

8. TAMIL NADU WATERSHED DEVELOPMENT AGENCY (TAWDEVA)

National economy, sustainable food security and agro based industries are dependent on agriculture. Agriculture growth is mainly dependent on tapping the water resources. In the recent days, the agricultural lands have slowly been converted for non-agricultural purposes or turned into wastelands due to scarcity of water resources. The twin objectives of water conservation and prevention of soil erosion which are fundamental to agriculture sector are realized through various programmes of Tamil Nadu Watershed Development Agency (TAWDEVA).

Tamil Nadu Watershed Development Agency (TAWDEVA) established in 2002, is implementing various watershed development programmes as follows:

- Drought Prone Areas Programme (DPAP)
- Integrated Wasteland Development Programme (IWDP)
- National Watershed Development Project for Rainfed Areas (NWDPR)
- Watershed Development Fund (WDF)
- Integrated Watershed Management Programme (IWMP)

TAWDEVA is the Nodal Agency for various State / Central schemes such as

- National Agriculture Development Programme (NADP)
- National Food Security Mission (NFSM)
- Agriculture Technology Management Agency (ATMA)

- Agriculture Resource Information Systems and Networking (AGRISNET)
- National Project on Management of Soil Health & Fertility

In addition, Western Ghats Development Programme (WGDP) is being implemented from 2010-2011 in 3 districts viz., Theni, Dindigul and Madurai on Watershed basis.

Though all the above Watershed Development programmes share the common objectives of soil and water conservation, afforestation and enhancement of agricultural productivity, there is a subtle difference between these programmes. Drought Prone Areas Programme and Integrated Wasteland Development Programme are early programmes (started in the year 1972 and 1993 respectively) funded by Ministry of Rural Development, Government of India. National Watershed Development Project for Rainfed Areas (NWDPA) is funded by Ministry of Agriculture and Co-operation. Watershed Development Fund is assisted by, NABARD 50% as grant and balance 50% as Loan.

1. Drought Prone Areas Programme (DPAP)

Major part of TamilNadu 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, Drought Prone Areas Programme is being implemented in some districts of TamilNadu from 1972-73 and presently in 80 notified blocks of 17 districts identified by Government of India as drought prone areas. Efforts are on to mitigate the adverse effects of drought conditions in these areas.

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 ₹ 33,670 lakhs for treating a total area of 6.141 lakh Ha. The Government of India and State Government have released ₹ 30,658 lakhs of which ₹ 29,211 lakhs have been spent by the District Rural Development Agency and District Watershed Development Agency of 17 districts and a total area of 5.385 lakh Ha have been treated. After 2006-07, there was no fresh projects sanctioned by Government of India.

During 2011-12, Government of India have released ₹ 806 lakhs and State Government have released its share of ₹ 248 lakhs under DPAP and the programme is being implemented. In 2011-12, ₹ 1525.90 lakhs has been spent for treating an area of 0.254 lakh Ha. During 2012-13, the balance area of 0.756 lakh Ha. will be treated. The Government of India have decided to complete the funding of projects before December 2012. List of blocks wherein this programme is under implementation is given in Table.

2. Integrated Wasteland Development Programme (IWDP)

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.

Under Integrated Wasteland Development Programme, watersheds are sanctioned by Government of India in projects. From 1999-2000 to 2006-07, Government of India have sanctioned 910 watersheds in 80 projects at a total cost of ₹ 26,220 lakhs for treating a total area of 4.576 lakh Ha. The Government of India and State Government have released ₹23,199 lakhs, of which ₹22,037 lakhs have been spent by District Rural Development Agency and District Watershed Development Agency in 24 districts and a total area of 3.781 lakh Ha have been treated. After 2006-07, there was no fresh projects sanctioned by Government of India.

During 2011-12, Government of India have released ₹ 455 lakhs and the State Government have released its share of ₹ 29 lakhs under IWDP and the programme is being implemented. In 2011-12, ₹ 981 lakhs has been spent for treating an area of 0.163 lakh Ha. During 2012-13, the balance area of 0.795 lakh Ha. will be treated. Government of India have decided to complete the funding of projects before December 2012. The list of blocks is given in Table.

3. National Watershed Development Project for Rainfed Areas (NWDPR):

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

Under this programme, it was proposed to treat an area of 1.156 lakh Ha covering 200 watersheds in 18 districts at an estimated cost of ₹ 6,936 lakhs over the period of 5 years. An amount of ₹ 2,857 lakhs was released from 2007-08 to 2010-11 to develop an area of 0.476 lakh Ha. In 2011-12, ₹ 231 lakhs has been released

and 0.038 lakh Ha is being treated. During 2012-13, 0.166 lakh Ha. is proposed to be treated at a cost of ₹ 999 lakhs. List of blocks wherein this programme is under implementation is given in Table.

