

## 8.4 BIHAR

### 8.4.1 Introduction

Bihar situated in the eastern part of India bordering Nepal has a geographic area of 9.42 million ha. It lies between lat 24°16' and 27°45' N and long 83°16' and 88°30' E. As a distinct physiographic region of the Gangetic Plains, the State is traversed by two major rivers, the Ganga, and the Gandak. Annual rainfall in the State varies from 1,000 mm to 2,000 mm and the mean annual temperature ranges between 20°C to 28°C. The land use pattern of the State is given in the Table 8.4a.

The total population of the State is 82.88 million (*Census 2001*), which constitutes 8.05% of the country's population. Of this, rural population is 89.50 % and urban 10.50%. The population density is 880 persons per km<sup>2</sup>. The State supports a livestock population of 27.16 million, which is 5.60 % of country's total (*Livestock Census 2003*)

### 8.4.2 Forest Resources

The State is deficient in the natural forest resource. The recorded forest area is 6,473 km<sup>2</sup>, which is 6.87 % of the geographic area of the State. By legal status, the Reserved Forests constitute 11.40 %, Protected Forests 88.58 %, and Unclassed Forests, 0.02 %.

The two major forest types occurring in the State are Tropical Moist Deciduous and Tropical Dry Deciduous forests.

### 8.4.3 Protected Areas

There is one National Park and 11 Wildlife Sanctuaries covering an area of 0.24 million ha, which

constitutes 2.55% of the total geographic area of the State. Valmiki is the only Tiger Reserve in the State covering 840 km<sup>2</sup>. Kabar, situated in Begusarai district with an area of 6,738 ha is a wetland of national importance.

### 8.4.4 Joint Forest Management

Joint Forest Management began in the State in 1990. There are 532 JFM committees managing 3.7 lakh ha of forest area as on March 2005. About 2.05 lakh families are involved in JFM of which 32,303 families belong to Scheduled Tribes.

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

### 8.4.5 Forest Cover

The forest cover of the State, based on satellite data of October, 2004 to January, 2005, is 5,579 km<sup>2</sup>, which is 5.92% of the geographic area. Very dense forest accounts for 110 km<sup>2</sup>, moderately dense forest is 3,004 km<sup>2</sup>, and open forest, 2,465 km<sup>2</sup>. The forest cover of the State is shown in Fig. 8.4.

An increase of 6 km<sup>2</sup> of forest cover has been assessed in the present assessment as compared to previous assessment (based on satellite data of November-December 2002).

The change matrix, given in Table 8.4b, reveals that there has been an increase of 30 km<sup>2</sup> in very dense forest, a decrease of 30 km<sup>2</sup> in moderately dense forest, and an increase of 6 km<sup>2</sup> in open forest.

**Table 8.4a: Land use pattern**

Land Use	Area in '000 ha	Percentage
Total geographical area	9416.3	
Reporting area for land utilisation	9360	100
Forests	622	6.65
Not available for cultivation	2081	22.23
Permanent pasture and other grazing lands	18	0.19
Land under misc. tree crops & groves	238	2.54
Culturable wasteland	46	0.49
Fallow land other than current fallows	130	1.39
Current Fallows	513	5.48
Net area sown	5712	61.03

