



Tamil Nadu

9.25.1 Introduction

Tamil Nadu is the southernmost state of the country and covers an area of 1,30,060 sq km which is 3.96% of the geographical area of the country. Physiographically, the State can be divided into four major regions, namely, Coastal Plains, Eastern Ghats, Central Plateau and Western Ghats. Tamil Nadu has a humid tropical climate. The average annual rainfall varies from about 925mm to about 1,170mm and the average annual temperature ranges between 19°C to 37°C. Many rivers, which include Cauvery, Palar and Vaigadrain the state. The state has 32 districts, out of which five are hill districts and six are tribal districts. As per the 2011 census, Tamil Nadu has a population of 72.15 million. The rural, urban and tribal population constitutes 37.23 million, 34.92 million and 0.79 million respectively. The population density of the state is 555 per sq km. The 19th Livestock census 2012 has reported a total livestock population of 22.72 million.

Table 9.25.1 Land Use Pattern

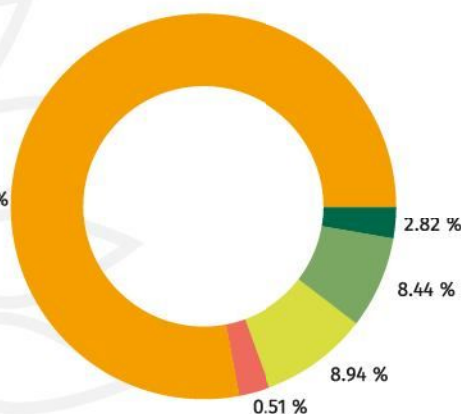
| Land Use Types | Area (in 000' ha) | Percentage |
|--|-------------------|------------|
| Total Geographic Area | 13,006 | |
| Reporting area for land utilization | 13,033 | 100 |
| Forests | 2,125 | 16.3 |
| Not available for land cultivation | 2,678 | 20.55 |
| Permanent pastures and other grazing lands | 110 | 0.84 |
| Land under misc. tree crops and groves | 245 | 1.88 |
| Culturable wasteland | 328 | 2.52 |
| Fallow land other than current fallows | 1,718 | 13.18 |
| Current fallows | 1,115 | 8.56 |
| Net area sown | 4,714 | 36.17 |

Source: Land Use Statistics, Ministry of Agriculture, GOI, 2013-14.

9.25.2

Forest Cover

Based on interpretation of satellite data pertaining to Oct-Dec 2015, the forest cover in the state is 26,281 sq km which is 20.21% of the State's geographical area. In terms of forest canopy density classes, the state has 3,672 sq km under very dense forest, 10,979 sq km under moderately dense forest and 11,630 sq km under open forest.



Forest cover of Tamil Nadu

Pie Chart showing forest cover of Tamil Nadu

■ Non Forest
 ■ Scrub
 ■ Open Forest
 ■ Mod. Dense Forest
 ■ Very Dense Forest

9.25.3

Forest Cover within and outside Recorded Forest Area

The recorded forest area of the state is 22,877 sq km which is 17.59% of the State's geographical area. The Reserved, Protected and Unclassed Forests are 88.70%, 7.79% and 3.51% respectively of the recorded forest area. However, as the digitized boundary of recorded forest area from the State covers 21,870 sq km, the analysis of forest cover within and outside this area is depicted below.

