

Strategies for Increasing Tree Cover in the State of Kerala

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Blessed with cent percent literacy and enviable standards in health care, the Kerala State has won the synonym “Kerala Model” in development parlance. With approximately 28% land under forest cover (11221 sq.km.) as against the national average of 19% and with a population density of 819 people per sq.km, the pressure on land is very high in comparison to the other States of Country. The prospect of increasing the forest cover is therefore very difficult if not impossible. But nevertheless, the Government recently have been successful in increasing the forest areas by restoring a large extent of lands and taking them as reserve forests. An extent of 13,026 ha of land has been taken over and notified as forest under Kerala Forest (Vesting and Management of Ecologically Fragile Land) Act 2003.

To achieve the ideal target of 33.33% of land under forest & tree cover, the only alternative for the State is to increase its tree cover in non-forest areas. With this objective, the Social Forestry wing of Kerala Forest Department has embarked upon massive afforestation programmes outside the forest area with novel ideas and modalities along with maximum participation and involvement of the people. Such massive afforestation programmes launched by Social Forestry wing of the Forest Dept. since the year 2006 onwards are **Ente Maram Padhathi, Vazhiyora Thanal Padhathi, Haritha Theeram Padhathi, Nammude Maram Padhathi and Haritha Keralam Padhathi.**



Ente Maram Padhathi (My Tree Programme)

The Project ‘Ente Maram Padhathi’ is a joint programme of Department of Forests and Department of Education. The scheme is for the tree planting with involvement and participation of school children. Under this novel scheme all students from Standard V to IX all over the State participated in planting of trees and nurturing them. The main objective of Ente Maram Padhathi is to increase the tree cover outside the forest area and to inculcate love for trees and environment among the younger generation.

One seedling each was given to the children for planting in their homestead and in the places available to them and for nurturing it as their ‘own tree’. When 24.35 lakhs seedlings were planted by school children through out the State on 5th June 2007 (The World Environment Day), it became a record. This programme was implemented through school children of Standard V to IX from 6261 schools all over the State of Kerala.

A very careful choice of ethnic and native tree species have been taken up under this programme. The species are like Teak (*Tectona grandis*), Anjili (*Artocarpus hirsuta*), Jack (*Artocarpus integrifolia*), Cashew (*Anacardium occidentale*), Badam (*Terminalia catappa*), Kambakam (*Hopea parviflora*), Ashokam (*Saraca indica*),

Tamarind (*Tamarindus indica*), Kudampuli (*Garcinia gummi-gutta*), Neem (*Azadirachta indica*), Venga (*Pterocarpus marsupium*), Chembakam (*Michelia Champaca*), Spathodea (*Spathodea companulata*), Koovalam (*Aegle marmelos*), Mango (*Mangifera indica*) etc. were taken up under this scheme. The random verification of survival of the seedling showed that the success is above 80%.

During the year 2008-09 also, the Ente Maram Padhathi has been continued. The seedlings have been given to new students only who have reached the standard V this year. A total number of 977726 seedlings have been supplied during 2008-09 to the 5th standard students and certain seedlings for replacing of casualties of the last year. The number of schools involved under Ente Maram Padhathi during the year 2008-09 is 5691. Around 5 lakhs seedlings have been planted by fresh students of 5th Standard.

The enthusiasm shown by the students, and their full hearted participation and deep involvement in the programme certainly gave a positive indication that there is a huge amount of interest among the younger generation for not only planting the seedlings but also for the care of the trees and the environment in the long run. This programme has inculcated the interest and love among the school children for the trees and the environment. The parents also joined their hands with their children in successful implementation of this scheme.

Therefore the Departments of Forests and Education proposed to conduct more activities among the school children in connection with Ente Maram Padhathi to enhance their interest and enthusiasm about their love and care towards trees and the environment and to make the Ente Maram Padhathi a success. In this connection a programme named ‘Ente Maram Painting contest’ was conducted at Gramma Panchayath/ Municipality/ Corporation Level on 02.02. 2008 for providing a platform to the students of Standard V to IX in the State for creating paintings related to Ente Maram. A total number of 417 Gramma Panchayath/ Municipalities conducted the above programme.

