

7.21 ORISSA

7.21.1 Introduction

Orissa is located on the east coast of the country having 155,707 km² geographical area which constitutes 4.74 % area of the country. It lies in the tropical zone between latitude 17°47' and 22°34' N and longitude 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. Orissa is home to the Hirakud dam, one of the longest dams in the world. 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 mean annual temperature ranges between 25°C to 27.5°C.

As per Census 2001, the total population of the State is 36.7 million of which the rural population constitutes 85.03%. The population density is 236 persons per km². The Scheduled Tribes constitute 22.21% of the population. The projected population of the State is 40.03 million (as projected by the Office of RGI) for 2009 which constitutes 3.5% of the country's population. 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 7.21.1.

Table 7.21.1: 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	434	2.79
Current fallows	426	2.74
Net area sown	5,739	36.86

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

7.21.2 Recorded Forest Area

The recorded forest area of the State is 58,136 km². Reserved Forests constitute 45.29%, Protected Forests 26.70% and Unclassed Forests 28.01% of the total forest area. About 37% of the State's geographical area is under recorded forests.

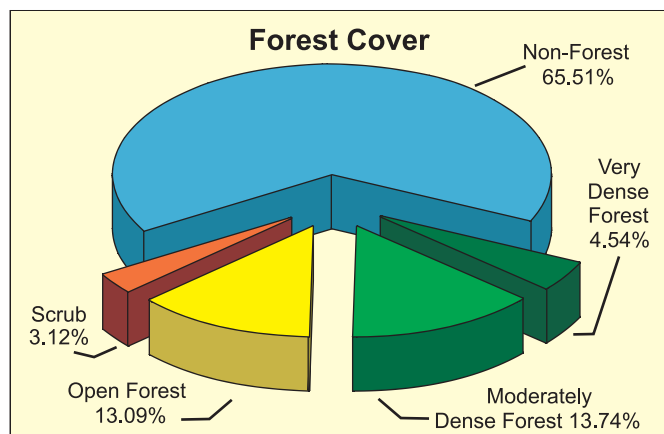
7.21.3 Protected Areas

Orissa has 2 National Parks and 18 Wildlife Sanctuaries covering an area of 7,960 km² which constitutes 5.11% of the State's geographical area. Similipal Tiger Reserve covers 2,200 km² and also forms a part of the Similipal Biosphere Reserve. The Gahirmatha Wildlife Sanctuary, a mangrove ecosystem, is a famous nesting ground of the Olive Ridley sea turtle. Chilika lake, which is one of the Asia's largest brackish water lakes with an area of 0.11 million ha, is a Ramsar site.

7.21.4 Joint Forest Management

Orissa is one of the pioneer States to initiate JFM as early as 1950s. It is the first State to issue the resolution in this regard in Aug 1988. There are 9,778 JFM Committees managing about 0.82 million ha of forest area as on Mar 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: MoEF, 2005.



7.21.5 Forest Cover

The forest cover in the State, based on interpretation of satellite data of Oct - Dec 2006, is 48,855 km², which is 31.38% of the State's geographical area. In terms of forest canopy density classes, the State has 7,073 km² very dense forest, 21,394 km² moderately dense forest, and 20,388 km² open forest. The distribution of forest cover

of the State is shown in Fig. 7.21.

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 100 km² of forest cover.

The change matrix, given in Table 7.21.2, reveals that there has been a decrease of 4 km² in the very dense forest and 27 km² in moderately dense forest and an increase of 131 km² in open forest.

On the basis of ground truthing by the officials of FSI, main reason for the net increase in forest cover was regeneration in abandoned areas of the shifting cultivation.

District wise forest cover in different canopy density classes and scrub along with the changes compared to 2005 assessment is given in the Table 7.21.3.

