

**ENVIRONMENT AND FORESTS DEPARTMENT**

**POLICY NOTE**

**DEMAND No. 54**

**FORESTS**

**2018-2019**

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**GOVERNMENT OF TAMIL NADU**

**2018**

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**INTRODUCTION**

Existence of human being and civilizations is intertwined with forests and trees. Forests are crucial for the goods and services they provide, which people all over the world depend on and State of Tamil Nadu is no different. Strategies to enhance the contribution of the world's forests to social development, livelihoods and poverty eradication are vital at a time when unsustainable practices and economic crises continue to threaten healthy forests and the people who depend upon them. Many farming, silvo-pastoral and other land-based livelihoods are linked with forests and forest health. A number of religions, faiths and spiritual traditions have links to trees, plants, forests and animals. Forests and wildlife are also a source of

folklore and spirituality. Traditional forest-related knowledge accumulated over thousands of years is deeply linked with the culture of indigenous and forest dependent people. For the rural poor, access to food, fuel, water and medicine is vital; forest products often help meet these basic subsistence needs.

Right from the time of State of Forest Report, 1993 (Published by Forest Survey of India every 2 year, a Government of India's organization), Tamil Nadu is one among the two States which has shown positive trend up to now. As per the India's State of Forest Report, 2017, Tamil Nadu has witnessed an increase in forest cover of 73 sq km. This achievement has been made possible by the Government's policy of encouraging forest and tree cover outside the recorded forest area. The State manages forest resources with active participation of local community and other stakeholders.

The State Government is committed to enhance the forest and tree cover and enrich wildlife habitats on scientific principles, without sacrificing the livelihood needs of the forest dependent communities specially the tribals. The State is taking all stakeholders in the fold for the conservation, management and enhancement of forest cover alongside sustainable means of livelihood for the forest dependent communities.

Tamil Nadu has diverse forms of ecosystem because of the presence of high hills to coastal zones. Tamil Nadu has been a pioneer in Protected Area Management through which diversity of terrestrial / marine flora and fauna have been captured. The State holds a rich repository of biodiversity owing to its unique geographical setting, offering habitat to varied life forms. The State's sincere efforts in establishing range of Tiger habitats in Western and Eastern Ghats of Tamil Nadu have resulted in increase of tiger numbers from 163 in 2011 assessment to 229 in 2014. This is as per

“Status of Tiger” report jointly published by the National Tiger Conservation Authority and the Wildlife Institute of India in 2015.

The United Nations Sustainable Development Summit adopted an action plan in 2015 for people, planet and prosperity and framed seventeen Sustainable Development Goals (SDGs). The SDGs are a UN Initiative and are universally acceptable goals that balance three dimensions of Sustainable Development, namely, Environmental, Social, and Economic. This has been adopted by the State with intention of addressing issues of climate change, conservation of genetic diversity, both in terrestrial and aquatic eco-systems and for the protection and restoration of degraded eco-systems in forests.

## **2. VISION:**

Hon’ble Late Chief Minister’s Vision 2023 stresses on maintaining ecological balance across the State. Initiatives of the department

aim at increasing the forest & tree cover, protection of wetlands, conserving groundwater, rivers and other water bodies, protection of the coastal zone ecosystem, conservation of the zoological and botanical diversity of the State. During the annual plan period (2018-19) the Policy initiatives corresponding to each thrust area are stated below:

### **3. BIODIVERSITY AND GENETIC RESOURCE CONSERVATION:**

Tamil Nadu has 22,877 sq km of recorded forest area, which amounts to 17.59% of the geographical area of the State. As per the assessment of the Forest Survey of India (India State of Forest Report, 2017), the forest cover of the State is 26,281 sq km constituting 20.21% of the State's geographical area. The Forest Cover of the State increased by 73 sq km during the period 2013-15 as per ISFR 2017 vis a vis the revised figure of ISFR 2015. The forest

and tree cover of the State now is 30,952 sq km which constitutes 23.80% of the total geographical area of the State as against 33% forest and tree cover to be achieved as mandated in the National Forest Policy, 1988. The State has constituted Biodiversity Board to manage the key biodiversity resources in the State. The State also has Wetland Authority to guide, monitor and regulate the management of wetlands. The state forestry programs aim to identify economically important tree resources. Removal of invasive species and planting with native species is an option being adopted to improve the natural resources. Protection and conservation of rare and endangered species, restoration and improvement in the quality of the forests are aimed to enrich biodiversity of the State forests.

#### **4. WILDLIFE MANAGEMENT AND CONSERVATION:**

Tamil Nadu has been pioneer in conservation of wildlife and protected area management. Overall 30.92 % (7073 sq km) of the State's forest area is under protected area against the norm of 25%. In all 5 National parks, 15 Wildlife sanctuaries, 15 bird sanctuaries, 2 conservation reserves and 4 Tiger Reserves have been established in the State. The State is having unique distinction of having 3 Biosphere Reserves known for rich and unique biodiversity. The Western Ghats are one of the 25 global hotspots and one of the 3 mega centers of endemism in India. Four Elephant Reserves are located within the landscape of Tamil Nadu. The State proposes to improve wildlife wealth by adopting the following schemes:



#### **4.1 Strengthening and enhancing quality of Wildlife habitat at Landscape level:**

Keeping in mind ecological requirements and landscape specific intervention measures, a special focus for Conservation at landscape level is being attempted and encouraged. For instance, elephants need large areas for sustenance and therefore cannot be conserved in small areas. The species like tigers can well be conserved by a combination of smaller areas (Tiger Reserves). Thus, Protected Areas habitat management will focus on conservation efforts, taking into account larger landscapes.

Special efforts will be taken to remove alien (exotic) species and to encourage regeneration of native species preferred by the Wildlife. Augmentation of drinking water through natural water holes as well as by artificial means will be promoted for the benefit of Wildlife. Latest technology available within

the system will be utilized to upgrade protection status and management of all protected areas.

#### **4.2 Addressing Human Wildlife Conflict and Mitigation Measures:**

Multi-pronged strategies have been employed to manage the problem of human-wildlife conflicts. Both traditional methods like foot patrolling and modern tools like GIS, GPS, Drones etc are used for managing this problem. The Forest department has taken several measures that benefit both the wildlife and local human communities, enabling mutually beneficial co-existence. Nonetheless, there have been some instances of conflict. Following policy initiatives will be taken to address Human wildlife conflict and its mitigation:

1. Monitoring of wildlife habitats for availability of water and fodder resources.
2. Continuous monitoring of movement of wildlife in conflict zones.

