

3.2. Forest and Wildlife

Forestry not only plays a major role in the life on earth but also plays a pivotal role in the State's economy and resource management. Forests influence the wild, climate, soil and water. The forested uplands and watersheds in Western Ghats and Eastern Ghats play a major role in the protection of low land river valleys. Similarly they prevent soil erosion and act as real foster mother of agriculture.

Tamil Nadu has a rich tradition of forest management, forest protection practices, legislations and policies. The unique geographic location of the State enables it to host a wide range of forest biomes across the breadth and length of the state. The forests and vegetation types in the Western Ghats, Eastern Ghats and the coastal plains are unique and have evolved over millions of years.

Extent of Forests

Tamil Nadu is having 22,877 sq. kms. of recorded forest area which is only 17.59% of the geographical area of 1,30,058 sq. kms. of the State. When it comes to forest and tree cover, it is 21.25% of the total geographical area of the State as assessed by the Forest Survey of India as against 33.33% envisaged in National Forest Policy, 1988. There is an urgent need to improve the forest / tree cover of the State.

Nearly half of the forest area is subjected to heavy degradation on account of biotic pressure. In order to restore the degraded forests and enhance the forest cover outside the Reserve Forest area, various schemes and programmes are being implemented. All development programmes including afforestation, restoration, soil conservation, habitat improvement works in various sanctuaries, intensive care towards protection of forest wealth, creation of awareness among the rural people are to be continued as hitherto before, in an effective manner.

Biodiversity Conservation and Protected Area Management (Wildlife)

Forest management in Tamil Nadu is mainly conservation focused. Biodiversity conservation has taken the centre stage in forest management. The

State has set aside 3840 sq.kms under the network of protected areas in 8 sanctuaries, 5 national parks and 12 bird sanctuaries. Tamil Nadu also has 9 zoos for wildlife conservation. The State is also home to 3 Biosphere Reserves viz. Nilgiris Biosphere Reserve, Gulf of Mannar Biosphere Reserve and Agasthyar Malai Biosphere Reserve. Kalakkadu Mundanthurai Tiger Reserve was declared in 1988 as Project Tiger area. During 2007, the Anamalai Wildlife Sanctuary and Mudumalai Wildlife Sanctuary were declared as two new project tiger areas. The protected areas in the State are mainly managed for conservation of biodiversity, education, recreation, historical importance, unique landscapes and seascapes.

Forest Policy

The National Forest Policy, 1988 sets the basic objectives, essentials and strategies of forest management. The principal aim of this Policy is to ensure environmental stability and maintenance of ecological balance including atmospheric equilibrium, which are vital for sustenance of all life forms, human, animal and plant. The derivation of direct economic benefit is to be subordinated to this principal aim. Ecological stabilisation, protection of forests, wildlife conservation, conserving genetic resources and eco-systems and maintenance of all natural forests enhancing forest productivity and enrichment of the forests' water resources and also increasing the forest and tree cover in the State constitute the main components of the State's Forest Policy.

Objectives and Strategies

New programmes and projects are being drawn up in line with the National Forest Policy for the Eleventh Five Year Plan period. Most of the ongoing programmes are to be continued as these have shown tremendous impact on forest conservation and improved the eco-system health to a large extent. The size of the Eleventh Five Year Plan was fixed as Rs. 1285.00 crore under State Plan.

Forests in Tamil Nadu are managed with the following objectives:

- Ensuring environmental and ecological stability of the State.
- Biodiversity, wildlife and genetic resource conservation.

- Rehabilitation and restoration of degraded forests
- Coastal eco-system conservation and management.
- Forest protection for resource management and augmentation.
- Enhancing tree cover outside forests for livelihood security.
- Water augmentation through forest conservation and catchment area management.
- Tribal development to ensure economic prosperity and ecological stability.
- Technology support, research and development for scientific forest management.
- Forest extension for tree cover enhancement, outreach and conservation education for wildlife management support.
- Forestry for rural energy security.
- Eco tourism for supporting conservation.
- Human Resource Development for Forestry Management.
- Climate Change mitigation.