The action plan for the ongoing Drought Prone Areas Programme and Integrated Wasteland Development Programme and National Watershed Development Project for Rainfed Areas have been prepared already and the programmes are at completion stage. The Integrated Watershed Management Programme (IWMP) by Integrating DPAP, IWDP & NWDPR schemes, is being implemented from 2009-2010.

4. Integrated Watershed Management Programme (IWMP)

The Integrated Watershed Management Programme is being implemented in 1632 watersheds of 24 districts from 2009-10 onwards for a project period of 7 years. The share of the Central and State funding pattern is 90:10. Government of India have sanctioned for the year 2009-10, 2010-11 and 2011-12 to treat an area of 8.421 lakh Ha with a project cost of ₹ 1,01,057 lakhs over a project period of 7 years. So far, ₹ 10,237 lakhs have been released by the Centre and State and an expenditure of ₹ 4,369 lakhs has been incurred towards preliminary activities and an area of 0.353 lakh Ha has been treated.

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, to promote local livelihood, 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 the programmes.
- ❖ Promoting overall development in rural areas.

State Level Data Cell (SLDC) in TAWDEVA and Watershed Cell cum Data Centre (WCDC) at district level in DWDA were established.

For the implementation of 50 projects of IWMP 2009-10, over a period of 4 -7 years, Government of India and State share 20% amount of ₹ 5,617 lakhs and ₹ 624 lakhs respectively has been released so far under this project. The preparatory phase activities like base line survey, Participatory Rural Appraisal, Entry Point Activities and Detailed Project Report preparation were completed and the project development works are under progress.

Government of India have sanctioned 62 projects in 2010-11 and 56 projects in 2011-12, and 6% of Government of India and State share amount of ₹ 3,996 lakhs were released to carry out preliminary activities. List of blocks

wherein this programme is under implementation is given in Table.

Details of various watershed programmes being implemented by TAWDEVA

Sl. No	Details	DPAP	IWDP	NWDPRA	WDF	IWMP
1	Share between Centre and State	75:25	11:1	90:10	50 % State 50% NABARD	90:10
2	No. of districts covered	17	24	18	24	24
3	No. of blocks covered	80	96	45	78	128
4	Sanctioned projects	7	80	200	155	168
5	No. of watersheds	1222	910	200	155	1632
6	Area to be treated in lakh Ha.	6.141	4.576	1.156	1.729	8.421
7	Area actually treated in lakh Ha.	5.385	3.781	0.476	0.261	0.353
8	Project duration	5 years	5 years	5 years	6 years	4 -7 years
9	Per unit cost ₹ / Ha	6000	6000	6000	12000	12000
10	Contribution by beneficiary General	10%	10%	10%	16% Labour Contribution	10%
	SC/ST & Common Land	5%	5%	5%		5%

Guidelines for implementation of Schemes

The above programmes are implemented with participatory mode throughout the project period (5 - 7 years). The Action plan is being prepared by the Village Panchayat / Watershed Committee approved by the District Collector and implemented as per the Guidelines of Government of India and the directions of the State Government.

Programme Implementation:

The Watershed Committee of that watershed should select the required Development works and after getting the approval of the Grama Sabha and Administrative sanction from the District Collector / Chairman, DWDA implements the works through the User Groups of the village.

The watershed committee consists of 10 members in which 5 numbers are nominated each from User Group, Self Help Group, SC / ST, Landless women, one Watershed Development Team Member. The Grama Shaba can select or elect this Committee Chairman. The Secretary will be nominated by the committee. This committee has to be registered as per Tamil Nadu Registration Act 1975.

The following activities are taken up under the Integrated Watershed Management Programme, Drought Prone Areas Programme, Integrated Wasteland Development Programme and National Watershed Development Project for Rainfed Areas Programme:-

Entry Point Activities

For getting the confidence of the villagers about the programme and participation in the implementation of the programme, the Entry Point Activities such as Augmentation of drinking water, maintaining natural resources, ground

water recharge, drying yard and thrashing floor construction, small and minor bridges construction will be taken up.

Institutional and Capacity Building

5% of total project cost is allotted for the Institutional and capacity building and training for various levels of stake holders like State / District level officers, Project Implementing Agency, Watershed Development Team Members, Watershed Committee Members, Self Help Group Members, User Group Members, Watershed Secretaries and Watershed Farmers.

Development Activities:

The following development activities are carried out in private land.

a. Land Development

Activities such as land leveling, contour bunding, silt application, stone bunding, retaining wall, summer ploughing, vegetative bunding and continuous trenching will be taken up.

b. Water Resources Development:

Activities such as farm pond, desilting of tanks and percolation ponds will be done.

c. Plantation Activities:

Under this category, agro forestry, horticulture plantation, fodder development, crop demonstration and homestead garden will be taken up.

d. Common Property Development:

The development activities carried out in common land are check dam, cattle pond, supply channels, desilting of ooranis, desilting of tanks and ponds, community nursery and agro forestry.

