



ENVIRONMENT AND FORESTS DEPARTMENT

POLICY NOTE

2007-2008

DEMAND NO. 15

**N. SELVARAJ
MINISTER FOR FORESTS**

**GOVERNMENT OF TAMILNADU
2007
ENVIRONMENT AND FORESTS DEPARTMENT**

POLICY NOTE 2007 – 2008

FOREST DEPARTMENT

INTRODUCTION

Forests in Tamil Nadu constitute a rich repository of wealth in flora and fauna. They are recognized as one of the leading hotspots by bio-conservationists all over the world. It has been estimated that one third of the species of flowering plants in the country are available in Tamil Nadu. The State is also endowed with a rich assortment of animal species and can boast of possessing a wide range of forest types. Therefore it is no wonder that the State ranks at the top in its heritage of bio-diversity handed down through the centuries by a people proud of their culture of preservation and sustainable development.

The utility value of forests is immense. There are 32 river systems a large number of canals and innumerable tanks in the State for which the catchment areas mainly lie within the forests. The forest uplands and watersheds in Western Ghats and Eastern Ghats play a major role in protection of low land river valleys, by storing water received during rain fall and gradually releasing it so as to reduce the severity of floods and droughts. Similarly they prevent soil erosion and act as the foster mother of agriculture. Shelter belt plantations and mangrove plantations along the coast protect us from gales, storms and help to mitigate the effects of natural disasters

such as Tsunami. The green cover of forests occasions rain and also regulates the seasonal pattern. Concerns about greenhouse gases, declining agricultural productivity and decreasing water availability and increasing pollution levels make forests more important than ever before.

1.1 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.

In tune with this, the 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.

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. The various strategies that will be followed for implementing this policy are discussed below.

1.1.1 INCREASE TREE COVER OUTSIDE FORESTS

As per the status of green cover reported to the House in 2006, 17.59% of the geographical area of the State was covered by forests. In addition tree cover in non forest areas accounted for 3.66% of State's area. Thus the total Forest cover and Tree cover in the State was 27634 Sq.Kms, which totals to 21.25% of the geographical area of the State. As per the National Forestry Policy, the forest cover and the tree cover should be 33.33% by 2012. There is therefore a need to increase the green cover substantially. In 2006-2007 special emphasis was given to this activity by taking up planting of 574.14 lakhs seedlings in forest and non forest areas.

Increasing tree cover outside forests in a big way is the most important, and cost effective strategy for approaching this goal. The scope of this thrust area is to increase tree-based activity on private farm lands. A scheme is being commenced from this year for propagating timber tree species on private lands. The Forest Department will be involved in all activities from providing seeds to post harvest technology and marketing of tree produce. An extensive identification of all the lands available including waste lands in private farm holdings, sacred groves, community lands, school lands, temple lands, revenue poromboke, railway lines, institutional lands, will be taken up and brought under tree cover, wherever feasible.

NGOs, Bankers and other stakeholders will also be involved to strengthen this effort. This, being one of the important innovative programmes in the forestry sector a provision of Rs.10.00 crores has been made in the Budget for this scheme of promoting quick yielding and profitable drought resistant tree species on wastelands in private farm holdings. It is expected to boost the rural economy by raising income levels while at the same time helping to meet the demand for timber thus resulting in conservation of forests.

1.1.2 INCREASE FOREST / TREE COVER INSIDE FORESTS

This thrust area will focus on enrichment and restoration of degraded forests. In order to ensure that forests meet the emerging and increasing needs of society, their conservation and management based on scientific principles to enhance their ecological contribution and to increase their productivity is necessary. Forests are vulnerable to continuous degradation due to the dependence on them by the fringe village inhabitants. Hence continuous efforts to afforest are necessary to protect the forest cover and to ensure ecological security and economic prosperity for the villages in the fringe areas.

Much of the work with regard to increasing tree cover inside forests is now covered under the Tamil Nadu

Afforestation Project for which a provision of Rs.115.22 Crores has been made in 2007-2008.

1.1.3 BIODIVERSITY CONSERVATION

Tamil Nadu is unique as it is a biodiversity hotspot owing to its antiquity and the eco-friendly nature of its people through the ages. The State has set aside 3840 sq.kms under the network of protected areas in 8 sanctuaries, 5 national parks and 12 bird sanctuaries. The State is also home to 3 Biosphere Reserves viz. Nilgiris Biosphere Reserve, Gulf of Mannar Biosphere Reserve and Agasthya Malai Biosphere Reserve. The protected areas in the State are mainly managed for conservation of biodiversity, education, recreation, historical importance, unique landscapes and seascapes. The task of biodiversity conservation is achieved through effective implementation and enforcement of the existing protection and conservation laws, adopting suitable habitat improvement measures and by involving all the legitimate stakeholders in the process of conservation. Wildlife management is being done through trained personnel and through collaborative ventures with the local people. Establishment of anti poaching camps which employ 1392 local forest dwellers who live close to or inside the forest is a pioneering effort in this direction.

1.1.4 TRIBAL DEVELOPMENT

The tribals have always lived in harmony with nature using its resources in a sustainable manner without destroying them and have helped the Forest Department, all along in the forest management and conservation efforts. Livelihood issues, sanitation, hygiene, health, education, access and the overall development of the tribals living within the forests and the fringes are being addressed by the Forest Department, which will enable their harmonious existence in the forests and enable their participation in forest conservation and development. The traditional skills and native knowledge of the tribals would be utilized for conservation gains while at the same time improving their life styles.

The Forest Department is running 19 schools in the tribal areas in which about 5000 students are studying. Facilities like drinking water, lab equipments, separate toilets for girls, sports facilities, class room furnitures, teaching aids, books have been provided to the schools. A project for Rs. 5.07 Crores has been sanctioned under the Rural Infrastructure Development Fund for the purpose of providing infrastructure facilities in the schools run by the Forest Department in Tribal areas. This project being implemented with NABARD assistance will be commenced from 2007-2008.

1.1.5 COASTAL AREA MANAGEMENT

Vegetation along the coast is sparse and confined to patches of mangroves and plantations of casuarinas. It is necessary to make this more dense and available all along the coast. The past experience and the experience specifically – during the Tsunami of 2004 clearly brought out the importance of encouraging shelterbelt plantations and mangrove plantations along the coast. Shelterbelts act as very effective wind brakes and prevent the shifting of sand dunes. The mangrove plantations provide protection from the raging waves caused by sea borne disasters like Tsunami and thus prevent loss of human lives and damage to public and private properties. Therefore, a sum of Rs. 1451.37 lakhs was sanctioned during 2006-2007 for raising 2850 hectares of shelterbelt plantations and 1650 hectares of mangrove plantations. Raising of shelterbelt plantations and mangrove plantations will be continued under the National Cyclone Risk Mitigation Project during 2007-2008. The Gulf of Mannar Biosphere Reserve Conservation Project being implemented in the districts of Ramanathapuram and Tuticorin also aims to integrate the twin objectives of bio diversity conservation and coastal marine management.

1.1.6 CATCHMENT AREA MANAGEMENT

The health of watersheds, rivers and down stream community is dependent on the health of the upland forests. There is a growing concern about the soil erosion and loss of vegetation in the catchment areas. There is therefore an urgent need to take up watershed activities in a bigger way to protect the forests in the catchment areas. The works to be taken up include afforestation in untreated forest areas and dissemination of improved and modern techniques for practicing agriculture such as cover cropping, intercropping, contour bunding, strip cropping, including formation of field bunds and vegetative barriers and construction of a series of check dams. These works will be taken up by the Forest Department under a variety of programmes in 2007-2008.

1.1.7 FOREST PROTECTION

Illicit cutting and removal of trees, encroachment of forest land, sandalwood smuggling, forest fire, grazing, ganja cultivation, theft of medicinal plants etc. pose a threat to the protection of forest resources. The activities of the department to prevent these illegal activities have yielded results. Hence they will be pursued with greater vigour in the current financial year. Forest personnel will be specially trained to take up innovative combative and patrol strategies and offence detection methodologies. 21687 Cairns will be erected at a

cost of Rs. 173.50 lakhs for protecting forest land from encroachments. A provision of Rs.9.50 lakhs has also been made to impart weapon training to the Forest Department personnel in the Tamil Nadu Forest College, Vaigai Dam and in the Tamil Nadu Forest Academy , Coimbatore.

