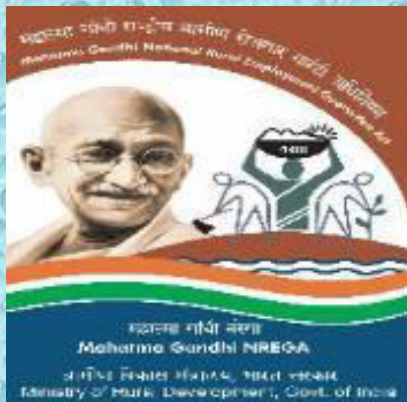




# MISSION WATER CONSERVATION



**Pradhan Mantri Krishi Sinchayee Yojana**  
Department of Agriculture, Cooperation & Farmers Welfare  
Ministry of Agriculture & Farmers Welfare, Government of India



**Rural Development Department  
Government of Andhra Pradesh**

# Mission Water Conservation



The Natural Resource Management component of Labour Budget of MGNREGS is to be made a part of “District Irrigation Plan (DIP)” in convergence with IWMP & PMKSY.

## Objectives :-

- Shift from Relief Works approach to Integrated Natural Resource Management (INRM) on **Ridge to Valley** principle
- Development of land & harnessing of rainwater following watershed principles
- Quality management of Natural Resources
- Creating productive assets by means of increase in Ground Water and increase area of Agriculture.

# Areas of Concern

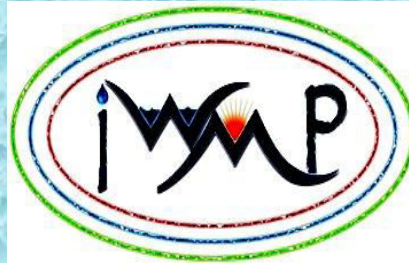


Name of the District	No. of Mandals
A) Irrigation Deprived district i) Ananthapuramu	63
B) Over Exploited Mandals Chittoor (12), Kadapa (6), Prakasam (7), Krishna (1), Guntur (2), Srikakulam (2)	30
C) Critical Mandals Chittoor (7), Kadapa (2), Prakasam (1)	10
D) Semi Critical Srikakulam (1), West Godavari (2), Krishna (1), Guntur (1), Prakasam (2), Chittoor (18), Kadapa (14), Kurnool (5)	44
<b>Total</b>	<b>147</b>



# Departments Associated

Central Ground Water  
Board (CGWB)



PMKSY-WS



Water Resources Dept.,



NRSC / APSAC



MGNREGS-AP



Dept. of Agri.

