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FOREST RESOURCES IN PUDUCHERRY



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FOREST RESOURCES IN PUDUCHERRY

Introduction

Forests provide safe habitat to animals, birds, it maintains biological diversity, mitigate climate change, protect land and water resources, provide recreation facilities, improve air quality and help alleviate poverty etc. At the same time, forests are affected by fire, grazing, pest and invasive species and are also the primary targets for agricultural and urban expansion.

The forest wealth in our country is extremely diverse as a result of the huge variation in the topography of the country. Due to the impact of biotic pressure on our forests, many forest areas spread across the country has been depleted and degraded which is a serious concern.

The role of India's forests in the national economy and in ecology was further emphasized in the 1988 National Forest Policy, which focussed on ensuring environmental stability, restoring the ecological balance, and preserving the remaining forests. Other objectives of the policy were meeting the need for fuel wood, fodder and small timber for rural and tribal people while recognising the need to actively involve local people in the management of forest resources. A new target was to increase the forest cover to 33 percent of India's land area. While adequate protection

and afforestation activities has contributed to the increase in the extent and quality of forest cover in some parts of the country, it is extremely important that the spatial distribution of the changes in forest cover and growing stock be monitored on a regular basis for effective planning. It is imperative for this purpose to conduct regular assessment of forest cover.

Forests influence climate change largely by affecting the amount of CO₂ in the atmosphere. When forest grows, carbon is removed from the atmosphere and absorbed in wood; leaves and soil. Its like sequestering carbon.

Forest Survey of India (FSI) is a premier national organization for forest resource assessment working under the Ministry of Environment, Forest and Climate Change, Government of India. Besides, carrying out forest and tree cover assessment, Forest Survey of India is also engaged in providing the services of training, research and extension. Established on June 1, 1981, the Forest Survey of India succeeded the "Reinvestment Survey of Forest Resources" (PISFR), a project initiated in 1965 by Government of India with the sponsorship of FAO and UNDP. The main objective of PISFR was to ascertain the availability of raw material for establishment of wood based

industries in selected areas of the country. In its report in 1976, the National Commission on Agriculture (NCA) recommended the creation of a National Forest Survey Organization for collection of data on scientific lines through countrywide comprehensive forest resources survey at regular intervals. Consequently, PISFR was reorganized into FSI in June 1981. After a critical review of activities undertaken by FSI, Government of India redefined the mandate of FSI in 1986 in order to make it more relevant to the rapidly changing needs and aspirations of the country.

Forest resource in Puducherry region

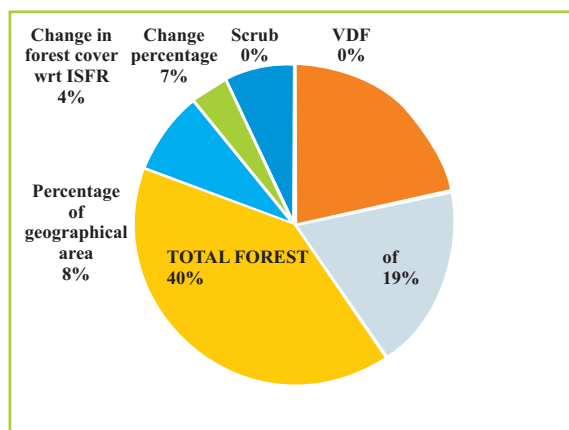
Puducherry is a Union Territory having geographical area of 480km². The forest cover in the UT is 55.38 km², which is 9.14% of its geographical area. In terms of forest canopy density classes, the UT has 29.68 Km² of Moderately Dense Forest and 25.70 Km² of open forest.

Note: Forest cover includes all lands which have a tree canopy density of 10 percent and above with area 1 ha or more. Very Dense Forest: All lands with tree cover of canopy density has 0%. Moderately Dense Forest: All lands with tree cover of canopy density -22%. Open Forest: All lands with tree cover of canopy density are 19%.