Forest policy plans to chart new paths, forge new relationships and adapt to the rapidly shifting social environment and forest demands by adopting the thrust areas listed below, which will promote a comprehensive forest based development of the State.

- Increase tree cover outside forests
- Increase forest / tree cover inside forests
- Biodiversity conservation
- Tribal development
- Coastal area management
- Catchment area management
- Forest Protection
- Research and Geographical Information System
- Empowerment of women
- Human Resources Management
- Infrastructure development

Performance during 2008-09

Against the outlay of Rs.171.92 crore, an amount of Rs. 163.93 crore is expected to be incurred during 2008-09 to implement various forestry schemes. The physical target and achievement for the Annual plan 2008-09 for the major indicators are given below:

| S. No. | Item | Unit | Target for 2008-09 | Anticipated Achievement for 2008-09 |
|--------|---|---------|--------------------|-------------------------------------|
| 1. | TAP Phase II | | | |
| | Area | Ha. | 51500 | 51500 |
| | Villages | Numbers | 230 | 230 |
| 2 | ETRP-Forest | Ha. | 1000 | 1000 |
| 3 | Forestry Programme including communication under HADP | Ha. | 250 | 167 |
| 4. | Minor Forest Produce Plantation | Ha. | 120 | 120 |
| 5. | Teak Plantation | Ha. | 6900 | 6900 |
| 6. | 12 th Finance Commission | Ha. | 150 | 150 |

Plan Schemes for 2009-2010

Tamil Nadu Afforestation Project (Phase-II) (JBIC assisted)

Due to anthropogenic impact and exclusive biotic pressures a sizeable chunk of the forests have undergone retrogenic changes in their structure and composition. Poverty leading to destruction of forests and destruction of forests leading to poverty constitute a vicious circle. Realising the immediate need to treat about 1,77,500 hectares of degraded forests in another 800 villages including 150 tribal villages, the Tamil Nadu Afforestation Project Phase-II assisted by Japan Bank for International Cooperation with an outlay of Rs.567.42 crore, is being implemented over a 8 years span upto 2012-2013. Minimum basic infrastructure facilities are being provided to improve the quality life of rural people who live in the fringe areas of reserve forests. Besides afforestation for ecological restoration of the natural capital, alternate employment opportunities are being created to improve the income level of the rural population. Micro-finance facilities are also being extended to poor women, dependent on forests for their livelihood.

Upto 2007-08, it has been implemented at a cost of Rs.282.63 crore covering 1, 26,000 ha. of degraded forests and 570 fringe villages including 100 tribal villages. During 2008-09, it is being implemented at a cost of Rs. 117.16

crore covering 51,500 ha. of degraded forests and 230 fringe villages including 40 tribal villages.

During 2009-10, it has been proposed to carry out the maintenance works and village development works at a cost of Rs.32.60 crore with the financial assistance from JBIC. Further it has been proposed to implement this scheme over an extent of 31,050 ha. of degraded forests and 150 forest fringe villages including 43 tribal villages during 2009-10.

Emergency Tsunami Reconstruction Project (World Bank Assisted)

The Tsunami demonstrated tragically the necessity of the vegetative protection structures in the coastal areas. In order to give protection to the community living in the coastal plains as well as to protect materials, stabilise the sand dunes in the coastal areas and conserve moisture and to extend coastal cover, 4778 ha. of shelterbelt and 2162 ha. of mangrove plantations were raised in the coastal districts of Tamil Nadu at an expenditure of Rs.2182.68 lakh under ETRP. During 2008-2009, maintenance works are being carried out at a cost of Rs.144.80 lakh. Further it has been proposed to raise shelterbelt plantations in private lands over an area of 1000 ha. During 2009-10, it is proposed to carry out the maintenance works for the shelterbelt and mangrove plantations raised during 2008-2009 in the private lands.