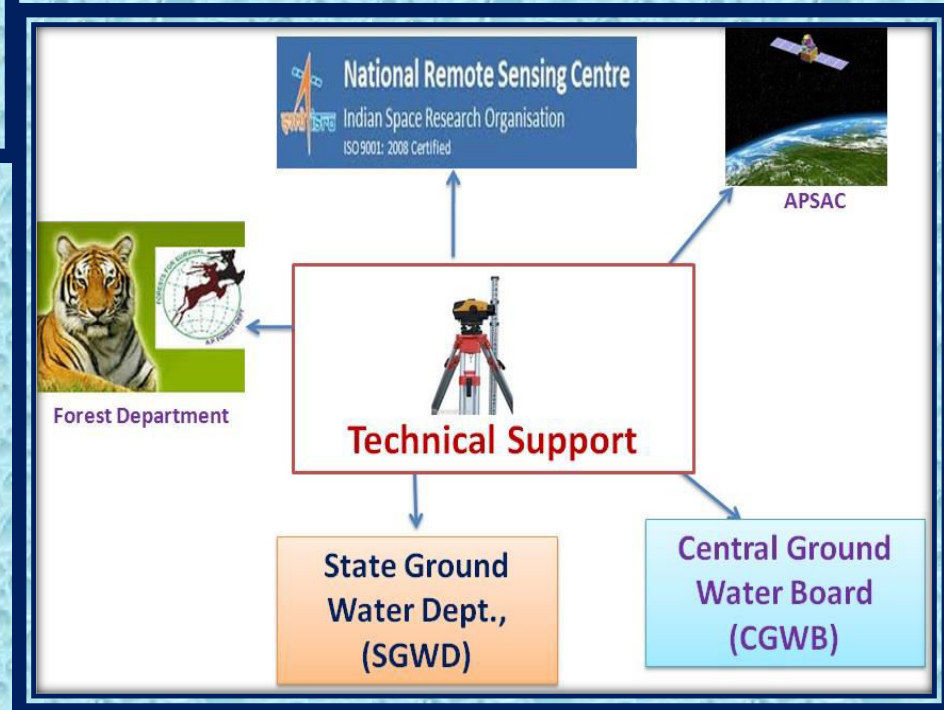
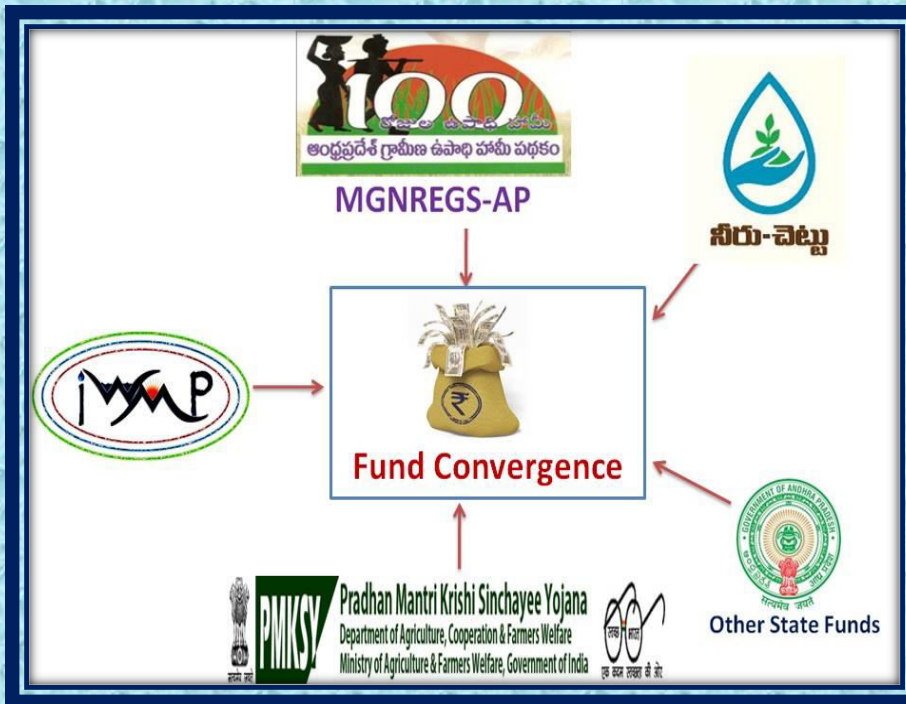


Horticulture Department



Forest Department

# Type of Convergence





# Roles and Responsibilities



## CGWB & GW Dept ::

- Aquifer maps for finalizing the location of the proposed water bodies
- Details of design of structures required for ground water recharge
- Possible scope of services in preparation of a scientific plan for NRM works
- Providing list of GPs with > 15m Ground water table.

## NRSC & APSAC ::

- The geoportal of NRSC, 'Bhuvan' for planning for NRM based on watershed principle
- The mobile apps of NRSC to be customised to plan for NRM related MGNREGA works, for geotagging and tracking from planning to execution, as part of a watershed/DIP

# Roles and Responsibilities



## Water Resources Dept ::

- Providing technical support in identification of works, estimate preparation and execution of Material intensive works, viz., Sluice repairs, Surplus weir repairs, repairs to check dams.
- Identification of labour intensive works to be taken up under MGNREGS viz., Desilting & deepening of Sub Minors, Minors, field channels, feeder channels etc.

## Forest dept ::

- Identification and execution of NRM works in an integrated manner in Reserve Forest Area with MGNREGS/IWMP and departmental funds.

# Roles and Responsibilities



## Agriculture Dept ::

- Technical support in identification of SMC works, Farm based activities.
- To converge the PMKSY fund in implementation of Integrated Natural Resource Management Plan.
- Consolidation of District Irrigation Plan and preparation of State Irrigation Plan.
- Getting Approval for State Irrigation Plan



# Roles and Responsibilities



## Rural Development (IWMP) ::

- Provide technical support to the Technical Assistants/JEs of MGNREGA and do the final check measurement cum evaluation of outcomes as per the process.
- Organise and impart trainings on NRM activities in Ridge to Valley approach.
- Ensuring material intensive works with IWMP and labour intensive NRM works with MGNREGS
- To revisit and revise the DPRs where ever required.
- To take the approval of the Watershed Committees.
- It shall be the responsibility of the Programme Officers of MGNREGS & IWMP to ensure this convergence and follow all non-negotiables and process of MGNREGA

# Roles and Responsibilities



## Rural Development (MGNREGS) ::

- Watershed Management works to be taken up with comprehensive assessment of the entire watershed in the GP and shall address all issues of soil erosion, rainwater retention and afforestation.
- Stand alone works in the above category without a comprehensive watershed plan shall not be permitted.
- Efforts to complete structures in one working season shall be made
- Outcomes must be time bound for the approach to be successful
- Comprehensive plan shall be prepared on 'Ridge to Valley 'principle
- Engineers /Technical Assistants and Mates of MGNREGS at Block and GP level would be trained and supported by the State Level Nodal Agency (SLNA) of IWMP.