1.1.8 RESEARCH AND GEOGRAPHICAL INFORMATION SYSTEM

The main thrust of forest research in Tamil Nadu is on biodiversity conservation and bio-productivity enhancement. Forest Research is being carried out by the Department and also through collaborative ventures with Universities and Educational Institutions. The Research supports tree farming in private lands by identifying varieties of tree species which are quick yielding and drought resistant. The following are proposed to be propagated on private farm lands in a big way in 2007-2008:

- *Ailanthus excelsa* (Perumaram)
- *Albizia lebbeck* (Vagai)
- *Melia dubia* (Malai vembu)
- *Casuarina junghuniana* (Indonesia savukku)
- *Acrocarpns fraxinifolius* (Kurungadi, Malai konnai)
- *Eucalyptus* hybrid clones (Neelagiri thailamaram)

- *Gmelina arborea* (Kumil)
- *Grewia tilliaefolia* (Thadasu or Sadakki)
- *Bambusa vulgaris*, *Bambusa tulda*, *Bambusa nutans*, *Bambusa balcoa* (Bamboo without thorn)

Geomatics is emerging as an effective tool for efficient natural resource management. It is being used in the Forest Department for effective forest management, which includes delineation of forest boundaries, fire monitoring, assessment of forest cover, forest mapping, etc. It plays a vital role in scientific decision making and management of forest resources.

1.1.9 EMPOWERMENT OF WOMEN

Women, spend long hours in forest areas for collecting firewood, minor forest produce and in cutting grass, grazing etc. The active participation of women, in forest conservation is therefore necessary. 5067 Self Help Groups of women in 1707 villages have so far been formed under the TamilNadu Afforestation Project upto 2006–2007. These Self Help Groups are taking up various activities like dairying, soap and detergent making, food processing, vegetable growing and selling and retailing, etc. Micro Finance up to Rs.5000/- per individual out of Buffer Zone activities funds, revolving credit from village development funds, NGOs assistance for

obtaining bank loans, capacity building and training through NGOs and Mahalir Thittam of Tamil Nadu Corporation for Development of Women are some of the supporting measures provided to these Self Help Group members by the department. Such measures focusing on poverty alleviation help in weaning away the communities dependent on forests for their economic sustenance and provide them with alternative employment opportunities.

1.1.10 HUMAN RESOURCES MANAGEMENT

The manpower resources of the Forest department are large. There are nearly 5675 forest personnel engaged in forest conservation. In addition there are 3076 Social Forestry plot watchers and 1392 persons employed in the anti poaching squads. There is a need to train these persons and update their skill, knowledge, suitably to meet the objectives of the Forest Department. The existing Tamil Nadu Forest Academy, Coimbatore and the Tamil Nadu Forestry College, Vaigai Dam are endeavouring to fulfill these challenges. In Tamil Nadu Forest Academy, Coimbatore training is imparted to Rangers (1 year), Foresters (6 months). Training to Forest Guards (6 Months) and Forest watchers (3 Months) is imparted at Tamil Nadu Forestry College, Vaigai dam. Apart from these, special refresher courses and theme based courses of short duration ranging from 3 days to 10 days are being conducted as and when these are required for specific

projects like TAP, GPS, Project Elephant etc. The training imparted on forest protection activities like weapon training, fire fighting skills, detection and investigation of offences, prosecution of new offences, research programmes and allied subjects helps to enhance their skills resulting in better quality output.

1.1.11 INFRASTRUCTURE DEVELOPMENT

Improving the infrastructure of the forest department through establishment and maintenance of buildings, equipment, interpretation centres, staff quarters and vehicles is necessary for the efficient functioning of the department. At the same time since forests cover an extensive area and house a large population, the infrastructure in forest areas such as roads, housing, schools and dispensaries also need improvement. A proposal for improving the infrastructure in the tribal settlements in forest areas is being posed to NABARD for funding under RIDF during 2007-2008.

1.2 ACHIEVEMENTS DURING 2006-2007

The Forest Department has marched on with impressive strides during the course of 2006-2007. Listed below are some significant achievements.

- Tamil Nadu Afforestation Project Phase-II was implemented at a cost of Rs.101.42 crores for carrying

out afforestation works over an area of 45,250 ha. and village development activities in 205 forest fringe villages including 40 tribal villages.

- Emergency Tsunami Reconstruction Project (World Bank assisted) was implemented at a cost of Rs.14.30 crores by raising shelterbelts over 2850 ha. and mangrove plantations over 1500 ha.
- Forest maintenance works were carried out as per the recommendations of 12th Finance Commission at a cost of Rs.13.275 crores.
- Funds to the tune of Rs.10.40 crores were sanctioned during 2006-2007 for the improvement and maintenance of roads under the jurisdiction of the forest department. This has resulted in better communication facilities in the forest areas.
- To counter the increasing Man-animal conflict and to enlist the support of the public for wildlife conservation an amount of Rs.4.24 crores was sanctioned for erection of Solar Electrical Fencing along the boundaries of Forest areas over a length of 262.50 kms. An amount of Rs.99.50 lakhs was sanctioned as compensation for damages caused by the wild animals. The sum of Rs. 50.00 lakhs given from State Government funds for this purpose is an all time high in the history of the department. This has helped to

clear claims for compensation kept pending for the last three years.

- An amount of Rs. 11.84 crores was realized from the sale of teak trees in Thanjavur division. Similarly the sale of 52 M.T. of sandalwood by the department fetched a revenue of Rs.18.15 crores to the State.
- Tank bed plantations of babul sold over an area of 8044 ha. resulted in an income of Rs. 10.26 crores, to the Government and local bodies.
- The Mudumalai Wildlife Sanctuary and National Park in Nilgiris and the Indira Gandhi Wildlife Sanctuary and National Park in Coimbatore district have been declared as Project Tiger reserves. The tiger population in the State has risen to 89 as per the latest statistics.
- The Tamil Nadu Forest Department participated in the 15th All India Forest Department Sports Meet in Jaipur and secured the first place with a tally of 30 gold medals, 30 silver medals and 21 bronze medals.
- The minimum wages payable to the Social Forestry workers and Plot Watchers were enhanced to Rs.85.05 per day per worker (per month Rs.2126.00) with effect from 1.9.2006 and 2441 persons working have benefited.
- The Tamil Nadu Forest Department was adjudged the best Geographical Information System user site by

Environmental Science and Research Institute (ESRI) and awarded the Special Achievements award in Geographical Information Systems.

- The State is the first in the country to have achieved the establishment of forest extension centres in every district.

1.3 FOREST REVENUE AND EXPENDITURE

1.3.1 REVENUE

Tamil Nadu was the first State to ban felling of natural trees in reserved forests. Felling of natural trees in the reserved forests has been discontinued since 1979 and since then the major sources of forest revenue have been by sale of sandalwood, supply of raw materials to forest based industries and sale of farm forestry plantations. Dead sandalwood trees alone are extracted for sale. Supplies of raw materials for paper and tannin industries are being made from mature plantations. The farm forestry plantations raised in irrigation tanks are sold by auction to raise revenue for the State and local bodies.

The comparative position during 2006-2007 and Budget Estimate for 2007-2008 are detailed below:

(Rs. in lakhs)

| Sl. No | Source of revenue | 2006-2007 (Revised Estimate) | 2007-2008 (Budget Estimate) |
|--------|---|---------------------------------|--------------------------------|
| a) | Sandalwood | 4286.02 | 7810.66 |
| b) | Timber | 1027.54 | 1023.57 |
| c) | Supply of raw materials to industries | 553.29 | 502.96 |
| d) | Other Minor Forest Produce | 12.82 | 13.93 |
| e) | Farm Forestry plantations | 1050.00 | 1050.00 |
| f) | Sale of Bamboo, Cashew and Softwood plantations | 17.55 | 17.55 |
| g) | Other receipts | 2000.61 | 1874.94 |
| | Sub Total | 8947.83 | 12293.61 |
| | Deduct refunds (-) | 700.74 | 7.21 |
| | Grand Total | 8247.09 | 12286.40 |

1.3.2 EXPENDITURE AND OUTLAY

The proposed outlay under forests during 2007-2008 is Rs.30,632.22 lakhs compared to an outlay of Rs.28,554.52 lakhs in 2006-2007. This shows an increase of seven percent over the last financial year. The important schemes for which provisions have been made in the budget are listed below:

(Rs. in lakhs)

| Sl. No | Name of the Scheme(s) | Expenditure during 2006-2007 (Revised Estimate) | Budget Estimate for 2007-2008 |
|--------|---|---|-------------------------------|
| 1 | State Forestry Schemes | 27117.20 | 29334.95 |
| 2 | Centrally Sponsored Schemes (100%) | 743.80 | 637.13 |
| 3 | Schemes shared between State and Centre | 693.52 | 660.14 |
| | Total | 28554.52 | 30632.22 |

1.4 MAJOR SCHEMES FOR 2007-2008

A short note on some of the important schemes that will be implemented in 2007-2008 is given below:

1.4.1 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 crores, 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. During the year 2006-2007, 45,250 ha. of degraded forests in 205 fringe villages including 40 tribal villages have been covered at a cost of Rs.101.42 crores. During 2007-2008, it is proposed to implement the project at a cost of Rs.115.22 crores, over an extent of 51,500 ha. of degraded forests in 230 forest fringe villages including 40 tribal villages.

