

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

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NATIONAL MISSION FOR SUSTAINABLE AGRICULTURE (NMSA)

Rainfed Area Component (RAD)- 2018-19

Introduction

In Andhra Pradesh, nearly 52 percent of net sown area is under rainfed agriculture. The area is drought prone which is characterized by an 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 rainfed 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 (NMSA) in 2014-15. Under this mission, Rainfed Area Development (RAD) component is being taken up in convergence with other schemes to promote Integrated farming system and to provide value added developmental activities to the farmers to improve their economic status, inspite of the failure of crop due to insufficient rains or drought.

2. Implementation Strategy:

The financial pattern for implementation of RAD program shall be shared at 60:40 between Central and State Government.

As indicated in the GoI guidelines, the program shall be implemented in cluster mode, focusing on true spirit of the mission with integrated farming system as the core approach of development. While implementing the program, following issues need to be addressed.

- The cost norms, pattern of assistance and other procedural requirements as prescribed in the guidelines be strictly adhered in implementation of the Mission Activities.
- Identification /selection of clusters and the cluster based on farming system model be developed. Detailed project reports for each cluster need to be developed based on SWOT analysis and farmer specific requirements. Minor adjustments of coverage of project interventions in the Annual Action Plan if required based on the DPRs may be made under intimation to this department.
- The cluster plan needs to be substantiated with detailed information of village, block, districts, number and name of beneficiaries. This information is required to be uploaded in the state digital map with digital location of the cluster.

- Peripheral plantation of shrubs /trees/fruits etc may be encouraged along with the farm boundary and on the bunds of farm pond to provide additional income to the farmer and make the cropping system diversified into farming system.
- However proportionate activities be undertaken based on the actual availability of resources from both central and state share

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. A specific cluster may have a predominant acceptance for a particular Integrated Farming System (IFS). 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 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.

2.1 Cluster Selection Criteria

- a) Clusters will be selected in convergence with area identified for development of Organic farming, ZBNF, 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 chemical 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, Silviculture 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

2.2 Prioritization of Activity

- 2.2.1) 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.

Planting of agro forest species and horticultural species shall also be taken up along the bunds. The activities like water harvesting structures, ie., 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.

- 2.2.3) Under Integrated Farming System, Horticulture, livestock/ dairy based farming system Agro forestry is being taken up.
- 2.2.4) 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 through PMKSY.

2.3.Implementation Mechanism

Government of Andhra Pradesh through department of agriculture 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 for implementation of the RAD Program

RAD component is not an input distribution program. 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, plants from nursery, the details of the non subsidy payable by beneficiary should be collected with 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 rates communicated from O/o C&DA.

2.2.2) Resource conservation technologies like deep ploughing using chisel plough, trenches on the boundaries of the field for smooth flow of surface runoff into farm ponds, broad bed bunds and furrows, shall be taken up in fields for soil conservation

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 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. JDA shall inspect any of the clusters.

Step 4. With the recommendations of AO(SC), ADA(SC) has to recommend for issue of sanction proceedings to allow the release of assistance to the beneficiary. 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) .

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 C&DA, 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.



Annual Action Plan under RAD Component of NMSA for the year 2018-19

No of Clusters: 130

No of Districts Covered: 10

Rs in lakhs

Sl No	Particulars	Unit	Estimated cost (Rs.)	Pattern of Assistance (%)	Eligible Assistance (Rs.)	Total	
						Phy	Fin
I	Integrated Farming Systems(IFS)						
	Horticulture Farming System	ha	50000	50	25000	6971	1729.35
	Livestock based Farming Sytem	ha	100000	50	40000	6722	1613
	Agro Forestry based Farming System	ha	30000	50	15000	6309	894.85
	IFS Sub Total					20002	4237.22
II	Value Addition & Resource Conservation						
	Post Harvest storage	No	400000	50	200000	398	716
	Vegetative barriers	ha	8000	50	4000	1629	65.12
	VAS Sub Total						781.12
	Total(I+II)						5018.34
III	Administrative cost	5%					250.92
	Total						5269.26

District wise Action Plan 2018-19 NMSA-Rainfed Area Development(RAD)