3. Early warning system for alerting the people in conflict zones.
4. Sensitizing the local inhabitants.
5. Speedy distribution of relief to win confidence of people.
6. Protocols for the rescue and rehabilitation of wildlife straying out of forest areas.
7. Strengthening veterinary services for wildlife through Rapid Response Team and Mobile Veterinary Units.

#### **4.3 Conservation of Coastal and Marine Eco systems:**

Marine and coastal ecosystem of Tamil Nadu support livelihood activities such as fishing, shrimp farming, salt pans, shipping and tourism. Livelihood activities and conservation of mangroves, coral reefs, mud flats, sand dunes, estuarine wetlands, salt marshes, sea grass meadows etc are symbiotically related. These

ecosystems are under pressure as a result of high population growth, unsustainable development, over exploitation of natural resources, loss of habitat, loss of biodiversity, pollution, and climate change. Therefore, there is an imperative need to conserve, protect and restore coastal and marine ecosystems, ensure resilience and provision of ecosystem services. Hence, it is proposed to continue the schemes for Protection and Conservation of mangroves, Coral Reefs and marine life and wetland during 2018-19.

#### **4.4 Wildlife Health:**

Wildlife health is the ability of species to cope up with biological, social and environmental changes. Infectious diseases are a concern for the conservation of wildlife species. Emergence of the tiger as a new host for Canine Distemper, Geographic spread of Endotheliotropic Herpes Virus (EEHV) among elephants only reiterate the

need for urgent measures for protecting the wildlife against diseases. Veterinarians are an integral part of a team attending to wildlife emergencies and have key responsibilities in alleviating stress and improving welfare aspects of the displaced wildlife. The wildlife health programmes will be promoted in the interest of wildlife in the State.

#### **4.5 Strengthening of Ex-situ Conservation:**

Arignar Anna Zoological Park, Vandalur - Chennai, Children's Park, Guindy - Chennai, Amirthi Zoo, Vellore, Kurumbapatti Zoological Park, Salem and Tiruchirappalli Zoo are the 4 recognised zoo by the Central Zoo Authority of India in the State. The policy envisages:

1. Provide platform for conservation of fauna.
2. Conservation of rare, endangered and threatened species through captive breeding programmes.

3. To create awareness for conservation through outreach and education.
4. To scale up veterinary research for providing solutions for wildlife health and upkeep.
5. To promote adoption of wild animals in zoos.
6. To provide highest standard of veterinary care to all the animals in captivity and in the rescue centres.

## **5. INCREASING TREE COVER OUTSIDE FORESTS:**

The National Forest Policy, 1988 has envisaged one-third of the geographical area under forest and tree cover. There is only a little scope for increasing the recorded forest area in Tamil Nadu. Hence, tree planting outside forest areas (TOF) becomes only means to increase the forest and tree cover to one third of geographical area of the State. Partnerships with

Non Governmental organizations, farming community, land owners, institutions and public are yielding good results and efforts will be continued in the same direction in the coming years. Economically important species are being supplied to farmlands to supplement farmer's income.

### **5.1 Agro-forestry for Food and Wood Security in Tamil Nadu:**

Tree cultivation in Private lands (TCPL) is promoted in a big way for ensuring food and wood security and achieving 33% of geographical area under forest and tree cover. TCPL is the major component under the Tamil Nadu Biodiversity Conservation and Greening Project (TBGP). This programme ensures increased income to farmers in future and helps in meeting future pulpwood and timber needs of the State.

Tamil Nadu Forest Department is the Nodal department to implement the Agro forestry scheme in Tamil Nadu for the project "Sub-Mission on Agro forestry (SMAF) under National Mission for Sustainable Agriculture (NMSA)" in rain deficient area. Some of the objectives under Sub-Mission in brief are: -

- To create rural livelihoods with focus on small farmer.
- To ensure availability of quality planting material.
- To popularize location specific Agro-forestry models.
- To provide extension and capacity building support.

The project activities under the Sub-Mission on Agro Forestry include the following: -

- (i) Nursery Development for quality planting material



- (ii) Peripheral and Boundary Plantation
- (iii) Low Density Plantation on Farm Lands
- (iv) High Density Block Plantation
- (v) Demonstration of Agro-forestry Models
- (vi) Capacity Building & Trainings

The Tamil Nadu Forest Department will implement the scheme along with other departments.

## **5.2 Cultivation of Medicinal Plants and Women Empowerment:**

Western Ghats of Tamil Nadu are rich in Medicinal Plants. However, over exploitation of medicinal plant from forests could lead to depletion of these natural resources. There is a need for ex-situ conservation of medicinal plants to ensure sustainable supply of medicinal plants from areas outside natural forests. The forest department will continue to create opportunities for women empowerment in forest fringe

villages by providing necessary training and know-how for cultivation and harvest of important medicinal plant species. Economically important species in demand will be raised and sold to needy agencies. The National Medicinal Plants Board is also supporting the State's endeavour in conservation of medicinal plants.

### **5.3 Social Forestry Programme to meet the Timber, Fuelwood and Fodder demand:**

Natural forests are managed only for biodiversity and water security. The demand of timber, fuelwood, fodder should be met from areas outside forests. The forest department will make efforts to use wastelands, unused and fallow lands for raising timber, fuelwood and fodder plantations through Social Forestry programme. Panchayat lands, revenue lands and other non forest lands will be taken up for afforestation with suitable tree species under social forestry programme.

## **5.4 Urban Forestry:**

Over the years the air quality in the urban area has deteriorated and it may become a serious health hazard in the years to come. To counter it, there is a demand for increasing the green cover in urban areas. Tree plantations will be raised in the urban and surrounding areas under the Urban Forestry programmes with the objective of controlling the adverse effects of air, water and noise pollution and improving the aesthetic appearance of these areas.

Forest department is undertaking tree planting programmes along National Highways and State Highways to increase tree cover outside the forests.

## **6. FOREST PROTECTION:**

### **6.1 Protection of Forest Resources and Consolidation:**

Protection of the forest wealth of the State is the utmost duty of forest department.

