

2.4. Soil and Water Conservation

Land and water are the natural resources that are essential for the existence of life. They are under tremendous stress due to the ever-increasing biotic pressure. Land degradation is mainly due to soil erosion caused by natural and man made causes such as deforestation, overgrazing, reckless mining and general mismanagement. Physical and biological deterioration of land with associated fertility depletion also occurs due to water logging, salination, alkalination, acidification etc. To help reduce the pace of degradation and accelerate the process of development and conservation of land, water and vegetation in an integrated manner - the watershed approach has been considered the most appropriate in recent times.

The Government of Tamil Nadu is engaged in the Conservation, Development and Management of the agricultural land and water resources of the state. 'Watershed Management' and 'Water Management' are the two major strategies of the state in contributing to the sustainable increase in agricultural production. With the average annual rainfall of 930.7 mm as the major source of water, in the absence of any perennial source of water and in the backdrop of having exhausted almost all irrigation potential in the State, the strategies available for sustainable water management are:

- Rain water harvesting with construction of farm ponds and check dams for ground water recharge to stabilize drinking water and irrigation wells
- Scientific use of water in Canal irrigated areas and Reduction of water loss
- Rehabilitation of Water Bodies.
- Introduction of water saving irrigation methods like Drip and Sprinkler Irrigation on a large scale
- Construction of Community Wells to promote conjunctive use of surface and ground water

I) Agricultural Engineering Department

1) World Bank aided Tamil Nadu Irrigated Agriculture Modernizations and Water Bodies Restoration and Management Project (IAMWARM)

The World Bank aided Tamil Nadu Irrigated Agriculture Modernization and Water Bodies Restoration and Management (IAMWARM) Project is being implemented in Tamil Nadu. Under this project, an amount of Rs.360 crore has been earmarked for the Agricultural Engineering Department to implement soil and water conservation works in 63 sub-basins over the entire implementation period. During 2007-08, Government have sanctioned a sum of Rs.22.44 crore to the Agricultural Engineering Department for implementation of the components such as Micro Irrigation, Farm Ponds, Water Harvesting Structures, Farm Mechanisation and PVC Pipe laying works besides information, education, communication and capacity building in 9 sub basins under this project. It is also proposed to continue this programme in 26 sub-basins during 2008-09 with a total outlay of Rs.58.80 crore. An area of 20604 ha will be covered during the year 2008-09.

2) Scheme for Water Harvesting and Run-off Management in the Watersheds of Tamil Nadu

The increased exploitation of ground water has resulted in lowering of the water table. Modern technologies are adopted to harvest rainwater for ground water recharge in the well irrigated areas. Rainwater harvesting and run-off management works on watershed basis have been organized in such a way that the moisture regime of the water is improved for increased land use. It is expected that an amount of Rs.10.19 crore is likely to be spent during 2007-08. During 2008-09, it is proposed to continue this programme with an outlay of Rs.16.58 crore. 2950 works work will be taken up during 2008-09.

3. Soil Conservation in Tribal Areas

The objective of the scheme is to improve the economic status of the tribal farmers through integrated development of tribal areas in Jawadhu hills (Vellore and Tiruvannamalai district), Kalrayan hills (Salem and Villupuram districts), Shevaroy hills (Salem district), Sitheri hills (Dharmapuri district), Kolli hills (Namakkal district) and Pachamalai (Trichy district). Soil conservation measures such as land levelling, construction of contour rubble bunds with vegetative hedges and check dams are taken up in tribal areas with 100% assistance from the Government. This provides employment to the local people and also helps them to bring the treated areas under cultivation. During 2007-08, Government have sanctioned a sum of Rs.1.34 crore towards implementation of this programme. During 2008-09, it is proposed to implement this programme with an outlay of Rs.1.42 crore to cover an area of 720 ha.

4. Hill Area Development Programme

The objective of the scheme is to restore and maintain the ecology of The Nilgiris District through integrated watershed development approach. The Nilgiris district has been delineated into 75 watersheds. Among these watersheds, highly degraded watersheds are taken up for treatment. Soil conservation works are being taken up in these watersheds. Besides soil conservation works, landslide preventive measures are also taken up. During 2007-08, the Government have sanctioned a sum of Rs.3.61 crore towards implementation of this programme. During 2008-09, it is proposed to continue this programme in The Nilgiris district with an outlay of Rs. 3.92 crore to cover an area of 320 ha.