Amount in Rs.lakhs

Sl. No.	District	No.of clusters	Integrated farming systems		Value addition and resource conservation		Admin cost	Total	
			Phy	Fin	Phy	Fin		Phy	Fin
1	Srikakulam	8	800	309	10	20	16.45	800	345.45
2	Vizianagaram	6	455	111.5	8	16	6.38	455	133.88
3	Visakhapatnam	5	959	297.8	25	50	17.39	959	365.19
4	East Godavari	8	130	79	4	8	4.35	130	91.35
5	Prakasam	9	3884	645.75	62	124	38.49	3884	808.24
6	S.P.S.R.Nellore	6	2062	277	42	84.58	18.08	2062	379.66
7	Chittoor	24	2616	564	62	124.54	34.43	2616	722.97
8	Ananthapuramu	16	2926	570.52	24	48	30.93	2926	649.45
9	Y.S.R. Kadapa	30	3200	672.05	96	192	43.2	3200	907.25
10	Kurnool	18	2970	710.6	57	114	41.23	2970	865.83
	Total	130	20002	4237.22	390	781.12	250.93	20002	5269.27

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Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been formulated with the vision of providing irrigation to all farm holdings '**Har Khetkopani**' 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.

PMKSY has been formulated amalgamating the ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation (DAC).

PMKSY – Other Interventions is being implemented in the state through the department of agriculture since 2016-17 for improving the water use efficiency (Per Drop More Crop) through water conservation works, drought proofing measures in complementarily and supplementation of watershed interventions undertaken through MGNREGS and IWMP for water conservation/ management related works for ground water recharge.

Extension activities are being taken up by PDs ATMA for farmer oriented activities like capacity building, training and exposure visits, demonstrations, farm field schools, skill development in efficient water usage and crop management practices (crop alignment) including large scale awareness on '**more crop per drop**' of water through mass media campaigns, exhibitions, field days, and extension activities through short animation films etc. where the Micro Irrigation activity and PMKSY- Other Intervention activities are being taken up.

Extension activities for promotion of scientific moisture conservation and agronomic measures including cropping alignment to maximize usage of available water including rainfall and minimise irrigation requirement, capacity building, training and awareness campaign including low cost publications, use of pico projectors and low cost films for encouraging potential use of water source through technological, agronomic and management practices including community irrigation. The extension workers will be empowered to disseminate relevant technologies under PMKSY only after requisite training is provided to them especially in the area of promotion of scientific moisture conservation and agronomic measures, improved/ innovative distribution system like pipe and box outlet system, etc. Appropriate Domain Experts will act as Master Trainers.

The success stories of indigenous practices, innovative projects, participatory management etc. may be captured and documented for sharing with other states and agencies for wider replication.

The following works are being taken up under PMKSY- Other Interventions

1. Water harvesting structures such as farm ponds, percolation tanks and check dams
2. Secondary storage structures to store water when available in abundance (rainy season)
3. Activities for enhancing water use efficiency through supply of water lifting devices like diesel oil pumpsets and water carrying pipes

Annual Action Plan of PMKSY- Per Drop More Crop (Micro Irrigation) for 2018-19

Govt. of India has informed that PMKSY-Per Drop More crop primarily is meant for increasing coverage under Micro Irrigation. Hence, under PMKSY- Other Interventions, water harvesting or water conservation activities, if the source is linked with MI i.e. only an integrated proposal of micro source creation at or near farm gate to facilitate MI may be supported. There shall be no investment for water harvesting or water conservation works in isolation or in watershed projects if it is not part of the composite/integrated proposal with MI.

Further, it was informed that from the year 2018-19, there shall be one Nodal department, which is dealing with Micro Irrigation. Horticulture department shall be the Nodal department in Andhra Pradesh for Pradhan Mantri Krishi Sinchayee Yojana, Per Drop More Crop. Horticulture department shall transfer the funds to Agriculture department for the works related to segment of, resource for water harvesting or water conservation activities.

An indicative list of activities which can be taken up under PMKSY- Other Interventions is given below.

