

**National Mission for  
Sustainable Agriculture  
(NMSA)**

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# NATIONAL MISSION FOR SUSTAINABLE AGRICULTURE (NMSA)

## Rainfed Area Component (RAD)- 2017-18

### 1. Introduction

In Andhra Pradesh, nearly 57% net sown area is under rainfed agriculture. The area is drought prone which is characterized by inadequate and erratic rainfall coupled with high evapo-transpiration rate and eroded soils. Considering these facts, it is very important for our State to concentrate on development of rainfed area to utilize the natural resources optimally in sustainable manner so as to provide livelihood and economic stability to farmers.

Rainfed agriculture is risk prone activity, mainly due to its dependence on climatic situations and recent extreme climate change events are creating panic situation to the farmers. To minimize the risks of aberrant climate, it is necessary to provide agriculture based income generating opportunities and sustaining the rainfed agriculture through optimum utilization of natural resources and resources created through various interventions.

Government of India had introduced National mission for Sustainable Agriculture in 2014-15. Under this mission, Rainfed Area Development component is being taken up in convergence with other schemes to promote Integrated farming system and to provide Value added developmental activities to the rainfed farmers to improve their economic status, inspite of the failure of crop due to insufficient rains or drought.

### 2. Implementation Strategy:

The following strategy shall be followed for the year 2017-18. The financial pattern for implementation of RAD programme shall be shared at 60:40 between Central and State Government.

#### 2.1 Adoption of cluster based approach :

A Cluster shall be of minimum 100 Ha rainfed area the cluster area shall be demarcated preferably from one or two villages. Nearly 100 clusters are proposed for the year 2017-18 and Detailed Project Report (DPR) will be prepared in the districts. A specific cluster may have a predominant acceptance for a particular integrated farming system. It is a fact that complete coverage of a particular farming system in a cluster is not feasible, yet considering the social and cultural similarity there will be a predominance of a particular integrated farming system in a specific cluster. Depending on the largest coverage under particular type of IFS, the cluster may be considered as the development model for that IFS. The annual action plan is arrived in such a way.

Capacity building amongst the Farmers shall be taken up and be informed about the advantages of the integrated farming systems, value added development activities that can be taken up to save the crops through efficient use of water in the cluster are and applications shall be collected from them based on their requirement and the assistance required from the cluster shall be worked out through detailed project report.

## 2.2 Cluster Selection Criteria :

- a) Clusters will be selected in convergence with area identified for development of Natural farming, NFSM and NMOOP, as they promote the cropping system and take steps to bring down the cost of cultivation through latest trends in agriculture and help to produce chemicals free food produce. The cropping system segment will be availed from those schemes and resources of NMSA will be utilised for other income generating interventions like horticulture, Livestock, Agro Forestry, silvipasture etc.,
- b) It is watershed plus programme, therefore villages where most of the watershed area treatments are completed or being treated under IWMP or other watershed development programmes will be selected.
- c) Villages in which assured means of perennial irrigation are not available.
- d) Villages having potential for development of farming systems and positive response of farmers.

## 2.3 Prioritization of Activity:

- 2.3.1) Number of watershed management programmes including IWMP are being implemented in the state. Most of the insitu soil and water conservation activities like, Contour Bunding, Graded Bunding, Gully plugging, Nala Bunds, Terracing, Contour Trenching etc are now done on subsidy under Watershed programmes.
- 2.3.2) Resource conservation technologies like deep ploughing using chisel plough, Trenches on the boundaries of the field for smooth flow of surface runoff into farmponds, broad bed bunds and furrows, shall be taken up in fields for soil conservation . Planting of agro forest species and horticultural species shall also be taken up along the bunds. The activities like water harvesting structures, i.e., farm ponds to hold excess surface runoff water, shall be allowed to be excavated by the individual farmers in their fields, or it shall be got done through convergence with MNREGS programme.
- 2.3.3) Under Integrated Farming System, Horticulture, livestock/ dairy based farming system and fisheries based farming system, silvipasture, Cropping systems.
- 2.3.4) Water is crucial input for crop production and also for bringing diversification in cropping systems. Therefore, more emphasis is given on the conveyance of water through usage of water carrying pipes, convergence with drip and sprinkler systems, green house for raising of nurseries for future plantations in watersheds and creation of post harvest and storage facilities.
- 2.3.5) To enhance the water use efficiency under RAD, efforts will be made to bring at least 25% of the cropped area under micro irrigation. i.e. drip and sprinklers through convergence with On Farm Water Management component of the NMSA. It will also help for crop diversification and increasing the cropping intensity. This shall be implemented with funds allocated to AP Micro Irrigation section of Commissioner of Horticulture.

