8.21 ORISSA

8.21.1 Introduction

Located in the eastern part of the country, the geographic area of Orissa is 15.57 million ha, which constitutes 4.74 % area of the country. It lies in the tropical zone between lat 17°47' and 22°34' N and long 81°22' and 87°29' E. Physiographically, the State can be divided into four regions, viz., Northern Plateau, Eastern Ghats, Central Tableland, and Coastal Plains. The State is drained by three major rivers, Mahanadi, Brahmani, and Baitarni. The State is rich in mineral resources including coal, iron, bauxite, chromite and nickel.

The annual rainfall varies between 1,200 to 1,600 mm and the annual temperature ranges between 25°C to 27.5°C.

The total population of the State is 36.7 million *(Census 2001)* of which 85.03% is rural and 14.97% urban. Scheduled Tribes' population constitute 22.21% of the State's population. Population density of the State is 236 persons per km^2. The livestock population of the State is 23.39 million *(Livestock Census 2003)*, which has increased by nearly 3% since the census of 1992. Land use pattern of the State is given in Table 8.21a.

8.21.2 Forest Resources

The recorded forest area is 58,136 km^2, which constitutes 37.34 % of the geographic area of the State. By legal status, Reserved Forests constitute 45.29%, Protected Forests, 26.70%, and Unclassed Forests, 28.01 %.

Major forest types occurring in the State are Tropical Semi Evergreen, Tropical Moist Deciduous, Tropical Dry Deciduous, and Littoral and Swamp Forests.

8.21.3 Protected Areas

There are 2 National Parks and 18 Wildlife Sanctuaries covering an area of 0.8 million ha, which is 5.11% of the geographic area of the State. Similipal Tiger Reserve covers 0.28 million ha and also forms a part of the Similipal Biosphere Reserve. The Gahirmatha Wildlife Sanctuary, a mangrove eco-system, is a famous nesting ground of the Olive Ridley sea turtle. Chilika lake, which is one of the Asia's largest brackish water lake with an area of 0.11 million ha, is a Ramsar site.

8.21.4 Joint Forest Management

The practice of Joint Forest Management started in early 1950s. It is the first State to issue the resolution in this regard in August 1988. There are 9,778 JFM Committees managing about 0.82 million ha of forest area as on March 2005, which is about 14% of the forest area of the State. About 1.7 million families are involved in this programme, of which around 0.7 million families belong to the Scheduled Tribes.

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

8.21.5 Forest Cover

The forest cover of the State, based on satellite data of October-December 2004, is 48,374 km^2, which is 31.07% of

Table 8.21a: Land use pattern

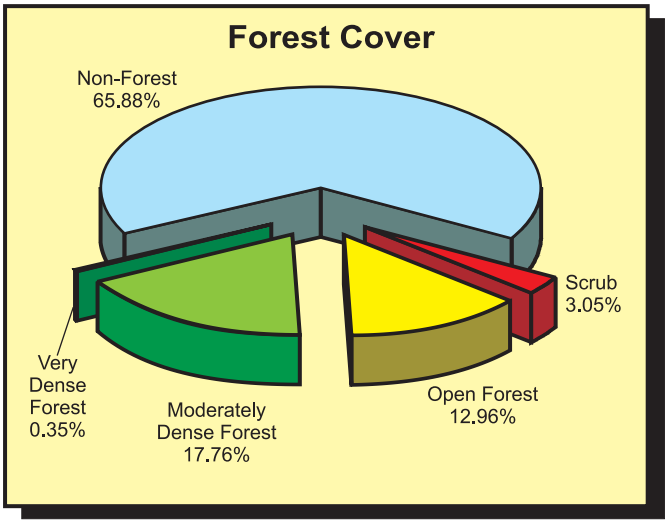
Land Use	Area in '000 ha	Percentage
Total geographical area	15,571	
Reporting area for land utilization	15,571	100.00
Forests	5,813	37.33
Not available for cultivation	1,842	11.83
Permanent pastures and other grazing lands	443	2.85
Land under misc. tree crops & groves	482	3.10
Culturable wasteland	392	2.52
Fallow lands other than current fallows	430	2.76
Current Fallows	340	2.18
Net area sown	5,829	37.43

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

the geographic area. Very dense forest is 538 km^2, moderately dense forest, 27,656 km^2, and open forest, 20,180 km^2. The forest cover of the State is shown in Fig. 8.21.