Table 9.25.2 Forest Cover within and outside Recorded Forest Area

| Forest Cover within Recorded Forest Area (Area in sq km) | |
|--|---------------|
| Very Dense Forest (VDF) | 3,386 |
| Moderately Dense Forest (MDF) | 8,544 |
| Open Forest (OF) | 5,651 |
| Total | 17,581 |
| Forest Cover outside Recorded Forest Area | |
| Very Dense Forest | 286 |
| Moderately Dense Forest | 2,435 |
| Open Forest | 5,979 |
| Total | 8,700 |
| Total Forest Cover | 26,281 |
| Tree Cover | 4,671 |
| Total Forest & Tree Cover | 30,952 |
| Of State's Geographical Area | 23.80% |
| Of India's Forest & Tree Cover | 3.86% |
| Per capita Forest & Tree Cover | 0.04 ha |

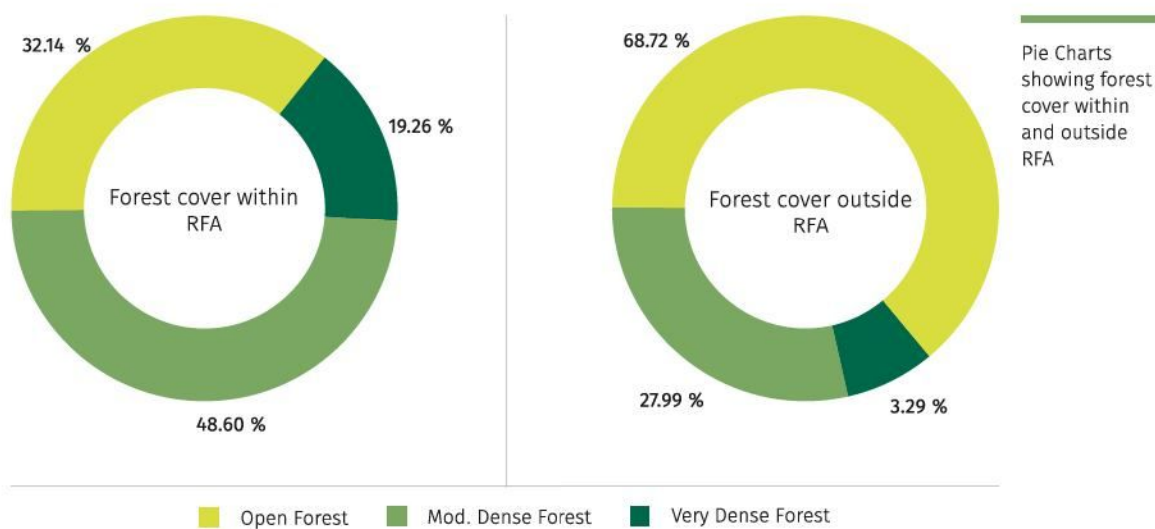


Table 9.25.3 Altitude-wise Forest Cover (Area in sq km)

| Altitude Zone (m) | Geographical Area | VDF | MDF | OF | Total |
|-------------------|-------------------|--------------|---------------|---------------|---------------|
| 0-500 | 1,11,060 | 407 | 5,121 | 8,519 | 14,047 |
| 500-1000 | 13,688 | 1,821 | 4,386 | 2,432 | 8,639 |
| 1000-2000 | 4,437 | 1,101 | 1,377 | 647 | 3,125 |
| 2000-3000 | 875 | 343 | 95 | 32 | 470 |
| Total | 1,30,060 | 3,672 | 10,979 | 11,630 | 26,281 |

(Based on SRTM, Digital Elevation Model)

Table 9.25.4 Forest Cover in different Patch Size Classes

| S. No | Patch Size Range in sq km | No. of Patches | Area (sq km) | %age |
|-------|---------------------------|----------------|---------------|------------|
| 1 | ≥ 0.01 ≤ 1.0 | 41,335 | 3,288 | 12.51 |
| 2 | > 1.0 ≤ 10 | 907 | 2,461 | 9.36 |
| 3 | > 10 ≤ 100 | 112 | 2,871 | 10.92 |
| 4 | > 100 ≤ 500 | 12 | 3,019 | 11.49 |
| 5 | > 500 ≤ 1000 | 0 | 0 | 0.00 |
| 6 | > 1000 ≤ 5000 | 6 | 14,642 | 55.72 |
| | Total | 42,372 | 26,281 | 100 |

