

## 7.18 MEGHALAYA

## 7.18.1 Introduction

Meghalaya is situated in the north-eastern part of India with a geographical area of 22,429 km<sup>2</sup>. It lies between latitude 24°58' to 26°07'N and longitude 89°48' to 92°51'E. Cherrapunjee and Mawsynram, highest rainfall spots of the world, are located in the State. The State has most of its land covered by hills interspersed with gorges and small valleys with elevation ranging between 150 m to 1,950 m. In terms of tribal composition, the State has three distinct regions namely, Garo Hills, Khasi Hills and Jaintia Hills. Major rivers of the State are Simsang, Manda, Umiyam and Kupli.

The western part of the State is warmer with mean temperature ranging between 12°C to 33°C. The Central upland is relatively cooler with mean temperature ranging between 2°C to 24°C. The average annual rainfall in the State varies from 4,000 to 11,436 mm.

As per Census 2001, the total population of the State is 2.32 million of which the rural population constituted 80.42%. The population density is 103 persons per km<sup>2</sup>. The Scheduled Tribes constitute 86% of the population. The projected population of the State is 2.56 million (as projected by the Office of RGI for 2009). The livestock population is 1.55 million (Livestock Census 2001), which has increased by 31% since the 1992 census.

Land use pattern in the State is given in Table 7.18.1.

**Table 7.18.1: Land use pattern**

Land Use	Area in '000 ha	Percentage
Total geographical area	2,243	
Reporting area for land utilization	2,227	100.00
Forests	942	42.30
Not available for cultivation	228	10.24
Permanent pastures and other grazing lands	0	0.00
Land under misc. tree crops & groves	158	7.09
Culturable wasteland	450	20.21
Fallow lands other than current fallows	169	7.59
Current fallows	68	3.05
Net area sown	213	9.56

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

## 7.18.2 Recorded Forest Area

The recorded forest area of the State is 9,496 km<sup>2</sup>. Reserved Forests constitute 11.71%, Protected Forests 0.13% and Unclassed Forests 88.16% of the total forest area. The control of unclassified forests rests with Autonomous District Councils of Khasi Hills, Jaintia Hills and Garo Hills. The forests of Meghalaya are rich in biodiversity and endowed with rare species of orchids and medicinal plants.

## 7.18.3 Protected Areas

Meghalaya has 2 National Parks and 3 Wildlife Sanctuaries covering an area of 304 km<sup>2</sup> which constitutes 1.36% of the State's geographical area. Nokrek Biosphere Reserve is also located in the State. Meghalaya is among the States having the highest density of elephants.

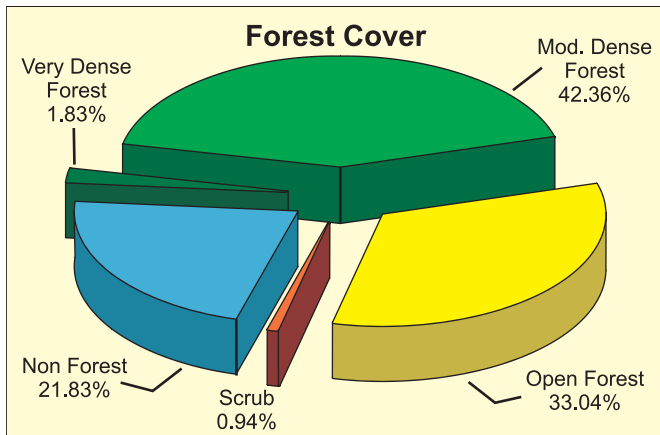
## 7.18.4 Joint Forest Management

JFM started in the State in 2003. There are 73 JFM committees managing 4,000 ha of forest area. All the families involved in JFM belong to Scheduled Tribes.

Source: MoEF, 2005.

## 7.18.5 Forest Cover

The forest cover in the State, based on interpretation of satellite data of Oct 2006 - Mar 2007, is 17,321 km<sup>2</sup>, which is 77.23% of the State's



geographical area. In terms of forest canopy density classes, the State has 410 km<sup>2</sup> very dense forest, 9,501 km<sup>2</sup> moderately dense forest and 7,410 km<sup>2</sup> open forest. The distribution of forest cover of the State is shown in Fig. 7.18.

Comparison of the current forest cover (satellite data of Oct 2006 - Mar 2007) with the previous assessment (satellite data of Nov 2004 - Jan 2005) shows a gain of 116 km<sup>2</sup> of forest cover.

The change matrix, given in Table 7.18.2, reveals that there has been an increase of 76 km<sup>2</sup> in very dense forest, 66 km<sup>2</sup> in open forest and a decrease of 26 km<sup>2</sup> in the moderately dense 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 7.18.3.