The ‘Ente Maram Painting contest’ was again conducted on 13.12.2008. A number of 534 Grama Panchayaths, 28 Municipalities and 5 Corporations in the State conducted this painting competition. There is a provision of cash prizes in this competition at the level of every Education District



in the State and the winners will be taken for a nature camp in wildlife areas. As such, these activities keep alive and enhance the interest and enthusiasm among the students in afforestation activities.

To provide the encouragement to the Schools for their involvement in implementation of Ente Maram Padhathi, the Vanamithra Award 2008 (Rupees One lakh) of Kerala Forest Department was instituted to be conferred on the school showing best participation and involvement in the implementation of Ente Maram Padhathi. For the year 2007-08, the award was shared among the two schools.

Nammude Maram Padhathi (Our Tree Programme)

With the success of 'Ente Maram Programme' involving school children of Standard V to IX during the year 2007-08, the Govt. decided to take up further massive tree planting programme involving Plus Two and College Students during the year 2008-09. This programme is named as 'Nammude Maram Padhathi'.

The 'Nammude Maram Padhathi' has been launched on 10th June 2008. This Padhathi is being implemented in Government Colleges, Government Aided Colleges, Technical Educational Colleges, Vocational Higher Secondary Schools, Recognized Self Financing Colleges and Plus Two Higher Secondary Schools.

For this programme, necessary seedlings have been supplied to the Educational Institutions by the Social Forestry wing before June 10th 2008. The students have planted the seedlings in the college/school campuses. The planting of seedlings their maintenance and protection etc is the responsibility of those Educational Institutions, teachers and students.

During the year 2008-09 a total of 555613 nos of seedlings have been supplied to 2323 educational institutions of various categories under Nammude Maram Padhathi. This scheme is proposed to be continued during the year 2009-10.

Vazhiyora Thanal Padhathi (Programme for Shade on Roadsides)

This is a project of avenue planting, which is being implemented with the participation of head load workers belonging to various Trade Unions. About 90000 seedling have been planted during the year 2007-08. However, due to various biotic interference the success was around 48%. This year 14000 bigger size seedlings (about 4ft. height) have been planted and tree guards have been provided. The success of this year's (2008-09) avenue planting is very high and the plants are growing well.

Haritha Theeram Padhathi (Greening the Coast)

The Haritha Theeram Programme aims at the protection of the State's coastline from natural calamities like the tsunami, sea erosion, cyclonic winds etc by establishing a bio-shield of sand binding trees like *Casuarina equisetifolia* and shrubs wherever possible along the coast. It also envisages to improve the tree cover in the coastal households, meeting their demands for fuel, fodder and small timber.

The Forestry Activities, which included creation of bio-shield along the coast by raising shelterbelt plantations, farm forestry and extension activities etc are being implemented through the Theera Samrakshana Vanavalkarana Samithis (TSVS). The Theera Samrakshana Vanavalkarna Samithis (TSVS) are formed by involving all the local residents of the respective coastal ward. At least one adult member from all the families in that coastal ward is enrolled as member of TSVS. The Panchayath ward member/ ward councilor



is the Chairman of the Samithy and one Forest Official (Forest Guard/Forester) is the Secretary to this committee. The Fisheries/Revenue/Matsyafed officials as *ex-officio* member and representatives of NGO's, are the members of the TSVS.

The project was launched on 16.08.2007. Since then 106 TSVS have been formed and registered altogether in nine coastal districts during the year 2007-08 and an extent of 105 ha area in 106 coastal wards covering all the nine coastal districts has been afforested for creation of bio-shield during the year 2007-08. The species planted for creation of bio-shield is *Casuarina equisetifolia* at the espacement of 1m X 1m. The number of seedling planted in 1 ha is 10000. Besides that a number of 618130 seedlings of various species like Badam, Thespecia, Mahagony, Punna, Screw pine etc has been distributed under farm forestry to the individual households within 200m of the Bio-shield. Thus the total number of seedlings planted for bio-shield creation during 2007-2008 is 16,68,130. Further, an extent of 2.65 ha mangrove regeneration has also been done in the coastal area under this scheme during 2007-08.