## 2.4. Implementation Mechanism :

Department of Agriculture, Government of Andhra Pradesh will implement RAD. To oversee the planning and implementation of the components of RAD, Commissioner of Agriculture will plan, monitor and supervise all the components. SLC will monitor NMSA components at State level.

District Annual Action Plan prepared at district level will be sanctioned by District Mission Committee (DMC) headed by District Collector. DMC will guide and monitor implementation of all activities under RAD in the district.

At sub division level Agriculture Officer, Assistant director of Agriculture, Deputy Director of Agriculture will coordinate and supervise the activities in the field. At cluster level Agriculture Officer will prepare the Detailed Project Report of the selected clusters with the help of field functionaries and farmers and submit to approval of DMC.

Guidelines of implementation of the RAD Programme:

RAD Component is not a input distribution programme. Assistance should not be given for the supply of Agri. inputs alone, but the assistance(as per limitation of guidelines) should be to total IFS production costs incurred and be released, as communicated by GOI through NMSA guidelines to be allowed/ followed.

### Process:

The action plan shall be approved by the District Collector.

- Step 1:** The farmer/beneficiary in the identified cluster has to give application to AO, that he/she shall undertake the specific IFS with details of different operations and costs to be incurred. If it is a Value added item, Livestock component, the details of the Non subsidy paid by beneficiary should be collected in the application. Indent shall be placed by ADA (SC) on behalf of the beneficiaries, intimating the terms and conditions for supply and shall receive the stock and distribute to the beneficiaries and shall recommend for release of subsidy portion through DDA (SC), directly favoring the supplying firm with intimation to beneficiary.
- Step 2:** These should be verified by ADA (SC) as per the as per the rates communicated. Irrigation charges if any may also be considered to work out the total estimated cost for the IFS. This has to be approved by ADA (SC).
- Step 3:** The beneficiary has to incur all/some the costs which shall be monitored by AO (SC), ADA (SC) during the crop production period. The copy of bills for the inputs purchased and consumed and the contribution by the beneficiary in the form of works receipt, are to be given to AO, ADA (SC) for records by the beneficiary. All the works (IFS activities) taken up should be recorded in M. Book/ Register for each and every beneficiary by the AO (SC). The voucher should be prepared for the works under taken for all the activities. ADA (SC) should check measure 50% of the works in the cluster village, 25% check measurement is to be done by DDA(SC) in the cluster and 5% by JDA of the district.

- Step 4:** With the recommendations of AO (SC), ADA (SC) has to issue the sanction proceedings to allow the release of assistance to the beneficiary after conducting the check measurement. Documentation in the form of photograph is mandatory. Cost benefit ratio is to be worked out for each farmer who avails assistance under RAD. The activity should be demarcated on digitized map (Bhuvan) for transparency by AO (SC). This should be communicated to HO by ADA (SC).
- Step 5:** The DDA (SC) has to verify and attest the recommendations of ADA (SC) based on the MB recordings submitted by the ADA (SC) before release of payment to the beneficiary bank account.
- Step 6:** Funds which are in the PD Account of JDA/ADA (SC) Accounts should be transferred online to the Bank account which is linked to Aadhar account of the beneficiary.
- Step 7:** The same should also be communicated category wise (SCSP, TSP, BC, Gen, and number of Women, Male), to o/o Directorate of Agriculture, month wise.
- Step 8:** The beneficiaries list shall be displayed on the notice board of the Gram Panchayat with intimation to Sarpanch and to the local Public representatives.

### **3. Benefits of the Programme:**

- I) Approximately 9000 ha area will be covered under Rainfed Area Development.
- II) Approximately 15,000 farmers will get benefitted.
- III) Water Harvesting and Management activities will provide stability to farming systems and ensure water use efficiency.
- IV) Increase in cropping intensity by 15 to 18% in project area.
- V) Cluster based approach will create noticeable impact that helps in the adoption of new technology by farmers and attitudinal change about rainfed Agriculture.
- VI) Increases the additional income from Rs 18000-24000/ acre.