The forest is vulnerable to damage and destruction due to encroachment, illicit felling of trees, fire, illegal grazing, ganja cultivation and poaching of wildlife. At present, 13 Forest Protection Squads are functioning for the protection of forests, apart from territorial and wildlife staff. 12 Forest Protection Squads are attached to the respective forest circles as a process of decentralization. Besides the Forest Protection Squads, there are 5 Strike Force Squads, 17 Forest Stations, 11 Roving Check Posts and 112 Forest Check Posts to protect the forest and wildlife wealth of the State. Efforts are being taken to strengthen the infrastructure for forest protection and to equip the protection staff with facilities like firearms, vehicles, wireless sets and other safety equipments.

Encroachment of forest lands by estate owners and adjoining patta holders is a serious problem. At the district level, regular meetings

are conducted with revenue and police officials for developing strategy for evicting encroachments. Modern technologies like DGPS (Differential Global Positioning System) and high resolution satellite imageries are being used in the field to effectively detect encroachments.

The Forest settlement process is an effort to regulate and protect the land at the disposal of the government, wherein the intention to declare such land as forests has already been notified. Forest land will be protected by survey and demarcation of forest boundaries and construction of boundary pillars(Cairns). This work will be monitored using MIS/GIS database. Alerts issued by the FSI are used for giving warning to concerned forest staff for managing the forest fire. National Working Plan Code 2014 and the Management Plan Code for wildlife areas will guide the consolidation process.

## **6.2 Incentivizing Communities for Forest Protection:**

The Forest Department has empowered and engaged the communities living in the forest fringes in a big way to protect the forest resources. Sustainable forest management is being achieved by incentivizing the local communities and also ensuring that the communities get ample labour opportunities in the protection and management of forests.

## **7. CONSERVING WATER PRODUCTION LANDSCAPES:**

With a view to secure and protect the wetlands of the State, the Government of Tamil Nadu has formed the State Wetland Authority. Tamil Nadu State Wetland Authority is mandated with the task of policy development, implementing regulatory functions, capacity building, research networking, communications,

awareness and raising funds for Wetland management.

Forests play an important role in water security of the State by ensuring adequate water flow in the drainage system during the lean season. Wetlands ensure proper functioning of water cycle by providing critical feeding, nesting and breeding habitat. Wetlands are a major source of livelihood. They act as important carbon sinks, nutrient transformer and a repository of rich genetic material. Wetlands are also an important attribute of our cultural heritage. India is also a signatory to the Ramsar Convention on Wetlands.

The total Wetland area in Tamil Nadu is about 9,02,524 Ha comprising 6.92% of the geographical area of the State. At present there are 15 wetlands which have been notified as wildlife sanctuaries under Wildlife Protection Act, 1972 for protection of Wildlife including birds.

The Government of India has notified the Central Wetlands (Conservation and Management) Rules, 2017 as a significant step to conserve, manage and maintain the ecological character of the Wetlands along with sustainable use of Wetlands.

## **8. TRIBAL WELFARE AND DEVELOPMENT:**

Traditionally the Forest Department has been associated with the tribal affairs and taking up developmental works in the tribal areas. Population pressure has reduced resource availability, employment opportunities, livelihood options and the quality of life of the tribal. For the long term viability of forest-tribal relationship, it is imperative to conserve the natural resources, create opportunities for greater partnership in managing the natural resources and work with the tribal to generate livelihood options without affecting the local



environment. Following activities are envisaged in the direction:

1. Identification of remote Tribal Villages and focusing on welfare measures by developing comprehensive plans.
2. Conducting Tribal Employment Melas with private companies for providing employment to tribal youths.
3. Forest Right Committees formed under Forest Rights Act to be the focal point for all activities in the tribal villages.
4. Capacity building of tribal youth in Eco Tourism activities and conservation of Medicinal plants.
5. Improvement of road network in Tribal areas for better accessibility.

## **9. ECOTOURISM:**

### **9.1 Pivotal role of Forest Department in promotion of Ecotourism:**

The State has unique assets like Local Community, Wildlife, Waterfalls, Lakes, Rivers, Grasslands, Shola Forest, Hill stations, Mangroves, Coral Reef Islands, back waters etc which provide a life time opportunity to tourists. The department is promoting community based eco tourism in the State by ensuring;

- i) Conservation and preservation of the eco-tourism site by constituting Eco-tourism Management Committees
- ii) Zero impact on the environment and local people
- iii) Respect for local culture
- iv) Capacity building of local communities in planning, providing and managing ecotourism facilities

- v) Maintaining the ecological integrity of the landscape

## **10. SOCIO-ECONOMIC DEVELOPMENT OF FOREST FRINGE VILLAGES:**

### **10.1 To Create Opportunities for Sustainable Livelihoods:**

Forests play a vital role in the life of rural folk by providing fuelwood to the poorest. The potential of Non Timber Forest Produces (NTFPs) for poverty alleviation is well known. The rural poor and tribal communities collect various kinds of products from forest areas throughout the year to sustain their livelihood. In fact sustainable NTFP harvest and management is key to the success of Joint Forest Management (JFM).

The people living in the Forest fringe villages have increasingly perceived the Forest Department as an agent of development. These villages are dependent on forests for wood, food,

water and livelihood security. Unsustainable harvest of fruits, flowers, berries, tubers, resins, honey, leaves, creepers and other resources has reduced their availability in the forest areas leading to the poverty among the forest fringe communities. The Forest Department will continue its efforts towards socio-economic development of forest fringe villages by, (i) facilitating sustainable livelihood options for the fringe and forest dwelling communities, (ii) revitalising the established institutions of joint forest management and (iii) promoting primary level processing and storage facility for NTFP and marketing support.

## **11. INFRASTRUCTURE DEVELOPMENT:**

To effectively manage the forest wealth of the State, there is an imperative need to provide proper infrastructure to the manpower deployed in protection and management of forests and wildlife. The main components of infrastructure

are communication, transport facilities, buildings, surveillance instruments like Drones and weapons etc. Steps are being taken to strengthen the forest protection by using the latest equipments like Drones, Global Positioning System(GPS), Differential Global Positioning System(DGPS) etc to effectively tackle the emerging challenges.