# Implementation Arrangement



- **Role of District Collector**

- The DPC/Collector will ensure that the Natural Resource Management component of Labour Budget of MGNREGS is essentially made part of the District Irrigation Plan (DIP)
- Coordinating the Annual Action Plans relating to MGNREGS, IWMP & PMKSY – with the convergence of the ongoing schemes
- To prepare a comprehensive project of village/watershed /command area incorporating /integrating all the works/activities required for the integrated development of the village/watershed/CAD approach.



# Implementation Arrangement



- **District Mission Water Conservation Committee:** District Collector as Chairperson, PD, ATMA; PD, DWMA; SE, MI;JD, Agri; DD, GWD and DFO as members
- **Mandal Mission Water Conservation Committee:** MPDO/PO, EGS as Member Convener ;DEE, ICAD/PR Agriculture Officer; FRO ;Horti/Seri Officer as members
- **Roles & Responsibilities**
  - Constitute Mandal Level teams/Cluster Teams
  - Trainings to Mandal Level teams/Cluster Teams
  - Provide required APSAC maps
  - Consolidating Mandal/GP Irrigation Plans
  - Finalizing & Approving District/Mandal Irrigation Plan

# Implementation Arrangement



- **Cluster Level Planning Team**

- 2 to 3 teams per mandal
- AEE, PR/ICAD : Team leader
- APO/PO Watershed : Member
- EC/JE : Member
- TA/TO : Member
- GP Secretary : Member

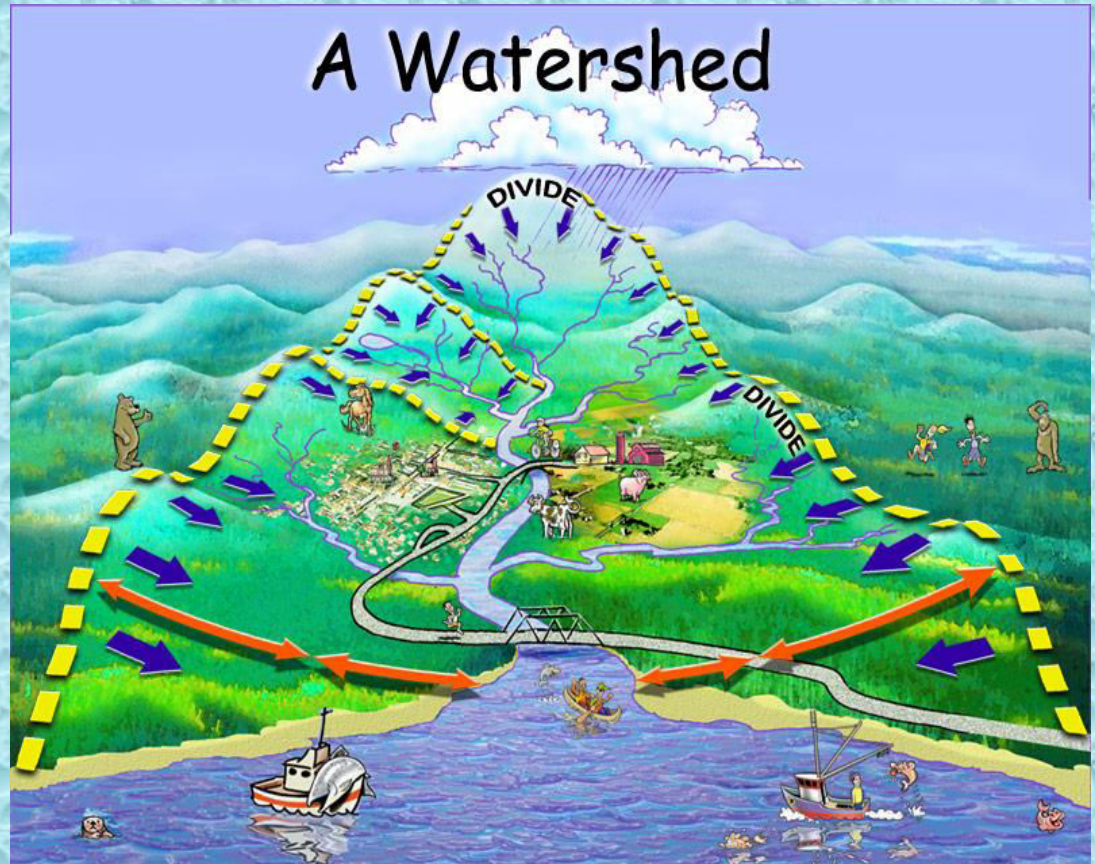
- **Roles & Responsibilities**

- Conducting PRA, Preparing Resource Map
- Identification of works
- Capturing & uploading the photos, coordinates
- Preparation of Labour Budget & Shelf of works & GP Irrigation Plan
- Organizing the Gram sabha for approval of LB and Shelf of works.



