

8.3 ASSAM

8.3.1 Introduction

Situated in the northeastern part of India, Assam is a gateway to this region having borders with the remaining six northeastern states as well as with Bangladesh and Bhutan. It has a geographic area of 7.84 million ha which constitutes 2.39% of the country's total area and is situated between lat 24°07' to 28°00' N and long 89°42' to 96°02' E. Topographically, the State can be divided into three parts, viz. the Brahmaputra valley, the Surma valley and the Assam range. The first two parts are plain areas while the Assam range is mountainous. Brahmaputra, the largest river of the country traverses through this State.

Climate of Assam is subtropical with mean annual rainfall varying from 1,500 mm to 3,750 mm and the mean annual temperature ranges between 5°C to 32°C. Land use pattern in the State is shown in Table 8.3a.

The total population of the State is 26.66 million (*Census 2001*) which comprises of 87.10% of rural and 12.90% urban. The population density is 339 persons per km². The Scheduled Tribes constitute about 12.4% of the total population. The livestock population is 13.83 million (*Livestock Census 2003*), which has decreased by about 14% since the census of 1992.

8.3.2 Forest Resources

The recorded forest area is 26,832 km², which is 34.21% of the total geographic area of the State. According to legal classification, Reserved Forests constitute 66.58% and Unclassed Forests, 33.42%.

The six major forest types occurring in the State are Tropical Wet Evergreen, Tropical Semi-Evergreen, Tropical Moist Deciduous, Subtropical Broad Leaved Hill, Sub Tropical Pine and Littoral and Swamp Forests.

8.3.3 Protected Areas

There are 5 National Parks and 18 Wildlife Sanctuaries covering an area of about 0.4 million ha constituting 4.98% of the total geographic area of the State. Kaziranga, Manas, and Nameri Tiger Reserves are located in the State. Manas Biosphere Reserve, with an area of 2,837 km² is spread over Kokrajhar, Bongaigaon, Barpeta, Nalbari, Kamrup and Darrang districts. Kaziranga National Park and Manas Wildlife Sanctuary are also included in the list of World Heritage sites.

8.3.4 Joint Forest Management

Joint Forest Management in the State began in 1998. There are 503 JFM committees managing 80,000 ha of forest area as on March 2005. The number of families involved in JFM is 57,341, of which 28,459 families belong to Scheduled Tribes.

As per the JFM notification, 50% of the proceeds of thinning and 25% of the main felling are to go to the individual members of the Forest Protection and Regeneration Committees.

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

Table 8.3a: Land use pattern

Land Use	Area in '000 ha	Percentage
Total geographical area	7,844	
Reporting area for land utilization	7850	100.00
Forests	1932	24.61
Not available for cultivation	2531	32.24
Permanent pastures and other grazing lands	163	2.08
Land under misc. tree crops & groves	234	2.98
Culturable wasteland	80	1.02
Fallow lands other than current fallows	65	0.83
Current Fallows	110	1.40
Net area sown (Relates to the year 1999-2000)	2734	34.83

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

8.3.5 Forest Cover

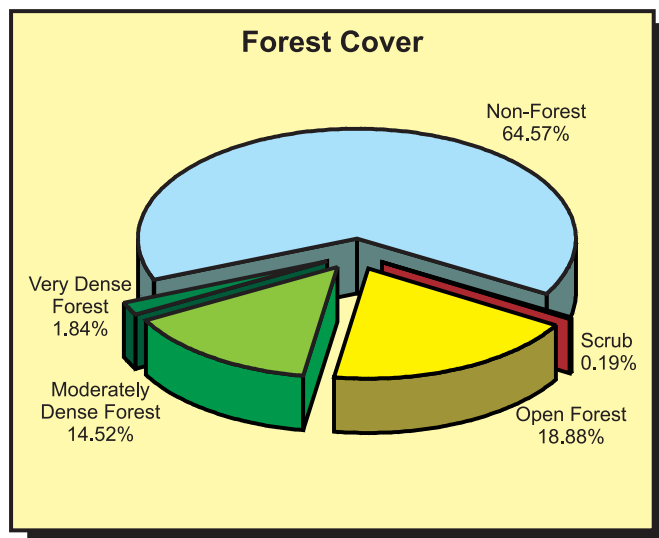
The forest cover of the State, based on satellite data of November-December 2004 & January-March 2005, is 27,645 km², which is 35.24% of the geographic area. Very dense forest is 1,444 km², moderately dense forest, 11,387 km², and open forest, 14,814 km². The forest cover of the State is shown in Fig.8.3.

A decrease of 90 km² of forest cover has been assessed in the present assessment as compared to the previous assessment (based on satellite data of November-December 2002 & January-February 2003).

The change matrix, given in Table 8.3b reveals that there has been a decrease of 5 km² in very dense forest, 44 km² in moderately dense forest, and a further decrease of 41 km² in open forest. The scrub has also decreased by 73 km².

The loss of forest cover is attributed mainly due to illicit felling in insurgency affected areas of Sonitpur, Karbi Anglong, and Darrang districts as observed during field verification by FSI officials. Some decrease in forest cover has occurred on account of shifting cultivation in the districts of North Cachar Hills, Karbi Anglong, Karimganj and Hailakandi.

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 8.3c.



8.3.6 Tree Cover

Tree cover of Assam 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 569 sample plots spread over 4 districts of the State between 2002-06 and the estimated tree cover in the State is 1,484 km².