1.4.2 EMERGENCY TSUNAMI RECONSTRUCTION PROJECT (WORLD BANK ASSISTED)

The experience during the Tsunami on 26.12.2004 clearly revealed the utility value of shelterbelt and mangrove plantations along the coast. It has therefore been thought necessary to raise the tree cover all along the coastal areas through artificial regeneration by developing and expanding the existing shelterbelt plantations and mangroves. During 2006-2007, the project was implemented at a cost of Rs.1430.37 lakhs by raising shelterbelts over 2850 hectares and mangrove plantations over 1500 hectares. During 2007-2008, it is proposed to carry out the maintenance works for the shelterbelt and mangrove plantations raised earlier and also encourage the raising of shelterbelt and mangrove plantations on private waste lands along the coast.

1.4.3 NATIONAL AFFORESTATION PROGRAMME(NAP)

Forest restoration requires establishment of strong and lasting linkages between rural people and the Forest Department for ultimate success. Realising this, the Government of India are assisting States under the "National Afforestation Programme". This is a 100% Government of India funded scheme and is being implemented through 32 Forest Development Agencies on Joint Forest Management

basis. The expenditure under this programme in 2006-2007 was Rs. 18.66 crores. The implementation of this programme will continue during 2007-2008.

1.4.4 WILDLIFE SCHEMES

Consequent to the focus on rapid growth and growing industrialization forest fragmentation is continuously happening and the once numerous species which are ecologically important are now becoming endangered species. Wildlife schemes in the State are being implemented with the main objective to conserve the flora and fauna and for protection of critical habitats. Protected area management, wildlife protection and conservation of natural eco-systems, preserving species and establishing healthy wildlife populations in their varied habitats are the new thrust areas of wildlife management in the State. Individual species protection and their habitat conservation and preventing the extinction of endangered species through a special approach in Protected Areas and Zoos are concerns that are now being addressed effectively. Man – animal conflict resolution through erection of solar fences, habitat improvement and timely compensation relief are new areas of attention. Project Tiger and Project Elephant works in wildlife sanctuaries, individual schemes for management and development of bird sanctuaries, schemes for Nilgiris Biosphere Reserve

Conservation are some of the major schemes under the wild life sector.

1.4.5 GULF OF MANNAR BIOSPHERE RESERVE PROJECT

The Project focuses on securing multisectoral participation in management of Gulf of Mannar Biosphere Reserve which includes 21 coral rich islands along the coast line from Rameshwaram to Tuticorin in the core area. This project funded by the Government of Tamil Nadu, Government of India and Global Environment Facility (GEF) and United Nations Development Programme (UNDP) has a total outlay of Rs.140 crores and will be implemented till 2009. The project activities include enhanced protection through infrastructure development, capacity building of all stake holders through training, awareness creation, undertaking research and monitoring works on themes of resource inventories and ensuring participation of local communities and securing alternative livelihoods for them.

There are 222 villages in the zone of influence that extends upto 10 kms inland, in the districts of Ramanathapuram and Tuticorin. The Eco Development approach which was very successfully implemented in World Bank aided project in Kalakkad Mundanthurai Tiger Reserve is being followed for eliciting local people's support in marine biodiversity conservation in the Gulf of Mannar Biosphere

Reserve area. During 2007-2008 an action plan has been drawn up and will be implemented at a cost of Rs. 10.19 crores.

1.4.6 HILL AREA DEVELOPMENT PROGRAMME (HADP)

The objective of the scheme is to enlarge the permanent green cover, conserve biodiversity and to regulate biotic interference that confronts the ecologically sensitive forests of the Nilgiris tracts. The sholas and grass lands complex are fragile eco-systems, on which the health of the hills and prosperity in the plains below depend upon. Fire protection, establishment of anti-poaching camps and soil and moisture conservation are the works implemented under the programme. During the year 2006-2007 Hill Area Development programme has been implemented at a cost of Rs.237.40 lakhs over an extent of 550 ha., in Nilgiris district by Forest department. It is proposed to implement this scheme during 2007-2008 with an outlay of Rs.306.63 lakhs.

1.4.7 WESTERN GHATS DEVELOPMENT PROGRAMME

The programme envisages, Eco-Restoration, Eco-Stabilisation, Eco-Development and Eco-Protection, in the Western Ghats. 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. 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. During 2006-2007, the programme activities were carried out in identified watersheds at a cost of Rs.209.23 lakhs over an area of 383 ha. It is proposed to implement this scheme with an outlay of Rs.430.14 lakhs during 2007-2008.

1.4.8 RAISING TEAK PLANTATIONS ON PADUGAI LANDS

The objective of the scheme is to enhance the timber resources of the state upgrade the environment and increase tree cover outside the Reserve Forests and thereby prevent soil erosion in the riverbeds. For the cultivation of teak in Padugais in Thanjavur, Tiruchirappalli, Madurai, Erode, Salem and Pollachi divisions the Government sanctioned a sum of Rs.2139.827 lakhs for covering an area of 16050 ha. over a period of 5 years upto 2007-2008. During the year 2006-2007, an area of 3280 ha. have been covered at an outlay of Rs. 478.50 lakhs. It is proposed to raise teak plantations over 3160 ha. and to carry out maintenance works during 2007-2008 with an outlay of Rs. 573.08 lakhs .

1.4.9 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 crores for maintenance and restoration works to be implemented over a period of 5 years from 2006-2007. A sum of Rs.1327.50 lakhs has been released for this purpose during 2006-2007. This covers the following components:

- 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.
- Maintenance and special repairs to Forest Department buildings.
- Raising shola seedlings for afforestation.

During 2007-2008, it is proposed to take up degraded sholas over an extent of 300 ha. and to carry out other maintenance and improvement works at a cost of Rs. 590.75 lakhs.

1.4.10 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. The main objective of this scheme is to control forest fires and strengthen forest protection measures in Tamilnadu. Consolidation of forest boundaries by construction of cairns to prevent encroachment is another important item of work implemented through Integrated Forest Protection Scheme. Other works such as assistance to Joint Forest Management Committees, creating water bodies inside forests, purchase of vehicles and communication equipments, purchase of fire fighting tools, etc., are also carried out. During 2007-2008, it is proposed to implement this scheme at an outlay of Rs.485.00 lakhs.

1.4.11 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. Research experiments on various thrust areas of concern are carried out in research centres covering all agro-climatic zones. Forest research was supported at a

cost of Rs.203.00 lakhs during the year 2006-2007. During the year 2007-2008, it is proposed to continue this scheme at a cost of Rs.205.00 lakhs. Research for enhancing productivity of timber from trees outside forests, and nurturing healthy forests are the mandate of the research wing, which works closely with forest extension wing for dissemination of research findings.

1.5 NEW PROJECTS

1.5.1 NATIONAL CYCLONE RISK MITIGATION PROJECT

The coastal areas are vulnerable to damage during times of heavy winds, cyclones, and other natural calamities. Raising of shelterbelt plantations and identifying and regenerating the degraded mangroves along the coastal areas proved to be successful in the past for tackling natural calamities. Therefore it has been proposed to raise 500 ha. of shelterbelt plantation and 500 ha. of mangrove plantation besides activities in the Gulf of Mannar for rehabilitation of coral miners, sea weed collectors and other infrastructure development activities under this project during 2007-2008 at a cost of Rs.550.27 lakhs.