# Watershed Approach

- Ridge to valley
- Area saturation approach
- Net Planning
- PRA
- Resource Mapping
- Community ownership





# Watershed Approach



- **Ridge area treatment**
  - Staggered Contour Trenches
  - Continuous Contour Trenches
  - Barren Hill Afforestation (Agave, Henna, Pongamia etc.,)
  - Water Absorption Trenches

# Watershed Approach

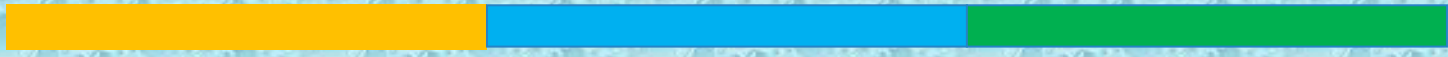
## Staggered Trenches



**EGS Funding**



# Watershed Approach



## Continuous Contour Trenches



**EGS Funding**



# Watershed Approach

**BHA**

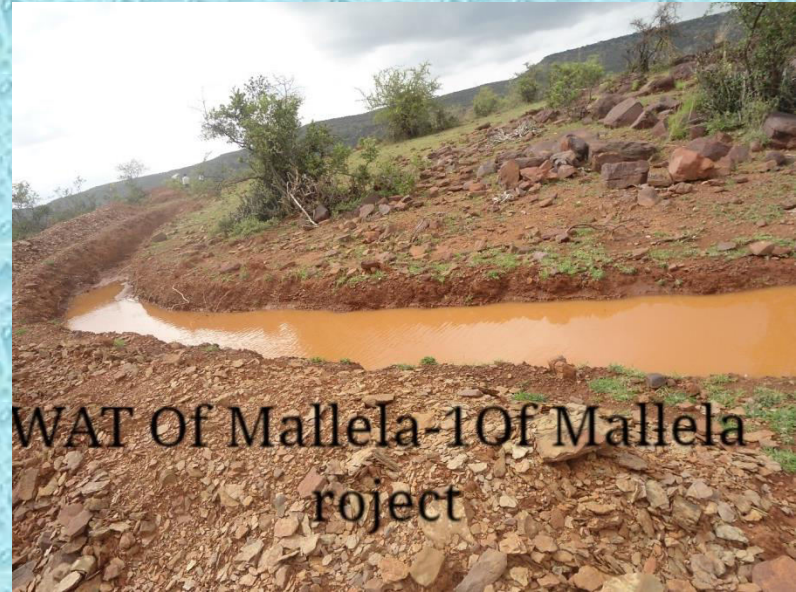


**IWMP Funding**



# Watershed Approach

**WAT**



**WAT**



**IWMP Funding**



# Watershed Approach

- **Drainage Line Treatment**

- LBS, RFD, Sunken Pits, Gabions, MPT/PT, Check Dams/Check Walls.

**Sunken Pit**



**EGS Funding**

**LBS**



**IWMP Funding**



# Watershed Approach

RFD



Gabion



IWMP Funding



# Watershed Approach



**MPT**

**IWMP Funding**



**PT**



# Watershed Approach



## Check Wall

**IWMP Funding**

## Check Dam



# Watershed Approach



- **Area Treatment**

- Contour Bunding/Field Bunding
- Farm Ponds/Dugout Ponds
- Silt Application/Desilting of water bodies
- Repairs and restoration to existing water harvesting structures
- Repairs and restoration to Minor Irrigation tanks.
- Recharge pits
- Recharging dried up open wells/Bore wells
- Horticulture plantations
- Institution plantations



