	8,481	0	50	222	272	3.21	1	226
Alwar	8,380	14	369	828	1,211	14.45	1	250
Banswara <sup>T</sup>	5,037	0	48	322	370	7.35	1	97
Baran	6,992	0	135	948	1,083	15.49	1	143
Barmer	28,387	0	12	157	169	0.60	0	106
Bharatpur	5,066	0	38	198	236	4.66	0	83
Bhilwara	10,455	0	34	186	220	2.10	2	136
Bikaner	27,244	0	37	162	199	0.73	0	42
Bundi	5,550	0	143	302	445	8.02	2	150
Chittorgarh <sup>T</sup>	10,856	0	576	1,098	1,674	15.42	-4	186
Churu	16,830	0	8	80	88	0.52	-1	10
Dhaulpur	3,033	0	101	318	419	13.81	1	57
Dungarpur <sup>T</sup>	3,770	0	17	235	252	6.68	1	55
Ganganagar	20,634	0	34	135	169	0.82	3	3
Jaipur	14,069	0	113	510	623	4.43	2	435
Jaisalmer	38,401	0	48	108	156	0.41	8	32
Jalore	10,640	0	17	180	197	1.85	-4	179
Jhalawar	6,219	0	83	312	395	6.35	0	120
Jhunjhunun	5,928	0	27	161	188	3.17	0	176
Jodhpur	22,850	0	5	87	92	0.40	0	105
Kota	5,443	0	159	454	613	11.26	2	114

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(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			
Nagaur	17,718	0	11	102	113	0.64	0	105
Pali	12,387	0	209	410	619	5.00	5	251
Rajsamand	3,860	0	130	288	418	10.83	1	61
Sawai Madhopur	10,528	0	298	996	1,294	12.29	1	470
Sikar	7,732	0	37	152	189	2.44	0	177
Sirohi <sup>T</sup>	5,136	0	305	580	885	17.23	0	181
Tonk	7,194	0	35	132	167	2.32	0	58
Udaipur <sup>T</sup>	13,419	0	1,377	1,717	3,094	23.06	6	519
<b>Total</b>	<b>342,239</b>	<b>14</b>	<b>4,456</b>	<b>11,380</b>	<b>15,850</b>	<b>4.63</b>	<b>29</b>	<b>4527</b>

\* Boundaries of three new districts (Dausa, Hanumangarh and Karauli) not available.  
The data is given jointly with that of the parent districts.

### 8.23.6 Tree Cover

Tree cover of Rajasthan 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 1,493 sample plots spread over nine districts of the State between 2002-06 and the estimated tree cover in the State is 8,379 km<sup>2</sup>.

The forest and tree cover of the State is presented in the Table 8.23d.

**Table 8.23d: Forest & tree cover**

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

Category	Area	% of Geographical Area
Tree Cover	8379	2.45
Forest Cover	15,850	4.63
<b>Forest &amp; Tree Cover</b>	<b>24,229</b>	<b>7.08</b>