Increase tree cover outside forests

Tree cultivation in private lands programme in Tamil Nadu

The National Forest Policy, 1988 mandates bringing in one-third of the geographical area of the country under tree cover for ecological amelioration. To accomplish this mission, tree cultivation in private lands in the areas outside the forests has to be taken up. The area of focus is farmlands, which are unsuitable for profitable agriculture, farmlands, fallow lands, etc. The choice of species recommended for the farmers for their lands would be profitable and drought resistant. Required seedlings will be raised from the seeds obtained from the "seeds stands", "seed production areas", "seed orchards", "plus trees" and "proven clones" and will be supplied to farmers. During 2008-09, 1.00 crore seedlings approximately are being planted in the private lands of farmers at a cost of Rs.8.21

crore. During 2009-10, it is proposed to plant 1 crore seedlings in the private lands of farmers at a cost of Rs.8.98 crore.

Avenue planting in urban and sub-urban areas of Corporations

Rapid population increase and urbanisation particularly in the Corporations of the State are leading to acute pollution levels. Trees mitigate pollution and are effective carbon and methane sinks. Hence, this scheme has been initiated with the objectives of increasing tree cover outside RF, controlling the adverse effects of air, water and noise pollution, improving aesthetic beauty of the city by ensuring people's participation, ameliorating environment and creating awareness among the public about the aesthetic and environmental value of trees. During 2007-08, 1.18 lakh seedlings were raised and 85,386 plants were planted in Chennai, Trichy, Madurai, Tirunelveli, Salem and Coimbatore corporations and its suburban areas. The remaining 32,251 plants are to be planted during this year in Chennai and Tirunelveli corporations. During 2008-09, it is proposed to implement this scheme in ten Corporations and its suburban areas at a cost of Rs.1.00 crore. It is proposed to implement this scheme during 2009-10 at a cost of Rs.1.09 crore.

Raising teak plantations on padugai lands

Teak is found to grow naturally in the moist and dry deciduous forests of the Western Ghats. The objective of the scheme is to create timber resources in the State by planting hardwood species and also to raise teak plantations in the riverbeds to upgrade environment, to increase tree cover outside the Reserve Forests and to prevent soil erosion in the riverbeds. Hence, it has been proposed to raise teak plantations in Padugais of Thanjavur, Trichy, Madurai, Dindigul, Sivaganga, and Villupuram districts at a total cost of Rs.35.31 crore for a period of 5 years from 2008-2009 to 2012-2013 covering an area of 20700 ha. It is proposed to raise teak plantations in 6900 ha. and to carry out maintenance works for the plantations raised earlier during 2008-09. It is proposed to raise teak plantations in 6900 ha. and to carry out maintenance works for the plantations raised earlier during 2009-10.

Increase forest / tree cover inside forests

Hill Area Development Programme

This scheme is being implemented for improvement & up gradation of ecological conditions of the Nilgiris district. The sholas and grasslands complex are fragile eco-systems, on which the health of the hills and prosperity in the plains below depend upon. 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. Fire protection, establishment of anti-poaching camps and soil and moisture conservation are the works implemented under the programme. This will reduce the pressure on eco-system & help to improve the already diminishing shola & other forest cover in the Nilgiris. During 2008-2009, it is being implemented at a cost of Rs.3.00 crore.

During 2009-2010, it is proposed to implement this scheme at a cost of Rs.3.28 crore.

Western Ghat Development Programme

The forests of Western Ghats harbour an unique assemblage of species both flora and fauna that have to be protected and conserved, owing to their antiquity, diversity and utility value. The programme envisages, Eco-Restoration, Eco-Stabilisation, Eco-Development and Eco-Protection, in the Western Ghats Restoration of degraded forest areas, creating water harvesting structures, soil conservation, anti poaching activities, improvement of communications, medicinal plant conservation, erection of solar fencing, providing basic infrastructure facilities to the tribal areas etc. are the important activities under the programme. All schemes under this programme will be implemented by involving people through Joint Forest Management and on integrated watershed basis. This scheme is for increasing the tree cover of the Western Ghat areas. This will improve the eco-system of the Western Ghat hill forests and provide life support to the people. During 2008-09, it is being implemented in identified watersheds with an outlay of Rs.384.00 lakh including establishment cost. It is proposed to implement this scheme during 2009-2010 with an outlay of Rs.4.65 crore.