MDF* (Km2)	OF** (Km2)	Total Forest	Percentage of geographical area (Km2)	Change in forest cover wrt ISFR (Km2)	Change percentage (Km2)	Scrub (Km2)
29.68	25.70	55.38	11.54	5.32	0.61	0

*Moderately Dense Forest

**Open Forest



Scrub: Degraded forest lands with canopy density are 0%.

Recorded Forest area in Puducherry

The recorded forest area of the UT is 13Km². Reserved forests constitute 30.77%, Protected forests 15.38% and Unclassed Forest 53.85% of the total forest area. About 2.71% of the UT's geographical area is under recorded forest.

Protected areas

There is only one Wildlife Sanctuary-Fudam, covering an area of 2,008 ha, which constitutes 4.18% of its land area.

Social forest

Social forestry means the management and protection of forests and afforestation on barren lands with the purpose of helping in the environmental, social and rural development. Social forestry is the forestry by the people and for the people, whose main purpose is to fulfill the needs of forestry which are - manure, food, fruit, fibre and productive capacity. As a whole social forestry's main objective is to reconstruct the ecosystem and conserve the environment. The National Commission for Farmers has determined the following objectives for social forestry -

- (i) To cooperate soil conservation and to prevent spoiling the productive capacity of soil.
- (ii) To increase fuel availability and to increase the food modification by increasing fruit production.
- (iii) To encourage plantation of large and beautiful trees which provide shadow to enhance the natural beauty and to plant all around the cultivation field to increase production.
- (iv) To encourage environment conservation by plantation and to create general consciousness regarding environmental conservation.

- (v) To enhance the natural beauty, Green Coverage of the villages and cities by plantation.



Social forestry programme has certain problems.

These are:

- (1) The lack of information among people and ignorance regarding social forestry programme.
- (2) Illegal tree-cutting.
- (3) In many states there are unsatisfactory activities regarding social forestry.
- (4) Social forestry has not been implemented extensively.
- (5) Corruption and of the fund allotted for the purpose of social forestry is also an issue.

Sacred groves

Sacred Groves locally known as 'Kovil Kadugal', 'Ayyappan Kavu' represent small patches of forest left untouched by the local communities

because of their faith and tradition that the area is sacred and the vegetation and animals inhabiting the same should not be destroyed.



They are repositories of medicinal plants and local flora and often they harbor local fauna as well. These sacred groves are often dedicated to local spirits or deities and as such the people attach some sanctity to them. Religious practices and cultural traditions have been spun around them to deter people from exploiting the biodiversity contained within them. This ancient Indian conservation tradition has played a vital role in conserving small pieces of forest cover,



which often consists of endangered flora. These groves are often found in forestlands, Community lands, and temple lands and sometimes in private lands. However due to scarcity of land, change in outlook etc. these areas are under pressure of extinction.

Around 123 patches of sacred groves varying in size from 0.2 to 5.0 ha in around the temples have been identified in the U.T. of Pondicherry. Aiyandar, Pachaivazhiamman, Poraiyathamman, Pachaivazhiamman, Celliamman, Kaliasman and Maduraiveeran are some of the deities to whom these groves are dedicated.

Some of the important sacred groves are at Mangalam, Poornankuppam, Thirukkanur, Madagadipet, Lawspet, Mettupalayam, Abhisekapakkam, Keezhur, Karasur (all in Pondicherry Region) Chembara and Pandakkal (in Mahe Region). Lebbek Tree, Indian *Atalantia*, Neem, Caper bush, Bush Plum, Indian-Laburnum, Indian black plum and Jackal coffee are among the most commonly found plant species in the sacred groves.