Table 9.25.5 Growing Stock

| | Growing Stock | % Contribution to country |
|---|---------------------|---------------------------|
| Growing Stock in Recorded Forest Area | 127.810 m cum | 3.03 |
| Growing Stock in TOF | 66.257 m cum | 4.13 |
| Potential Production of industrial wood from TOF | 3.05 m cum | 4.09 |
| Bamboo bearing area within forest area of the state | 4,154 sq km | 2.64 |
| Total number of culms | 777 millions | 2.76 |
| Total green weight equivalent of culms | 6,470 (000' tonnes) | 3.43 |

9.25.4

Carbon Stock in forest

The total Carbon stock of forests in the State is 229,338 million tonnes (840,906 million tonnes of CO₂ equivalent) which is 3.24% of total forest carbon of the country.

9.25.5

Decadal Change in water bodies within Forest

An increase of 279 sq km has been observed in the water body coverage within Forest compared to 2005. The graphical and tabular comparison is depicted below.

Extent of water bodies within forest

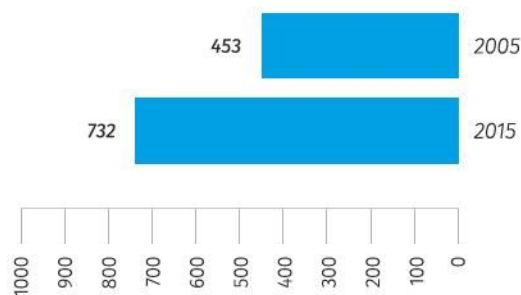


Table 9.25.6 Water bodies within Forest for the years 2005 and 2015

| Area/Coverage | 2005 | 2015 |
|--|------|------|
| Extent of water bodies (sq km) within Forest | 453 | 732 |
| % of water bodies to Forest Cover | 1.94 | 2.79 |