An increase of 21 km^2 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 8.21b reveals that there has been an increase of 51 km^2 in very dense forest, a decrease of 56 km^2 in moderately dense forest and an increase of 26 km^2 in open forest. The scrub area has decreased by 603 km^2.



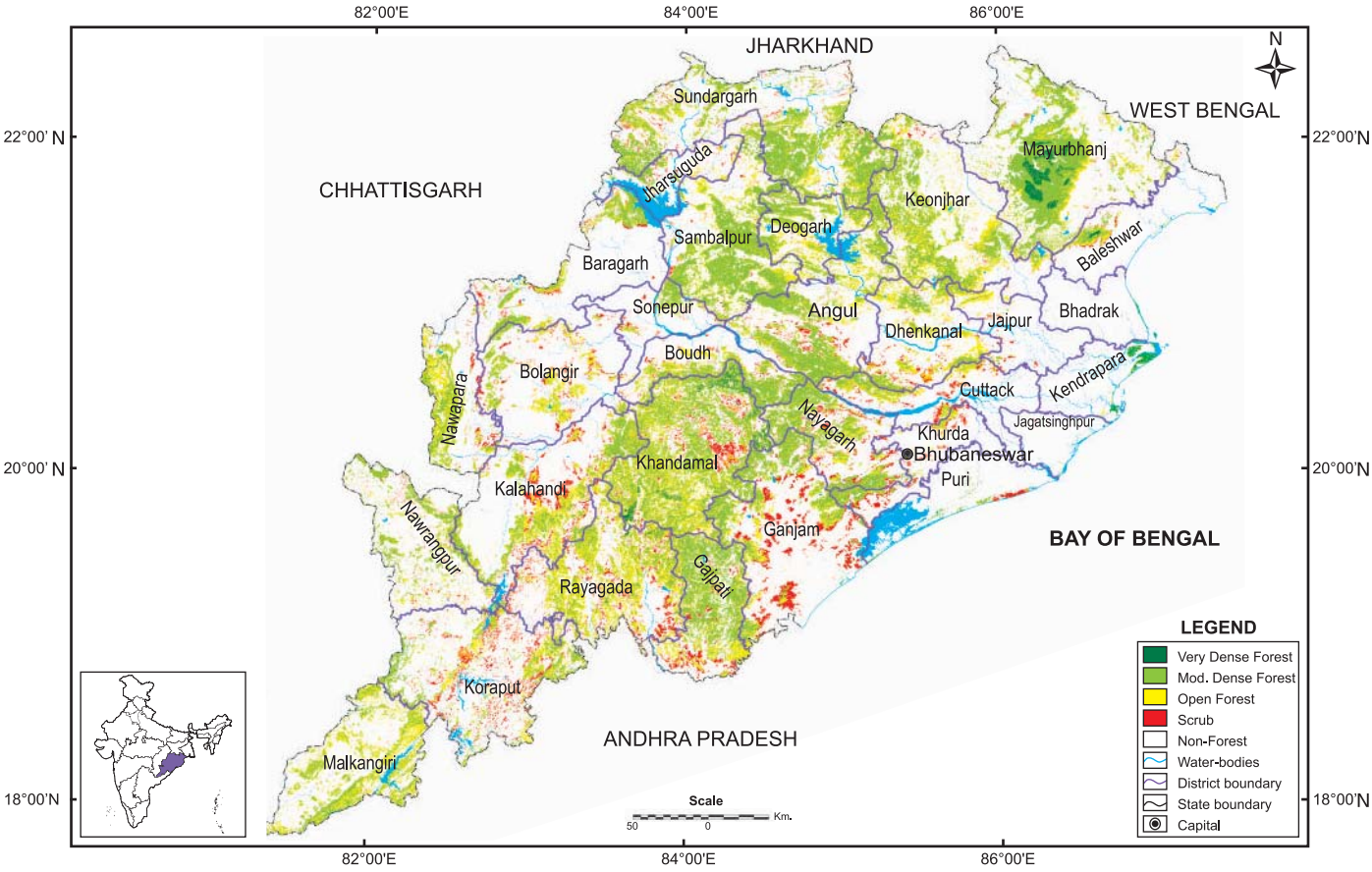


Fig. 8.21 : Forest Cover Map of Orissa

The increase of 21 km^2 in forest cover is because of improvement in shifting cultivation areas due to regrowth in the districts of Kalahandi, Khandamal, and Rayagada, there has also been an improvement in scrub area in the district of Dhenkanal as observed by FSI officials during field verification. The decrease in the forest cover in Koraput and Ganjam districts is attributable to shifting cultivation.