1.5.2 ECO-TOURISM

The State has ecologically rich sites where eco-tourism can be promoted. The rich wildlife, unique forestry sites, and varied habitats hold immense eco-tourism potential. Eco-tourism helps to boost the local village economy besides providing healthy leisure and recreation facilities to the visiting tourist. Realising this, a proposal to the tune of Rs.47.00 crores has been prepared and posed to the Government of India for funding.

1.5.3 BAMBOO SEEDLINGS SUPPLY

Bamboo cultivation has high potential in Tamil Nadu. Bamboo handicrafts and products can generate rural employment and promote bamboo-based industries in the State. A proposal prepared by the Forest department for implementation under National Bamboo Mission will be pursued to support Bamboo cultivation on private farm lands.

1.5.4 NIGHT SAFARI AT ARIGNAR ANNA ZOOLOGICAL PARK, VANDALUR

Owing to its strategic location, the Arignar Anna Zoological Park at Vandalur near Chennai is ideally suited for locating the Night Safari. It has therefore been decided to establish Night Safari at the Arignar Anna Zoological Park,

Vandalur. The detailed project report is under preparation and execution will be taken up in 2007-2008.

1.5.5 BUTTERFLY PARK AT ARIGNAR ANNA ZOOLOGICAL PARK, VANDALUR

Over 1500 species of butterflies occur in India and Tamil Nadu alone houses nearly 300 of them. Butterflies are important pollinators of several wild and domesticated plants and depletion of their population could adversely affect the regeneration of plants they pollinate. Besides their ecological role, butterflies have great aesthetic value so much so that they have been widely used in Zoos and Museums to promote environmental awareness.

A Butterfly park is a facility created through careful choice of host plants and habitats so as to exhibit butterflies in their natural settings. It is proposed to create a butterfly park at the Arignar Anna Zoological Park, Vandalur so that visiting tourists can see different species of butterflies in a single place.

1.5.6 DISTRIBUTION OF 22.50 LAKHS SEEDLINGS TO FARMERS

Productivity of rain fed farm lands which are subjected to droughts due to uncertain monsoons can be enhanced only by the cultivation of drought resistant and fast growing tree

species suitable to the soil types and agro climatic zones of Tamilnadu. 22.50 lakhs seedlings are proposed to be raised and supplied by the Forest Department free of cost to the farmers for planting in their farmlands. This scheme will be implemented at a cost of Rs.90.00 lakhs.

1.6 PART-II SCHEMES 2007-2008

The following 19 Schemes, with an outlay of Rs. 698.78 lakhs, have been approved for implementation during 2007-2008.

| Sl.No | Name of the Schemes | Amount Rs. in Lakhs |
|-------|---|---------------------|
| 1 | Forest Settlement – Construction of 5000 cairns during 2007-2008. | 40.00 |
| 2 | Imparting weapons training to Forest Personnel | 9.50 |
| 3 | Carrying out afforestation works in the encroachment evicted areas in Madurai and Coimbatore circles. | 18.02 |
| 4 | Raising 1,08,330 taller seedlings | 32.50 |
| 5 | Construction of Rest house with 3 suites at Thuvankurichi | 20.00 |
| 6 | Construction of Rest house with 3 suites at Musiri range. | 20.00 |

| Sl.No | Name of the Schemes | Amount Rs. in Lakhs |
|-------|--|---------------------|
| 7 | Improvements and black topping to Kaveripatti to Karuppampatti Road 2.60 kms in Tiruchirapalli District. | 36.00 |
| 8 | Improvements to Kadamalaigundu to Vellimalai Road 5.00 kms in Theni District. | 50.00 |
| 9 | Improvements and black topping to Malaiyadipatti to Subramaiyasami Koil Road 1.660 kms in Tiruchirapalli Dist. | 23.07 |
| 10 | Habitat improvement for 5 bird sanctuaries. | 10.00 |
| 11 | Basic Computer Training to Forest personnel. | 6.00 |
| 12 | Strengthening of Forest Protection- Purchase of 5 vehicles in lieu of condemned vehicles. | 21.15 |
| 13 | Erection of Solar fencing for 181.25 kms.(100+81.25 kms.) | 290.00 |
| 14 | Proposal to tackle the problem of Monkey menace in Chennai city and surrounding areas. | 5.00 |
| 15 | Improvement of Deer Safari in Arignar Anna Zoological Park, Vandalur. | 7.00 |
| 16 | Preparation of inventory and assessment of Biodiversity. | 10.54 |

| Sl.No | Name of the Schemes | Amount Rs. in Lakhs |
|--------------|---|----------------------------|
| 17 | Mapping and Analysis of Bio diversity. | 4.00 |
| 18 | Publication of Working/ Management Plan. | 6.00 |
| 19 | Raising Tree seedlings of economically important and fast growing species, for supply to farmers. | 90.00 |
| Total | | 698.78 |

1.7 PUBLIC SECTOR UNDERTAKINGS

The performance of the following three Public Sector Undertakings 1. Tamil Nadu Forest Plantation Corporation, Tiruchirapalli, 2.Tamil Nadu Tea Plantation Corporation, Coonoor, 3. Arasu Rubber Corporation, Nagercoil is detailed below.

1.7.1 TAMIL NADU FOREST PLANTATION CORPORATION LIMITED (TAFORN), TIRUCHIRAPPALLI

Tamil Nadu Forest Plantation Corporation Limited was formed and incorporated under the provisions of the Companies Act, 1956 on 13.06.1974. This Corporation has an authorised share capital of Rs.10.00 crores and a paid up

share capital of Rs.3.76 crores. The entire share capital of the Corporation is held by the Government of Tamil Nadu. The Corporation has in its enjoyment and possession 74963.23 hectares of forest land leased out by the Forest Department. The main objectives of the Corporation are to raise, maintain and harvest pulpwood and cashew to meet the needs of industries and to supply firewood to meet the fuel wood needs of the public.

1.7.1.1 ACHIEVEMENTS

The details of the plantations raised during 2005-2006, 2006-2007 are furnished below:

(in hectares)

| Item of Work | 2005-2006 | 2006-2007 |
|--------------------------------|------------------|------------------|
| Raising Eucalyptus Plantations | 3509 | 3601 |
| Raising Cashew plantations | 1039 | 1219 |
| Raising Casuarina plantations | 30 | 22.5 |
| Raising Misc. plantations | 110 | -- |

1.7.1.2 PULPWOOD SUPPLY

The details of pulpwood supplied to the paper mills during 2005-2006 and 2006-2007 are as follows:

| Year | Supply (M.T) | Revenue realised (Rs. in crores) |
|-----------|--------------|----------------------------------|
| 2005-2006 | 91611.188 | 16.49 |
| 2006-2007 | 120846.200 | 21.75 |

During 2007-2008, the supply of pulpwood to the paper mills at the rates fixed by the Government, will continue.

1.7.1.3 CASHEW

During 2006-2007, the total income on the lease of right to collect cashew nut amounted to Rs. 349.24 lakhs.

1.7.1.4 SANDALWOOD OIL FACTORY

In the sandalwood oil factory located at Thekkupattu near Vaniyambadi of Vellore district, the Corporation produced 536.00 kgs. of sandalwood oil during 2006-2007.

1.7.1.5 MELCHENGAM FARM

On 17.05.06, the farm maintained by Central State Farm Corporation over an extent of 3904 ha. of forest lands

which was originally leased out by Tamil Nadu Forest Department in Tiruvannamalai District was taken over by Tamil Nadu Forest Plantation Corporation on payment of Rs.85.04 lakhs. Action has been taken for raising various suitable species like Eucalyptus, Jatropha besides maintaining the existing horticultural crops., like Coconut, Mango, Guava, Sapota etc., By this, an area of 2008.69 ha out of the total area available in the Melchengam farm which has been lying idle for many years will be put to good use resulting in generation of farm employment.