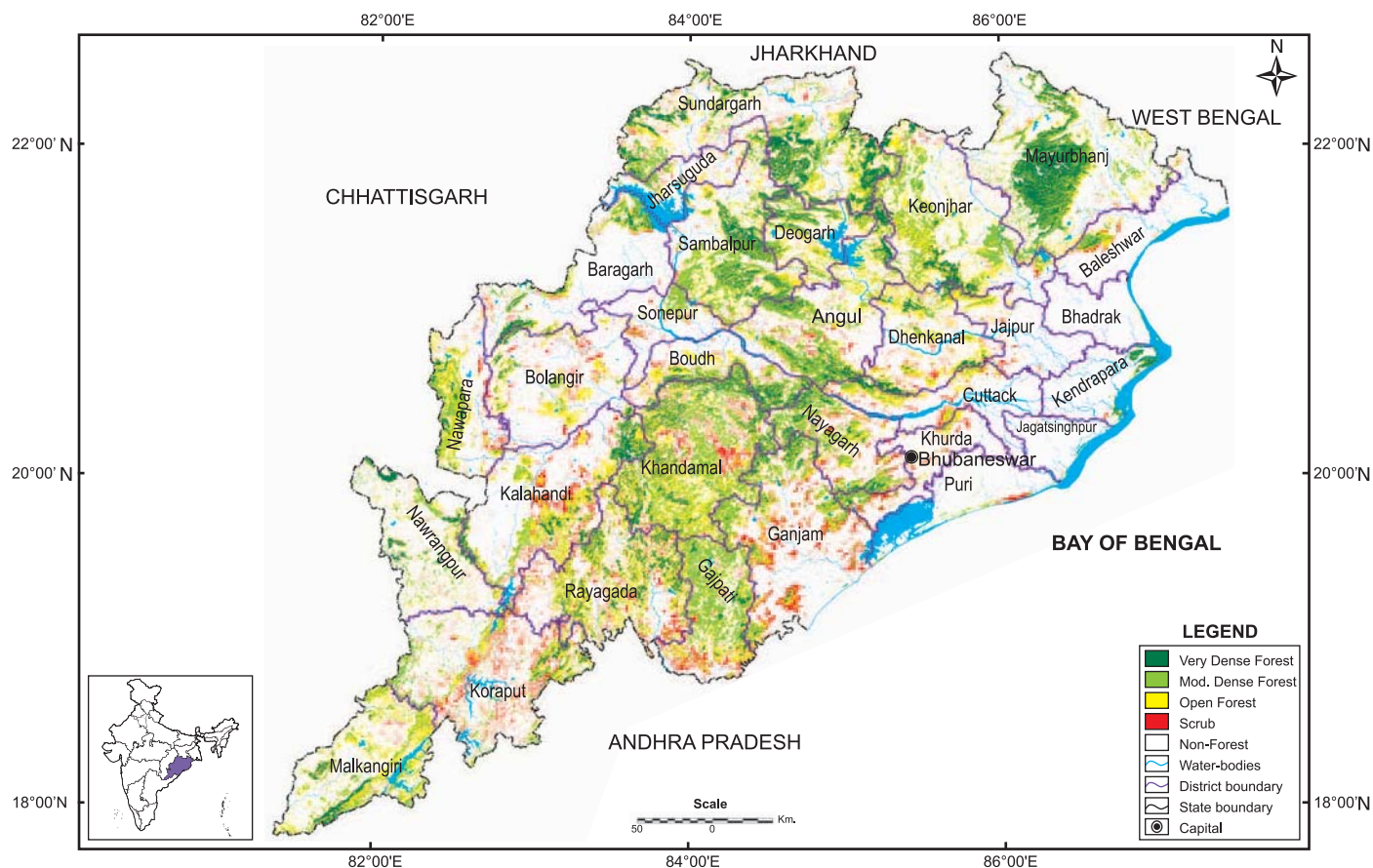


Fig. 7.21 : Forest cover map of Orissa

Table 7.21.2: 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	7,068	0	0	0	9	7,077
Moderately Dense Forest	0	21,376	18	0	27	21,421
Open Forest	0	1	20,207	0	49	20,257
Scrub	0	0	0	4,790	7	4,797
Non-Forest	5	17	163	62	101,908	102,155
Total of 2007	7,073	21,394	20,388	4,852	102,000	155,707
Net Change	-4	-27	131	55	-155	

Table 7.21.3: District-wise forest cover in 2007

Number of districts: 30

(area in km²)