Farm Production System and Micro Enterprises

For this component, 10% funds has been allocated and the grant will be provided for the activity to the individual or group to the maximum of ₹ 24,000/- for undertaking activities such as value addition in agriculture and horticulture produce, seed production and processing, vermi compost, mushroom cultivation, dairy farming and poultry, brick making, terracotta and pottery making, custom hiring of farm implements, palm crafts, agarbathi making, mat weaving and event management.

Self Help Group and Livelihood interventions for Landless Farmers

Landless farmers, Self Help Group and User Group are formed in the watershed area. Revolving funds are given to the Self Help Groups for taking up the activities like planting, watering, watch & ward of plantations and other assets, community nurseries, fodder development, fodder banking, storage godown, seed processing, groundnut shelling unit, custom hiring of harvester, draught animals, dairy farming management, live stock and backyard poultry and Emu & Japan Quails or other activities carried out by the Groups in the watershed areas. The revolving fund has to be repaid without interest for making payment of revolving fund to other Groups in rotation.

5. Watershed Development Fund (WDF) assisted by NABARD:

Watershed Development Fund in Tamil Nadu has been created to treat 100 watershed projects at a cost of ₹ 6,000 lakhs with the assistance of National Bank for Agriculture and Rural Development (NABARD). The scheme is in operation since 2004-05.

Objectives:

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.
3. Interest rate is 4.5%.
4. Repayment period 9 years (3 years after availing Loan)

Project period:

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|---|----------------|
| 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) | 4 years |
| Total period | 6 years |

Area of Implementation:

At present, the programme is being implemented in 24 Districts viz Coimbatore, Cuddalore, Dharmapuri, Dindigul, Kancheepuram, Karur, Krishnagiri, Madurai, Namakkal, Perambalur, Ariyalur, Pudukottai, Ramanathapuram, Salem, Sivaganga, Theni, Thoothukudi, Tirunelveli, Tiruvallur, Tiruvannamalai, Tiruchy, Vellore, Villupuram and Virudhunagar. List of blocks wherein this programme is under implementation is given in Table.

Apart from the regular watersheds that are being approved by the State Steering Committee, there are 10 PPID projects (Pilot Project for Integrated Development of Backward Blocks) in 5 Districts namely Ramanathapuram, Dindigul, Thoothukudi, Tiruchy and Nagapattinam which is fully 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.		₹ 12,000.00
Physical treatment	70%	₹ 8,400.00
Administrative overheads	10%	₹ 1,200.00
Livelihood support for landless farmer & women	7.5%	₹ 900.00
Community Organisation & Training programme	12.5%	₹ 1,500.00

Project Implementation:

In the first 2 years period of the project, capacity building is done during the first 18 months and feasibility study 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.

Presently under NABARD grant assistance, 10 projects and loan assistance for 145 projects have been taken up, of which 79 projects are in full implementation funded through TAWDEVA. Upto 2010-11, a total area of 0.200 lakh ha. has been treated at a cost of ₹ 1,265 lakhs. During 2011-12 an area of 0.061 lakh ha. has been treated at a cost of ₹ 368 lakhs. For the forth coming years in 2012-13 and 2013-14, an area of 0.076 lakh ha. would be treated at a cost of ₹ 441 lakhs.

6. National Agriculture Development Programme (NADP)

The National Agriculture Development Programme has been launched to achieve 4% annual growth rate in agricultural sector. The scheme is implemented in the State as Additional Central Assistance from Government of India, since 2007.

TamilNadu Watershed Development Agency is the Nodal Agency for National Agriculture Development Programme.

Objectives:

- ❖ To promote participation of farmers in cluster mode in agriculture.
- ❖ To provide flexibility in the process of planning.
- ❖ To ensure that the local needs / crops / priorities are reflected in the agricultural plan.
- ❖ Reducing yield gap in key crops through focused interventions.
- ❖ Maximize returns to the farmers.
- ❖ Bringing quantifiable changes in the production and productivity of agriculture and allied sectors.

Under this programme, schemes of Agriculture, Horticulture, Agricultural Engineering, Tamil Nadu Agricultural University, Seed Certification, Agricultural Marketing, Animal Husbandry, Dairy Development & Milk Production, Fisheries, Tamil Nadu Veterinary & Animal Sciences University, Tamil Nadu Civil Supplies Corporation, Department of Co-operatives and Public Works Department (Irrigation), are being implemented.