During the year 2008-09, 26 new TSVS have been formed and registered and afforestation in an extent of 57.15 ha in 26 coastal wards of all the nine coastal districts has been done by planting of 571500 seedlings. An extent of 14.50 ha of mangrove regeneration in the coastal areas is also being done under this scheme during the year 2008-2009. Therefore altogether 22,39,630 seedlings have been planted in 132 coastal wards for creation of bio-shield in the coastal area under this scheme.

Haritha Keralam (Greening Kerala)

The negative factors which cause the pressure on the forests have caused the necessity of creating woodlots outside the forest areas. The woodlots are required for maintaining a congenial environment in general and for providing community goods and services in particular. Haritha Keralam Scheme is a scheme for afforestation of non-forest areas through Panchayaths.

This Scheme aims at creating woodlots in each and every Panchayath wherever suitable lands for afforestation are available. The unutilized lands in the villages, including community lands, institutional lands, roadsides, railway sides, riverbanks, areas surrounding ponds and lakes and other unutilized lands are proposed to be brought under tree cover.

It is proposed that around 1000 hectare (1 ha in each Grama Panchayath) of such non-forestland be got afforested by Gramma Panchayaths and also the seedling can be distributed for planting in individual homesteads. Thus a total of 1 Crore seedlings are to be planted during the period of two years i. e. during the year 2009 and 2010 at the rate of total of 10000 seedlings per Grama Panchayath.

Objectives

- 1) To utilize to the maximum potential of the soil for producing maximum biomass by planting suitable site-specific species.
- 2) To utilize fruitfully all available land considered to be waste
- 3) To create wood lots in and around villages and towns wherever possible for mitigating harmful effects of environmental pollution and degradation and for providing a place for the public for recreation.



- 4) To enable village level institutions to create renewable biomass resources in the fallow / degraded and wastelands available in their jurisdiction.
- 5) To use these community resources for employment generation potential by sustainable harvesting of the usufructs and scientific management, processing and value addition of the produce for realizing their worth in the market.
- 6) To improve environmental health of rural habitats by expanding green cover to unutilized lands in rural areas without limiting their land use options for the future.

Implementing Agency

The State Government of Kerala have well established three – tier Panchayath Raj System. There are 999 Grama Panchayaths, 152 Block Panchayaths and 14 District Panchayaths in State. These Panchayat Raj Institutions already have acquired sufficient expertise and technical know-how about the implementation of various developmental Schemes including afforestation programmes. The State Government is already practicing the Participatory Forest Management in the forest areas.

The seedlings are to be raised by the Panchayaths utilizing the fund under NREG Schemes. The planting and maintenance will also been done by the Panchayaths themselves. However, the Forest Department has to play a major role in the implementation of this scheme. The role of the Forest Department is as follows:

1. Providing seeds of suitable species to the Panchayaths.
2. Providing technical assistance to the Panchayaths in selection of site-specific species and imparting training to Kudumbasree personnel in raising of nurseries and planting techniques.
3. Conducting awareness campaign and publicity about Harithakeralam scheme and inviting maximum people's participation in achieving targets of the scheme.

Besides that the Forest Department. will provide seedlings of certain species like Teak (*Tectona grandis*), Ashokam (*Saraca indica*), Mahagony (*Sweetenia macrophylla*), koovalam (*Aegle marmelos*) and other species having medicinal values and other importance where raising of nurseries is technically difficult for Panchayaths. In this regard the Social Forestry wing has already taken up steps for raising around 22 lakhs seedlings to be planted by the Panchayaths during the month of June 2009 itself. Steps have already been taken for providing necessary seeds and technical assistance etc to the Panchayaths by the Forest Dept. It is also decided that the bamboo seedlings required by the Panchayaths will be provided by the State Bamboo Mission. Thus it is expected that around 40% of the target will be achieved during the year 2009 planting season itself and the balance will be done during the year 2010.



I think the climate is too important to say we are going to wait until all our economic woes are over before we act effectively. October 22, 2008

Malcolm Fraser,
former Australia Prime Minister