## **12. RESEARCH, EDUCATION AND EXTENSION:**

1. The main activities of Research wing are biodiversity studies like, Retrieval of Rare, Endangered and Threatened (RET) species, Clonal assemblage of important timber species (Teak etc), Standardizing clonal technology for important timber and fruit bearing species, assemblage of medicinal plants and their common uses. There are 54 Research centers spread over 7 agro

climatic zones falling in 32 districts in Tamil Nadu.

2. Considering the importance of Non Timber Forest Produces (NTFPs) in the life of tribal and forest dwellers, the Department has taken research on increasing the utility and market potential of NTFPs. Research wing promotes the use of Bio-fertilizers for increasing productivity.
3. Dissemination of information to farmers on tree cultivation is done by 32 Forestry Extension Centres established in each district. The Extension wing has disseminated information to various stakeholders including farmers through training programmes, workshops, field visit and publications. The Students and Women are sensitized through various programmes and works on biodiversity conservation.

4. The Tamil Nadu Forest Academy, Coimbatore is imparting professional training to the Foresters recruited through Tamil Nadu Forest Uniformed Services Recruitment Committee and Forest Range Officers not only of Tamil Nadu but also of other States.

5. The Tamil Nadu Forest Academy, Coimbatore and Forest College at Vaigai Dam also impart training to in-service front line staff like, Forest Range Officers, Foresters and Forest Guards for upgrading their professional skills for conservation and protection of biodiversity.

### **13. MAINSTREAMING INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) INITIATIVES:**

The Vision and Mission of the ICT in Forest Department is to strengthen field-based applications of Remote Sensing and Geographical Information Systems (GIS) by

making use of latest Information and Communication Technology (ICT) and also contributing to the planning, interpretation, monitoring and evaluation of projects implemented. The ICT initiatives have been envisaged to improve the overall efficiency, effectiveness, transparency and accountability in the system by –

- Launching of revamped website.
- Development of Forestry Based applications integrating GIS and MIS Data.
- Utilizing GIS technology for Forest Monitoring.
- Use of GPS and DGPS.
- Creation of a Hardware and Software Infrastructure.
- Sharpening the ICT skills of the manpower at all levels.



#### **14. PLANNING PROCESS TO SUPPORT FOREST MANAGEMENT:**

National Working Plan Code 2014 provides for uniformity in forest management planning across the country. All the forest divisions are managed under the prescriptions of such working plans. The wildlife divisions are covered under Management Plans. The working plan and management plan, guide the forest management in the State.

#### **15. HUMAN RESOURCE DEVELOPMENT:**

The relevant Human Resource Development (HRD) activities will be taken up for maximizing the efficiency of the forest management.

Apart from traditional forestry, new skills like ICT, GIS etc. are being imparted to forest officials for effective management of forests.

During 2017-18, 126 young personnel in the rank of Foresters have been inducted in the department. In addition to planned recruitment

for vacancies, the HRD component has been strengthened with proper promotion policy. The training component of the HRD has been strengthened by equipping the training Academy in the State for imparting quality training to various categories of field staff.

Training and skill up-gradation, are some of the interventions envisaged during 2018-19.

## **16. PROGRAMMES:**

In order to meet the policy vision and the needs of thrust areas, the following programmes are being implemented in the Department: -

### **16.1. IMPORTANT ONGOING SCHEMES:**

#### **Major State Schemes:**

##### **16.1.1 Tamil Nadu Biodiversity Conservation and Greening Project:**

Japan International Co-operation Agency (JICA) aided Tamil Nadu Biodiversity

Conservation and Greening Project (TBGP) with an outlay of Rs.686 crore is being implemented from 2011-12, which will continue till 2018-19. The project has been instrumental in reducing the threats to the native Biodiversity of the State and in enhancing the natural resource base besides improving the capacity of field staff. 5.8 crore seedlings have been planted under Tree Cultivation in Private Lands from the beginning of the project covering an area of 1.19 lakh hectare farmland benefiting 70,245 farmers. This scheme will be implemented in 2018-19 with an outlay of Rs.86.56 crore.

### **16.1.2 Massive Tree Planting Programme:**

A massive tree planting programme has been continuing in the State from 2011-12 onwards with an objective to increase the green cover in the State. Planting and maintenance of 3.99 crore seedlings in the 32 districts throughout Tamil Nadu has been achieved

through Massive Tree Planting Programme till 2017-18. During 2017-18, the programme was continued by planting 69 lakh seedlings out of which 64 Lakh seedlings were planted by the Rural Development and Panchayat Raj Department and the remaining 5 Lakh by Forest Department under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). The scheme will continue with planting of 70 lakh seedlings during 2018-19. The forest department will take up planting of 7,00,000 seedlings in 7000 acres of degraded forests with an outlay of Rs.22.46 crore. 63 lakh seedlings will be planted by the Rural Development and Panchayat Raj Department.

### **16.1.3 Raising Teak Plantations:**

The scheme of Raising Teak plantations over an area of 6000 ha is being implemented from 2017-18 for 8 years at a total outlay of Rs.52.64 crore, to enhance the tree cover and

timber resources of the State. The scheme has been implemented during 2017-18 at a cost of Rs.2.92 crore. This scheme will be continued during 2018-19 at an outlay of Rs.5.88 crore.

#### **16.1.4 Raising of Sandal plantations**

The scheme of Raising of Sandal plantations in Reserved Forests in the traditional natural sandal bearing areas of Jawadhi Hills, Shervaroyan hills, Kolli Hills, Pachamalai hills and Chitheri hills for a period of 10 years from 2015-16 to 2024-25 with an outlay of Rs.100 crore is being implemented. The scheme has been implemented during 2017-18 at a cost of Rs.8.17 crore. The scheme will continue during 2018-19 at an outlay of Rs.13.07 crore.

#### **16.1.5 Rejuvenation of Vaigai and Noyyal Rivers**

The scheme of Rejuvenation of Vaigai and Noyyal rivers is being implemented from 2017-18 for 3 years at a total outlay of Rs.24.58

crore with 95% financial assistance from NABARD. Soil and Moisture Conservation works and a small component of planting work are carried out under the scheme. During 2017-18, the scheme has been implemented with an outlay of Rs.7.28 crore. The scheme will be implemented during 2018-19 with an outlay of Rs.8.24 crore.

