

## 2.1 Introduction

Tamil Nadu is the southern most state of India. The total geographical area of Tamil Nadu is 1,30,058 sq.kms, of which the recorded forest area is 22,877 sq.kms, which constitute 17.59% of the States geographical area<sup>2</sup>. The forest area of the State is classified as Reserved Forest, Reserved land and Unclassified forest. Reserved Forests (RF) covers about 19,388 sq.km (85%), Protected Forests (PF) covers about 2,183 sq.km (9.6%) and Unclassified Forest (UF) covers an area of about 1,306 sq.km (5.8%)<sup>3</sup>

Physiographically the salient features of the land are the coastal plains along the east coast with a land coverage of 17,150 sq.kms (approx) and Western Ghats, a continuous mass of composite hill ranges of high elevation along the west, extending to an area of 44,401 sq.kms (approx). Between these two land features there are also series of discontinuous rather isolated hill blocks of low elevation extending to an area of 31,157 sq.kms (approx) known as Eastern Ghats. The important hill ranges of Western Ghats are Cardamom hills, Palani hills, and Anamalais and the important hill blocks of Eastern Ghats are Javadhis, Shevroys, Kalrayans, Kollimalais and Pachamalais. The Western Ghats and Eastern Ghats meet to form a large upland region the Nilgiris, its approximate extent is about 37,350 sq.kms.<sup>1</sup>

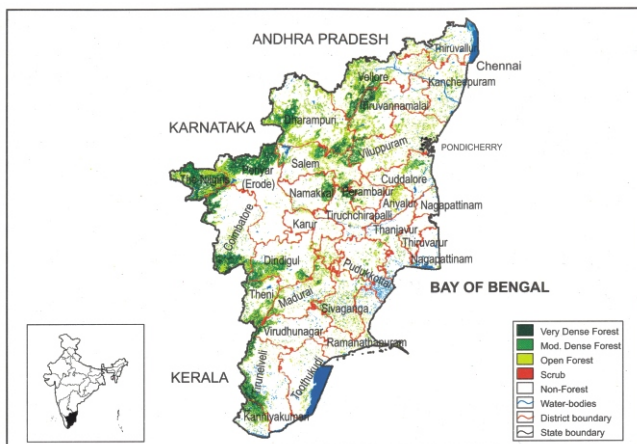


Fig 2.1. Forest cover map of Tamilnadu<sup>2</sup>

Forest plays a vital role in safeguarding the environment and contributes much to economic development. Forests are generally considered *environmental capital* in that it directly relates to the environment. Conservation and preservation of forest is a pre-requisite for maintaining a healthy eco-system. Besides ensuring ecological stability, forest provides employment opportunities to rural and tribal folk and provides wood and minor forest products like honey, herbs, fruits, berries and materials for domestic use.<sup>3</sup>

## 2.2 Forest area

The State of Forest Report 2003, of Forest Survey of India shows the recorded forest area of the state as 22,877 sq.km in extent which is 17.59% of the geographical area of the State. The distribution of the forest in the State, its density, classification and tree cover is given in Table 2.1 & 2.2.

Table 2.1 Recorded forest area in Tamilnadu<sup>2</sup>

Recorded Forest Area	
Reserved Forest	19,388 km <sup>2</sup>
Protected Forest	2,183 km <sup>2</sup>
Unclassed Forest	1,306 km <sup>2</sup>
<b>Total</b>	<b>22,877 km<sup>2</sup></b>
<i>Of State's Geographic Area</i>	17.59%
<i>Of Country's Forest Area</i>	2.95%

Table 2.2. Tree cover in Tamilnadu<sup>2</sup>

Tree Cover	
Culturable Non-Forest Area (CNFA)	98,851 km <sup>2</sup>
No. of trees per ha of CNFA	13.7
<b>Tree Cover</b>	<b>4,991 km<sup>2</sup></b>
<i>Of State's Geographic Area</i>	3.84%
<i>of CNFA</i>	5.05%

### 2.3 Forest Vegetation

The forest of Tamil Nadu shows a wide variety in their structure and floristic composition. The following table 4.4 summarizes the forest types found in Tamil Nadu, its sub types and extent.