The forest and tree cover of the State is presented in the Table 8.3d.

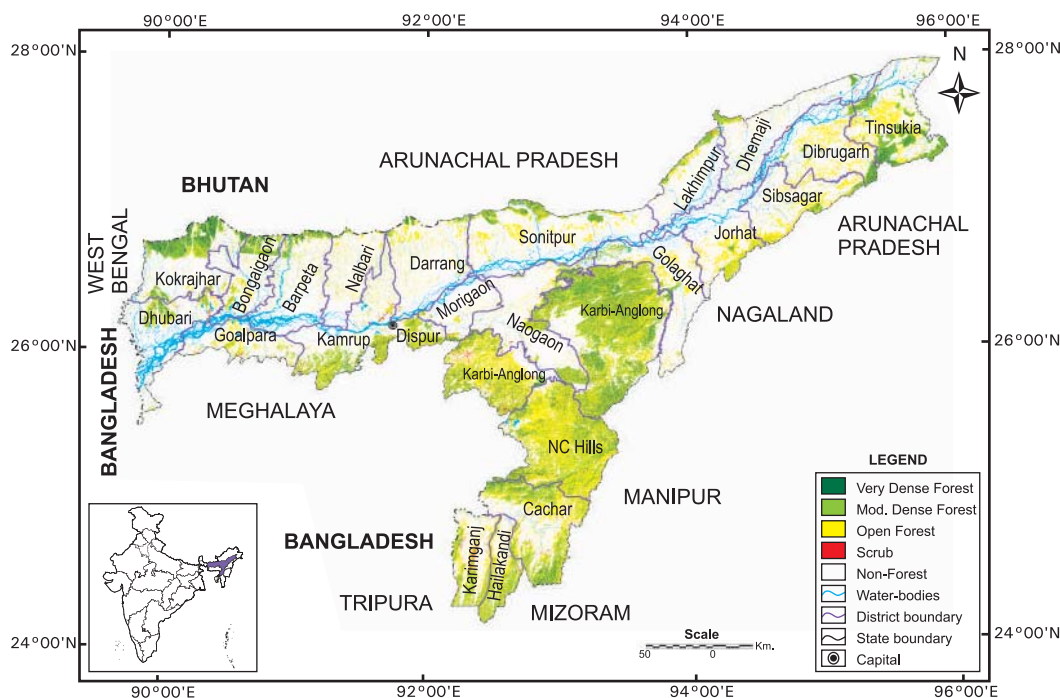


Fig 8.3 : Forest Cover Map of Assam

Table 8.3b: Forest cover change matrix

(area in km²)

2003 Assessment(Data of Nov.-Dec. 2002 & Jan.-Feb. 2003)	2005 Assessment (Data of Feb., Nov.-Dec. 2004 & Jan.- March 2005)					Total 2003
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	1,444	0	0	0	5	1,449
Moderately Dense Forest	0	11,376	5	0	50	11,431
Open Forest	0	2	14,770	0	83	14,855
Scrub	0	0	0	146	73	219
Non-Forest	0	9	39	0	50,436	50,484
Total 2005	1,444	11,387	14,814	146	50,647	78,438
Net Change	-5	-44	-41	-73	163	

Table 8.3c: District-wise forest cover

Number of Districts: 23

(area in km²)

District	Geographic area	2005 Assessment				Percent of G.A.	Change	Scrub
		Very dense forest	Mod. dense forest	Open forest	Total			
Barpeta ^T	3,245	35	183	184	402	12.39	0	0
Bongaigaon	2,510	33	267	212	512	20.40	0	3
Cachar ^T	3,786	81	929	1,215	2,225	58.77	1	16
Darrang ^T	3,481	15	111	369	495	14.22	-1	1
Dhemaji ^T	3,237	7	126	161	294	9.08	0	11
Dhubari ^T	2,798	20	199	198	417	14.90	0	9
Dibrugarh ^T	3,381	26	173	555	754	22.30	-3	0
Goalpara ^T	1,824	0	68	266	334	18.31	0	7
Golaghat	3,502	5	117	368	490	13.99	-2	0
Hailakandi	1,327	13	342	426	781	58.85	-7	5
Jorhat ^T	2,851	1	91	483	575	20.17	0	0
Kamrup ^T	4,345	69	609	757	1,435	33.03	-1	17
Karbi Anglong ^H	10,434	567	3,922	3,505	7,994	76.61	-30	25
Karimganj	1,809	2	323	508	833	46.05	-9	32
Kokrajhar ^T	3,169	207	709	267	1,183	37.33	0	1
Lakhimpur ^T	2,277	4	114	168	286	12.56	0	6
Morigaon ^T	1,704	6	41	85	132	7.75	0	3
North Cachar Hills ^H	4,888	141	1,526	2,602	4,269	87.34	-17	1
Naogaon ^H	3,831	44	329	415	788	20.57	-5	7
Nalbari ^T	2,257	4	70	208	282	12.49	0	0
Sibsagar ^T	2,668	6	128	536	670	25.11	0	1
Sonitpur ^T	5,324	55	287	620	962	18.07	-19	0
Tinsukia ^T	3,790	103	723	706	1,532	40.42	3	1
Total	78,438	1,444	11,387	14,814	27,645	35.24	-90	146

Table 8.3d: Forest & tree cover

(area in km²)

Category	Area	% of Geographical Area
Tree Cover	1,484	1.89
Forest Cover	27,645	35.24
Forest & Tree Cover	29,129	37.13