District wise -Category wise funding approved for the year 2017-18  
under RAD component of NMSA

**(Rs.in lakhs)**

S. No.	District	General	SCSP	TSP	Total
1	Srikakulam	44.00	---	65.00	109.00
2	Vizianagaram	36.00	---	75.00	111.00
3	Visakhapatnam	113.00	---	18.00	131.00
4	East Godavari	0.00	---	85.00	85.00
5	Prakasam	334.00	81.00	---	415.00
6	Nellore	126.00	42.00	---	168.00
7	Chittoor	458.00	105.00	---	563.00
8	Aanathapuramu	334.00	81.00	---	415.00
9	Kadapa	374.00	89.00	---	463.00
10	Kurnool	380.00	90.00	---	470.00
	O/oDA, Guntur	117.00	---	---	117.00
	<b>Total</b>	<b>2316.00</b>	<b>488.00</b>	<b>243.00</b>	<b>3047.00</b>

## Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

In an attempt to improve the agricultural productivity through improving the assured irrigation to each and every field, Government of India has come up with a new scheme, during July 2015, named **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** by amalgamation of ongoing schemes viz. (i). Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD&GR), (2) Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and (3) The On Farm Water Management (OFWM) of Department of Horticulture with the vision of extending the coverage of irrigation '**Har Khet ko pani**' and improving water use efficiency '**More crop per drop**' in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities

### Objectives of PMSKY

- ★ Achieve convergence of investments in irrigation at the field level (preparation of DIP) and enhance the physical access of water on the farm and expand cultivable area under assured irrigation (**Har Khet ko pani**), by integrating of water source, distribution and its efficient use, to make best use of water through appropriate technologies and practices.
- ★ Enhance the adoption of precision-irrigation and other water saving technologies to ensure "**More crop per drop**" by arresting runoff and store in Farm ponds improve on-farm water use efficiency to reduce wastage and increase availability both in duration and extent through Micro Irrigation (Sprinklers, Drip and Rain guns)
- ★ Ensure the integrated development of rainfed areas using the watershed approach towards soil and water conservation, regeneration of ground water by recharging of aquifers, and, providing livelihood options and other NRM activities.
- ★ Promote extension activities relating to water harvesting, water management and crop alignment for farmers and grass root level field functionaries.
- ★ Explore the feasibility of re-using treated municipal waste water for peri-urban agriculture
- ★ For achieving the goal of bringing irrigation water to every farm, there is need to converge all ongoing efforts and to bridge the gaps through location specific interventions.

The departments of Water Resources & Minor Irrigation, Rural Development (Water shed Development), Agriculture, Horticulture, Micro Irrigation (APMIP) and Ground Water department will execute the respective programs.



## What needs to be done?

- ★ State governments have to prepare District Irrigation Plans (DIPs) and shall support proposals for funding for various components under various Ministries before the end of June 2016.
- ★ Funding proposals shall be supported by Detailed Project Report (DPR).
- ★ For the current financial year, the proposals may be prepared based on the existing guidelines i.e., RRR, AIBP etc.
- ★ DIPs shall be prepared by utilizing expertise of All India service, Trained Officers and Consultant selected by Irrigation Dept.

## District & State Irrigation Plans

- ★ District Irrigation Plans (DIPs) are the cornerstone for planning and implementation of PMKSY.
- ★ DIPs will identify the gaps in irrigation infrastructure after taking into consideration the District Agriculture Plans and they will present holistic irrigation development perspective of the district outlining medium to long term development plans integrating three components viz. water sources, distribution network and water use applications incorporating all usage of water like drinking & domestic use, irrigation and industry.
- ★ The DIPs may be prepared at two levels, the block and the district.
- ★ Keeping in view the convenience of map preparation and data collection, the work would be primarily done at block level. The Consultant Contact will guide the district officials in preparation of District Irrigation Plans (DIPs) and State Irrigation Plans (SIP) under the Chairmanship of District Collector.
- ★ The DIPs are to be vetted by the Governing body of Zilla Parishad and subsequently be incorporated in the State Irrigation Plan (SIP).
- ★ DIPs and SIP will provide requisite emphasis on convergence by eliminating overlap of resources & efforts and ensuring optimal utilization of funds available through various Centrally Sponsored/State Plan Schemes.
- ★ The draft District Irrigation Plans (DIPs) shall be included suggestions of Hon'ble Member's of Parliament and Members of Legislative Assembly are to be invited and will be included in DIPs after due technical consideration.

