

## CHAPTER - VIII

### TAMIL NADU WATERSHED DEVELOPMENT AGENCY (TAWDEVA)

Tamil Nadu Watershed Development Agency (TAWDEVA) was established in 2002 and registered under Society Registration Act 1975 with Head quarters at Chennai. This agency is functioning under the administrative control of Government in Agriculture Department and an independent and autonomous authority vested with full executive and financial powers. The primary objective is to develop the wasteland programmes, and subsequently the watershed development programmes like National Watershed Development Project for Rainfed Areas (NWDPR), Watershed Development Fund (WDF) and Integrated Watershed Management Programme (IWMP) funded by various Ministries are implemented by this agency. In addition, during 2010-11 Western Ghats Development Programme (WGDP) will also be implemented in 3 districts viz., Theni, Dindigul and Madurai on Watershed approach basis.

TAWDEVA is the Nodal Agency as well as implementing agency of National Agricultural Development Programme (NADP) and also functions as a Nodal Agency for various State / Central schemes such as NADP, National Food Security Mission (NFSM), Agriculture Technology Management Agency (ATMA), AGRISNET and National Project on Management of Soil Health & Fertility.

#### 1. Distribution of Government Wasteland to Landless Poor Agricultural Labour Families

The Government has announced this massive scheme during 2006-07 and is being implemented till date. The lands covered under this scheme are categorized into 3 types :

- Category I : Government wastelands without any encroachment.
- Category II : Government wastelands under encroachment by small and marginal farmers.
- Category III : Private patta waste lands of small and marginal farmers.

#### Objectives of the Scheme:

- I. Identification of wastelands and developing these lands for profitable and sustainable agricultural operation by undertaking land development wherever required and issue of patta to landless poor agricultural labour families.
- II. Wherever contiguous blocks of 10 acre and above of category I and II lands exist, and if ground water is available, then, efforts are taken to develop them into horticulture clusters by undertaking land development, creating irrigation sources, free energisation, establishing micro irrigation system and by planting quality horticultural seedlings.
- III. Wherever the private patta wastelands along with punjai lands are available in a cluster of 50 acre and above, such lands are taken up for cluster development, if the small and marginal farmers come forward for joint management. If ground water is

available, then, land development, source of irrigation, free energisation and micro irrigation system are provided for developing **Horticultural / Agriculture** crops through cluster mode.

In 10 acre and above and 50 acre and above clusters, Lift Irrigation Societies are formed by the beneficiaries for joint development and management of common infrastructure that is created. In case, the ground water is not available, depending upon the preference Bio-mass tree species and fodder crops are planted and given to the farmers.

### **Achievements**

#### **a. Land Development:**

After the identification of wasteland by the Revenue Department, wherever the land development is required, it is undertaken by Agricultural Engineering Department. Out of 53,440 acre requiring land development, so far 53,363 acre have been developed benefiting 32961 farmers. For irrigation and ground water recharge, the farm ponds are created of the size of 15 X3X1.5 cu.m. and, 15X6X1.5 cu.m. at the rate of Rs.2,750/-, Rs.4,650/- per pond respectively. In total, 16,471 farm ponds have been completed under this programme.

### **Physical**

**(Extent in acres)**

Phase	Extent distributed	Number of beneficiaries	Reclamation needed	Reclamation done
Ist phase (17.9.06)	25,282	24,358	11,122	11,122
IInd phase (17.12.06)	25,806	26,749	8,078	8,078
IIIrd phase (17.3.07)	26,029	20,648	5,490	5,490
IVth phase (17.6.07)	24,506	19,821	6,763	6,763
Vth Phase (17.9.07)	32,066	24,932	6,547	6,547
VIth Phase (29.12.07)	26,982	21,487	5,411	5,411
VIIth Phase (17.3.08)	18,040	18,979	2,925	2,925
VIIIth Phase (17.6.08)	12,901	4,355	1,136	1,126
IXth Phase (17.9.08)	16,493	11,948	1,711	1,644
Xth Phase (17.11.08)	2,394	1,664	-	-
upto 15.1.2010	1,008	2,415		
Outsourcing	-	-	4,257	4,257
<b>Grand Total</b>	<b>2,11,507</b>	<b>1,77,356</b>	<b>53,440</b>	<b>53,363</b>

**b. Development of land parcels of 10 acre and above:**

Under the development of land parcels of 10 acre and above in category I and II, 120 clusters with an extent of 2253.78 acres out of 143 over an extent of 2656.92 acres with an expenditure of Rs.609.72 lakhs have been developed by planting of horticulture crops. In the remaining 23 clusters, development activities in an extent of 403.14 acres are under progress.