**Table 2.3. Types of Forest Vegetation of Tamil Nadu<sup>1</sup>**

Forest types	Sub types	Area in Km <sup>2</sup>	No. of Species	Diversity Index
Southern Tropical Wet Evergreen	5	557.50	38.63	3.47
Southern Tropical Semi Evergreen	6	372.40	31.71	3.10
Southern Tropical Moist Deciduous	3	2166.80	17.63	2.45
Littoral and Swamp	4	208.00	9.42	2.04
Southern Tropical Dry Deciduous	12	10766.50	15.31	2.11
Southern Tropical Dry Thorn	4	6256.90	14.36	2.29
Southern Tropical Dry Evergreen	2	845.60	16.66	2.25
Subtropical Broad leaved Hill	3	979.60	21.46	2.85
Montane Wet Temperate	3	398.70	33.33	2.88

### 2.4. Protected areas of Tamil Nadu

Tamil Nadu forests are rich in plant and animal life forms. Out of 35,000 species of plants found in India about 3,000 are found in Tamil Nadu. Most of the important species of the mammals of India are also found here. Among them the endangered are Slender loris, Lion tailed macaque, Indian Pangolin, Jackal, Indian Fox, Indian Wild dog, Sloth

bear Ratel, Striped hyena. Jungle cat, Leopard, Tiger, Mouse deer, Gaur, Blackbuck, Nilgiri Tahr, Grizzled grey squirrel, Common dolphin and Dugong.<sup>4</sup>

An area of 307.85 sq.kms. i.e. 1.36% of the total forest area of Tamilnadu has been brought under National Parks. Further, an area of 2,602.07 sqkm. has been declared as wildlife sanctuaries. Tamilnadu has also the unique distinction of having two biosphere reserves, one in the Nilgiris and another in the Gulf of Mannar. A Tiger Reserve under “Projects Tiger” has also been established combining Mundanthurai and Kalakad Wildlife sanctuaries. The Arignar Anna Zoological Park at Vandalur near Chennai is a modern Zoological park with open moat enclosures formed over an area of 602 ha of reserved forests near Chennai.<sup>4</sup>



**Table 2.4 Protected areas of Tamil Nadu**

**LIST OF WILDLIFE SANCTUARIES, BIRDS SANCTUARIES AND NATIONAL PARKS IN TAMIL NADU**

Sl. No.	Name of the Wildlife Sanctuary	Area in ha	District in which located	Major animals found	Wildlife (Protection) Act in which declared
<b>WILDLIFE SANCTUARIES</b>					
1.	Mudumalai Wildlife Sanctuary	21776.00	Nilgiris	Elephant,Gaur, Sambar, Chital, Panther,Tiger, Birds, Reptiles.	193 Development Department dated 27.1.1940.
2.	Indira Gandhi Wildlife Sanctuary	84149.00	Coimbatore	Elephant, Gaur, Tiger, Panther, Sloth bear, Wild boar	18(1)
3.	Mundanthurai Wildlife Sanctuary	58207.58	Tirunelveli	Tiger, Bonnet Macaque, Langurs, Slender Loris, Sloth Bear, Sambar, Chital, Wild Dog.	Wildlife Birds and animals protection Act 1912
4.	Kalakad Wildlife Sanctuary	22358.00	Tirunelveli	Lion Tailed Macaque, Nilgiri Tahr, Sambar, Sloth Bear, Elephant, Panther, Tiger	18(1)
5.	Grizzled Giant Squirrel Wildlife Sanctuary	48520.00	Virudhunagar	Grizzled Giant Squirrel, Flying Squirrel, Nilgiri Tahr, Elephant, Lion Tailed Macaque	18(1)
6.	Point Calimere Wildlife Sanctuary	1726.00	Nagapattinam	Black Buck, Bonnet Macaque, Wild Boar, Flamingoes variety of birds such as Teals, Gulls	Sec.62 of Madras Forests Act 1882
7.	Vallanadu Black Buck Sanctuary	1641.00	Tuticorin	Black buck, Spotted deer, Macaques, Jungle cat, Mongoose, Hares	18(1)
8.	Kanyakumari Wildlife Sanctuary	45777.57	Kanyakumari	Bonnet Macaque, Nilgiri Langur, Slender Loris,Tiger, Panther,Elephant, Bird, jackal, Nilgiri tahr	18(1)
	<b>Total</b>	<b>284155.15</b>			

