

9.25 TAMIL NADU

9.25.1 Introduction

Tamil Nadu is located in the southernmost part of the country. It has an area of 130,058 km² which constitutes 3.96% geographical area of the country. It lies between 8°05' N - 13°35' N latitude and 76°15' - 80°20' E longitude. Physiographically, the state can be divided into four major regions namely, Coastal Plains, Eastern Ghats, Central Plateau and Higher Elevation Mountains. The south-west monsoon feeds the plateau and the retreating north-east monsoon brings rain to the east coast. The temperature in state ranges from

2°C in the hills to 45°C in other areas. The average rainfall ranges from 925 mm to 1,170 mm.

As per *Census 2011*, the population of the state is 72.14 million which constitutes 5.96% of the country's population. Rural population constitutes 51.55% and urban population 48.45%. The population density is 555 persons per km². The livestock population of the state is 30.76 million (*Livestock Census 2007*).

Land use pattern of the state is given in Table 9.25.1

Table 9.25.1: Land Use Pattern

Land Use	Area in '000 ha	Percentage
Total geographical area	13,006	
Reporting area for land utilization	13,027	100.00
Forests	2,106	16.17
Not available for cultivation	2,665	20.46
Permanent pastures and other grazing lands	110	0.84
Land under misc. tree crops and groves	259	1.99
Culturable wasteland	333	2.56
Fallow lands other than current fallows	1,498	11.50
Current fallows	1,013	7.77
Net area sown	5,043	38.71

Source: *Land Use Statistics, Ministry of Agriculture, GOI, 2008-09.*

9.25.2 Recorded Forest Area

The recorded forests area is 22,877 km² which constitutes 17.59% of the geographical area of the state. Reserved Forests comprise 84.75%, Protected Forests 9.54% and Unclassed Forests constitute 5.71%.

9.25.3 Protected Areas

The state has 5 National Parks and 21 Wildlife Sanctuaries and one Conservation Reserve spread over an area of 3,829.8 km² which comprises 2.94% of the geographical area. Kalakad Mundanthurai Tiger Reserve, Mudumalai and Mukruti National Park are prominent protected areas. The state has two Biosphere Reserves, namely, Gulf of Mannar and Nilgiris.

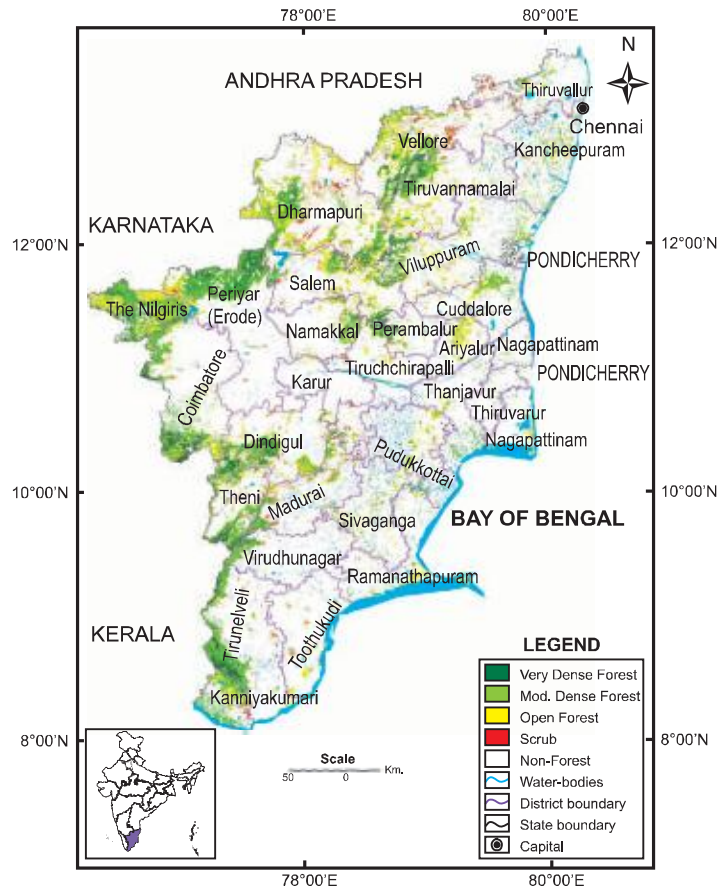
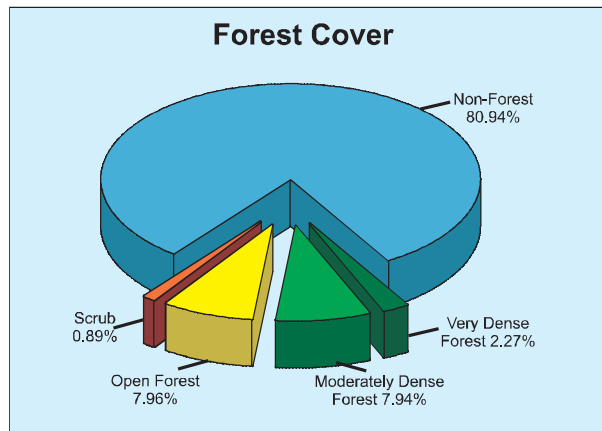


