

Best Practices of Ground Water Harvesting in Different Parts of India

(State Governments Initiatives)

Disclaimer: All information in this weblink is based on the information/data gathered from different water harvesting works carried out at various places by different authorities including corporate bodies/NGOs etc. MoWR, RD & GR is not responsible for any errors, mistakes, omissions which might have inadvertently crept in during compilation.

S1 Andhra Pradesh	
Title/ Name of work undertaken	Panta Sanjeevani- farm pond scheme
Location	Andhra Pradesh
Organisation/NGO/Persons responsible to undertake the work	Government of Andhra Pradesh
Description	Under the project, farm ponds are being sanctioned to store water for crops as well as for storage of rain water during rainy season and for recharging of groundwater.
Outcome(expected)	<ul style="list-style-type: none"> The farm pond scheme helps in tackling the receding groundwater levels via water harvesting, besides offering water to farming community from nearby borewells The project is mainly for small and marginal farmers having land holdings up to five acres The ponds provide a breather to groundnut farmers who go through difficult times due to scanty rainfall

Panta Sanjeevani Work Progress Status Report(Farm Pond)

State Level Report

Report as on Date: 16-Aug-2018

State : Andhra Pradesh

Sno	District	Administratively sanctioned		No of inprogress Works	No of Completed Works	Expenditure (in Lakhs)	Achievement Percentage
		No of Works	Estimated Cost(in Lakhs)				
1	2	3	4	5	6	7	8
1	Anantapur	32888	35039.80	4869	19705	6871.65	19.61
2	Chittoor	33803	30636.68	5075	14374	5869.60	19.16
3	Cuddapah	17813	18569.95	1809	7407	1601.13	8.62
4	East Godavari	1494	982.77	595	109	109.82	11.17
5	Guntur	1504	828.94	21	107	15.07	1.82
6	Kurnool	30782	57550.22	3964	11073	3470.33	6.03
7	Prakasam	38498	44082.12	6636	18361	4924.31	11.17
8	Srikakulam	2129	2653.16	230	657	56.34	2.12
9	Visakhapatnam	1333	1270.15	254	283	207.38	16.33

10	Vizianagaram	3755	1817.91	225	1130	175.50	9.65
11	West Godavari	29	37	0	0	0	0
12	GRAND TOTAL	164028	193468.70	23678	73206	23301.13	12.04

Photographs



S2 Andhra Pradesh	
Title/ Name of work undertaken	Neeru Chettu is interdepartmental convergence activity among "water conserving departments viz., Irrigation, Rural Development, Ground water, Forest, APSAC and water utilizing departments viz., Agriculture, Horticulture, Fisheries, Animal Husbandry, RWS, Municipal Administration and Urban Development
Location	Andhra Pradesh
Organisation/NGO/Persons responsible to undertake the work	Government of Andhra Pradesh
Description	<ul style="list-style-type: none"> • Inventory of existing water harvesting structures and repairs needed • Construct new water harvesting structures using remote sensing technology • Construction of targeted recharge structures (roof water harvesting, artificial recharge of aquifers and defunct wells) • Restoration of major, medium and minor irrigation systems (repair of breach to structures and supply channels, desilting of tanks) • Participatory Hydrological Monitoring (surface and groundwater) for community water audit and crop water budgeting • Promote sustainable water use by improved Irrigation and Agricultural practices
Outcome(expected)	<ul style="list-style-type: none"> • Improvement & enhancement of surface water, soil moisture and groundwater • Decrease in soil erosion and improvement in soil health • Contributing to the overall goal achievement of the Primary Sector Mission through increase in the productivity of agriculture, horticulture, animal husbandry & fisheries sectors • Reduce the gap between Irrigation Potential created and area irrigated • Increase area under irrigation per unit of water used • Protective irrigation provided to rain fed crops nearby • Reduce stream outflow from basin into the sea
Photographs	



BEFORE DESILTING



జమ్మి చెరువు, మక్కినవారిగూడెం బీ.నర్సాపురం మండలం
నీరు-చెట్టు పని జరుగుతున్నప్పుడు



Kothakarra Tank of Rallakunta (V) of Dwaraka Tirumala (M) of W.G.Dt



Kothakarra Tank of Kommara (V) of Dwaraka Tirumala (M) of W.G.Dt

AFTER DESILTING



Makkinavarigudem (V) , T.Narasapuram (M) . W.G. Dist.

Jammi tank after Neeru-chettu



Kothakarra Tank of Rallakunta (V) of Dwaraka Tirumala (M) of W.G.Dt



Kothakarra Tank of Kommara(V) of Dwaraka Tirumala (M) of W.G.Dt

S3 Gujarat	
Title/ Name of work undertaken	Sujalam Sufalam Jalsanchay Abhiyan 2018
Location	Gujarat
Organization/NGO/Persons responsible to undertake the work	Govt. of Gujarat
Description	The aim was to increase the storage capacity of the existing reservoirs by de-silting of check-dams and deepening the ponds, lakes and riverbeds, besides cleaning the rivers to accommodate more rain water. The campaign was initiated on the 59th Foundation Day of Gujarat with 527 JCB machines and nearly 27000 labourers.
Outcome	Through the campaign 11,000 lakh cubic feet of water storage capacity was enhanced in the state and 5,500 km canals cleaned by taking out silt and other garbage. The soil dig out from lakes and rivers were given to farmers and they had used fertile soil in their farms which would further increase agriculture productivity. Source : https://www.dailypioneer.com/nation/water-conservation-campaign-to-benefit-people-gujarat-cm.html http://www.thehansindia.com/posts/index/National/2018-05-11/Water-harvesting-will-protect-Gujarat-Vijay-Rupani/380592
Photographs	