# Watershed Approach

**Earthen Bunding**

**EGS Funding**



**Boulder Removal**

**IWMP Funding**



# Watershed Approach

YALLAMANDA - IWMP 09-10



**Farm Pond**

**EGS Funding**

**DOP**





# Watershed Approach



**DLH**

**EGS Funding**

**IWMP Funding**



**DLH in Other than EGS beneficiaries**



# Watershed Approach



**NADEP**

**EGS Funding**



**NADEP**



# Watershed Approach



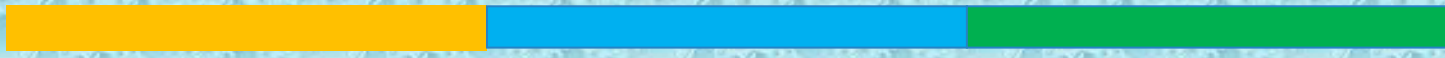
Desilting of MI Tank

Desilting



EGS Funding


# Time Schedule




Activity	Date	Remarks
Constitution of District, Mandal & Cluster level Teams	28.11.2016	Completed
District level meeting with all convergence departments	30.11.2016	Completed
Trainings to Mandal teams, Mandal level meeting with all convergence departments	03.12.2016	Completed
Field visits and preparation of GIP by cluster teams	05.12.2016 to 15.12.2016	Completed
Gram Sabha / GP Approval	18.12.2016	Completed
Mandal Parishad Approval	19.12.2016	Completed
Discussion at GP / Mandal level & preparation of mandal level plan and submission to district level	20.12.2016	Completed
Preparation of District Irrigation Plan (DIP) & Approval	10.01.2017	
Submission of revised DIP at State level	20.01.2017	



# Planning

- 
- GP/Micro Watershed is the planning unit.
  - Each Mandal may consist of 2 or 3 cluster level teams.
  - One day training organized to the Planning teams at District Level/Sub-district Level.
  - 3 to 4 days given per GP for preparation of LB and identification of works.
  - Works identified in ridge to valley concept taking drainage line as unit.
  - The teams conducted PRA in the village to identify the existing and proposed works with the help Resource mapping.
  - The teams made transact walk taking drainage line as unit and identified the works

# Planning

- 
- The teams identified the existing/in progress water harvesting structures, its status and repairs required if any.
  - The teams identified the proposed/new structures making use of the APSAC map/Resource map.
  - All the structures existing/proposed geo tagged and photos uploaded.
  - The structures were marked on the drainage line map supplied to the teams with proper colour code and index.
  - The teams have arrived the probable amount required for renovation /construction and source of funding.
  - All the drainage lines in the village/micro watershed were surveyed and the probable works have been identified and tabulated in Format-I &II.



# Planning



- After completion of the entire process year wise, scheme wise action plan will be prepared for 5years for 2017-18 on words considering the probable Labour Budget, IWMP funds and other PMKSY funds into consideration.
- High priority has given to the Ground Water OE and Critical Villages.
- The action was presented before the Gram Sabha and approval of the Gram Sabha, Gram Panchayat/Watershed Committee has been obtained.
- The approved action plan will be incorporated in the District Irrigation Plan of PMKSY.