Fig 9.25 Forest Cover Map of Tamil Nadu

9.25.4 Forest Cover

The forest cover in the state, based on interpretation of satellite data of October 2008-May 2009 is 23,625 km² which is 18.16% of the state's geographical area. In terms of forest canopy density classes, the state has 2,948 km² area under very dense forest, 10,321 km² area under moderately dense forest and 10,356 km² area under open forest. The forest cover of the state is shown in Fig. 9.25.



Forest and Tree Resources in States and Union Territories

District-wise forest cover in different canopy density classes, scrub areas and the changes as compared to 2009 Assessment are given in Table 9.25.2.

Table 9.25.2: District-wise Forest Cover (Area in km²)

District	Geographical Area	2011 Assessment				Percent of GA	Change*	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Ariyalur	1,947	0	65	253	318	16.33	3	3
Chennai	144	0	6	3	9	6.25	0	0
Coimbatore ^H	7,469	381	922	527	1,830	24.50	3	18
Cuddalore	3,706	0	218	222	440	11.87	-2	10
Dharampuri ^T	9,622	241	1,078	1,715	3,034	31.53	7	201
Dindigul (Anna)	5,580	351	551	587	1,489	26.68	43	60
Erode (Periyar)	8,209	468	1,371	366	2,205	26.86	1	40
Kancheepuram	4,474	0	123	253	376	8.40	4	19
Kanniyakumari ^H	1,684	40	417	195	652	38.72	0	31
Karur	2,901	0	27	61	88	3.03	1	6
Madurai ^H	4,277	23	293	271	587	13.72	13	117
Nagapattinam	2,140	0	43	99	142	6.64	18	0
Namakkal ^T	3,413	55	189	300	544	15.94	0	22
Perambalur ^T	1,748	19	35	86	140	8.01	0	8
Pudukkottai	4,651	0	78	177	255	5.48	3	7
Ramanathapuram	4,232	0	80	205	285	6.73	0	4
Salem ^T	5,235	139	422	669	1,230	23.50	13	68
Sivaganga	4,086	0	86	231	317	7.76	-15	17
Thanjavur	3,415	0	133	62	195	5.71	13	0
The Nilgiris ^H	2,549	240	978	868	2,086	81.84	-8	0
Theni	2,764	199	491	271	961	34.77	-10	63
Thiruvallur	3,413	0	59	155	214	6.27	1	76
Thiruvarur	2,716	0	23	7	30	1.10	0	0
Tiruchchirapalli ^T	4,511	74	145	188	407	9.02	-2	48
Tirunelveli ^H	6,810	278	760	179	1,217	17.87	-3	44
Tiruvannamalai ^T	6,191	169	523	695	1,387	22.40	0	57
Toothukudi	4,621	0	25	134	159	3.44	-5	22
Vellore	6,077	172	628	939	1,739	28.62	1	184
Villupuram	7,190	70	370	569	1,009	14.03	-2	21
Virudhnagar	4,283	29	182	69	280	6.54	-3	14
Total	130,058	2,948	10,321	10,356	23,625	18.16	74	1,160

* Change figures are based on comparison of 2011 assessment with that of 2009 after incorporating interpretational changes therein.

9.25.5 Forest Cover Change

Although, there is actual positive change of 74 km² as detected during 2011 Assessment, there is a net increase of 287 km² in the forest cover from the reported area in ISFR 2009.

This has resulted due to interpretational changes (on positive side) noticed on account of refinement of methodology as also the availability of satellite data of appropriate season with improved quality as compared to previous years.

Table 9.25.3: Forest Cover Change Matrix (Area in km²)

2009 Assessment	2011 Assessment					Total 2009
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	2,785	141	0	0	0	2,926
Moderately Dense Forest	163	9,620	198	2	360	10,343
Open Forest	0	204	9,552	25	501	10,282
Scrub	0	0	72	1,069	59	1,200
Non - Forest	0	356	534	64	104,353	105,307
Total 2011	2,948	10,321	10,356	1,160	105,273	130,058
Net Change	22	-22	74	-40	-34	

The change matrix given in Table 9.25.3 reveals that there has been an increase of 22 km² in very dense forest and 74 km² in moderately dense forest and a decrease of 22 km² in the open forest.