Sl. No.	Name of Birds Sanctuary	Area in ha	District in which located	Major animals found	Wildlife (Protection) Act in which declared
	<b>BIRDS SANCTUARIES</b>				
9.	Vedanthangal Birds Sanctuary	30.00	Kancheepuram	Cormorants, egrets, gray heron, spoon billed stork, migratory birds like garganey, teals, shovallers	Final notification issued U/s 26A(1)
10.	Karikili Birds Sanctuary	61.21	Kancheepuram	Cormorants, egrets, grey heron, spoon billed stork,	18(1)
11.	Pulicat Lake Birds Sanctuary	15367.00	Tiruvallur	Flamingoes, ducks, osprey, avocet, cormorants, herons, spoon bills, gulls and other migratory birds	18(1)
12.	Vettangudi birds Sanctuary	38.40	Sivagangai	Cormorants, egrets, herons, teals, pelicans	18(1)
13.	Kanjirankulam Birds Sanctuary	104.00	Ramanathapuram	-do-	18(1)
14.	Chitrangudi Birds Sanctuary	47.63	-do-	-do-	18(1)
15.	Udayamarthandpuram Birds Sanctuary	45.28	Tiruvarur	Little cormorant, darter, spoon bill, Indian Reef Heron, Grey heron, white necked stork	Final notification issued u/s 26A(1)
16.	Vaduvloor birds Sanctuary	128.10	-do-	Cormorants, egrets, ibis, herons and many variety of birds	Final notification issued under section 26 A(I)
17.	Koonthankulam-Kadankulam Birds Sanctuary	129.00	Tirunelveli	Grey pelican, painted stork, white Ibis, jackal, rat snake	18(1)
18.	Karaivetti Birds Sanctuary	453.71	Perambalur	Egrets, pelican, grey heron, white ibis, spoon bill	18(1)
19.	Vellode Birds Sanctuary	77.18	Erode	Spoon bill, teals, pintail ducks, darter	Final notification issued u/s 26A(1)
20.	Melaselvanur-Kilaselvanur Birds Sanctuary	593.08	Ramanathapuram	Grey pelican, painted stork	18(1)
	<b>Total</b>	<b>17074.59</b>			

Sl. No.	Name of National Parks	Area in ha	District in which located	Major animals found	Wildlife (Protection) Act in which declared
	<b>NATIONAL PARKS</b>				
21.	Mudumalai National Park	10323.00	Nilgiris	Elephant, Gaur, Sambar, Chital, Tiger, Birds, and reptiles	35(4)
22.	Indira Gandhi National Park	11710.00	Coimbatore	Elephant, Gaur, Tiger, Panther, Sloth Bear, Wild Boar	35(1)
23.	Mukurthi National Park	7846.00	Nilgiris	Nilgiri Tahr, Jackal, Otter, Jungle cat, Sambar, Barking deer.	Final notification issued under section 35 (4)
24.	Guindy National Park	282.00	Chennai	Black Buck, Chital, Jackal, Pangolin and variety of birds	Final notification issued under section 35(4)
25.	Gulf of Mannar Marine National Park (21 Islands)	52602.00	Ramanathapuram	Characteristic tropical flora & fauna of coral reefs, Dugong, Turtles, Dolphins and Balanoglossus	35(1)
	<b>Total</b>	<b>82763.00</b>			

Source : Tamil Nadu Forest Department

### 2.5 Sacred groves of Tamil Nadu<sup>5</sup>

Sacred groves comprise of patches of forests or natural vegetation from a few trees to forests of several acres that are usually dedicated to local folk deities (Example: *Ayyanar* and *Amman*) or tree spirits (*Vanadevatais*). These spaces are protected by local communities because of their religious beliefs and traditional rituals that run through several generations.