About 2,000 farmers belonging to these clusters have been trained regarding planting technology, micro irrigation, Integrated Nutrient Management and maintenance of common infrastructures that have been created under cluster development.

**c. Development of Horticulture crops in private patta wastelands along with punjai lands in a cluster of 50 acre and above.**

The Government have sanctioned the scheme of development of clusters in the patta wasteland and dry lands of 50.00 ac. and above lands of small and marginal farmers by providing common infrastructures like borewell, micro irrigation, planting of high income generating horticulture crops. Wherever ground water is not available, bio-mass tree crops are being planted.

So far 47 clusters covering an extent of 2627.23 acres benefitting 1620 beneficiaries have been taken up for development by planting horticulture / bio-mass crops with Rs.623.97 lakhs. Out of this, 10 clusters covering an extent of 552.20 acres with an expenditure of Rs.140.25 lakhs covering 296 beneficiaries have been developed. In the remaining 37 clusters having an extent of 2075.03 acres with an expenditure of Rs.483.72 lakhs, covering 1324 beneficiaries are taken up in which 6 are bio-mass clusters and 31 clusters are Horticulture crop clusters.

**d. Development of Agriculture crops in private patta wastelands along with punjai lands in a cluster of 50 acre and above.**

The Government have sanctioned the scheme during the year 2009-10 for the development of agriculture crops in patta wasteland and dry lands in an extent of 50.00 acres and above lands of small and marginal farmers by providing common infrastructures like borewell, micro irrigation, planting of high income generating agriculture crops.

**Area of Operation:**

The scheme is implemented in all districts except Chennai and Nilgiris.

**Financial achievement:**

An expenditure of Rs.2711.98 lakhs has been incurred towards the development of waste lands.

It is proposed to implement the above programmes during 2010-11 also for the benefit of poor landless agricultural labourers and small / marginal farmers in this State to improve the income and status of agricultural labourers and small /marginal farmers.

**2. National Watershed Development Project for Rainfed Areas (NWDPR)**

National Watershed Development Project for Rainfed Areas (NWDPR) is being implemented in Tamilnadu from VIII Five Year Plan (1990 – 91) onwards. The project is shared between Centre and State on 90:10 basis.

**OBJECTIVES:**

- ❖ Conservation, development and sustainable management of natural resources including their use.
- ❖ Enhancement of Agricultural productivity and production in a sustainable manner.
- ❖ Restoration of ecological balance in the degraded and fragile rainfed eco-systems by greening these areas through appropriate mix of trees, shrubs and grasses.
- ❖ Reduction in regional disparity between irrigated and rainfed areas.
- ❖ Creation of sustained employment opportunities for the rural community including the landless.

The scheme is implemented under the Chairmanship of the Collector through DWDA at District level and through Watershed committees/Associations at Village level. Under X Plan NWDPR, an area of 2,90,338 ha was developed with an outlay of Rs.130.65 crores covering 755 watersheds in 23 districts.

During XI Plan NWDPR, it is proposed to treat an area of 117700 Ha covering 200 watersheds in 18 districts at an estimated cost of Rs. 70.59 crores.

During 2010-11, it is proposed to treat 35000 Ha with an outlay of Rs.21.00 crores.

**3. Watershed Development Fund assisted by NABARD**

Watershed Development Fund in Tamil Nadu has been created to treat 100 watershed projects at a cost of Rs.60 Crores with the assistance of National Bank for Agriculture and Rural Development (NABARD). The scheme has been in operation since 2004-05 and the duration of the scheme is six years.