1.7.1.6 INCOME AND EXPENDITURE

The income and expenditure details of the corporation for 2005-2006, 2006-2007 and 2007-2008 are as follows :

| Year | Income | Expenditure | (Rs. in lakhs) |
|------------------------------|---------|-------------|------------------------|
| | | | Profit (+) Loss (-) |
| 2005-2006 (Actuals) | 3594.78 | 2858.41 | (+)736.37 |
| 2006-2007 (Revised Estimate) | 5222.93 | 4089.51 | (+)1133.42 |
| 2007-2008 (Projected) | 4105.34 | 3824.51 | (+)280.83 |

1.7.2 TAMIL NADU TEA PLANTATION CORPORATION LIMITED (TANTEA), COONOR

With a socio-economic objective to rehabilitate the repatriates from Sri Lanka to India under the Shastri - Srimavo Pact, the Government of TamilNadu introduced the Government Tea Project in 1968 and implemented it through the Forest Department. Later, the project was registered as a Government Undertaking under the Companies Act, 1956 called "*Tamil Nadu Tea Plantation Corporation Limited*" which is now popularly known as TANTEA. The authorized share capital of this Corporation is Rs.10.00 crores and the paid-up share capital is Rs.5.96 crores. The Government of Tamil Nadu holds the entire share capital of the Corporation.

This Corporation has raised tea plantations over an area of 4431.92 hectares and provides employment to about 6250 permanent workers and about 3000 casual workers. Housing and other amenities like free water supply, free medical attention are provided to its permanent workers. It also runs three hospitals and seven schools. From 2006-2007 workers engaged on casual basis also enjoy free medical facilities at its hospitals. TANTEA has 8 Modern Tea factories with a total installed capacity of 120 lakh kgs. of made tea per annum.

1.7.2.1 INCOME AND EXPENDITURE

Income and expenditure details of the Corporation for 2005-2006, 2006-2007 and 2007-2008 are furnished below: -

(Rs. in lakhs)

| Year | Revenue by sale of tea and other items | Expenditure | Profit (+) Loss (-) |
|-------------------------|--|-------------|---------------------|
| 2005-2006 (Actual) | 4248.10 | 5095.10 | (-) 847.00 |
| 2006-2007 (Provisional) | 5006.00 | 5116.00 | (-) 110.00 |
| 2007-2008 (Anticipated) | 6108.00 | 5658.00 | (+) 450.00 |

1.7.3 ARASU RUBBER CORPORATION LIMITED(ARC), NAGERCOIL

Arasu Rubber Corporation Limited (ARC) has rubber plantations over an area of 4279.78 hectares of forestlands taken on lease from the Forest Department in Kanyakumari district, where the soil, climate and topography are conducive for the growth of rubber trees. The Corporation was registered on 20.08.1984 under the Companies Act, 1956. The authorised capital of the Corporation is Rs.4.00 crores and the paid-up share capital is Rs.2.00 crores. The Government of Tamil Nadu holds the entire share capital of the Corporation.

There are 1536 permanent workers and among them 386 are Sri Lankan repatriates. In addition there are 365 contract workers also employed by the Corporation. It has been decided to extend free medical treatment facilities for all contract workers in the garden hospitals and dispensaries of the Corporation, from 2007-2008 onwards.

More than 70% of rubber trees in the plantations of the Arasu Rubber Corporation were planted during 1960s and 1970s. The trees, which have attained an age of 30 years or more, yield less and therefore to make the Corporation more viable and to provide continuous employment opportunities to the workers, it has been decided to undertake replanting works with high yielding clones as advised by the Rubber Board, after felling of the less productive matured rubber trees.

1.7.3.1 PRODUCTION AND SALE (INCOME AND EXPENDITURE)

The details of income and expenditure for the years 2005-2006, 2006-2007 and 2007-2008(anticipated) are as follows:

(Rs. in lakhs)

| Year | Field latex production (in M.T.) | Revenue by sale of rubber and other items | Expenditure | Profit (+) Loss (-) |
|-------------------------|----------------------------------|---|-------------|---------------------|
| 2005-2006 | 2562.00 | 2015.57 | 1946.16 | (+) 69.41 |
| 2006-2007 | 2115.09 | 2181.00 | 1799.18 | (+) 382.54 |
| 2007-2008 (Anticipated) | 2500.00 | 2023.81 | 1781.15 | (+) 242.66 |

THE PATH AHEAD:

Conserving the forest resources of the State and promoting the availability of timber through private tree plantations will be the thrust area of the department. This approach will help to conserve the rich and varied biodiversity that is our heritage and also promote the ecological well being of the State and its citizens.

2. DEPARTMENT OF ENVIRONMENT

INTRODUCTION

Protecting the environment is the responsibility of the state as well as every citizen. A harmonious balance should be maintained among the economic, social and environment needs of society. Due to population explosion and increasing urbanization and industrialization, a serious challenge has been posed to the preservation of our terrestrial and aquatic ecosystems.

Degradation of the environment imposes the maximum costs on the poor and underprivileged. Hence by protecting the environment, the economic interests of the poorer sections of society are also safeguarded. Sustainable development is the need of the hour and this is possible only by promoting awareness about the need to protect the environment. Decisive steps aimed at preserving the natural resources of air, water and land are being initiated. Several initiatives have been taken by the Government for pollution abatement in rivers and lakes besides promoting environmental consciousness among the school children and the public.

2.1 DIRECTORATE OF ENVIRONMENT

The Department of Environment was created for dealing with the task of promoting environmental awareness in the State. The Directorate is entrusted with the coordination of major projects like pollution abatement in the rivers Cauvery, Vaigai and Tamiraparani; and in the waterways of Chennai City. The National Lake Conservation Programme, management of coastal zone and all other environment protection efforts except those dealt with by the Tamil Nadu Pollution Control Board are the responsibility of this Directorate.

2.2.1 COASTAL ZONE MANAGEMENT

In order to protect the coastal areas and to implement Coastal Regulation Zone Notification 1991, Government of India have constituted a State Level Coastal Zone Management Authority with the Secretary to Government, Environment and Forests Department as the Chairman and the Director of Environment as Member Secretary. Various proposals for environmental clearance under the notification are scrutinized and approved or recommended by this authority.

2.3 ENVIRONMENT MANAGEMENT AGENCY OF TAMIL NADU (EMAT)

2.3.1 In order to coordinate with the Government of India and various other implementing agencies and for effective monitoring of implementation of the works under the “National River Conservation Plan” and “National Lake Conservation Plan”, an autonomous agency called "**Environment Management Agency of Tamil Nadu (EMAT)**" was constituted. The following schemes are coordinated by Environment Management Agency of Tamil Nadu.

2.3.2 ABATEMENT OF POLLUTION IN FIVE POLLUTED STRETCHES OF RIVER CAUVERY

This is a centrally sponsored scheme under National River Conservation Programme at an overall project cost of Rs.3627.75 lakhs and implemented since 1996-1997. A sum of Rs.2230.90 lakhs has been spent by the executing agencies till 31.03.2007. Under Core-activities, interception and diversion as well as sewage treatment plants are being implemented through the Tamil Nadu Water Supply and Drainage Board in Erode, Bhavani, Komarapalayam, Pallipalayam and Tiruchy towns. All the works in Tiruchy, Komarapalayam and Erode have been completed. The works in Bhavani are under progress. A revised Detailed Project Report for Pallipalayam is being prepared by the TWAD Board. Under Non-core activities, construction of low cost

sanitation facility, crematoria and river front development have been completed by the local bodies.

2.3.3 CHENNAI CITY RIVER CONSERVATION PROJECT (CCRCP)

A project with a Government of India grant of Rs.49152 lakhs for intercepting and treating sewage in six Chennai City Waterways is being implemented from 2001 by Chennai Metropolitan Water Supply and Sewerage Board. An important component of the project is to intercept the sewage outfalls joining the six Chennai City Waterways viz., Cooum, Buckingham Canal, Adyar, Otteri Nullah, Captain Cotton Canal and Mambalam drain. 16 packages have been completed at a cost of Rs. 37253 lakhs so far. Detailed Project Reports for the provision of interceptors and pumping stations in uncovered areas making use of the balance amount have been sent to National River Conservation Directorate for approval. For the balance cost of Rs.70848 lakhs borne by the state component under Paripasu arrangement, the expenditure is Rs 63869 lakhs. These works are being undertaken by the Chennai Metropolitan Water Supply and Sewerage Board, Public Works Department, Chennai Corporation and Tamil Nadu Slum Clearance Board.