The district wise details of very dense forest, moderately dense forest, open forest and scrub, along with the changes compared to 2003 assessment, have been provided in Table 8.21c.

Table 8.21b: Forest cover change matrix

(area in km^2)

2003 Assessment(Data of Oct.-Dec. 2002	2005 Assessment (Data of Oct.-Dec. 2004)					Total 2003
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	487	0	0	0	0	487
Moderately Dense Forest	51	27,656	5	0	0	27,712
Open Forest	0	0	20,154	0	0	20,154
Scrub	0	0	20	4,743	583	5,346
Non Forest	0	0	1	0	102,007	102,008
Total 2005	**538**	**27,656**	**20,180**	**4,743**	**102,590**	**155,707**
Net Change	51	-56	26	-603	582	

Table 8.21c: District-wise forest cover

Number of Districts: 30

(area in km^2)

District	Geographic area	2005 Assessment				Percent of G.A.	Change	Scrub
		Very dense forest	Mod. dense forest	Open forest	Total			
Angul	6,375	0	1,716	941	2,657	41.68	1	144
Baleshwar[T]	3,806	14	137	144	295	7.75	0	37
Baragarh	5,837	0	528	341	869	14.89	0	117
Bhadrak	6,575	0	19	4	23	0.35	0	0
Bolangir	3,098	0	340	611	951	30.70	0	216
Boudh	2,505	1	808	443	1,252	49.98	0	71
Cuttack	3,932	0	265	345	610	15.51	0	162
Deogarh	2,940	0	783	592	1,375	46.77	1	14
Dhenkanal	4,452	0	503	780	1,283	28.82	3	135
Gajpati[T]	4,325	0	1,622	859	2,481	57.36	0	224
Ganjam	8,206	0	1,220	756	1,976	24.08	-1	793
Jagatsinghpur	1,668	0	4	9	13	0.78	0	1
Jajpur	2,899	0	80	172	252	8.69	0	44
Jharsuguda	2,081	0	157	130	287	13.79	0	41
Kalahandi[T]	7,920	0	1,156	1,119	2,275	28.72	6	444
Kendrapara	2,644	0	142	48	190	7.19	1	0
Keonjhar[T]	8,303	0	1,710	1,515	3,225	38.84	0	38
Khandamal[T]	8,021	181	3,156	2,147	5,484	68.37	6	347
Khurda	2,813	0	211	143	354	12.58	0	194
Koraput[T]	8,807	0	736	833	1,569	17.82	-2	539
Malkangiri[T]	5,791	0	900	1,302	2,202	38.02	0	6
Mayurbhanj[T]	10,418	319	2,690	1,010	4,019	38.58	0	35
Nawapara	3,852	0	586	628	1,214	31.52	0	109
Nawrangpur[T]	5,291	0	656	482	1,138	21.51	0	60
Nayagarh	3,890	0	1,141	476	1,617	41.57	0	244

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(area in km^2)

District	Geographic area	2005 Assessment				Percent of G.A.	Change	Scrub
		Very dense forest	Mod. dense forest	Open forest	Total			
Puri	3,479	0	68	26	94	2.70	0	49
Rayagada[T]	7,073	23	1,076	1,939	3,038	42.95	6	451
Sambalpur[T]	6,657	0	2,259	1,017	3,276	49.21	0	48
Sonepur	2,337	0	200	108	308	13.18	0	52
Sundargarh[T]	9,712	0	2,787	1,260	4,047	41.67	0	128
Total	**155,707**	**538**	**27,656**	**20,180**	**48,374**	**31.07**	**21**	**4,743**

8.21.6 Tree Cover

Tree cover of Orissa 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 626 sample plots spread over four districts of the State between 2002-06 and the estimated tree cover in the State is 4,589 km^2.

The forest and tree cover of the State is presented in the Table 8.21d.

Table 8.21d: Forest & tree cover

(area in km^2)

Category	Area	% of Geographical Area
Tree Cover	4,589	2.95
Forest Cover	48,374	31.07
Forest & Tree Cover	**52,963**	**34.02**