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

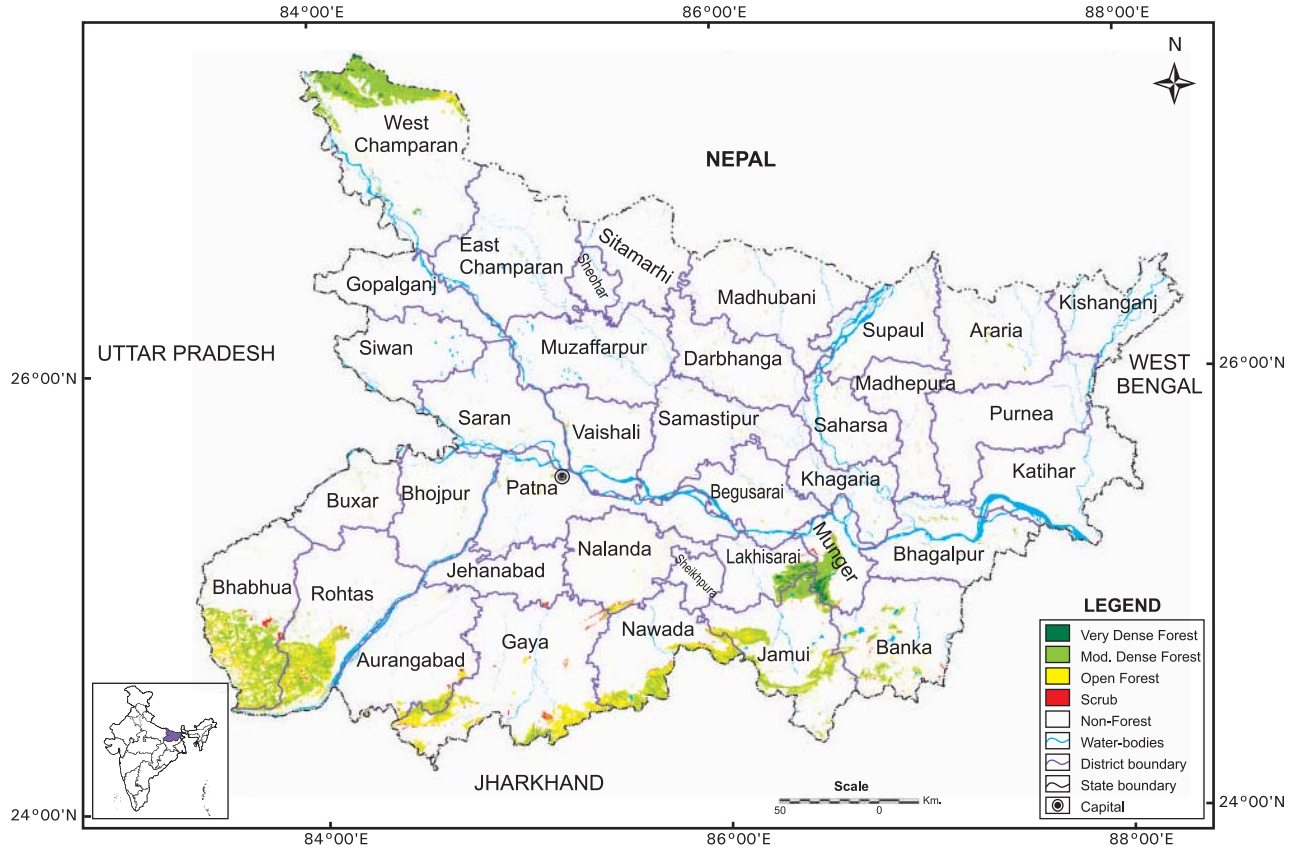
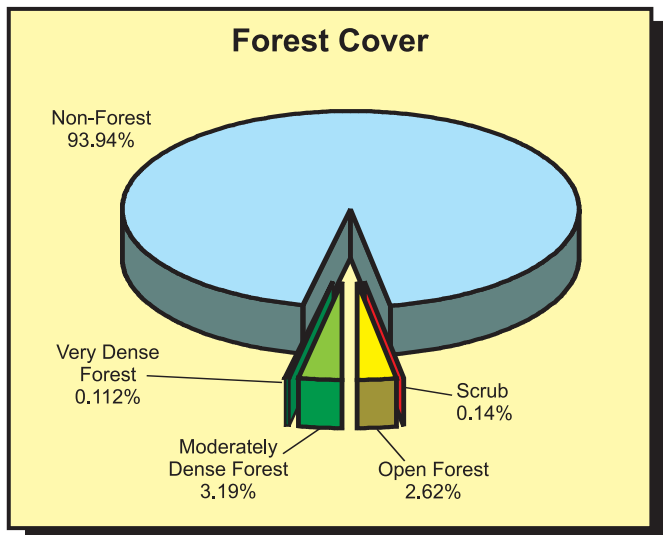


Fig 8.4 : Forest Cover Map of Bihar



The increase in forest cover of Bihar is due to the improvement in scrub areas in Banka district, and also due to plantations on private lands in the districts of Begusarai, Gaya, Khagaria, Darbhanga and Saharsa as observed by the FSI officials during field verification. Illicit felling in some parts of Bhabhua due to local disturbances (naxalite activities) has also been observed resulting in loss of forest cover.