2.3.4 NATIONAL RIVER CONSERVATION PROGRAMME – SEVEN ADDITIONAL TOWNS

Pollution abatement in the rivers Cauvery, Vaigai and Tamiraparani along seven towns viz., Tiruchy-Srirangam, Thanjavur, Kumbakonam, Karur-Inam karur, Mayiladuthurai, Madurai and Tirunelveli at a total cost of Rs.57530 lakhs is under implementation from 2001. The grant from Government of India for this project is Rs.28215 lakhs and the rest is being met by Government of Tamil Nadu, the local bodies concerned and through public participation. The project envisages provision of underground sewerage systems, sewage treatment plants, low cost sanitation and solid waste management to rid these rivers of pollution. The core works are being executed by Chennai Metro Water Supply and Sewerage Board in Madurai and Kumbakonam. The works in respect of Karur, Mayiladuthurai, Thanjavur, Tiruchy and Tirunelveli are being implemented through Tamil Nadu Water Supply and Drainage Board. An amount of Rs.41125.30 lakhs has been spent upto 31.03.2007 towards this scheme.

2.3.5 NATIONAL LAKE CONSERVATION PROGRAMME (NLCP)

Environmental upgradation by bioremediation of Ooty Lake and providing Under Ground Sewage Scheme with Sewage Treatment Plant in localities affecting Kodaikanal Lake are undertaken under the National Lake Conservation

Programme at a total cost of Rs.1218 lakhs. The works are being executed by the Tamil Nadu Water Supply and Drainage Board, the Public Works Department and the local bodies. Revival of Ooty lake has been completed at a cost of Rs.162.90 lakhs. The revised Detailed Project Report for Kodaikanal lake has been sanctioned for Rs.1042.52 lakhs on 19.01.2007 and the works will be taken up in 2007-2008.

2.4 ENVIRONMENT AWARDS

The State Government honours the best Non-Government Organisations, experts and individuals in recognition of their excellent contribution in the field of environment. These awards which were instituted during 1999 are given during the World Environment Day celebrations on June 5th every year. The awards are being given under three categories (i.e) Environmental Management, Environmental Protection and Environmental Education and Awareness. An award is also given for the best research paper in the field of environment.

2.5 PART-II SCHEMES

2.5.1 ENVIRONMENTAL AWARENESS PROGRAMMES

There are 1200 eco-clubs under the State funded programme to promote environmental awareness. The number of students registered in these eco-clubs is around 50000. A sum of Rs.1250 per year was being given to each eco-club for promoting environmental awareness. From 2007-2008 the grant per eco-club is being enhanced to Rs.2500/-. Further for conducting quiz, painting, drawing and elocution competitions among these eco-clubs, the grant per year is being enhanced to Rs.15.00 lakhs. Similarly an enhanced grant of Rs.22.50 lakhs is being given to eco-clubs for conducting eco-camps in wildlife sanctuaries and environmentally vulnerable areas.

2.5.2 CONDUCTING TRAINING WORKSHOPS/ SEMINARS THROUGH AWARENESS NETWORK

To create awareness among the students and general public, seminars and workshops are being conducted every year at a cost of Rs.2 lakhs. Students participate in a big way in these seminars and workshops which are conducted by NGOs and educational institutions. To inculcate the environment discipline among the student community and the general public, these types of seminars and workshop are very useful where they get to interact with eminent scholars

and persons working in the field of environment. This scheme will be continued during the year 2007-2008 at an additional cost of Rs.2 lakhs.

2.5.3 ENVIRONMENTAL RESEARCH AND DEVELOPMENT

It is important for promoting environmental research in multi disciplinary aspects of environmental problems together with the creation of facilities and development of technical capabilities to the academic institutions. Site specific and problem solving research proposals will be evaluated by a technical committee selected for funding. Only short term projects of 1 to 2 year duration will be encouraged. The research and development projects will be taken up during the year 2007-2008 at a cost of Rs.5 lakhs.

2.5.4 ECO-CITY PROGRAMME FOR COURTALLAM

The eco-city concept is comprehensive and holistic in nature covering all aspects of environment including land use planning in order to make cities economically vibrant, socially equitable and environmentally supportive. In this direction the first task is to translate this conceptional framework into "Environmental Management Plan" (EMP). This will lead to preparation of implementable, time bound action plan in respect of developing towns into cities. Courtallam, a tourist

town, attracting large number of visitors, experiences environmental pressure leading to deterioration of sanitation and hygiene. For the year 2007-2008, it is proposed to prepare EMP for this tourist town at a cost of Rs.10.00 lakhs for sustainable environmental management so that a project can be posed to Government of India for funding.

2.5.5 ECO-FRIENDLY DEMONSTRATION ACTIVITIES

The waste generation has exceeded all acceptable limits and threaten to endanger the quality of our lives. In order to create awareness among public 8700, NGC / Eco-clubs in educational institutions have been formed in all the 30 districts. Eco-friendly demonstration activities to control pollution at source will be carried out through this network at a cost of Rs.3 lakhs during the year 2007-2008.

2.5.6 RESTORATION OF URBAN WATER BODIES

Tamil Nadu is bestowed with a number of surface water bodies distributed in the entire State. The water bodies perform numerous valuable environmental functions such as recycling of nutrients, water purification, recharge of ground water and meeting the drinking water and irrigation needs of the people. Rapid population increase and unplanned development has led to pollution of water by residential / agricultural / commercial / industrial waste and effluents. The water bodies help capture rain water, which would otherwise

simply flow away. Water bodies help in checking floods. Water bodies serve as feeding and breeding grounds for many birds and act as refuge for a variety of aquatic flora and fauna. The importance of water bodies for mitigating climate too needs no emphasis. Even as they play a major hydrological, biological and ecological role, the water bodies also provide an aesthetic appeal. There is an urgent need for restoration of water bodies. A detailed project report has been prepared for the restoration of Palkeni in Pallavaram. It is proposed to implement the scheme at a cost of Rs.10 lakhs during the year 2007-2008.

2.6 SCHEMES IMPLEMENTED WITH GOVERNMENT OF INDIA ASSISTANCE

2.6.1 NATIONAL GREEN CORPS (NGC)

In order to strengthen environmental consciousness among students, a National Green Corps has been launched in 7500 schools located in 30 districts @ 250 schools per district. The Government of India have released a grant of Rs.2500/- per school every year. Training is being given to master trainers and teacher coordinators of each district. State level steering committee and district level monitoring committees have been formed to monitor the implementation of this programme. This ongoing scheme will be continued

during this year also. Nearly three lakh children are participating in this awareness movement.

2.6.2 ENVIRONMENTAL INFORMATION SYSTEM (ENVIS)

The Environmental Information System sponsored by the Government of India is being implemented to provide information about the state of environment of Tamil Nadu through a web based information system. Newsletters, online chat, online quiz and training are some of the activities covered under ENVIS.

2.6.3 STATE OF ENVIRONMENT (SOE)

The preparation of a State of Environment Report was undertaken at a cost of Rs.12.50 lakhs with the financial assistance from the Government of India and the report was released in 2006. Preparation of a State of Environment atlas, State of Environment photo/video catalogues, and an interactive website are now under preparation.

2.7 SCHEME TO BE IMPLEMENTED DURING 2007-2008 WITH WORLD BANK ASSISTANCE

2.7.1 DEMARCATION OF HIGH TIDE LINE (HTL) ALONG THE COAST OF TAMIL NADU FROM PALAR RIVER MOUTH TO THENGAPATTINAM IN KANYAKUMARI DISTRICT

The Department of Environment has already completed the high tide line demarcation from Pulicat lake to Palar river mouth. Demarcation of high tide line for the remaining stretch of the coastline including tidal influenced water bodies will be undertaken and the high tide line reference points will be superimposed on coastal regulation zone maps on a scale of 1:25000 and also on the village cadastral maps (with survey numbers) on a scale of 1:5000 at a cost of Rs.2.23 crores. This work is being undertaken by Institute of Remote Sensing, Anna University, Chennai.

2.7.2 ERECTION OF STONE PILLARS ON HIGH TIDE LINE (HTL) REFERENCE POINTS

In order to facilitate the coastal community to identify the high tide line on ground, high tide line stone pillars will be fixed along the coast wherever necessary at a cost of Rs.1 crore.

2.7.3 PREPARATION OF INTEGRATED COASTAL ZONE MANAGEMENT PLAN (ICZMP)

To minimize the conflicts of interest between various competing activities, an appropriate management plan rationally integrating the activities of all the stakeholders will be essential. In order to achieve economic prosperity without sacrificing ecological security, an Integrated Coastal Zone Management Plan will be prepared for the coastline of Tamil Nadu at a cost of Rs.2.50 crores.