**Objective of the scheme:**

1. To spread the message of participatory Watershed Development.
2. Involvement of Government, NGOs/Voluntary organization in implementation.
3. Constitution of Watershed Associations & watershed committees to develop the watersheds, based on the local needs.

**Components of Watershed Development Fund:**

As per new Guidelines being made operational since 21.11.2007

1. Capacity Building Phase of Watershed Development Fund is 100% grant component being released by National Bank for Agriculture and Rural Development (NABARD).
2. For the development of watersheds during Full implementation phase funds are provided by NABARD to the State Government on 50% loan and the rest on grant basis. Hence the no. of projects has been increased from 100 to 150.
3. Interest rate is 4.5%
4. Repayment period 9 years (3 years after availing Loan)

**Project period:**

1.	Capacity Building Phase (CBP) (50 to 100 Ha. to be covered)	18 months
2.	Preparation of feasibility study report (FSR)	6 months.
3.	Full implementation Phase (FIP)	3 years
	<b>Total period</b>	<b>5 years</b>

**Area of Implementation:**

At present the programme is being implemented in the following 24 Districts in the State.

Coimbatore, Cuddalore, Dharmapuri, Dindigul, Kancheepuram, Karur, Krishnagiri, Madurai, Namakkal, Perambalur, Ariyalur, Pudukottai, Ramnad, Salem, Sivaganga, Theni, Thoothukudi, Tirunelveli, Tiruvallur, Tiruvannamalai, Trichy, Vellore, Villupuram and Virudhunagar.

Apart from the regular watersheds that are being approved by the State Steering Committee there are 5 PPID projects (Pilot Project for Integrated Development of Backward Blocks) in 5 Districts namely Ramnad, Dindigul, Thoothukudi, Trichy and Nagapattinam which is being completely funded by NABARD.

**Allotment of fund for different component which would be effective for new Full Implementation projects from 2009-10.**

Unit cost per Ha.		Rs. 12,000.00
Physical treatment	70%	Rs. 8,400.00
Administrative overheads	10%	Rs. 1,200.00
Livelihood support for Landless Farmer & Women	7.5%	Rs. 900.00
Community Organisation & Training programme	12.5%	Rs. 1,500.00

**Project Implementation:**

During 2004-05 and 2005-06, 100 watersheds were selected by the State Steering Committee.

In the first 2 years period of the project, Capacity Building Phase is done during the first 18 months and Feasibility Study Report is done in the next 6 months with the assistance from NABARD.

From the third year the project is handed over to TAWDEVA by NABARD to carry out works in the Full Implementation Phase.

During the year 2010-11, treatment works would be taken up in the current 38 Full Implementation Projects to treat an area of 4166 ha with a financial commitment of Rs.500.00 Lakhs.

**4. National Agricultural Development Programme - Rashtriya Krishi Vikas Yojana**

The National Agricultural Development Programme has been launched to achieve 4% annual growth rate in agricultural sector. The objective of the scheme is to promote participation of farmers in cluster mode in agriculture, reducing yield gap in key crops through focused interventions, maximize returns to the farmers and bringing quantifiable changes in the production and productivity of agriculture and allied sectors. The pattern of funding is 100% grant by the Government of India. Under the programme, Agriculture, Animal Husbandry, Milk Production, Fisheries Development and Irrigation Development schemes are being implemented.

As a part of National Agricultural Development Programme, TamilNadu Watershed Development Agency has been sanctioned funds for implementing the following projects:-

**(i) Development of land parcels of 50 acres & above in patta dry lands**

Land parcels of 50 acres and above in dry lands (punjai lands) would be taken up for development of Horticulture clusters if ground water is available, otherwise Bio-mass clusters would be taken up depending on the preference of the beneficiaries.

During 2007-08 out of the targeted 35 clusters upto February 2010, 35 clusters have been taken up for development by sanctioning an amount of Rs.430.53 lakhs, benefiting 1187 small and marginal farmers over an extent of 1,972 acres have been developed.