#### **16.1.6 Compensation for the damages caused by wildlife:**

The department has taken several steps to augment various fodder and water resources in the wildlife habitat. The department is also paying compensation to the unfortunate victims for death, injury and damage to agriculture crops and property. From 2016-17, the compensation is paid at the enhanced rate. The compensation for human death and permanent incapacitation is Rs.4.00 lakh and for major injuries, it is Rs.0.591 lakh. During the year

2017-18, payment of compensation was sanctioned to the tune of Rs.3.30 crore under State schemes and Rs.1.37 crore under various shared schemes. The scheme will continue during 2018-19 with an outlay of Rs.3.63 crore.

#### **16.1.7 Asian Elephants Depredation and its Mitigation Measures:**

As a result of increasing human wildlife conflict, it has become essential to take up various mitigation measures by adopting a multi-pronged strategy involving habitat improvement and augmenting water sources, improving fodder resources for wildlife inside the forest area, formation of physical barriers along the forest boundary, as well as awareness creation amongst the local people. The construction of barriers like elephant proof trench along forest boundaries to prevent human wildlife conflicts has been found to be effective and has been appreciated by the local people.

The scheme has been implemented with an outlay of Rs.1.22 crore during 2017-18. The scheme is proposed to be continued during 2018-19.

#### **16.1.8 Eco- Restoration of Pallikaranai Marshland:**

The State Government is committed to protect the Pallikaranai marshland which is a unique fresh water swamp located within the Chennai Metropolitan area. Conservation Authority of Pallikaranai Marshland has been constituted to monitor all the activities. An area of 690.65 ha is under the control of Tamil Nadu Forest Department. Restoration activities like habitat improvement, protection, research, monitoring, publicity and awareness has been undertaken under the scheme. The activities will continue from 2018-2019 to 2022-2023 at a cost of Rs.165.68 crore under National Adaptation Fund for Climate Change.



### **16.1.9 Gulf of Mannar Biosphere Reserve Trust (GOMBRT):**

The Gulf of Mannar Biosphere Reserve Trust (GOMBRT) activities include research, awareness creation, training programmes and eco-development activities. An amount of Rs.1.50 crore has been released during the year 2017-18 and the scheme will continue during 2018-19 with proposed outlay of Rs.1.50 crore.

### **16.1.10 Arignar Anna Zoological Park, (AAZP) Vandalur:**

The Arignar Anna Zoological Park is located in Vandalur near Chennai spreading over an extent of 602 Ha. Since its establishment, this zoological park has emerged as a successful ex-situ conservation complex and a captive breeding centre for many endangered wildlife species like White Tiger, Lion Tailed Macaque and Nilgiri Langur. This park exhibits 2388 animals, which include 47 species of mammals, 94 species of birds, 34 species of

reptiles numbering 175 species of wildlife in all. This zoological park attracts about 25 Lakh visitors annually. Online ticketing facility has been introduced during 2017-18.

#### **16.1.11 Rejuvenation Camp for Temple and Departmental Elephants:**

With an objective of monitoring and improving the health of elephants belonging to temples and mutts, a Special Health and Rejuvenation camp has been organized by the department with the support of Hindu Religious and Charitable Endowments department every year. The rejuvenation camp facilitates the elephants to revive their socialization skills and joyful experience which results in psychological improvement among them. For the year 2017-18 the camp for 34 elephants was conducted for 48 days from 04.01.2018 to 21.02.2018 at a cost of Rs.1.51 crore sanctioned by Hindu Religious and Charitable Endowment

department. Forest Department has also conducted the rejuvenation camp for 52 elephants from 09.02.2018 to 28.03.2018 for 48 days at a cost of Rs.0.61 crore. Forest Department will continue to support the conduct of elephant rejuvenation camp during 2018-19 with an outlay of Rs.30 lakh.

## **16.2 CENTRALLY SPONSORED SCHEMES:**

These schemes are implemented with fund shared by Government of India and the State Government generally in a ratio of 60:40. The major centrally sponsored schemes are as follows: -

### **16.2.1 Integrated Development of Wildlife Habitats:**

Government of India has sanctioned funds for 30 schemes for the developmental activities in National Parks, Wildlife Sanctuaries and Conservation reserves. The scheme has been implemented with an outlay of Rs.6.48

crore for the year 2017-18. This scheme will be continued during 2018-19 with a proposed outlay of Rs.5.18 crore.

### **16.2.2 Project Tiger:**

Tiger being the top carnivore, the importance of its conservation lies in the fact that the presence of this predator is an indicator of the overall health of an ecosystem. Various measures to conserve Tigers and their habitats have been taken up by the Forest Department in the four Tiger Reserves viz., Kalakad-Mundanthurai Tiger Reserve in Tirunelveli district, Anamalai Tiger Reserve in Coimbatore and Tirupur districts, Mudumalai Tiger Reserve in Nilgiris district and Sathyamangalam Tiger Reserve in Erode district. The scheme provides assistance for works relating to habitat conservation and protection including fire prevention, eco-development, improvement of water sources, tourism development, mitigating

human wildlife conflicts and improvement of infrastructure facilities in the Tiger Reserves. Further with respect to recurring works the funds are sanctioned in the ratio of 50:50 by the Central and State Governments. During 2017-18 the scheme has been implemented at a cost of Rs.27.10 crore. This scheme will continue during 2018-19 with proposed outlay of Rs.29.87 crore.

### **16.2.3 Project Elephant:**

Tamil Nadu is one among the leading States implementing Project Elephant, pursuing scientific management and habitat conservation. Project Elephant scheme is implemented in four Elephant Reserves. These Elephant Reserves have no separate legal status. This scheme is being implemented to protect the elephants and improve their habitats. The scheme also includes payment of compensation to farmers for the crop damages and loss of human lives caused by human wildlife conflict and further to take

necessary steps to minimize such conflicts. During 2017-18 the scheme has been implemented at a cost of Rs.5.53 crore. The Scheme will continue during 2018-19 with proposed outlay of Rs.4.34 crore.