## Contents of DIP

- ★ District Profile (Topography, Land use, Climate, Rainfall ,etc.)
- ★ All sources of available water,
- ★ Distribution network,
- ★ Defunct water bodies,
- ★ New potential water sources both surface and sub- surface systems,

- ★ Application & conveyance provisions,
- ★ Crops and cropping system aligned to available/designed quantity of water and suitable to local agro ecology,
- ★ Activities pertaining water harvesting,
- ★ Water augmentation from surface/sub surface sources
- ★ Distribution and application of water
- ★ Repair renovation and restoration of water bodies,
- ★ Major medium and minor irrigation works, command area development etc.
- ★ Irrigation Potential created and Utilized,
- ★ Overall Gap Ayacut,
- ★ Action Plan to fill the Gap,
- ★ The Proposals shall be based on Action Plan & in line with PMKSY schemes.

### **PMKSY Implementation in AP during 2016-17**

During the year 2016-17 an amount of Rs.43.00 crores was released under PMKSY (Other Interventions – Per Drop More Crop) .Two components namely Lining of farm ponds and Insitu Moisture Conservation through soakpits around borewells are implemented in the drought prone rainfed districts of Prakasam, Chittoor, Ananthapuramu, Kurnool and Kadapa.

An amount of Rs.10000.00 lakhs is proposed for implementation of PMKSY programme in the state during the current year 2017-18.

**District wise -Category wise funding proposed in B.E.s for the year 2017-18 under PMKSY component of NMSA**

(Rs. in lakhs)

S. No.	District	General	SCSP	TSP	Total
1	Srikakulam	304	64	32	400
2	Vizianagaram	304	64	32	400
3	Visakhapatnam	300	63	32	395
4	Krishna	387	82	41	510
5	Guntur	422	89	44	555
6	East Godavari	304	64	32	400
7	West Godavari	372	78	40	490
8	Prakasam	901	189	95	1185
9	Nellore	349	74	37	460
10	Chittoor	916	193	96	1205
11	Ananthapur	1147	242	121	1510
12	YSR Kadapa	896	189	95	1180
13	Kurnool	995	210	105	1310
<b>Total</b>		<b>7600</b>	<b>1600</b>	<b>800</b>	<b>10000</b>

## SOIL AND WATER CONSERVATION PROGRAMME

### Introduction:

Land and Water are the natural resources that are basic resources essential for the existence of life and are the two important factors for which appropriate management is most essential to ensure continuity of life. However there has been a continuous depletion of land resources due to various land degradation processes like soil erosion, large scale deforestation, reckless mining activities, overgrazing, general mismanagement, improper utilization. Such processes lead to degradation and deterioration of soils inhibiting farm production and productivity.

It takes nature 600 - 1000 years to form 1.0 inch of top soil but the same amount of soil gets eroded in a very easily in 2-3 rainfall events due to lack of conservation and improper utilization. It has been reported that 14.15 million tones of productive soil is lost every year from the state. In order to make the State drought proof and in turn alleviate poverty, it is essential to adopt appropriate Soil and Water Conservation measures.

### Objectives:-

1. To improve in-situ soil moisture in the cropped area dependent on Rainfed Agriculture.
2. To conserve water, a precious natural resource to make it available during the critical stages of crop growth through construction of Water Harvesting Structures.
3. To improve the livelihood status of the farmer in rainfed areas by reducing crop failures, reducing cost of cultivation through suitable approach.

### Soil Water Conservation Programme (SWCP) implementation during 2016-17

During 2016-17 total no. of 1324 chistle ploughs/sub-soilers were distributed to the RAD clusters in the rainfed districts of Chittoor, Ananthapur, Kadapa, Kurnool and Prakasam in order to break the hard pan in the soil for better moisture conservation and moisture availability thereby resulting in enhanced crop productivity.

An amount of Rs.991.00 lakhs is proposed in the current year 2017-18 for implementation of SWC Programme .

### District- wise, category -wise budget approved in Budget Estimates 2017-18.

S.No.	Name of the District	General	SCSP	TSP	Total
1	Prakasam	125.42	26.5	13.25	165.17
2	Kurnool	125.42	26.5	13.25	165.17
3	Ananthapur	125.42	26.5	13.25	165.17
4	Kadapa	125.42	26.5	13.25	165.17
5	Chittoor	125.42	26.5	13.25	165.17
6	Nellore	125.42	26.5	13.25	165.17
<b>Total</b>		<b>752.52</b>	<b>159</b>	<b>79.5</b>	<b>991.02</b>