2.7.4 PREPARATION OF COASTAL VULNERABILITY MAPS

The setback lines in the coastal areas will be determined based on the vulnerability of the coast to natural and manmade hazards. For this purpose seven parameters will be taken into account viz., elevation, geology, geomorphology, sea level trends, horizontal shore line displacement (erosion / accretion), tidal ranges and wave heights. The preparation of these Coastal Vulnerability Maps will be undertaken at cost of Rs.2.00 crores.

2.7.5 BIOREMEDIATION OF SELECTED WATER BODIES

In order to improve the fish catch and the surface water quality, a detailed study is required to identify coastal water bodies that are polluted and to take up suitable measures for abatement of pollution in them through bioremediation. Bioremediation of selected water bodies will be undertaken.

2.7.6 CAPACITY BUILDING AND AWARENESS CREATION

The concepts of Integrated Coastal Zone Management Plan and mapping of coastal vulnerable areas are relatively new. It is important to develop awareness about these among various stakeholders. Therefore, suitable training modules developed for various stakeholders will be disseminated to create awareness among the coastal communities and public. Training programmes will be conducted at different levels and awareness programmes for better understanding of these concepts by the Coastal community and all stakeholders. The local academicians and non government organisations will be involved in conducting workshops / seminars / street plays / exhibitions etc.

2.7.7 FORMATION OF ONE TECHNICAL CELL AT CHENNAI AND TWO PROJECT CO-ORDINATION UNITS AT NAGAPATTINAM AND THOOTHUKUDI

In order to facilitate the smooth progress of the projects and for better co-ordination between the consultants and Government Departments, one technical cell at Chennai and two project co-ordination units at Nagapattinam and Thoothukudi have been set up.

3. TAMIL NADU POLLUTION CONTROL BOARD

INTRODUCTION

The Tamil Nadu Pollution Control Board was set up for the purpose of exercising the powers and for performing the functions under the Water (Prevention and Control of Pollution) Act 1974. The Board enforces the provisions of the Water (Prevention and Control of Pollution) Act, 1974, as amended in 1978 and 1988, the Water (Prevention and Control of Pollution) Cess Act 1977, as amended in 1991, the Air (Prevention and Control of Pollution) Act, 1981, as amended in 1987 and the rules made under the Environment (Protection) Act, 1986 to prevent, control and abate pollution and for protection of the environment.

3.1 ORGANISATIONAL SET UP

The head office is located at Chennai and there are 25 district offices for close monitoring and effective implementation of the pollution control legislations. The details of the location of the District offices and their Jurisdictions are as given below:

| SI. No | Location | Jurisdiction |
|--------|---|------------------------|
| 1 | Joint Chief Environmental Engineer, Madurai | Sivagangai and Madurai |
| 2 | Joint Chief Environmental Engineer, Salem | Salem |

| SI. No | Location | Jurisdiction |
|--------|---|--|
| 3 | District Environmental Engineer, Chennai | Chennai |
| 4 | District Environmental Engineer, Tiruvellore (Ambattur) | Tiruvellore District |
| 5 | District Environmental Engineer, Kanchipuram (Tambaram) | Kanchipuram District |
| 6 | District Environmental Engineer Virudhunagar | Virudhunagar and Ramnad |
| 7 | District Environmental Engineer, Karur | Karur |
| 8 | District Environmental Engineer, Namakkal | Namakkal |
| 9 | District Environmental Engineer, Tiruchirappalli | Tiruchirappalli and Perambalur |
| 10 | District Environmental Engineer, Tirunelveli | Tirunelveli |
| 11 | District Environmental Engineer, Tiruppur | Coimbatore (Avinasi, Palladam and Tiruppur Taluks) |
| 12 | District Environmental Engineer, Tuticorin | Tuticorin |
| 13 | District Environmental Engineer, Vaniyambadi | Vellore(Vaniyambadi, Tiruppathur, Katpadi Taluks) |

| Sl. No | Location | Jurisdiction |
|--------|---|--|
| 14 | District Environmental Engineer, Vellore | Vellore (Arcot, Walajah and Arakkonam Taluks) and Thiruvannamalai |
| 15 | District Environmental Engineer, Coimbatore | Coimbatore (Mettupalayam, Pollachi, Udumalaipet & Valparai Taluks) |
| 16 | District Environmental Engineer, Cuddalore | Cuddalore |
| 17 | District Environmental Engineer, Dindigul | Dindigul and Theni |
| 18 | District Environmental Engineer, Erode | Erode |
| 19 | District Environmental Engineer, Hosur | Krishnagiri and Dharmapuri |
| 20 | District Environmental Engineer, Pudukottai | Pudukottai |
| 21 | Assistant Environmental Engineer, Udhagamandalam, | The Nilgiris |
| 22 | Assistant Environmental Engineer, Thanjavur | Thanjavur |
| 23 | Assistant Environmental Engineer, Villupuram | Villupuram |

| Sl. No | Location | Jurisdiction |
|--------|--|----------------------------|
| 24 | Assistant Environmental Engineer, Nagapattinam | Nagapattinam and Tiruvarur |
| 25 | Assistant Environmental Engineer, Nagercoil | Kanniyakumari |

Tamil Nadu Pollution Control Board has also established 3 Advanced Environmental Laboratories, 10 District Environmental Laboratories and 1 Mobile Environmental Laboratory.

3.2. MONITORING OF INDUSTRIES AND ISSUE OF CONSENT

The Tamil Nadu Pollution Control Board is monitoring industrial activities for prevention and abatement of pollution through periodical inspections and analysis of samples. The Tamil Nadu Pollution Control Board has granted 7058 and 6986 consent orders for establishing industries under Water and Air Acts, respectively. The Board has also issued 26,050 and 23,197 consent orders for operating the industry under Water and Air Acts, respectively.

The industries are classified as Red, Orange and Green depending on the level of pollution expected to be caused by them. The Red category includes the most polluting industries and the Green category the least polluting

industries. Continuous emphasis is given to compliance of pollution control norms by the industries. By closely monitoring the functioning of pollution control systems, renewal of consent is given on time to those industries, which comply with the pollution control norms. Timely issue and renewal of consent has encouraged the industries to adopt stricter compliance to pollution control conditions as prescribed in the consent order.

3.3 COMMON EFFLUENT TREATMENT PLANTS

The Tamil Nadu Pollution Control Board plays an important role in the establishment of Common Effluent Treatment Plants (CETPs) for clusters of small-scale industries in various parts of the State. The Board assists the units in mobilization of financial resources and in the technical scrutiny of proposals for the common effluent treatment plants.

Common effluent treatment plants have been formulated in the following sectors:

| Sectors | Number of CETPs |
|----------------------------------|-----------------|
| Tanneries | 25 schemes |
| Textile Bleaching & Dyeing Units | 36 schemes |
| Hotels & Lodges | 1 scheme |

Out of 62 Common Effluent Treatment Plants formulated, 15 Common Effluent Treatment Plants for tanneries, 18 Common Effluent Treatment Plants for textile dyeing units and 1 Common Effluent Treatment Plant for hotels and lodges are in operation. 10 Common Effluent Treatment Plants for tanneries and 18 Common Effluent Treatment Plants for textile dyeing units are under various stages of implementation. The Government of Tamil Nadu has sanctioned Rs.26.88 crores towards subsidy for 48 common effluent treatment plants and of this, Rs.25.82 crores has been released so far.

3.4 AIR QUALITY MONITORING

The quality of the ambient air is affected by emissions from industries and from the ever-increasing vehicular population. As per the provision of Air (Prevention and Control of Pollution) Act, 1981, the entire State of Tamilnadu has been declared as an air pollution control area.

3.4.1 AMBIENT AIR QUALITY MONITORING PROGRAMME AT CHENNAI CITY

Under National Air Quality Monitoring Programme (NAMP) three ambient air quality monitoring stations are functioning on 24 hours basis, at Kattiwalkkam, Manali and Thiruvotriyur twice a week. The samples collected from National Air Quality Monitoring Programme stations are

analysed for the Total Suspended Particulate Matter (TSPM), Respirable Suspended Particulate Matter (RSPM-particles less than 10 microns) and gaseous pollutants such as Sulphur-di-oxide (SO₂) and Oxides of Nitrogen (NO_x).

Under Chennai Ambient Air Quality Monitoring (CAAQM) programme, Tamil Nadu Pollution Control Board is operating five monitoring stations at Adayar, Anna Nagar, Kilpauk, Thyagaraya Nagar and Vallalar Nagar on 24 hours basis twice a week. The pollutants measured in these stations are Sulphur-di-oxide (SO₂), Oxides of Nitrogen (NO_x), Respirable Suspended Particulate Matter (RSPM) and Total suspended Particulate Matter (TSPM).