#### **16.2.4 Gulf of Mannar Biosphere Reserve:**

The Gulf of Mannar Biosphere Reserve known for its 21 coral rich islands along with coast line from Rameswaram to Thoothukudi was declared as Marine National Park in 1986 by the Government of Tamil Nadu and later in 1989 Government of India declared it as the first Marine Biosphere Reserve of India. With its rich biodiversity of about 4223 species of various flora and fauna, the Reserve is prominent for its coral reefs, seagrass and mangroves. The Gulf of Mannar Biosphere Reserve supports several critically endangered species such as *Dugong dugong* (sea cow), sharks including whale shark, sea horses, green sea turtles, dolphins, sea

cucumbers. The Government of India sanctions funds for this Reserve under two separate schemes viz. Gulf of Mannar Biosphere Reserve and Conservation and Management of coral reefs. The scheme has been implemented with an outlay of Rs.1.52 crore during 2017-18. The scheme will continue during 2018-19 with a proposed outlay of Rs.1.10 crore.

#### **16.2.5 Wetland Conservation and Development:**

Wetlands are integral to a healthy environment. They help to retain water during dry periods, thus keeping the water table high and relatively stable. During the period of flooding, they act to reduce flood levels and to trap suspended solids and nutrients. Ecosystem services offered by wetlands include floodwater storage and control, recharge of aquifers, treatment of waste water and pollution abatement, general water quality improvement,

habitats for fish, birds and plant species. In addition, wetlands are of high aesthetic and heritage values providing opportunities for recreation, research, and education.

In Tamil Nadu, this scheme is being implemented in Point Calimere, Kazhuveli and Pallikaranai Wetlands. Major activities involved in Wetland management are Habitat improvement, Wildlife Protection, Eco-development activities, Awareness creation, Research and Monitoring and Nature Education. The Scheme has been implemented during 2017-18 with an outlay of Rs.2.30 crore and will continue during 2018-19 with an outlay of Rs.3.11 crore.

#### **16.2.6 Nilgiris Biosphere Reserve:**

The Reserve encompasses 5,520 sq.km. in the 3 southern States of which Tamil Nadu portion is 2537.6 sq.km. It forms an almost



complete ring around the Nilgiri Plateau. The Tamil Nadu Part covers parts of The Nilgiris, Erode and Coimbatore Districts. This area is very rich in Flora and Fauna. The scheme has been implemented at an outlay of Rs.1.75 Crore during 2017-18. The scheme will continue during 2018-19 with a proposed outlay of Rs.1.00 crore.

### **16.2.7 Agasthyamalai Biosphere Reserve:**

The total area of the Bio-sphere reserve is 3500.36 sq.km. out of which 1828 sq.km. is in Kerala and 1672.36 sq.km. in Tamil Nadu. The Bio-sphere Reserve covers parts of Tirunelveli and Kanniyakumari districts in Tamil Nadu.

The scheme has been implemented at an outlay of Rs.3.16 crore during 2017-18. The scheme will continue during 2018-19 with a proposed outlay of Rs.1.20 crore.

### **16.2.8 Conservation and Management of Mangroves :**

Mangroves are plants that survive high salinity, tidal regimes, strong wind velocity, high temperature and muddy anaerobic soil – a combination of conditions hostile for other plants. Mangrove ecosystem constitutes a bridge between terrestrial and marine ecosystems. Mangrove functions as breeding, feeding, nursery grounds for most of the sport and commercial fishes found in the deep coastal waters and inshore waters. They also provide breeding ground for birds, reptiles and mammals. The mangroves such as Muthupet, Pitchavaram and Ramanathapuram are under the control of Forest Department. Habitat improvement measures like mangrove restoration in degraded lands, maintenance of older plantation, removal of invasive species, protection and vigilance, eco development activities, awareness creation, monitoring and

evaluation etc. are the major activities. The scheme has been implemented at an outlay of Rs.2.08 crore during the year 2017-18 and the scheme will continue during 2018-19 with a proposed outlay of Rs.2.70 crore.

### **16.2.9 National Afforestation Programme:**

The National Afforestation Programme (NAP) is being implemented with the objectives to (i) increase and / or improve forest and tree cover, (ii) rehabilitate degraded forests and other areas by institutionalizing decentralized / participatory forest management and (iii) supplement livelihoods improvement process(village development, employment generation). The scheme is being implemented with a three tier set up viz., State Forest Development Agency at State level (a body registered under Societies Registration Act), Forest Development Agency at District level and Joint Forest Management Committees at Village

level. There are 33 Forest Development Agencies in the State. Till 2016-17 an area of 76,264 ha has been afforested at a cost of Rs.128.19 crore. The Scheme has been implemented at an outlay of Rs.2.83 crore during 2017-18. It is proposed to continue the scheme during 2018-19 with an outlay of Rs.2.98 crore.

#### **16.2.10 Conservation, Development and Sustainable Management of Medicinal Plants:**

Tamil Nadu is the home for Siddha system of medicine, one of the important branches of Indian system of medicine which focuses on the use of medicinal plants for treating various ailments. The traditional knowledge of medicinal plants has mostly diminished in the present generation. Medicinal plants are an integral part of the Indian heritage. Medicinal Plant resources are dwindling and threatening both, health care practices and

livelihoods of the local communities. Taking stock of the situation, the Tamil Nadu Forest Department has taken steps to implement schemes for conservation, development and sustainable management of medicinal plants. The scheme of Conservation, Development and Sustainable Management of Medicinal Plants is being implemented through Forest Department with the assistance from National Medicinal Plants Board, New Delhi. Comprehensive project proposals have been approved at an outlay of Rs.472.27 Lakh for a period of 6 years from 2013-14. Out of this sanction, an amount of Rs.2.57 crore has been spent so far. Further, the National Medicinal Plants Board (NMPB) has also sanctioned an amount of Rs.3.546 crore (100% funding by NMPB) for promotion of herbal garden. The schemes will continue during 2018-19.

## **17. LOWEST DIVERSION OF FOREST AREAS:**

Even though there is increased demand for forest land for various developmental end users, the forest department has ensured minimum diversion of forest lands for any non-forestry purpose. In a long span of more than 37 years, since enactment of Forest Conservation Act 1980, the diversion of Forest areas for non forestry purpose is only about 5038.80 hectares involving 417 cases.

## **18. FOREST REVENUE AND EXPENDITURE DETAILS:**

### **18.1. Forest Revenue:**

Major sources of revenue are by sale of Timber and sale of social forestry plantations (Annexure-I). Matured teak trees aged over 30 years are being harvested every year. Supply of pulpwood raw materials is made from matured plantations of Eucalyptus and

Wattle which are allotted by the Government to the paper mills and other wood based industries.