Biodiversity Conservation

Nature Conservation

The objective of the scheme is to maintain and carry out development works in various wildlife sanctuaries in the State. The wildlife habitats and bird sanctuaries in the State are maintained scientifically and systematically. The wildlife sanctuary areas are treated with various soil & water conservation measures so that the habitat in the area gets improved. Engaging wildlife protection watchers, maintenance of rest house in such area are also carried out. During 2008-09, it is being implemented at an outlay of Rs. 29.00 lakh.

Tribal Development

Providing infrastructure facilities for educational institutions of the Forest Department in tribal areas

To improve the facilities like toilet, drinking water at school premises, library cum study room, laboratory, staff room and to construct new hostel and additional class rooms to the existing 19 Tribal schools run by the forest department for a period of three years at a cost Rs.507.05 lakh, a proposal was forwarded to NABARD for funding. NABARD had conveyed their approval and during 2007-08 it has been implemented by incurring an expenditure of Rs.101.42 lakh. During 2008-09, it has been proposed to implement the scheme at a cost of Rs.4.06 crore. The scheme will be continued during 2009-10 with an outlay of Rs.2.22 crore.

Research and Geographical Information System

Forest Research

Credible and reliable forest management packages and practices can be established only through strong research support. The main thrust of forest research in Tamil Nadu is on biodiversity conservation and bio-productivity enhancement. Need based cost effective, research findings that can be easily adopted are transferred to field for benefit of forestry operations. The objective of the scheme is to enlarge the research programme of the Forest Department by taking up investigation and conducting experiment to find out the best species and most suitable regeneration techniques for different climatic and soil conditions. To keep Forest Department with latest knowledge & technique in raising

plantations, establishing and to improve in yield, etc., research is very essential and in particularly in seeds collections, seed storage & raising quality seedlings. It is being implemented at a cost of Rs.205.00 lakh during the year 2008-2009.

Production of vermi-casting and bio-fertilizers, yield assessments, field impact studies, maintenance of all the research centres and 6 modern nurseries, etc., are proposed to be carried out under this scheme at a cost of Rs.2.24 crore during the year 2009-10.

Infrastructure Development

Forest maintenance works as per the recommendations of 12th Finance Commission

As per the recommendations of 12th Finance Commission, the State Government have sanctioned a sum of Rs.30.00 crore for the following maintenance works from 2006-07 to 2009-10. Upto 2007-08, the following works were undertaken by incurring an expenditure of Rs. 1842.65 lakh.

- Conservation and eco-restoration of degraded forests in Nilgiris and Palani Hills
- Improvement of roads in the forest areas of Tamil Nadu
- Bio-diversity conservation by habitat improvement
- Maintenance and special repairs to Forest Department buildings
- Raising shola seedlings for afforestation of clear felled pine and blue gum plantations in Kodaikanal division

During 2008-09, the maintenance and improvement works are being undertaken at an outlay of Rs.531.20 lakh. During 2009-10, it is proposed to carry out the maintenance and improvement works at a cost of Rs. 580.87 lakh.

Besides the above major State schemes, Forest Department is also implementing the Sandalwood plantation, Minor Forest Produce plantation, Establishment of Bamboo estates, Maintenance of mangrove and shelterbelt plantation schemes, etc.

28 schemes are proposed for implementation during the year 2008-2009 at an outlay of Rs.610.79 lakh. These schemes are centrally sponsored ones with 100% central assistance. With the financial assistance from GOI, the developmental activities for various wildlife sanctuaries / national parks have been undertaken. Project Tiger, Project Elephant, Gulf of Mannar biosphere reserve,

Development of grizzled squirrel Wildlife Sanctuary, Conservation and management of mangroves, Conservation and management of Point Calimere wetland complex in Tamil Nadu, Development of Indira Gandhi Wildlife Sanctuary and Indira Gandhi National Park and Action Plan for Nilgiris Biosphere Reserve are some of the major schemes implemented under this head.