# Planning

## PRA





# Planning

## GRAMSABHA





# Planning

## TRANSECT WALK





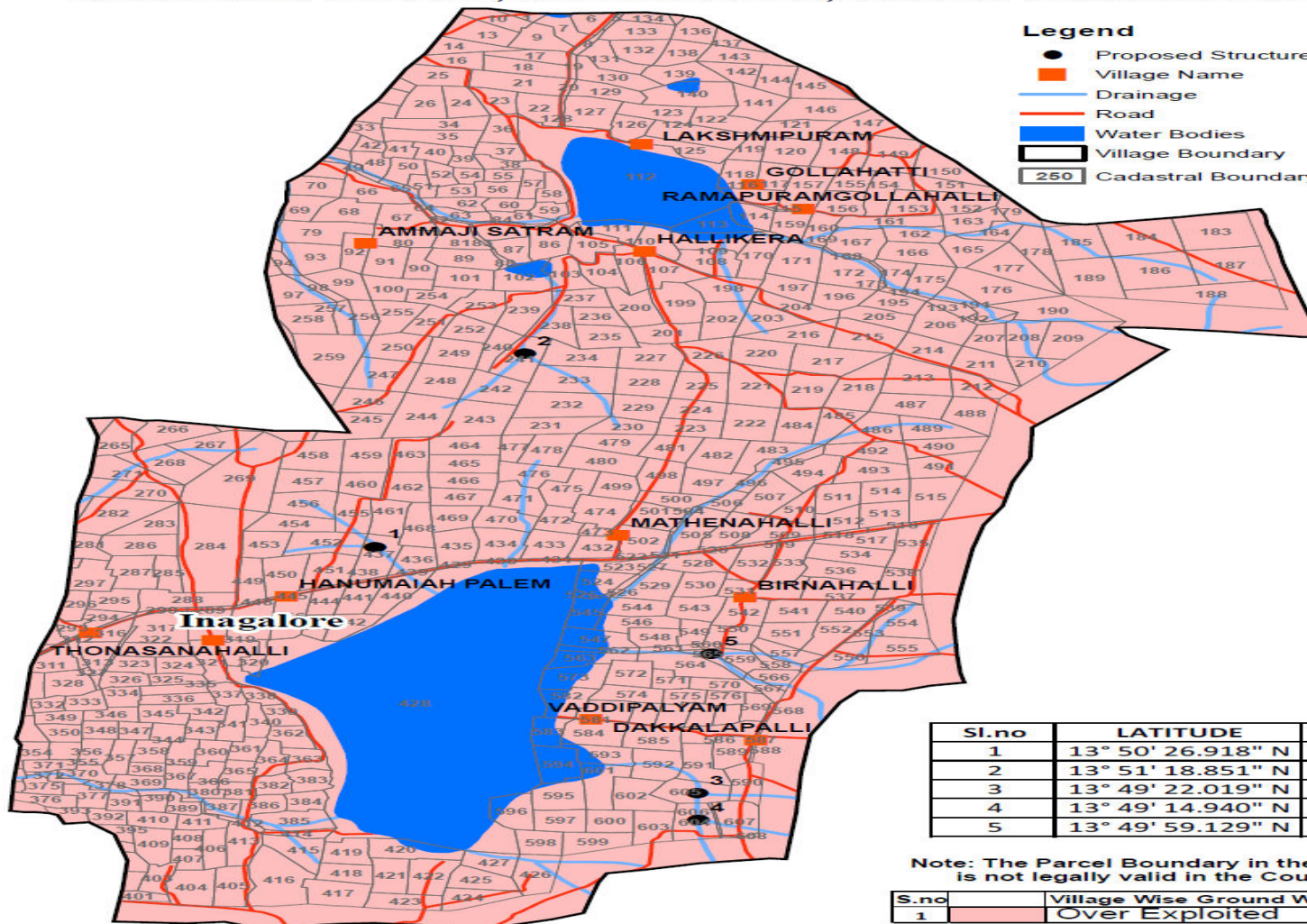
# Maps

## PROPOSED RAINWATER HARVESTING STRUCTURES INAGALLOOR VILLAGE, AGALI MANDAL, ANANTAPURAM DISTRICT, A.P



### Legend

- Proposed Structures for Field Verification
- Village Name
- Drainage
- Road
- Water Bodies
- Village Boundary
- 250 Cadastral Boundary



Sl.no	LATITUDE	LONGITUDE
1	13° 50' 26.918" N	77° 2' 46.067" E
2	13° 51' 18.851" N	77° 3' 3.924" E
3	13° 49' 22.019" N	77° 3' 27.873" E
4	13° 49' 14.940" N	77° 3' 28.111" E
5	13° 49' 59.129" N	77° 3' 28.914" E

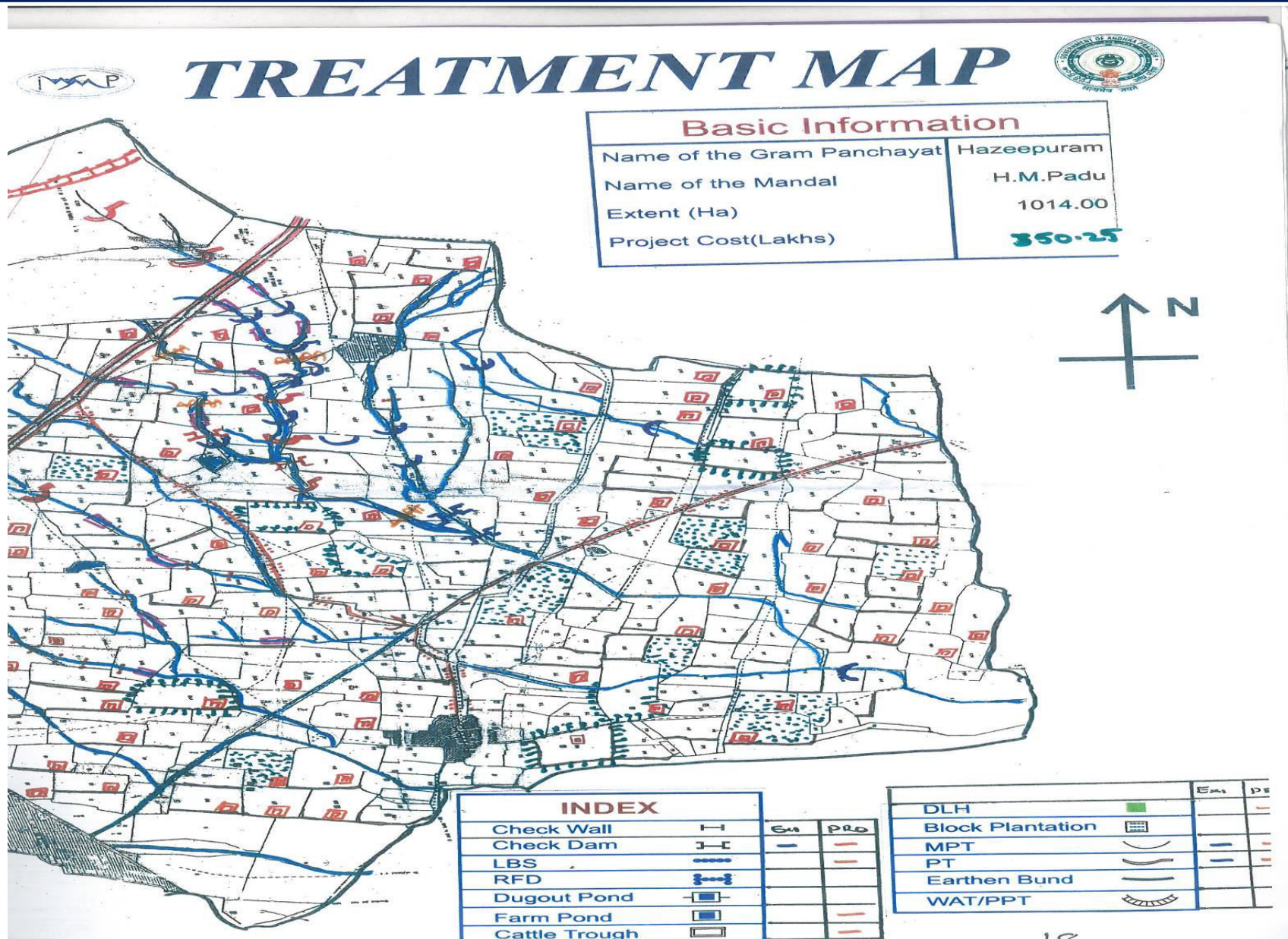
Note: The Parcel Boundary in the village map is not legally valid in the Court of Law