During 2008-09 the scheme was implemented in 9 districts of Erode, Vellore, Tiruvannamalai, Tiruchi, Cuddalore, Sivagangai, Virudunagar, Theni & Tirunelveli and proposed to cover 27 clusters, with an allocation of Rs.364.78 lakhs. So far, 14 clusters covering an extent of 810 ac have been taken up for development by sanctioning an amount of Rs.175.00 lakhs, benefiting 422 small and marginal farmers.

**5. Integrated Watershed Management Programme (IWMP)**

The watershed Development Programmes under IWMP 2009-10 is being implemented in 24 districts from 2009-10 onwards. The share of the Central and State funding pattern is 90:10. It is proposed to treat an area of 249524 ha. with a total project fund of Rs.299.432 crores

over a project period of 5 - 7 years. The area proposed to be treated will be covered in 544 watersheds.

**Objectives.**

- ❖ Balanced use of Natural Resources and Livelihood by Watershed approach and efficient watershed management by mobilizing social capital.
- ❖ Restoring ecological balance by harnessing, conserving and developing national resources.
- ❖ Resource development usage will be planned to promote farming and allied activities and to promote local livelihood and to ensure resource conservation and regeneration.
- ❖ Creating sustainable water resources and to have sustainable source of income for the rural community by conserving water in watershed areas by following multi tier approach.
- ❖ Utilizing the information technology and remote sensing inputs in planning, monitoring and evaluation of programme.
- ❖ Promoting overall development in rural areas.

The action is being taken for establishment of State Level Data Cell (SLDC) and Watershed Cell cum Data Centre (WCDC).

For the implementation of the IWMP over a period of 5-7 years, out of the 90% Government of India's share, 6% share amount of Rs.1,616.90 lakhs has been received during Oct.'2009. In the 50 projects sanctioned during 2009-10, the preparatory phase activities like base line survey, Participatory Rural Appraisal, Entry Point Activities are being implemented. During 2010-11, 50 New projects are will be taken up.

## 6. DROUGHT PRONE AREAS PROGRAMME (DPAP)

Major part of Tamil Nadu falls under semi-arid tropical zone with erratic rainfall. To minimize the adverse effects of drought on the production of Crops, Productivity of land, water and human resources, the Drought Prone Areas Programme is being implemented in some districts of Tamil Nadu from 1972-73 and presently in 80 notified blocks of 17 districts identified by the Government of India as drought prone areas. Efforts are on to mitigate the adverse effects of drought conditions in these areas by this programme.

### List of blocks wherein the programme is under implementation

Sl. No.	Districts	Blocks
1	Coimbatore	Annur, Avinashi, Palladam, Tirupur, Sulur
2	Dharmapuri	Morapur, Nallampalli, Dharmapuri, Palacode, Pennagaram, Karimangalam
3	Dindigul	Athoor, Natham, Kodaikanal,
4	Karur	Aravakurichi, K. Paramathi
5	Krishnagiri	Bargur, Hosur, Kelamangalam, Shoolagiri, Thalli, Uthangarai, Veppanapalli, Mathur
6	Namakkal	Mallachamudram, Elachipalayam, Puduchathiram
7	Perambalur	Andimadam, Ariyalur, Sendurai, Veppur, Alathur, Jayamkondan
8	Pudukkottai	Gandarvakottai, Karambakudi, Pudukkottai, Thiruvarankulam

9	Ramanathapuram	Bogalur, Kadaladi, Kamuthi, Mandapam, Mudukulathur, Paramakudi, Thirupullani
10	Salem	Nangavalli, Mecheri, Konganapuram, M.D. Choultry, Kadayampatti
11	Sivagangai	Devakottai, Ilayangudi, Kalayarkoil, Kallal, Kannangudi, Singampuneri, S. Pudur
12	Thoothukudi	Kayathar, Kovilpatti, Ottapidaram, Pudur, Sathankulam, Thoothukudi, Udangudi, Vilathikulam
13	Tiruchirappalli	Thuraiyur
14	Tirunelveli	Kuruvikulam
15	Tiruvannamalai	Cheyar
16	Vellore	Vellore, Kaniyambadi, Thimiri, Katpadi, Alangayam, Kanthili
17	Viruthunagar	Kariapatti, Narikudi, Sattur, Sivakasi, Vembakottai, Virudhunagar, Aruppukottai