District	Geographical area	Very dense forest	Mod. dense forest	Open forest	Total	% of G.A.	Change*	Scrub
Angul	6,375	364	1,355	950	2,669	41.87	2	133
Baleshwar ^T	3,806	23	125	153	301	7.91	0	56
Baragarh	5,837	176	373	348	897	15.37	1	79
Bhadrak	2,505	1	10	13	24	0.96	2	0
Bolangir	6,575	72	222	640	934	14.21	1	221
Boudh	3,098	263	544	448	1,255	40.51	0	77
Cuttack	3,932	46	216	397	659	16.76	0	124
Deogarh	2,940	155	620	566	1,341	45.61	0	15
Dhenkanal	4,452	172	343	829	1,344	30.19	1	144
Gajapati ^T	4,325	90	1,523	872	2,485	57.46	6	259
Ganjam	8,206	156	1,038	771	1,965	23.95	13	750
Jagatsinghpur	1,668	0	7	15	22	1.32	0	1
Jaipur	2,899	6	69	180	255	8.80	1	53
Jharsuguda	2,081	4	143	153	300	14.42	0	44
Kalahandi ^T	7,920	370	743	1,193	2,306	29.12	1	475
Kendrapara	2,644	81	87	26	194	7.34	2	6
Keonjhar ^T	8,303	308	1,410	1,511	3,229	38.89	-1	51
Khandamal ^T	8,021	663	2,652	2,169	5,484	68.37	9	367
Khurda	2,813	23	190	162	375	13.33	0	156
Koraput ^T	8,807	104	718	856	1,678	19.05	40	624
Malkangiri ^T	5,791	157	712	1,326	2,195	37.90	8	31
Mayurbhanj ^T	10,418	1,340	1,711	939	3,990	38.30	3	34
Nawapara	3,852	85	481	671	1,237	32.11	0	116
Nawrangpur ^T	5,291	188	462	485	1,135	21.45	16	27
Nayagarh	3,890	187	975	504	1,666	42.83	0	225
Puri	3,479	0	56	39	95	2.73	-1	46
Rayagada ^T	7,073	456	901	1,769	3,126	44.20	0	476
Sambalpur ^T	6,657	533	1,735	1,039	3,307	49.68	-1	49
Sonepur	2,337	3	200	121	324	13.86	0	69

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District	Geographical area	Very dense forest	Mod. dense forest	Open forest	Total	% of G.A.	Change*	Scrub
Sundargarh [†]	9,712	1,047	1,773	1,243	4,063	41.83	-3	144
Total	155,707	7,073	21,394	20,388	48,855	31.38	100	4,852

* Change compared to 2005 assessment (revised).

7.21.6 Altitude Zone wise Forest Cover

Forest cover of the State in different altitude zones is given in Table 7.21.4.

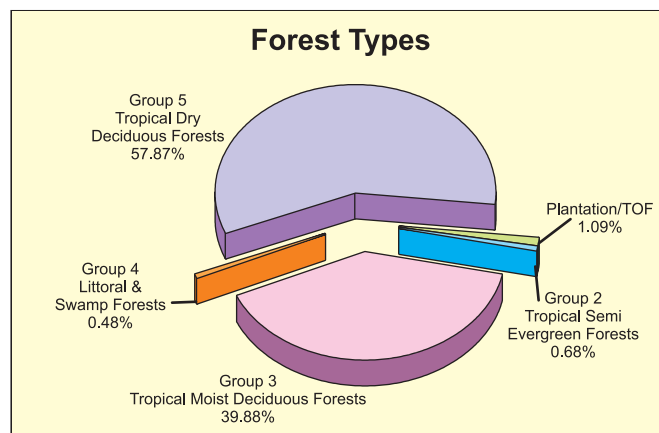
Table 7.21.4: Altitude zone wise forest cover (area in km²)

Altitude Zone	VDF	MDF	OF	Total
0-500m	3,580	12,776	13,908	30,264
500-1000m	3,399	8,300	6,291	17,990
1000-2000m	94	318	189	601
Total	7,073	21,394	20,388	48,855

(based on SRTM Digital Elevation Model)

7.21.7 Forest Cover in different Forest Types

The State has 19 different forest types as per Champion & Seth's classification system (1968) belonging to 4 type groups viz Tropical Semi Evergreen, Tropical Moist Deciduous, Littoral & Swamp and Tropical Dry Deciduous Forests. Distribution of forest cover in different forest type groups found in the State is given in the pie diagram.



7.21.8 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 4,435 km² which is 2.85 % of the geographical area of the State. Five districts of the State

(Baleshwar, Boudh, Gajapati, Koraput and Sonepur) have been inventoried. The forest and tree cover of the State is presented in the Table 7.21.5.

Table 7.21.5: Forest & tree cover (area in km²)

Category	Area	% of Geographical area
Tree Cover	4,435	2.85
Forest Cover	48,855	31.38
Forest & Tree Cover	53,290	34.23