Annexure- I

Sr. No.	District	No. of clusters	No. of villages	Intervention (add columns for all activities)					
			one cluster= one village	Activity-I- Construction of individual water storage/ harvesting activities					
				Nos.	Nos. proposed in DIP	Irrigation potential (ha)	Farmers to be benefitted	Cost per unit (Avg) Rs. Lakh	Total cost (Rs. Lakh)
1	2	3	4	5	6	7	8	9	10
1	Srikakulam	13	13	455	3489	682.5	455	0.75	341.25
2	Vizianagaram	13	13	455	3489	682.5	455	0.75	341.25
3	Visakhapatnam	13	13	455	3489	682.5	455	0.75	341.25
4	East Godavari	13	13	455	3489	682.5	455	0.75	341.25
5	West Godavari	12	12	455	3489	682.5	455	0.75	341.25
6	Krishna	18	18	455	3489	682.5	455	0.75	341.25
7	Guntur	18	18	455	3489	682.5	455	0.75	341.25
8	Prakasam	48	48	1015	7784	1522.5	1015	0.75	761.25
9	S.P.S.R.Nellore	48	48	1015	7784	1522.5	1015	0.75	761.25
10	Chittoor	48	48	1015	7784	1522.5	1015	0.75	761.25
11	YSR Kadapa	48	48	1015	7784	1522.5	1015	0.75	761.25
12	Ananthapuramu	48	48	1015	7784	1522.5	1015	0.75	761.25
13	Kurnool	48	48	1015	7784	1522.5	1015	0.75	761.25
Total		387	387	9275	71126	13912.5	9275		6956.25

Annexure- II

S. No.	District	Activity-II-Community water storage activities						Activity-III-Water harvesting / relating activities					
		Nos. proposed in DIP	Irrigation potential	Farmers to be benefitted	Cost per unit (Avg) Rs. in Lakhs	Total cost Rs. in Lakhs	Nos.	Nos. proposed in DIP	Irrigation potential	Farmers to be benefitted	Cost per unit (Avg) Rs. in Lakhs	Total cost Rs. in Lakhs	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Srikakulam							20	537	80	40	0.5	10
2	Vizianagaram							20	537	80	40	0.5	10
3	Visakhapatnam							20	537	80	40	0.5	10
4	East Godavari							20	537	80	40	0.5	10
5	West Godavari							20	537	80	40	0.5	10
6	Krishna							50	537	200	100	0.5	25
7	Guntur							50	537	200	100	0.5	25
8	Prakasam	5	161	50	25	20	100	200	1342	800	400	0.5	100
9	S.P.S.R.Nellore	5	161	50	25	20	100	200	1342	800	400	0.5	100
10	Chittoor	5	161	50	25	20	100	200	1342	800	400	0.5	100
11	Y.S.R. Kadapa	5	161	50	25	20	100	200	1342	800	400	0.5	100
12	Ananthapuramu	10	161	100	50	20	200	200	1342	800	400	0.5	100
13	Kurnool	10	161	100	50	20	200	200	1342	800	400	0.5	100
	Total	40	966	350	200		800	1400	11810	5600	2800		700

Annexure- III

Sr. No.	District	Activity-IV- Ground water development and recharge activities						Activity-V-Enhancing water conveyance efficiency and water lifting devices					
		Nos.	Nos. proposed in DIP	Irrigation potential	Farmers to be benefitted	Cost per unit (Avg) Rs. in Lakhs	Total cost Rs. in Lakhs	Nos.	Nos. proposed in DIP	Irrigation potential	Farmers to be benefitted	Cost per unit (Avg) Rs. in Lakhs	Total cost Rs. in Lakhs
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Srikakulam	20	537	30	20	0.2	4	1000	3634	2000	1000	0.1	100
2	Vizianagaram	20	537	30	20	0.2	4	1000	3634	2000	1000	0.1	100
3	Visakhapatnam	20	537	30	20	0.2	4	1000	3634	2000	1000	0.1	100
4	East Godavari	20	537	30	20	0.2	4	1000	3634	2000	1000	0.1	100
5	West Godavari	20	16	30	20	0.2	4	1000	3634	2000	1000	0.1	100
6	Krishna	50	5384	75	50	0.2	10	1000	3634	2000	1000	0.1	100
7	Guntur	50	5368	75	50	0.2	10	1000	3634	2000	1000	0.1	100
8	Prakasam	200	5368	300	200	0.2	40	1500	4171	3000	1500	0.1	150
9	S.P.S.R.Nellore	200	5368	300	200	0.2	40	1500	4171	3000	1500	0.1	150
10	Chittoor	200	5368	300	200	0.2	40	1500	4171	3000	1500	0.1	150
11	Y.S.R. Kadapa	200	5368	300	200	0.2	40	1500	4171	3000	1500	0.1	150
12	Ananthapuramu	200	5389	300	200	0.2	40	1500	4171	3000	1500	0.1	150
13	Kurnool	200	5368	300	200	0.2	40	1500	4171	3000	1500	0.1	150
	Total	1400	45145	2100	1400		280	16000	50465	32000	16000		1600