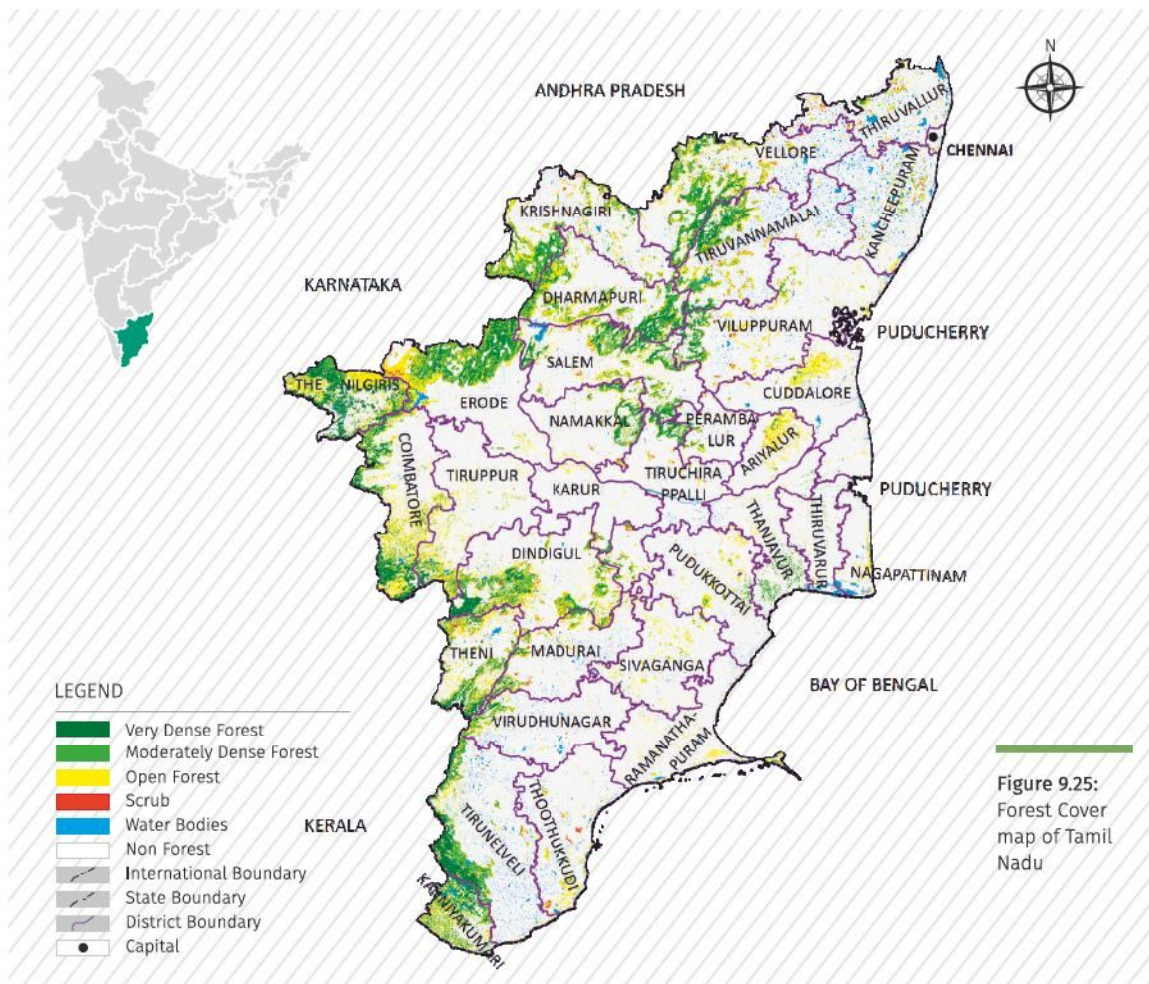


Figure 9.25:
Forest Cover
map of Tamil
Nadu

Table 9.25.7 District- wise Forest Cover (area in sq km)

| District | Geographical Area | 2017 Assessment | | | Total | % of GA | Change * | Scrub |
|------------------------------|-------------------|-------------------|-------------------|-------------|-------|---------|----------|-------|
| | | Very Dense Forest | Mod. Dense Forest | Open Forest | | | | |
| Ariyalur | 1,940 | 0 | 43 | 337 | 380 | 19.59 | 53 | 4 |
| Chennai | 175 | 0 | 7 | 7 | 14 | 8.00 | -2 | 0 |
| Coimbatore ⁱⁱ | 4,732 | 364 | 669 | 942 | 1,975 | 41.74 | -3 | 1 |
| Cuddalore | 3,703 | 0 | 48 | 334 | 382 | 10.32 | -34 | 18 |
| Dharmapuri ⁱ | 4,497 | 271 | 842 | 585 | 1,698 | 37.76 | 16 | 13 |
| Dindigul | 6,036 | 256 | 771 | 849 | 1,876 | 31.08 | 6 | 34 |
| Erode | 5,760 | 408 | 1,127 | 772 | 2,307 | 40.05 | 9 | 32 |
| Kancheepuram | 4,483 | 0 | 72 | 238 | 310 | 6.92 | 15 | 34 |
| Kanniyakumari ⁱⁱⁱ | 1,684 | 146 | 554 | 294 | 994 | 59.03 | -13 | 1 |
| Karur | 2,904 | 3 | 42 | 83 | 128 | 4.41 | 8 | 7 |
| Krishnagiri | 5,129 | 95 | 843 | 611 | 1,549 | 30.20 | -38 | 24 |
| Madurai ⁱⁱ | 3,710 | 40 | 231 | 290 | 561 | 15.12 | 12 | 32 |