5. Western Ghat Development Programme

Soil and water conservation on watershed basis is taken up in the Western Ghat areas covering the districts of Coimbatore, Erode, Dindigul, Theni, Madurai, Virudhunagar, Tirunelveli and Kanyakumari. During 2007-08, Government have sanctioned a sum of

Rs. 5.61 crore towards implementation of this programme in the above eight districts. During 2008-09, it is proposed to continue this programme at a total cost of Rs. 4.83 crore to cover an area of 1500 ha.

Soil and water conservation in the catchments of River Valley Project (Schemes shared between Centre and State (90:10) under Macro Management Mode)

With a view to reduce siltation of the reservoirs, various soil conservation measures are taken up in the interstate River Valley Catchments of Tamil Nadu. The soil conservation works are taken up on a watershed basis in the Very High and High priority watersheds identified by the All India Soil and land Use Survey Organisation (AISLUS) and approved by the Government of India. Government have sanctioned a sum of Rs.12.50 crore out of which the State share is Rs.1.25 crore, towards implementation of soil and water conservation works in South Pennaiyar and Mettur River valley Catchments in Vellore, Tiruvannamalai, Dharmapuri, Krishnagiri and Salem districts to cover 10144 hectares during 2007-08. During 2008-09, it is proposed to continue the programme in South Pennaiyar and Mettur River valley catchments to cover an area of 10,000 ha.

**II) Horticulture Department
Precision Farming**

The Tamil Nadu Precision Farming project is being implemented in Vellore, Erode, Madurai, Theni, Tirunelveli, Kancheepuram and Thiruvallur districts involving 90% subsidy for which an amount of Rs.9.93 crore was sanctioned during 2005-06. The scheme has been implemented during 2007-08 also. Under this scheme, annual fruits, vegetables and flowers will be cultivated in an area of 735 ha adopting precision farming techniques. During the year 2008-09, the programme will be expanded to other districts.

III) Tamil Nadu Watershed Development Agency

1. Distribution of 2 acres of Government Wasteland each to Land less Agricultural Labourer Families

The Government of Tamil Nadu has launched a massive programme called “Distribution of 2 acres of Government Poramboke Wasteland each to the land less poor Agricultural labourer families at free of cost” from the year 2006-07. The major objective of the scheme is to identify the government wasteland and develop those lands for profitable and sustainable agricultural operation and distribute the land to landless agricultural labourer families.

The lands to be covered under this scheme are categorised into 3 types:

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| Category I | Government Poramboke wastelands without any encroachment; |
| Category II | Government Poramboke wastelands under encroachment by the small and marginal farmers; |
| Category III | Private waste lands of small and marginal farmers; |

The scheme contemplates that

About 1,91,320 acres will be reclaimed and made worthy of cultivation and in turn, will be distributed to landless poor agriculture families not exceeding 2 acres per family.

69,217 acres of Government Poramboke lands under occupation by small and marginal farmers will be regularized. If required, these lands will also be upgraded for sustainable cultivation.

In respect of 6,84,411 acres of wastelands owned by small and marginal farmers, land development works will be carried out if the land owners volunteer to come forward to form clusters for taking such assistance.

The implementation of this programme has commenced during 2006-07. As on 31.3.2007, 9.45 lakh acres of land were identified for distribution and around 1.01 lakh acres were distributed to the poor benefiting around 91,576.

2. Watershed Project under Watershed Development Fund

The Watershed Development Fund in Tamil Nadu has been created to treat 100 watershed projects at a cost of Rs.60 crore. The scheme is being operated for a period of 6 years from 2004-05. The scheme will be continued with a major objective to spread the message of Participatory Watershed Development Fund with an active participation of all the stakeholders.

3. National Watershed Development Programme for Rainfed areas (NWDPR)

Restructured NWDPR is implemented in 23 districts of Tamilnadu except Thanjavur, Nagappattinam, Tiruvarur and Kanyakumari. This scheme is implemented in 763 watershed areas having less than 30% assured means of irrigation in arable lands and having slope less than 8%. In Tamil Nadu 15898 micro watersheds have been identified and nearly 4324 watersheds have been taken up for treatment under various watershed development programmes. The minimum area for a watershed is 500 ha. The unit cost is Rs.4500/- per ha. Under natural resource management, component structures like check dams, farm ponds, percolation ponds, sunken ponds, water absorption trenches have been formed and agronomic practices like field bunding with grass seeding, disc ploughing, land leveling, desilting of channels have been carried out in a phased manner. An amount of Rs.42.44 crore is expected to be spent during 2007-08 and an amount of Rs.53.69 crore is proposed for 2008-09.

Plan Outlay for 2008-09

An amount of Rs.143.04 crore is approved for Soil and Water Conservation for the year 2008-09. Of this, an amount of Rs.1.42 crore is earmarked for Scheduled Caste Sub Plan (SCSP).