Over the years, the objectives of the programme and the mode of implementation have undergone modifications from infrastructure creation and employment generation to rainwater harvesting and overall economic development through water-based activities. On the operational side, implementation has shifted from line departments to Village Panchayats wherein the user groups have identified the works and execute the works through village panchayats as per Hariyali Guidelines. Watershed approach with peoples'

participation is given importance to tackle the problems of desertification. The Government of India and State Government share the expenditure for a watershed project with 500 hectares in the ratio of 75:25. The duration of the project is five years from the year it was sanctioned and the unit cost per hectare is Rs.6000/-. The cost of the works undertaken under this programme is entirely met from project fund. However contributions are collected from beneficiaries at 10%. In respect of community works and SC/ST, the contribution amount is 5% of the value the work. These funds are deposited in a separate account maintained in the watershed and it will be utilized for the maintenance of the assets created under these programme after exit.

The works taken up under the Drought Prone Areas Programme are of a special nature and involve a variety of activities such as:-

- Land Development : Land Leveling, Contour Bunding, Silt Application, Stone Bunding, Retaining Wall, Summer Ploughing, Vegetative Bunding and Continuous trenching.
- Water Resources Development : Cattle Pond, Farm Pond, Formation of Oorani, Desilting of Tanks, Formation of Supply Channel and desilting, Check Dams, Percolation Pond and Development of Drinking Water Resources.
- Plantation Activities : Agro Forestry, Horticulture Plantation, Fodder Development, Crop Demonstration, Community Nursery, Social Forestry and Homestead Garden.

Under Drought Prone Areas Programme, watersheds are sanctioned by Government of India in batches. From 1999-2000 to 2006-07 the Government of India have sanctioned 1222 watersheds in 7 batches at a total project cost of Rs.33,670.00 lakhs, for treating a total area of 6,14,142 Ha. The Government of India and State Government have released Rs.27,155.80 lakhs. Of which Rs.25,586.52 lakhs have been spent by the District Rural Development Agency of 17 districts and a total area of 4,76,422 Ha have been treated. The details of ongoing 1222 watersheds are given below.

**(Rs. in Lakhs)**

No. of Ongoing Watersheds	1222
Projects cost	33,670.00
Government of India	25,252.50
Government of Tamil Nadu	8,417.50
Amount Released	27,155.80
Government of India	20,407.59
Government of Tamil Nadu	6,748.21
Expenditure	25,586.52 (94%)
Area Treated (Hect)	4,76,422 (78%)

During the financial year of 2009-2010, the Government of India have released Rs.1,215.132 lakhs and the State Government have released its share of Rs.582.981 lakhs under DPAP and the programme is being implemented.



## 7. INTEGRATED WASTELAND DEVELOPMENT PROGRAMME

Integrated Wasteland Development Programme aims at tackling the non-forest wasteland in non-DPAP blocks. The basic theme of the programme is to harvest the rainwater and to bring the degraded lands into productive use. Unlike DPAP programme, flexibility is given to tackle the non-forest wastelands on a project based approach. This programme is being implemented in 96 blocks of 24 districts as detailed below:

### List of blocks wherein the programme under implementation

Sl. No.	Districts	Blocks
1	Coimbatore	Pongalur , Periyanaickenpalayam, Sarkar Samakulam, Pollachi (North), Kinathukidavu (I, II), Madhukarai
2	Cuddalore	Cuddalore, .Panruti , Mangalur
3	Dharmapuri	Harur(I, II & III), Pappireddipatti
4	Dindigul	Vedasandhur, Vathalagundu, Vadamadurai, Dindigul, Gujiliamparai
5	Erode	Moovalur, Thalavadi, Anthiyur, Perundururai, Sathyamanglam
6	Kancheepuram	Kancheepuram, Walajahbad, Mathuranthagam
7	Karur	Kadavur, Thogamalai, Krishnarayapuram(I,II)
8	Krishnagiri	Krishnagiri (I & II), Kaveripattinam
9	Madurai	Alanganallur, Melur, Chellampatti, Usilampatti, Kallikudi