Table 9.25.7 District- wise Forest Cover (area in sq km)

| District | Geographical Area | 2017 Assessment | | | Total | % of GA | Change * | Scrub |
|------------------------------|-------------------|-------------------|-------------------|---------------|---------------|--------------|-----------|------------|
| | | Very Dense Forest | Mod. Dense Forest | Open Forest | | | | |
| Nagapattinam | 2,569 | 0 | 33 | 112 | 145 | 5.64 | -22 | 0 |
| Namakkal [†] | 3,420 | 84 | 284 | 212 | 580 | 16.96 | 4 | 20 |
| Perambalur [†] | 1,756 | 10 | 65 | 69 | 144 | 8.20 | 13 | 19 |
| Pudukkottai | 4,644 | 1 | 93 | 268 | 362 | 7.80 | -23 | 8 |
| Ramanathapuram | 4,104 | 0 | 25 | 239 | 264 | 6.43 | 5 | 1 |
| Salem [†] | 5,237 | 199 | 759 | 525 | 1,483 | 28.32 | 46 | 31 |
| Sivaganga | 4,233 | 0 | 44 | 300 | 344 | 8.13 | 35 | 3 |
| Thanjavur | 3,411 | 0 | 249 | 107 | 356 | 10.44 | -22 | 0 |
| The Nilgiris [‡] | 2,565 | 496 | 596 | 627 | 1,719 | 67.02 | -144 | 4 |
| Theni | 2,868 | 185 | 470 | 522 | 1,177 | 41.04 | 36 | 29 |
| Thiruvallur | 3,394 | 11 | 48 | 228 | 287 | 8.46 | 43 | 50 |
| Thiruvaur | 2,274 | 0 | 38 | 47 | 85 | 3.74 | -11 | 0 |
| Thoothukkudi | 4,745 | 0 | 29 | 243 | 272 | 5.73 | 24 | 38 |
| Tiruchirappalli [†] | 4,509 | 55 | 226 | 202 | 483 | 10.71 | 30 | 31 |
| Tirunelveli [‡] | 6,693 | 441 | 564 | 295 | 1,300 | 19.42 | 4 | 23 |
| Tiruppur | 5,187 | 50 | 246 | 509 | 805 | 15.52 | 34 | 8 |
| Tiruvannamalai [†] | 6,188 | 234 | 595 | 483 | 1,312 | 21.20 | 20 | 67 |
| Vellore | 6,075 | 203 | 935 | 675 | 1,813 | 29.84 | -28 | 76 |
| Viluppuram | 7,194 | 80 | 300 | 466 | 846 | 11.76 | 0 | 44 |
| Virudhunagar | 4,241 | 40 | 131 | 159 | 330 | 7.78 | 0 | 5 |
| Total | 1,30,060 | 3,672 | 10,979 | 11,630 | 26,281 | 20.21 | 73 | 657 |

*Change compared to updated 2015 assessment.

Table 9.25.8 Forest Cover Change Matrix (area in sq km)

| Class | 2017 Assessment | | | | Total ISFR 2015 updated | |
|-------------------------|-----------------|---------------|---------------|------------|-------------------------|-----------------|
| | VDF | MDF | OF | Scrub | | |
| Very Dense Forest | 1,909 | 995 | 82 | 0 | 19 | 3,005 |
| Moderately Dense Forest | 1,589 | 6,536 | 1,747 | 12 | 588 | 10,472 |
| Open Forest | 174 | 3,141 | 7,717 | 89 | 1,610 | 12,731 |
| Scrub | 0 | 16 | 176 | 133 | 64 | 389 |
| Non Forest | 0 | 291 | 1,908 | 423 | 1,00,841 | 1,03,463 |
| Total ISFR 2017 | 3,672 | 10,979 | 11,630 | 657 | 1,03,122 | 1,30,060 |
| Net Change | 667 | 507 | -1101 | 268 | -341 | |

9.25.6

Reasons for change detected in 2017 assessment

A net increase of 73 sq km in the forest cover of the State can be attributed to plantations and conservation efforts within Recorded forest areas. The negative change observed in some areas is mainly due to harvesting of trees outside forests and developmental activities.