#### 2.5.1 Ecological significance of sacred groves

**Conservation of Biodiversity** : The sacred groves are important repositories of floral and faunal diversity that have been conserved by local communities in a sustainable manner. They are often the last refuge of endemic species in the geographical region.

**Recharge of aquifers** : The groves are often associated with ponds, streams or springs, which help meet the water requirements of the local people. The vegetative cover also helps in the recharging the aquifers.

**Soil conservation**: The vegetation cover of the sacred groves improves the soil stability of the area and also prevents soil erosion.

There are about 448 groves throughout Tamilnadu, out of which 6 groves (Benagudi Shola, Sittannaval, Puthupet, Udaiyankudikadu, Tirukurungudi and Devadanam) were taken up for detailed, floristic and faunistic studies by C.P.R. Environmental Education Centre. The objective of the Study was to:

Precisely **locate and map** the groves and to prepare an inventory.

Demarcate the sacred groves based on the availability of endemic and threatened plants.

Suggest measures for the **preservation and effective management** of the threatened groves.

Study the **socio-economic** and **cultural importance** of the groves.

### 2.5.2 The Forest Department has identified the following as pressures<sup>land 6</sup>

1. The forest area is subjected to degradation on account of biotic pressure.
2. Loss of biodiversity
3. Natural Disaster (Tsunami, Forest fire).

### 2.6 Policy Response<sup>6</sup>

The National Forest Policy of 1988 of Government of India lays down the guiding principles for Forest



Management in India. A State Forest Policy in consonance with the principles of National Forest Policy is under consideration. The Principal aim of the National Forest Policy, 1988 and the State Forest Policy is maintenance of environmental stability and restoration of ecological balance through conservation, upgradation and increase in the tree cover. In Tamil Nadu, the Tamil Nadu Forest Act 1882, Wild Life Protection Act 1972, Forest (Conservation) Act 1980 and a host of Rules formulated under these Acts are being implemented by the Forest Department. Various landmark judgements given by the courts emphasizing the importance of preservation of forests have raised people's expectations in the implementation of the forest policy.

#### 2.6.1 Objectives<sup>6</sup>

Forests in Tamil Nadu are being managed with the following main objectives :

Increasing substantially the forest/tree cover in the State;  
Ensuring environmental stability and restoration of ecological balance;

Stabilizing coastal eco-system from natural disasters like Cyclones, Tsunami, etc.

Conservation of bio-diversity for the benefit of present and future generations;

Mitigating floods and droughts and also retarding siltation of reservoirs by checking soil erosion and denudation in catchment areas of rivers, lakes and reservoirs;

Meeting the genuine requirement of fuel, fodder, non-wood forest produce and small timber to the extent possible on a sustainable basis, through Joint Forest Management.

Harnessing non-conventional energy resources and contributing to energy security of remote villages;

Extension of improved forest technology to farmers for creating alternative sources of forest produce outside the Reserved Forests;

Improving the habitat for all living beings including micro organisms, insects, birds, beetles, butterflies and animals;

Making available the traditional forest produce to be used rightfully by the tribal people living inside forests;

### **2.7 Major on going schemes in Tamil Nadu<sup>6</sup>**

#### **2.7.1 Tamil Nadu Afforestation Project**

This scheme is being implemented in 2004-2005 at an outlay of Rs.69.09 crores from State funds to cover an area of 28,653 ha. spread over in 110 villages. During the first year of the TAP Phase-II project i.e. 2005-2006, it is proposed to implement the project at a cost of Rs.85.89 crores covering 29,250 ha. of degraded forests and 135 fringe villages.<sup>2</sup>