## **18.2. Expenditure:**

All the developmental programmes including afforestation, soil and water conservation, habitat improvement works in various sanctuaries and Tiger reserves, intensive care towards protection of forest wealth, creation of awareness among the rural people have been continued in an effective manner. The necessary provisions for schemes made in the budget are narrated in Annexure-II.

## **19. CORPORATIONS:**

### **19.1. Tamil Nadu Forest Plantation Corporation Limited (TAF CORN):**

19.1.1. Established in the year 1974, TAF CORN's mandate is to raise, maintain and harvest Eucalyptus pulpwood and cashew to meet the needs of industries, to increase the productivity of forests, to provide rural employment, to

conserve soil and moisture and to supply firewood to meet the needs of the rural people.

19.1.2. This Corporation has an authorized share capital of Rs.10 crore and a paid up share capital of Rs.5.64 crore held by the Government of Tamil Nadu. Tamil Nadu Forest Department has leased 71,540.5 ha, of Reserved Forests to TAFORN. As per Government orders, TAFORN pays 30% of the annual turnover as lease rent to the department.

19.1.3. By adapting modern techniques like high yielding clones, mechanization of planting activity, irrigation etc., TAFORN has been successful in increasing productivity. The details of the plantations raised and expenditure involved during 2016-17 and 2017-18 are given in Annexure-III.

19.1.4. The pulpwood supplied to paper mills during 2016-17 and 2017-18 are given in Annexure-III.



19.1.5. TAF CORN has been giving due emphasis to cashew plantation to increase its per hectare returns in the recent past. It is the second major revenue earner in the Corporation. The details of revenue realized are given in Annexure-III.

19.1.6. The revenue and expenditure details of the corporation for 2016-17 and 2017-18 and the Budget Estimate for 2018-19 are given in Annexure-IV.

19.1.7. The details of fresh plantations to be raised and cost involved during 2018-19 are given in Annexure-IV.

## **19.2. Tamil Nadu Tea Plantation Corporation Limited (TANTEA):**

19.2.1 The Tamil Nadu Tea Plantation Corporation Limited was formed by the Government as a 'Rehabilitation Scheme' to rehabilitate the Repatriates from Sri Lanka under Shastri-Srimavo Pact, 1964. This Corporation

has plantations of 4311.04 ha of tea on the land leased out by Government of Tamil Nadu.

19.2.2 During the year 2017-18, this Corporation has produced 285.91 lakh kg of green tea leaf and 65.70 lakh kg of made tea.

19.2.3 TANTEA has been trying to increase its retail footprint to fetch higher prices. At present the Corporation is having 278 retail dealers, 27 wholesale district dealers and 2 regional marketing agencies. It has also made tie up with M/s Tamil Nadu Civil Supplies Corporation to sell its products through Public Distribution System shops.

19.2.4 TANTEA is going for organic certification of its tea garden and tea factories.

The physical achievement of green tea leaves and made-tea for the year 2016-17, 2017-18 and estimated quantum for 2018-19 are furnished in Annexure V.

The Revenue and Expenditure details are also furnished in Annexure V.

**19.3. Arasu Rubber Corporation Limited (ARC):**

ARC was started in 1984 under the Indian Companies Act, 1956 with the objective (i) to safeguard the future of the rubber plantations industry, (ii) to protect the interests of the workers and increase employment potential particularly for surplus rubber plantation labourers and rehabilitation of Sri Lankan repatriates, (iii) to check speculation in acquisition and management of rubber and other plantation estates and (iv) to check monopoly in rubber industry. With headquarters at Nagercoil, ARC employs 1047 permanent workers including 249 Sri Lankan repatriates. It has rubber plantations over an area of 4160.695 Ha of lands taken on lease from Tamil Nadu Forest Department in Kanniyakumari district, where the

soil, climate and topography are conducive for the growth of rubber trees. The authorized capital of the Corporation is Rs.10 crore and the paid up share capital is Rs.8.45 crore owned fully by the Government of Tamil Nadu.

Despite suffering huge losses during Ockhi cyclone, the organization has shown resilience and resumed normal operations within the next few days.

Production and financial achievements are furnished in Annexure-VI.

## **20. HIGHLIGHTS OF THE YEAR 2017 -18:**

### **A. Plan Schemes**

- Under Massive Tree Planting Programme, 69 lakh seedlings have been planted in the 31 districts throughout Tamil Nadu during 2017-18. Under the scheme Forest Department planted 5 lakh seedlings and

Rural Development and Panchayat Raj Department planted 64 lakh seedlings.

- Enhancement of Green Cover in Chennai City and adjoining Districts to restore the tree cover lost due to Vardha Cyclone at an outlay of Rs.9.79 crore.
- Under the scheme of Tamil Nadu Biodiversity Conservation and Greening Project (TBGP), 88.11 Lakh seedlings at a cost of Rs.21.36 crore have been planted in farmers' lands under the component of Tree Cultivation in Private Lands during 2017-18.
- Supply of 4 Lakh seedlings to the public in rural and urban areas at a subsidized rate with a Government Expenditure of Rs.36.00 lakh
- Enrichment of Non Timber Forest Product Resources in Forest Areas of Tamil Nadu at

a cost of Rs.314.71 Lakh for a period of seven years from 2017-18 to 2023-24.

- Scheme of raising teak plantations in padugai lands of Tamil Nadu to enhance the timber resources, over an area of 6000 ha has been sanctioned at a total cost of Rs.5263.13 Lakh for a period of 8 years and works are being carried out. An area of 1200 ha is being covered at an outlay of Rs.2.92 crore.
- Scheme of Raising sandal plantations in the Reserved Forest in the traditional natural sandal bearing area is being implemented to augment dwindling sandalwood resources at an outlay of Rs.8.17 crore. 7.40 lakh seedlings have been planted.
- Rejuvenation of Vaigai and Noyyal Rivers at a cost of Rs.24.58 crore for a period of

three years through assistance of NABARD is being done. During 2017-2018, it has been implemented with an outlay of Rs.7.28 crore.