Annexure- IV

S. No.	District	Total						Administrative cost = Total cost * 5%	Grand Total Col 9= col 7+8 col
		Nos.	Irrigation potential (ha)	Farmers to be benefitted	Cost per unit (Avg) Rs. in Lakhs	Total cost Rs. in Lakhs			
1	2	3	4	5	6	7	8	9	
1	Srikakulam	1495	2793	1515	1	455.25	22.76	478.01	
2	Vizianagaram	1495	2793	1515	1	455.25	22.76	478.01	
3	Visakhapatnam	1495	2793	1515	1	455.25	22.76	478.01	
4	East Godavari	1495	2793	1515	1	455.25	22.76	478.01	
5	West Godavari	1495	2793	1515	1	455.25	22.76	478.01	
6	Krishna	1555	2958	1605	1	476.25	23.81	500.06	
7	Guntur	1555	2958	1605	1	476.25	23.81	500.06	
8	Prakasam	2920	5673	3140	21	1151.25	57.56	1208.81	
9	S.P.S.R.Nellore	2920	5673	3140	21	1151.25	57.56	1208.81	
10	Chittoor	2920	5673	3140	21	1151.25	57.56	1208.81	
11	Y.S.R. Kadapa	2920	5673	3140	21	1151.25	57.56	1208.81	
12	Ananthapuramu	2925	5723	3165	21	1251.25	62.56	1313.81	
13	Kurnool	2925	5723	3165	21	1251.25	62.56	1313.81	
	Total	28115	53963	29675	0	10336.25	516.81	10853.06	

Soil and Water Conservation Programme

The Soil and Water Conservation (SWC) Programme was introduced under State Development Plan for activities proposed on Climate Resilience and Water Conservation to improve the productivity from rainfed areas and to take up the activities through the Departmental officers.

The major objective of the program is

1. To promote in situ soil moisture conservation under Rainfed Agriculture.
2. To conserve water, a precious natural resource and 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.

The following activities are proposed to be covered under SWC

The Soil and Water Conservation activities pertinent to Climate Resilient Agriculture by improving soil fertility and soil health in rainfed agriculture for increasing incomes of farmers, it is proposed to take up in clusters in Kurnool, YSR Kadapa, Chittoor, Ananthapuramu, SPSR Nellore and Prakasam districts through Department of Agriculture. Each cluster will be of an area of 500-1000 ha or village as a unit. Besides, the activities can also be taken up in the villages which were already covered under MGNREGS/ IWMP watersheds and RAD in complimentary with the activities taken up under these schemes.

a. Enhancing soil health, conservation and biomass development

- Deep ploughing with Sub Soiler in rainfed lands for breaking the hard pan in the soil and for better moisture conservation thereby improved crop productivity.
- Improving water holding capacity of light red soils by tank silt application.

b. Managing climate risk for rainfed crops through protective irrigation

- Farm ponds with lining(soil+cement) 10x10x 2 M size @ one per farmer with machine use.
- Increasing the incomes of farmers by promoting high value crops of vegetables and fruit crops under borewells by using micro irrigation systems.

An amount of Rs. 520.00 lakhs has been allocated for the year 2018-19 for implementation of SWC Program.

Sl.No.	District	Budget estimates 2018-19	
		Physical	Financial (Rs. in lakhs)
1	Prakasam	312	65
2	S.P.S.R.Nellore	360	75
3	Chittoor	600	125
4	Aanathapuramu	600	125
5	Y.S.R. Kadapa	216	45
6	Kurnool	408	85
	Total	2496	520