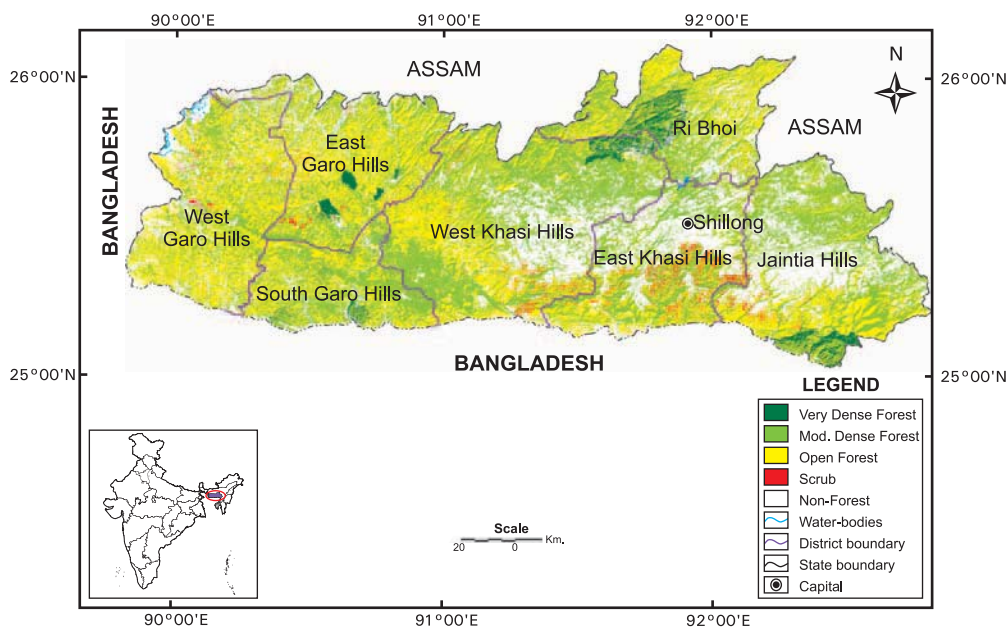


Fig. 7.18 : Forest cover map of Meghalaya

Table 7.18.2: Forest cover change matrix

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

2005 Assessment (Data of Nov 2004 - Jan 2005)	2007 (Data of Oct 2006 - Mar 2007)					Total of 2005
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	249	64	13	0	8	334
Moderately Dense Forest	134	7,796	994	16	587	9,527
Open Forest	17	1,046	5,532	81	668	7,344
Scrub	0	10	34	96	21	161
Non-Forest	10	585	837	18	3,613	5,063
<b>Total of 2007</b>	<b>410</b>	<b>9,501</b>	<b>7,410</b>	<b>211</b>	<b>4,897</b>	<b>22,429</b>
Net Change	76	-26	66	50	-166	

**Table 7.18.3: District-wise forest cover in 2007**

Number of districts: 7

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

District	Geographical area	Very dense forest	Mod. dense forest	Open forest	Total	% of G.A.	Change*	Scrub
East Garo Hills <sup>TH</sup>	2,603	67	1,158	1,294	2,519	96.77	6	18
East Khasi Hills <sup>TH</sup>	2,820	0	1,235	844	2,079	73.72	-70	106
Jaintia Hills <sup>TH</sup>	3,819	99	1,579	903	2,581	67.58	91	25
Ri Bhoi <sup>TH</sup>	2,376	131	880	677	1,688	71.04	-12	1
South Garo Hills <sup>TH</sup>	1,849	21	1,014	654	1,689	91.35	20	0
West Garo Hills <sup>TH</sup>	3,715	1	1,116	1,600	2,717	73.14	15	20
West Khasi Hills <sup>TH</sup>	5,247	91	2,519	1,438	4,048	77.15	66	41
<b>Total</b>	<b>22,429</b>	<b>410</b>	<b>9,501</b>	<b>7,410</b>	<b>17,321</b>	<b>77.23</b>	<b>116</b>	<b>211</b>

\* Change compared to 2005 assessment (revised).

## 7.18.6 Altitude Zone wise Forest Cover

Forest cover of the State in different altitude zones is given in Table 7.18.4.

**Table 7.18.4: Altitude zone wise forest cover**

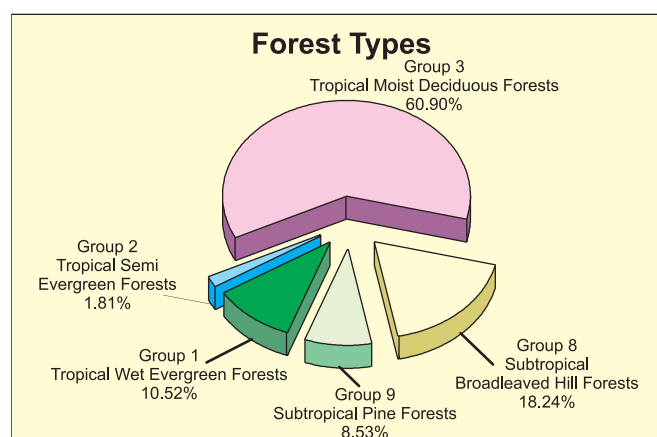
(area in km<sup>2</sup>)

Altitude Zone	VDF	MDF	OF	Total
0-500m	222	4,203	4,319	8,744
500-1000m	183	2,723	2,259	5,165
1000-2000m	5	2,575	832	3,412
<b>Total</b>	<b>410</b>	<b>9,501</b>	<b>7,410</b>	<b>17,321</b>

(based on SRTM Digital Elevation Model)

## 7.18.7 Forest Cover in different Forest Types

The State has 8 different forest types as per Champion & Seth's classification system (1968), belonging to 5 type groups viz Tropical Wet Evergreen, Tropical Semi Evergreen, Tropical Moist Deciduous, Subtropical Broadleaved Hill and Subtropical Pine Forests. Distribution of forest cover in different forest type groups found in the State is given in the pie diagram.



## 7.18.8 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 542 km<sup>2</sup> which is 2.42% of the

geographical area of the State. Three districts of the State (East Garo Hills, Ribhoi and West Garo Hills) have been inventoried. The forest and tree cover of the State is presented in the Table 7.18.5.

**Table 7.18.5: Forest & tree cover**

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

Category	Area	% of Geographical area
Tree Cover	542	2.42
Forest Cover	17,321	77.23
<b>Forest &amp; Tree Cover</b>	<b>17,863</b>	<b>79.65</b>