- Women Empowerment through conservation of medicinal plants is continued during 2017-18 in Salem, Namakkal and Dharmapuri districts at a cost of Rs.21.13 lakh.

## **B. Administration**

- Absorption of 29 daily wager cavadies into the department on regular pay scale, recognizing traditional knowledge and Elephant management skills of Tribal Community.
- Consolidated monthly wages to Anti-poaching Watchers has been enhanced from Rs.6750/- to Rs.10,000/- per month.

### **C. Wildlife Management**

- Hon'ble Chief Minister on 12-10-2017 inaugurated the Advanced Institute of Wildlife Conservation (Research, Training & Education) [AIWC] at Vandalur.
- Creation of Fodder plantations at an amount of Rs.32.60 lakh in forest areas to improve wildlife habitats and to avoid human animal conflict.
- Establishment of Rapid Response Teams at Coimbatore and Gudalur at a cost of Rs.162.48 lakh.
- Enhancement of compensation to the legal heir of Forest staff killed in wildlife attack from Rs.4.00 lakh to Rs.10.00 lakh.
- Formation of 60 forest ponds at a total cost of Rs 3 crore in the Reserved Forests and Tiger Reserves to conserve water resources and to provide water facilities



for the animals thereby preventing them from coming out of forests.

- Constitution of District Level Wetland Management Committees.
- Framing of Tamil Nadu Biological Diversity Rules, 2017 notified under Section 22 of Biological Diversity Act, 2007 (Central Act 18 of 2003).

#### **D. Forest Research**

- Research Wing of the department has standardised the procedure for mass production of seedlings of desired sandal clones through tissue culture technique.
- Research Wing has acquired the machinery and capability to transplant the grown up trees instead of felling them in case the space occupied by tree is used for other purposes.

## **21. CONCLUSION:**

The Tamil Nadu Forest Department is fully geared to achieve the goal of 33% forest and tree cover as envisaged in National Forest Policy, 1988 as well as to protect the rich bio-diversity of the State. The efforts are already underway and the same will be carried forward with added vigour and zeal through involvement of all stakeholders.

**DINDIGUL C. SREENIVASAN**  
**MINISTER FOR FORESTS**

## ANNEXURE-I

### Forest revenue:

Sl.No	Source of revenue	2018-19 Budget Estimate (Rs in lakh)
1.	Sandalwood	2400.00
2.	Timber	1209.00
3.	Supply of raw materials to industries	458.00
4.	Other Minor Forest Produce	47.00
5.	Farm Forestry plantations excluding refund	1250.00
6.	Sale of bamboo, cashew, softwood plantations, etc.	456.00
7.	Other receipts	4474.28
	<b>Sub total</b>	<b>10294.28</b>
	Deduct recoveries (-)	87.30
	<b>Total</b>	<b>10206.98</b>

## ANNEXURE-II

### Expenditure:

<b>Name of the Scheme(s)</b>	<b>2018-19 Budget Estimate (Rs in lakh)</b>
State Plan schemes	45206.31
Externally Aided Project	8656.54
Centrally Sponsored Schemes	3211.91
Schemes shared between State and Centre	1686.92
<b>Total</b>	<b>58761.68</b>

## ANNEXURE-III

### Tamil Nadu Forest Plantation Corporation Limited

#### Achievements:

Sl. No.	Raising Plantation Species	Physical ( Ha)		Financial (Rs in Lakh)	
		2016-17	2017-18	2016-17	2017-18
1.	Eucalyptus	3176	3158	1534.03	1201.05
2.	Cashew	298	284	137.60	127.74

#### Pulpwood supply

Year	Quantity supplied (M.T)	Revenue (Rs in lakh)
2016-17	1,77,951	7215.57
2017-18	1,42,881	5790.26
2018-19 (Budget Estimate)	1,54,410	5867.58

## Cashew

<b>Year</b>	<b>Revenue (Rs in lakh)</b>
2016-17	780.80
2017-18	1447.25
2018-19 (Budget Estimate)	943.00

## ANNEXURE-IV

### Tamil Nadu Forest Plantation Corporation Limited

#### Revenue and Expenditure

(Rs in Lakh)

<i>Year</i>	<b>Revenue</b>	<b>Expenditure</b>	<b>Profit (+) Loss (-)</b>
2016-17	9298.78	7467.81	(+) 1830.97
2017-18	8534.29	7571.75	(+) 962.54
2018-19 (Budget Estimate)	7654.40	7429.76	(+) 224.64

#### Proposals for plantations to be raised during 2018-19

<b>Plantations</b>	<b>Physical (Ha)</b>	<b>Financial (Rs in Lakh)</b>
Eucalyptus	3280	1380.55
Cashew	403	180.75

## ANNEXURE-V

### Tamil Nadu Tea Plantation Corporation Limited

#### Area leased out to TANTEA

Phase	Year	Planted area (in Ha)		
		Nilgiris	Anamalai	Total
Phase I	1969-79	1858.74	..	<b>1858.74</b>
Phase II	1979-81	583.10	..	<b>583.10</b>
Phase III	1982-84	336.58	..	<b>336.58</b>
Phase IV	1990-95	576.26	956.36	<b>1532.62</b>
<b>TOTAL</b>		<b>3354.68</b>	<b>956.36</b>	<b>4311.04</b>



## Green tea leaves and made-tea production

Details (in lakh kg)	2016-17	2017-18	2018-19 (Estimated)
Harvest of green tea leaves	282.32	285.91	297.00
Made-Tea production	65.83	65.70	72.00

## Revenue and expenditure details

(Rs in crore)

Year	Revenue	Expendi- ture	Profit (+) Loss (-)
2016-17	71.81	80.98	(-) 9.17
2017-18	50.30	73.97	(-)23.68
2018-19 (Estimated)	80.33	75.78	(+)4.55

## ANNEXURE-VI

### Arasu Rubber Corporation Limited

#### Production and financial achievement

(Rs in Lakh)

Sl. No	Particulars	2016-17 (Actual)	2017-18	2018-19 BE
1.	Production of Rubber (in M.T)	1885.00	1582.00	1595.00
2.	Revenue and expenditure			
	a) Income	2453.09	3087.47	3192.11
	b) Expenditure	3492.27	3053.30	3551.77
3.	Profit (+) or Loss (-)	(-)1039.18	(+)34.18	(-)359.66