3.4.2. VEHICULAR EMISSION MONITORING IN CHENNAI CITY

The Tamil Nadu Pollution Control Board has been carrying out the vehicle emission monitoring for goods carriages in and around Chennai city. This is done in three locations in Chennai. 31,326 vehicles have been tested during the year 2006-2007. Pollution Under Control (PUC) certificates are issued to only those vehicles which comply with the emission standards.

Tamilnadu Pollution Control Board has jointly established with Metropolitan Transport Corporation (MTC), six computerized emission testing centres at Metropolitan

Transport Corporation fitness certificate depots, namely Alandur, Adyar, Annanagar, Vadapalani, Ayanavaram and Tondiarpet to test exclusively Metropolitan Transport Corporation buses for issuing Pollution Under Control Certificates (PUC). In addition, 97 private agencies have been authorized by the Transport Department in Chennai urban agglomeration areas to check the emission levels for two wheelers, three wheelers and four wheelers other than goods carriages.

3.5. WATER QUALITY MONITORING

The Tamilnadu Pollution Control Board has been monitoring inland water quality under two major programmes namely Monitoring of Indian National Aquatic Resources (MINARS) and Global Environmental Monitoring System (GEMS). Under MINARS programme the rivers Tamiraparani (7 Stations), Palar (1 Station) and Vaigai (1 Station) and Udthagamandalam, Kodaikanal and Yercaud lakes are being monitored. Under GEMS and MINARS programmes the river Cauvery is being monitored at 20 locations. The programmes are funded by the Central Pollution Control Board (CPCB), New Delhi. The Tamilnadu Pollution Control Board is also monitoring the Chennai city water ways with the technical support of Anna University.

3.6 MANAGEMENT OF HAZARDOUS WASTES AND CHEMICALS

The Tamil Nadu Pollution Control Board is taking effective steps for safe handling of hazardous chemicals and for management and treatment and disposal of hazardous wastes in an environmentally safe manner. The Board has identified 2610 units generating hazardous wastes under the Hazardous Wastes (Management and Handling) Rules, 1989 as amended in 2000 and 2003 and approved their operations with conditions.

A site has been identified at SIPCOT Industrial Estate, Gummidipoondi for establishing a Common Hazardous Waste Treatment Storage and Disposal Facility and this was also notified by the Government. However, work could not be commenced immediately thereafter since a writ petition was filed and a stay order obtained. The stay order has been vacated and work has commenced from the second week of March 2007.

Besides, the Federations of Common Effluent Treatment Plants, Tiruppur and Karur have identified a site in Tiruppur taluk, Coimbatore District and in Krishnarayapuram Taluk, Karur district for establishing Common Hazardous Waste Treatment Storage and Disposal facilities. These sites

have been notified for establishing common hazardous waste treatment and disposal facilities.

3.7 MANAGEMENT OF BIOMEDICAL WASTES

Government of India have notified the Biomedical Waste (Management and Handling) Rules, 1998 as amended in 2000 under Environment (Protection) Act, 1986. There are 317 Government Hospitals and 2479 private hospitals in the State which are covered under this notification.

As per the notification biomedical wastes are to be segregated and disposed in an approved manner through a biomedical waste treatment and disposal facility.

So far, 11 sites have been identified for the private sector health care units to establish the biomedical waste treatment and disposal facility in the State. They are listed below:

- | | |
|---------------------|-----------------------|
| 1. Thenmelpakkam - | Kancheepuram District |
| 2. Chennakuppam - | Kancheepuram District |
| 3. Orattukuppai-1 - | Coimbatore District |
| 4. Sengipatti - | Thanjavur District |
| 5. Kandipedu - | Vellore District |
| 6. Thangayur - | Salem district |
| 7. Coonoor - | Nilgiris District |
| 8. Muthuvayal - | Ramanathapuram Dist. |

- 9. Undurumikidakulam Virudhunagar District
- 10.Orattukuppai-2 - Coimbatore District
- 11.Pappankulam - Tirunelveli District

All the above facility have been issued with authorization by the Board. Out of the above, the facilities at the first 9 locations are under operation. The remaining two facilities will be commissioned shortly.

The hospitals that join the common facilities are also being issued authorization by the Board. So far, Board has issued authorization to 1431 hospitals.

3.8 MANAGEMENT OF MUNICIPAL SOLID WASTES

Government of India have notified the Municipal Solid Wastes (Management & Handling) Rules, 2000 for the management of municipal solid wastes. As per the said rules, the municipal authorities are responsible for the collection, transportation, treatment and disposal of the municipal solid wastes. All the Municipal authorities as well as the District Collectors who are responsible for the implementation of these rules have been instructed to identify sites away from habitations and water bodies for the composting of compostable wastes and land filling of inert wastes. The Tamil Nadu Pollution Control Board initially issues 'No

Objection Certificate' for the site selected by the local body if the site is found suitable. So far 93 municipalities have been issued 'No Objection Certificate' for the site selected by them. Out of these, 46 municipalities have been issued with authorization. Two Corporations (Tirunelveli and Coimbatore) have also been issued 'No Objection Certificate'.

3.9 MANAGEMENT OF PLASTIC WASTES

The environmental problems arising due to indiscriminate use and disposal of throwaway plastic items are well documented. As per the Plastic Manufacture and Usage (Amendment) Rules 2003, the minimum thickness of carry bag, made of virgin plastic or recycled plastic shall not be less than 20 micron. The Board has also embarked upon an intensive awareness campaign. The awareness campaign has focused on preventing the use of throwaway plastic and to encourage the use of eco friendly substitutes for plastic items. The consent to operate has been issued for 1732 plastic product manufacturing units.

3.10 OTHER ACTIVITIES OF THE BOARD

3.10.1 ENVIRONMENTAL TRAINING INSTITUTE

An Environmental Training Institute (ETI) set up with financial assistance from DANIDA, Denmark is functioning in Board's head office, Guindy, Chennai. The Environmental

Training Institute has conducted 328 training programmes and trained 14,437 participants from its inception upto 2006-2007. Programmes cover a variety of topics such as environmental management, environmental impact assessment, air pollution control, water pollution control, hazardous waste management and biomedical waste management. In 2007-2008, it is proposed to conduct 20 training programmes in which representatives of Industry, NGOs and Local bodies will participate.

3.10.2 ENVIRONMENTAL AWARENESS AND PUBLIC PARTICIPATION

An awareness cell has been established in the Board's head office, Guindy, Chennai to promote environmental awareness. Various awareness campaigns, workshops and rallies are being conducted regularly to highlight important environmental issues. Special awareness campaigns were launched against air and noise pollution during festival seasons such as Deepavali and Bhogi. Due to sustained campaigning, visible improvement in air quality and considerable reduction in noise levels were recorded during this year's Bhogi and Deepavali, when compared to the previous year. About 89 awareness programmes were conducted by the awareness team of Tamil Nadu Pollution Control Board, during the year.

3.10.3 CLEANER TECHNOLOGIES

The Tamil Nadu Pollution Control Board is involved in promoting a holistic approach of environment protection by cleaner technological options for industry rather than mere end of pipe treatment. With active support and encouragement from the Board, industrial units in Tamil Nadu have switched over to cleaner technologies in a phased manner.

3.10.4 GREEN COVER PROGRAMME

As a measure of pollution check, industries have been directed to develop 25% of their land area as a green belt with trees having a thick canopy cover. Accordingly, industries have taken action to plant adequate number of trees in and around industrial premises.

3.10.5 ENVIRONMENTAL ATLAS

The Tamil Nadu Pollution Control Board in co-ordination with Central Pollution Control Board is implementing the Programme of Zoning Atlas on environmental features through the Geographical Information System (GIS) Cell of the Board. Initially, preparation of the Zoning Atlas was taken up for Thiruvallur and Kancheepuram Districts. Subsequently, the preparation of district wise Environmental Atlas for the districts of Coimbatore, Vellore and Thoothukudi and Environmental Management Plan for

Chennai city were taken up. The project on preparation of District Environmental Atlas for the districts of Cuddalore, Villupuram, Erode, Salem and Karur will be undertaken during the current financial year.

N.SELVARAJ
MINISTER FOR FORESTS