Mangrove forest

Indian mangroves have a rich diversity of soil-dwelling organisms which include micro, micro and macro forms. Mangrove ecosystem provides

an ideal nursery and breeding ground for



most of the marine and brackish water fish and shellfish. India has only 2.66% of the world's mangroves, covering an estimated area of 4827 sq. km. Mangroves in Pondicherry Geographically, Pondicherry mangroves lie at latitude $11^{\circ} 46'03''$ to $11^{\circ} 53'40''$ North and longitude $79^{\circ} 49'45''$ to $79^{\circ} 48'00''$ East and is encircled by three villages - Ariankuppam, Murugapakkam, Veerampattinam and two islets - Thengaithittu and Ashramthittu. The mangroves exist as fringing vegetation over 168 ha distributed along the sides of Ariankuppam estuary, which opens into the Bay of Bengal on the Coromandal coast. The waterway is a tributary of river Gingee.

Mangroves are woody trees and shrubs and are known as Sathuppu Nilakadukal in Tamil. Mangrove forests, though common and widespread, are highly threatened. Local communities along with their knowledge about the

mangroves are also endangered, while they are still underrepresented. Mangroves have played an important role in the economics of our coastal population for thousands of years, providing a variety of goods and services, including wood production, support for commercial and subsistence fisheries, aquaculture, salt production and shoreline and coastal erosion control.



The human influence on mangroves has increased over the past three decades, with many countries showing losses of 60–80% or more of the mangrove forest cover that existed in the 1960s; but most of the data showed variable loss rates and there is considerable margin of error in most estimates. The destruction of mangroves is usually proportional to human population density. Major reasons for destruction are urban development, mining, agriculture, overexploitation for timber, aquaculture and overfishing, which can cause imbalance in the mangrove fish

communities. The remaining mangrove forests are under massive pressure from clear-cutting, encroachment, hydrological alterations, fertilizers and pesticides, oil spills, storms and climate change

The channels in the mangroves are lined by a luxuriant vegetation of small salt marsh plants, trees, shrubs and thickets, totalling about seven true mangrove species belonging to three families, 16 mangrove associate plants belonging to 12 families recorded in the study area. The *Avicennia* zone forms a small patch of *Avicennia marina* and *A. officinalis* dense stand at the mouth region of estuary of Veerampattinam. The *Rhizophora* zone has four patches of *Rhizophora mucronata* and *R. apiculata* on the southern part of Thengaithittu and four patches of *R. mucronata* and *R. apiculata* near the mouth of estuary. The *Acanthus* zone – *Acanthus ebracteatus* and *A. illicifolius* forms dense stand at the western and northern side of Ariyankuppam and Murungapakkam. *Bruguiera cylindrica* spreads from the western end of Murungapakkam up to the eastern end of Ashram Islet. *Avicennia* and *Rhizophora* mixed zone spreads near the bridge. The Sunnambar lake reservoir is the main source of water supply to the Puducherry coastal area; the stream travels a long distance and joins the sea at Veerampattinam.

A total of 76 species were recorded from all the four mangrove stations (Satheeshkumar et al., 2011). This includes mollusks 37 (bivalves 16

and gastropods 21), crustaceans (22), amphipods (7), polychaetes (6), barnacles (3) and oligochaetes (1). Five species of turtles were found in the coastal water and the Olive ridley turtle was found to be nesting in the Puducherry coastal area. In Puducherry, the mangroves are increasingly being threatened by population pressure, sewage pollution, anthropogenic activities, housing estates for human habitation etc., which needs to be checked.

Tsunami And Coastal Protection Of Mangroves

Mangroves are called land builders and considered to be as savior of property and lives. The villages which were located behind the mangroves were saved from the cyclone or suffer less damaged due to cyclone has been well documented. During the 2005 Tsunami those villages which were located behind the mangroves have escaped from the wreath of Tsunami and also people has got sufficient protection against Tsunami, even they could get some time to escape from the death trap. School children and people caught hold of mangrove props and hide behind the mangrove escaped. It has been evident that compared to the forest villages which were situated behind the mangroves suffered less damage than those in the mangrove front in Pitchavaram and Muthupet areas. In Pondicherry in the Ariyankuppam mangroves protect the drifting of boats to far-off places.

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