#### **2.7.2. Wildlife Schemes**

Wildlife schemes in Tamil Nadu are implemented with the main objective to conserve and protect the flora and fauna of the protected areas. Development works like habitat improvement measures, research and development, conducting census, education awareness programmes, protection measures, eco-tourism, conducting anti-poaching camps, fireline clearing, providing drinking water facilities to the local villagers, health camps, erection of publicity hoarding etc., are being undertaken in Sanctuaries, National Parks and Biosphere reserves.<sup>2</sup>

#### **2.7.3. Hill Area Development Programme**

This scheme is being implemented for eco-restoration in Nilgiris. The objective of the scheme is to enlarge the

permanent green cover and to regulate biotic interference in the forest so as to preserve, protect and develop the ecological condition through afforestation and soil conservation and other developmental activities. Activities like tree planting in degraded forest areas, erection of chainlink fence around shola forests, enriching degraded sholas through soil and water conservation measures, scraping and maintenance of fire lines to prevent forest fire are being executed.

#### **2.7.4. Western Ghats Development Programme**

The Western Ghats in Tamil Nadu comprise of 5,596 square kilometers of forests, out of the total forest area of 22,877 square kilometers. To avoid the degradation of forest eco-system and to improve the existing status of forests with the enriched fauna and flora of Western Ghats, gap planting, construction of water harvesting structures in micro watersheds, planting with minor forest produce species and habitat amelioration and manipulation for wildlife will be taken up. All schemes under this programme will be implemented by involving people through Joint Forest Management and on integrated watershed basis.

#### **2.7.5. Integrated forest protection**

The main objective of this scheme is to control forest fires and strengthen the forest protection in Tamilnadu. The works like fireline clearing, assistance to Joint Forest Management Committees, creating water bodies, purchase of vehicles and communication equipments, purchase of fire fighting tools, etc., are being undertaken.

#### **2.7.6. Forest Research**

The main focus and thrust of forest research in Tamil Nadu is in the fields of bio-diversity conservation and bio-productivity enhancement.

### 2.7.7. National Afforestation Programme

In order to establish linkages between rural development, assured rural employment generation and forest conservation, Government of India has contemplated Forest Development Agency concept with interlink approaches under a single umbrella scheme National Afforestation Programme.

### 2.7.8. Tank foreshore plantations

Tamil Nadu Forest Department was implementing the Social Forestry project with the financial assistance from Swedish International Development Authority, Sweden since 1981. Raising karuvel trees in the lakes / tank foreshores has been the major component under this scheme besides raising plantations in degraded hillocks and poramboke lands. It has been proposed to undertake this programme during 2005-2006 at an outlay of 563.49 lakhs.<sup>6</sup>

### 2.7.9. Gulf of Mannar Biosphere reserve project

The objective of the project is to conserve coastal biodiversity and to reduce the pressure on the marine sea resources caused by overexploitation and shift it to land based activities through employment generation. The project with an outlay of Rs.140.00 crores is being implemented

through a trust, which has been constituted by the Government in July 2002.<sup>6</sup>

### 2.7.10. Tamil Nadu Afforestation Project Phase-II<sup>6</sup>

Due to excessive grazing, forest fires and head load removals, these forests have been subjected to heavy biotic pressure and consequently a sizeable extent had become degraded. A project to treat about 1,77,500 hectares of degraded forests in another 800 villages under Tamil Nadu Afforestation Project Phase-II with an outlay of Rs.567.42 crores for a period of eight years has been sanctioned from 2005-06 by JBIC.

## 2.8. References

1. Draft Tamil Nadu State Forestry Action Programme, Tamil Nadu Forest Department, 1999.
2. State of Forest Report, Forest Survey of India, 2003
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4. Kesava Reddy, 2003, The Wild in the Wilderness, Sudha Publications, Vol II.
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6. Environment and Forests Department, Policy Note: 2005-2006.