S.no	Village Wise Ground Water Category
1	Over Exploited

**APSAC**  
ANDHRA PRADESH SPACE APPLICATIONS CENTRE  
GOVERNMENT OF ANDHRA PRADESH  
HYDERABAD-500029



# Maps





# Format - I (Community works)

## Format - I (Community works)

Format showing the Existing & Proposed Water Harvesting Structures in Community Lands

Name of the District:

Name of the

Mandal:

Name of the Watershed  
Project:

Name of  
the GP:

(Amount Rs. in Lakhs)

SL · N o.	Name of the Stream	Draina ge Line code	Name of the Activity	GPS Coor dinat es	Unit	Existing						Proposed				Total Amount required		Sourc e of Fund s	
						Phy	Status (Good / Minor Repair / Major Repair)	Amount required				Phy	Amount required				Amount required		
								Wag e	Perso n days	Materi al	Total		Wage	Perso n days	Materi al	Total	Perso n days (10+1 5)		Total (12+1 7)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Name & Signature of the Team

SL · N o.	Name	Designat ion	Signature	Date
1				
2				
3				

# Format - II (Individual Beneficiary related works)

## Format - II (Individual Beneficiary related works)

Format showing the Existing / Proposed Water Harvesting Structures in Beneficiaries Lands

Name of the District:

Name of the  
Mandal:

Name of the Watershed  
Project:

Name of  
the GP:

(Amount Rs. in Lakhs)

SL · N o.	Name of the Farmer / Household	Job card No.	Survey No.	GPS Coor dinat es	Unit	Existing						Proposed				Total Amount required		Sour ce of Fund s	
						Phy	Status (Good / Minor Repair / Major Repair)	Amount required				Phy	Amount required				Perso n days (10+1 5)		Total (12+1 7)
								Wage	Pers on days	Mate rial	Total		Wage	Perso n days	Materi al	Total			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Name & Signature of the Team

SL · N o.	Name	Designat ion	Signature	Date
1				
2				
3				



# EGS-IWMP Convergence 2016-17 (EGS Funding)



Name of the Activity	Admin Sanction		Expenditure	
	Phy	Fin	Phy	Fin
Staggered Trenches	139	140.01	110	89.16
Earthen Bunding With Seed Dibbling	264	110.25	182	64.92
Live/Vegetative Check Dam	64	1.79	50	1.15
Farm Pond	98066	59856.59	55540	18776.53
Dugout Pond	17585	11826.02	9576	2613.27
Recharge Pit	5405	183.28	1201	18.29
Dry Land Horticulture	27093	25435.67	19688	6020.29
Raising of Perinnial Fodder	1292	62.19	1141	42.27
NADEP Compost pit	24939	2253.25	5115	59.23
Others	3237	4823.21	2095	773.31
<b>Grand Total</b>	<b>178084</b>	<b>104692.26</b>	<b>94698</b>	<b>28458.42</b>