Reasons for change detected in 2011 Assessment

Changes observed in current assessment which have been validated through ground truthing of selected sample plots in the field can be attributed to management

intervention like harvesting of short rotation plantations in forest areas and private holdings which primarily accounted for the changes detected in the current assessment. In certain areas increase of forest cover from the previous assessment has been recorded due to growth of young plantations.

9.25.6 Altitude Zone-wise Forest Cover

Forest cover of the state in different altitude zones is given in Table 9.25.4.

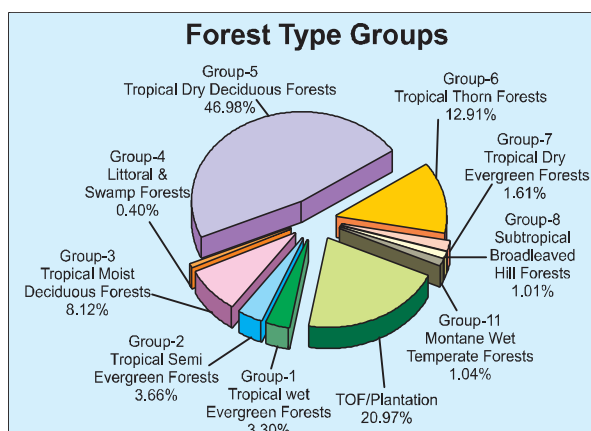
Table 9.25.4: Altitude Zone-wise Forest Cover (Area in km²)

Altitude Zone	VDF	MDF	OF	Total
0-500m	201	3,469	5,920	9,590
500-1000m	1,412	4,625	3,400	9,437
1000-2000m	1,122	1,915	915	3,952
2000-3000m	213	312	121	646
Total	2,948	10,321	10,356	23,625

(Based on SRTM, Digital Elevation Model)

9.25.7 Forest Cover in Different Forest Types

Forest type mapping using satellite data has been undertaken by Forest Survey of India with reference to Champion & Seth Classification. As per this assessment, the state has 38 forest types which belong to nine forest type groups, viz. Tropical Wet Evergreen, Tropical Semi Evergreen, Tropical Moist Deciduous, Littoral & Swamp, Tropical Dry Deciduous, Tropical Thorn, Tropical Dry Evergreen, Sub Tropical Broadleaved Hill and Montane Wet Temperate Forests. Percentage-wise distribution of forest cover in different



forest type groups found in the state is given in the pie diagram.

9.25.8 Tree Cover

Tree cover of the state has been estimated using TOF inventory data collected over a period of six years, i.e. 2004-10. The estimated tree cover in the state is 4,718 km² which is

3.63% of its geographical area. Eight districts of the state (Coimbatore, Erode, Kancheepuram, Madurai, Namakkal, Salem, Thiruvavur and Tirunelveli) have been inventoried. The forest and tree cover of the state is presented in Table 9.25.5.

Table 9.25.5: Forest and Tree Cover (Area in km²)

Category	Area	% of Geographical Area
Tree Cover	4,718	3.63
Forest Cover	23,625	18.16
Forest and Tree Cover	28,343	21.79

9.25.9 Growing Stock

The growing stock in the recorded forest area has been estimated on the basis of current forest cover map, forest type map and forest

inventory data. For trees outside forests (TOF), the same has been estimated using TOF inventory data. It is presented in the Table 9.25.6.

Table 9.25.6: Growing Stock (million cum)

Forest	TOF	Total
144.404	70.328	214.732

9.25.10 Bamboo

The extent of bamboo bearing area in the forests of the state is 3,265 km². Density-wise

details, number of culms by soundness and equivalent green weight by are given in following tables:

Table 9.25.7: Bamboo bearing area by density in recorded forest area (Area in km²)

Recorded Forest Area	Pure bamboo	Dense bamboo	Scattered bamboo	Clumps hacked	Bamboo regeneration	No bamboo
22,877	5	650	1,707	130	773	19,612

Table 9.25.8: Estimated number of bamboo culms and equivalent green weight

Number of culms (in millions)				Equivalent Green Weight (in 000' tonnes)		
Green	Dry	Decayed	Total	Green	Dry	Total
367	86	33	486	5797	2499	8296