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 8.4c.

Table 8.4b: Forest cover change matrix

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

2003 Assessment(Data of Nov.-Dec. 2002)	2005 Assessment (Data of Feb., Oct.-Dec. 2004 - Jan. 2005)					Total 2003
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	80	0	0	0	0	80
Moderately Dense Forest	30	3,004	0	0	0	3,034
Open Forest	0	0	2,459	0	0	2,459
Scrub	0	0	1	129	20	150
Non Forest	0	0	5	0	88,435	88,440
<b>Total 2005</b>	<b>110</b>	<b>3,004</b>	<b>2,465</b>	<b>129</b>	<b>88,455</b>	<b>94,163</b>
Net Change	30	-30	6	-21	15	

Table 8.4c: District-wise forest cover

Number of Districts: 37

 (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			
Araria	2,830	0	12	10	22	0.78	0	0
Aurangabad	3,305	0	46	101	147	4.45	0	13
Banka	3,022	0	101	105	206	6.82	4	10
Begusarai	1,918	0	3	5	8	0.42	1	0
Bhabhua	3,381	0	577	529	1,106	32.71	-4	19
Bhagalpur	2,567	0	19	8	27	1.05	-1	0
Bhojpur	2,390	0	10	2	12	0.50	0	0
Buxar	1,708	0	7	3	10	0.59	0	0
Darbhanga	2,279	0	7	7	14	0.61	1	0
Gaya	4,976	0	140	436	576	11.58	2	42
Gopalganj	2,033	0	0	0	0	0.00	0	0
Jamui	3,107	9	374	258	641	20.63	0	2
Jehanabad	1,569	0	1	1	2	0.13	0	6
Katihar	3,057	0	1	2	3	0.10	0	0
Khagaria	1,486	0	3	2	5	0.34	1	0
Kishanganj	1,884	0	3	9	12	0.64	0	0
Lakhisarai	1,356	32	143	17	192	14.16	0	2
Madhepura	1,788	0	5	3	8	0.45	0	0
Madhubani	3,501	0	10	4	14	0.40	0	0
Munger	1,347	43	201	18	262	19.45	0	8
Muzaffarpur	3,172	0	2	3	5	0.16	0	0
Nalanda	2,367	0	9	46	55	2.32	0	6
Nawada	2,494	0	193	316	509	20.41	0	8
Pashchimi Champaran	5,228	26	716	151	893	17.08	1	1
Patna	3,202	0	18	7	25	0.78	0	0
Purbi Champaran	3,968	0	4	2	6	0.15	0	0
Purnia	3,229	0	3	5	8	0.25	0	0
Rohtas	3,832	0	351	400	751	19.60	0	12
Saharsa	1,680	0	5	2	7	0.42	1	0
Samastipur	2,904	0	9	4	13	0.45	0	0

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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			
Saran	2,641	0	7	2	9	0.34	0	0
Sheikhpura	612	0	1	0	1	0.16	0	0
Sheohar	572	0	1	0	1	0.17	0	0
Sitamarhi	2,071	0	3	1	4	0.19	0	0
Siwan	2,219	0	0	0	0	0.00	0	0
Supaul	2,432	0	8	5	13	0.53	0	0
Vaishali	2,036	0	11	1	12	0.59	0	0
<b>Total</b>	<b>94,163</b>	<b>110</b>	<b>3,004</b>	<b>2,465</b>	<b>5,579</b>	<b>5.92</b>	<b>6</b>	<b>129</b>

### 8.4.6 Tree Cover

Tree cover of Bihar 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 308 sample plots spread over 2 districts of the State between 2002-06 and the estimated tree cover in the State is 2,522 km<sup>2</sup>.

The forest and tree cover of the State is presented in the Table 8.4d.

**Table 8.4d: Forest & tree cover**

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

Category	Area	% of Geographical Area
Tree Cover	2,522	2.68
Forest Cover	5,579	5.92
<b>Forest &amp; Tree Cover</b>	<b>8,101</b>	<b>8.60</b>