Sl. No.	Districts	Blocks
10	Namakkal	Sendamangalem, Kolli Hills, Namagiripettai, Pallipalayam, Rasipuram
11	Perambalur	Perambalur, Ariyalur, Sendurai, T. Pazhur Thirumanur, , Veppantheitai (I & II)
12	Pudukkottai	Aranthangi, Avudaiyarkoil, Tirumayam
13	Ramanathapuram	Nainarkoil, R.S. Managalam (I & II)
14	Salem	Sangagiri , .Veerapandy, .Panamaruthupatti, Valapadi, Pedhanaickanpalayam
15	Sivagangai	Sivaganga, Manamadurai , Thiruppuvanam, Sakkottai
16	Theni	Periyakulam, Bodinayakanur
17	Thoothukudi	Srivaikundam, Alwarthirunagar (I & II), Tiruchendur, Karungulam
18	Tiruchirappalli	Thathayangarpettai, Uppiliyapuram, Manachanallur , Musiri Pullambadi, Marungapuri, Vaiyampatti
19	Tirunelveli	Nanguneri (I & II), Kalakkadu
20	Tiruvallur	Poondi, Pallipattu, R. K. Pet, Tiruvalangadu
21	Tiruvannamalai	Vambakkam, Kalasapakkam, Thandarampattu, Puduppalayam
22	Vellore	Wallajah , Sholinghur, .Natrampalli, Jolarpet
23	Villupuram	Vanur, Marakanam, Gingee, Melmalayanur
24	Viruthunagar	Vembakottai, Sivakasi, Virudhunagar, Rajapalayam, Srivilliputhur, Thiruchuli

This programme has been under implementation since 1993-94. From 1<sup>st</sup> April 1995, the programme has also been brought under the purview of the Common Guidelines like Drought Prone Area Programme, presently it is governed by Hariyali Guidelines. As per Hariyali Guidelines the User Groups have identified the works and execute the works through village panchayat. The duration of the project is five years from the year it was sanctioned. The unit cost per hectare is Rs.6000/-. The cost of the works undertaken under this programme are entirely met from project fund. However contributions are collected from beneficiaries at 10%. In respect of community work and SC/ST, the contribution amount is 5% of the value of the work. These funds are deposited in a separate account maintained in the watershed and it will be utilized for the maintenance of the assets created under these programme after exit. The expenditure is shared between Central and State Government in the ratio of 11:1

The works taken up under the Integrated Wasteland Development Programme are of a special nature and involve a variety of activities such as:-

Land Development	:	Land Leveling, Contour Bunding, Silt Application, Stone Bunding, Retaining Wall, Summer Ploughing, Vegetative Bunding and Continuous trenching.
Water Resources Development	:	Cattle Pond, Farm Pond, Formation of Orrani, Desilting of Tanks, Formation of Supply Channel and Desilting, Check Dams, Percolation Pond and Development of Drinking Water Resources.
Plantation Activities	:	Agro Forestry, Horticulture Plantation, Fodder Development, Crop Demonstration, Community Nursery, Social Forestry and Home Stead Garden.

Under Integrated Wasteland Development Programme, watersheds are sanctioned by Government of India in projects. From 1999-2000 to 2006-07 the Government of India have sanctioned 910 watersheds in 80 projects at a total cost of Rs.26,220.39 lakhs, for treating a total area of 4,57,596 Ha. The Government of India and State Government have released Rs.20,760.92 lakhs. Of which Rs.19,353.28 lakhs have been spent by the District Rural Development Agency of 24 districts and a total area of 3,35,745 Ha have been treated. The details of ongoing 80 projects are given below.

**(Rs. in Lakhs)**

No. of Ongoing Projects	80
Projects cost	26,220.39
Government of India	24,241.43
Government of Tamil Nadu	1,978.96
Amount Released	20,760.92
Government of India	19,249.14
Government of Tamil Nadu	1,511.78
Expenditure	19,353.28 (93%)
Area Treated (Hect)	3,35,745 (73%)

During the financial year of 2009-2010 the Government of India have released Rs.720.808 lakhs and the State Government have released its share of Rs.107.067 lakhs under IWDP and the programme is being implemented.