Project Tiger

The Forest Department has taken various measures to conserve tigers and their habitats. There are three Tiger Reserves in Tamil Nadu i.e., Project Tiger is implemented in Kalakad Mundanthurai Tiger Reserve of Tirunelveli District, Anamalai Tiger Reserve in Coimbatore district and Mudumalai Tiger Reserve in Nilgiris district. The importance of tiger conservation lies in the fact that the presence of this predator is an indicator of the health of an ecosystem. Presently, GOI provides 100% assistance for managing, protection and maintenance of the sanctuary. Habitat conservation, eco-development activities, protection, fire protection measures, improvement of water source, tourism development, controlling of man-animal conflict and improvement of infrastructure facilities are being carried out at an outlay of Rs.60.00 lakh during 2008-09. During 2009-2010, it is proposed to implement this scheme at a cost of Rs.1133.06 lakh.

Project Elephant

Project Elephant scheme is implemented in four Elephant Reserves i.e. Nilgiris Elephant Reserve, Coimbatore Elephant Reserve, Periyar Elephant Reserve and Anamalai Elephant Reserve. With considerable population of elephants, Tamil Nadu is a leading State in elephants and their habitat management. Out of 24,000 elephants estimated in India, this State has a population of 4015 elephants. 100% Central assistance received every year from Government of India for this scheme. The scheme is being implemented to protect the elephants and improve their habitats, fire protection measures, water facilities to elephants, payment of compensation to the damages caused to crops and loss of human lives caused by elephant etc., erection of solar fence to control the Man-animal conflict are being carried out at an outlay of Rs.100 lakh during

2008-2009. During 2009-2010, it is proposed to implement this scheme at a cost of Rs.302.84 lakh.

Gulf of Mannar Biosphere Reserve

The Gulf of Mannar Biosphere Reserve is known for its rich bio-diversity and endemism. There are around 3600 species of Marine Organisms found in this area. There are 17 species of Mangroves, 11 species of sea grasses, 147 species of sea algae, 450 species of fishes, 108 species of sponges, 260 species of molluscs, 100 species of echinoderms, highly endangered Dugong, 4 species of Dolphins, 6 species of Whales, all 5 species of Turtles found in Indian water, highly endangered Porpoise, 117 species of Corals are found in Gulf of Mannar Biosphere Reserve. This scheme envisages in reducing the biotic pressure on the sensitive marine eco-system and for its protection, to create alternate livelihood options for the local people who are directly depending on the marine resources. Eco-development works, protection and conservation of natural resources, education and awareness programme, etc. are the main activities of the scheme. During 2008-09, it is being implemented at an outlay of Rs.98 lakh. During 2009-2010, the proposed outlay is Rs. 107 lakh.

Integrated Forest Protection

The Integrated Forest Protection scheme implemented by the Forest Department is shared between Government of India and the State in the ratio of 75:25. This scheme aims at protecting the forest resource by strengthening protection measures to control forest fires. Demarcation of forest boundaries to prevent encroachment by construction of cairns, carrying out fire protection works, improvement of roads, provision of better communication facilities are some of the works being undertaken. The Budget Estimate for 2008-09 is Rs.100 lakh. During 2009-10, it is proposed to implement this scheme at an outlay of Rs.109.35 lakh.

Other schemes

A high level team led by the Advisor, Environment and Forest has visited the mangroves situated at "Pichavaram" and suggested certain measures to improve it. The recommendations made by the committee are as follows:

- Effort to plant mangroves on the shore line and in over 50 hectare. Marshy area and two hectare of saltpan with dug out canals replicating the environment of high and low tide has been made with good success. This will be further supported.
- A study of the sand bar, its erosion, effect and possible remediation would be taken up.
- To increase water spread area (enhance tidal flushing) a detailed hydrodynamic study in the mangrove would be taken up.

Plan outlay for 2009-10

The allocation for year 2009-10 for the sector 'Forestry & Wildlife' is Rs. 127.67 crore, of which Rs. 0.77 crore will flow to SCSP. The physical target proposed for the year 2009-10 is 38720 ha. of afforestation, soil conservation and Padugai lands plantation works.