The State Level Sanctioning Committee (SLSC) has been constituted to sanction, monitor and review the implementation of NADP in the State. The State Level Sanctioning Committee (SLSC) is headed by the Chief Secretary to Government as Chairman, Agricultural Production Commissioner and Secretary to Government as Vice Chairman & Member Secretary. Various department Secretaries to Government, Commissioner's of Agriculture & Horticulture, Director's of Animal Husbandry & Fisheries, Vice Chancellor's of Tamil Nadu Agricultural University & Tamil Nadu Veterinary & Animal Sciences University, Member Secretary, State Planning Commission are the members of State Level Sanctioning Committee (SLSC) with Government of India representatives from Department of

Agriculture & Co-operation, Department of Animal Husbandry, Dairying & Fisheries.

Every year, project proposals received from agriculture and allied departments based on Government of India allocation are placed before State Level Sanctioning Committee (SLSC), for discussion and approval. State Government issues Government order for the SLSC approved projects and the funds are released to the implementing departments accordingly.

Year wise Government of India release and Expenditure details

(₹ in lakhs)

Sl. No.	Year	GOI Release	Expenditure
1	2007-08	15360	18312*
2	2008-09	14038	14475*
3	2009-10	12790	12790
4	2010-11	25003	17315
5	2011-12	33306	14190
	Total	100497	77082

* The excess expenditure over and above GOI release against the fund sanctioned in State Level Sanctioning Committee (SLSC) is met out from the State fund.

7. Revised Comprehensive Wasteland Development Programme (RCWP) Distribution of Government Wastelands to Landless poor Agricultural Labour Families.

So far 2,12,965 acres of Government wastelands have been distributed to 1,78,994 farmers and a sum of ₹ 2,717 lakhs has been incurred as expenditure towards reclamation of wasteland, development of cluster and creation of farm pond covering an extent of 53,818 acres which needed reclamation under this scheme.

The scheme is implemented from the year 2006-07 in all districts except Chennai and Nilgiris. As and when the Revenue Department assigns the lands to the landless poor, reclamation work for those lands will be taken up under this programme.

Cluster Development:

Objectives:

- I. Wherever land with contiguous blocks of 10 acres and above exist with sufficient ground water, efforts are taken to develop them.
- II. Wherever the private patta wastelands along with punjai lands are available in a cluster of 50 acres and above with sufficient ground water, such lands are taken up for cluster development. 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.

Project Implementation

a. Development of land parcels of 10 acres and above:

Under the development of land parcels of 10 acres and above 130 clusters have been completed and 5 clusters are in progress to the total extent of 2,526.16 acres with an expenditure of ₹ 547 lakhs for developing horticulture crops and bio-mass. The 5 cluster works would be completed during 2012-13.

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

In this cluster development, 21 clusters have been completed and 18 clusters are under progress to the extent of 2,188.25 acres with an expenditure of ₹ 244 lakhs for developing horticulture crops and bio-mass. The 18 cluster works would be completed during 2012-13.

c. Development of Agriculture crops in private patta wastelands along with punjai lands in a cluster of 50 acres and above.

From 2009-10 onwards 7 clusters are in progress to the extent of 410.56 acres with an expenditure of ₹ 39 lakhs for developing agriculture crops. All the 7 cluster works would be completed during 2012-13.

New Initiative

Based on the soil and water conservation structures created through various watershed programmes, it has been proposed to develop crop specific clusters on need basis in the watershed areas and integrating all schemes implemented by Agriculture and allied departments to uplift the village level economy and encourage sustainable

livelihood. This will be achieved through a new scheme to be commenced from this year.

XII Five Year Plan objective

The total geographical area of Tamil Nadu State has been delineated into 18,568 micro watersheds covering an area of 130.27 lakh ha. The treatable micro watersheds in the state is 11,116 Nos. covering an area of 60.85 lakh ha. Out of the treatable micro watersheds, so far 7216 Nos. of watersheds were covered in an area of 38.73 lakh ha under various Ministries of Government of India with the sharing of State Government. It is proposed to include remaining watersheds to be treated in the XII Five Year Plan period.

Geo Informatics System

At TAWDEVA, as per the common guidelines, a State Level Data Centre (SLDC) with core GIS facilities with spatial and non-spatial data have been established and augmented with satellite imagery data and Global Positioning System. This is an important step towards efficient management and scientific planning of watersheds. The key areas of GIS functionality at SLDC includes:

- ❖ Polygon marking of watershed boundaries: This exercise makes it possible to avoid overlapping of watersheds.
- ❖ Monitoring of project activities: The execution of developmental works in the watersheds are monitored consistently to evaluate through satellite Remote Sensing Images and Global Positioning System.
- ❖ Web based information sharing for watershed planning: Various important thematic maps vital for watershed planning and archived systematically at SLDC. These will be made available through Internet for the benefit of District Watershed Development Agencies, other line departments and common public.