# EGS-IWMP Convergence 2016-17 (IWMP Funding)



Name of the Activity	Admin Sanction		Expenditure	
	Phy	Fin	Phy	Fin
Boulder removal with machinery (for SC/ST farmers)	3266	353.77	1650	159.86
Water Absorption Trench at Foot Hills	299	353.27	98	76.92
Loose Boulder Structure	1579	537.87	755	128.46
Rock Fill Dam	1421	1105.79	479	104.65
Gabion SMC	9	6.35	3	1.72
Digging of peripheral trench with machine	26	112.73	13	55.79
Mini Percolation Tank	286	262.64	128	96.03
Percolation Tank	1240	5236.62	639	1757.11
Check Wall	1255	1459.93	677	645.07

Continue....



# EGS-IWMP Convergence 2016-17 (IWMP Funding)



Rs. in Lakhs

Name of the Activity	Admin Sanction		Expenditure	
	Phy	Fin	Phy	Fin
Check Dam	4572	13705.36	2446	5807.67
Gabion WHS	46	34.96	26	11.44
Surface Storage Pond	613	319.71	85	35.66
Canal Drop	685	515.08	254	172.25
Repairs to Existing Percolation Tank	586	1029.31	393	400.56
Repairs to Existing Check Dam	1483	1675.66	1253	1183.68
Repairs to Existing Check Wall	106	101.14	80	55.75
Repairs to Existing Mini Percolation Tank	56	40.03	38	21.16
Avenue Plantation	510	2386.42	207	145.04
Barren Hill Afforestation	44	235.86	25	15.70
Raising of Agave Plantation around Water Harvesting Structures	2353	320.13	885	77.35
Cattle Troughs	956	270.52	433	79.55
Others	8710	3624.33	2999	941.82
<b>Grand Total</b>	<b>30101</b>	<b>33687.48</b>	<b>13566</b>	<b>11973.24</b>

# PMKSY- OE Villages 2016-17

Name of the work	Phy.	Fin. (Rs in Lakhs)
Check Dam	321	722.75
Check Wall	112	129.82
Dugout ponds	964	184.48
Farm Pond	6703	1157.10
Mini Percolation Tank	17	3.43
Percolation Tank	47	86.71
Repairs to CDs/PTs	24	8.01
Staggered Trench	108	66.84
Water Absorption Trenches	32	42.28
Peripheral Trench	14	3.09
Irrigation channels	39	2.75
MI tank works	17	23.89
Desilting of Drinking Water Tanks	15	30.18
New Cattle ponds/desilting of ponds	63	51.42
Silt application	14	1.61
<b>Total</b>	<b>8490</b>	<b>2514.35</b>



# EGS-IWMP Convergence Plan 2017-18 (EGS Funding)



Rs. in Lakhs

Name of the Activity	Admin Sanction	
	Phy	Fin
Staggered Trenches	1810	4678.66
Earthen Bunding With Seed Dibbling	955	588.96
Live/Vegetative Check Dam	218	6.62
Farm Pond	68347	41008.00
Dugout Pond	10436	29203.92
Recharge Pit	4102	189.46
Dry Land Horticulture	13942	20913.00
Raising of Perinnial Fodder	3795	545.28
NADEP Compost pit	16792	2358.55
<b>Grand Total</b>	<b>120397</b>	<b>99492.45</b>

# Expected Outcome of Convergence



- Increase in Ground Water availability (3-8 m)
- Treatment of the area on saturation mode.
- Increase in area of Irrigation
- Increase in area of Vegetation
- No duplication of the beneficiaries.
- No overlapping of schemes / funds.
- Judicious and effective usage of manpower.
- Transfer of technology between the departments.



# Focused Action Plan 2017-18

## Chaturmukhavyuham

(Transforming Villages through MGNREGS)

- 100 days Wage Employment
- Individual Household Latrine
- Soak Pit
- Home Stead Plantation
- Vermi/Nadep Compost
- Land Development
- Horticulture Plantations
- NTR Housing
- LIFE-Trainings

**Individual**

- Levelling of institutions
- Roof Water Harvesting Structures
- Toilets in Anganwadis
- Play Fields
- Bio Fencing
- Institutional Plantation
- Approach Road

**Institutional**

- Anganwadi Centres
- GP Buildings
- Block Buildings
- Internal CC Roads with drains
- Solid Waste Management
- Approach Roads to Villages
- Under Ground Drainage System
- Burial Ground
- Avenue Plantations

**Infrastructure**

**Integrated  
Natural  
Resource  
Management**

- Water Harvesting Structures
- Soil Moisture Conservation
- Afforestation
- Sericulture
- Fisheries
- Animal Husbandry