S4		Jharkhand	
Title/ Name of work undertaken		Dobha Construction for Rain Water Harvesting In Jharkhand State	
Location		Jharkhand State	
Organisation/NGO/Persons responsible to undertake the work		Govt of Jharkhand	
Description		Dobhas are indigenous structures for water conservation which were prevalent in the region , regaining popularity during the ongoing water crisis. Dobhas store rainwater which can be used for irrigation purposes during non-rainy months. This reduces the dependence of the farmers on monsoons and helps them diversify their cropping patterns. The construction of one lakh dobhas (farm ponds) was taken up by the state government in mission mode towards during 2016 in order to deal with water conservation in the wake of severe heat and poor rains in the last two years. Under the scheme, the beneficiary applies for a dobha, which has to be sanctioned by the state government. There are four sizes – 15x15x10, 20x20x10, 25x25x10 and 30x30x10 (all in feet) – that are to be constructed over farmers' land.	
Outcome		Dobha structure were helpful in providing lifesaving irrigation for establishment of orchard under Chotanagpur plateau region.	
Photographs			



Fig:-Rain water collected in black polythene lined, Dobha



Fig- Dobha covered with hogla thatch to Check evaporation.



Fig:- Dobha construction by Ramkrishna Mission, Ranchi at Angara block., Ranchi.



Fig:- Dobha construction by Ramkrishna Mission, Ranchi at Angara block. Ranchi

S5		Madhya Pradesh	
Title/ Name of work undertaken		Kapil Dhara Construction of Dug Wells Under MGNREGA	
Location		Madhya Pradesh	
Organisation/NGO/Persons responsible to undertake the work		Department of Panchayat & Rural development, Govt of Madhya Pradesh	
Description		Construction of dug wells for Irrigation purposes and various water conservation structures like Check dams, stop dams, Contour Trenches etc	
Outcome		It has enabled formers to irrigate their fields and they are able to sow wheat & rice in place of Jawar, Maize which were grown earlier due to shortage of irrigation facilities. In addition to this they have started growing vegetables also which has resulted in growth of their income	
Photographs			





Stop dam

S6	Maharashtra
Title/ Name of work undertaken	Farm Pond On Demand Scheme
Location	Vidarbha and Marathawada Region
Organization/NGO/Persons responsible to undertake the work	Government of Maharashtra with the help of Agriculture University in Maharashtra
Description	Construction of Farm ponds. Government of Maharashtra has set the target of 1,11,111 farm ponds
Outcome	Farm ponds have several benefits. It reduces dependence on ground water, reduces power required to pump water as compared to ground water, cultivation on bunds generates extra income, recharges ground water. As per latest information, total of 4,08,734 online application forms were received. The taluka level committee has given approvals of 2,15,786 application and 1,89,253 work orders given to beneficiaries. 90,180 farm ponds have been completed and an amount of Rs. 369.48 crores has been released to beneficiaries.
Photographs	







S7	Maharashtra
Title/ Name of work undertaken	Jalyukta Shivar Abhiyan
Location	Jalyukta Shivar Abhiyan was launched from year 2015-16. From 2015-16 to 2018-19 total villages were selected 22721 and out Of that 13182 village be made water neutral till today
Organisation/NGO/Persons responsible to undertake the work	Govt of Maharashtra
Description	Arresting rain water within the village boundaries, increasing ground water level, creation of decentralized water bodies, rejuvenation of the old water storage structures, creation of new water bodies, restoring the storage capacity, increasing area under protective irrigation by efficient water use, implementation of Ground Water Act, de-silting of structures with people participation, creation of water awareness, publicity and sensitization among the people, peoples participation in water budgeting.
Outcome	<p>Jalyukta Shivar Abhiyan was launched from year 2015-16. From 2015-16 to 2018-19 total villages were selected 22721 and out Of that 13182 village be made water neutral till Today.</p> <p>In these villages till 21 June 2018 it is reported that 5.26 Lakh works are completed and 31,808 works are in progress. This Abhiyan is being implemented as people's movement and works of about Rs. 631.67 crores through people's contribution. Water harvesting potential of 20.00 lakh TCM and irrigation potential of 22.50 lakh Hec. created by the works completed.</p> <p>As per latest information from department following are the outcomes:</p> <ul style="list-style-type: none"> ▪Increase in Water Storage Capacity-16.82 Lakh TCM ▪Participation of people –More than Rs 550 Crore ▪Recharge of Ground Water Level-1.5 to 2 m ▪Benefit to protective Irrigation Area-20 lakh Ha ▪Increase in Cropping intensity-1.25 to 1.5 times ▪Increase in the Agriculture productivity-30 to 50% ▪Reduction in Tanker from 6140 to 1666
Photographs	









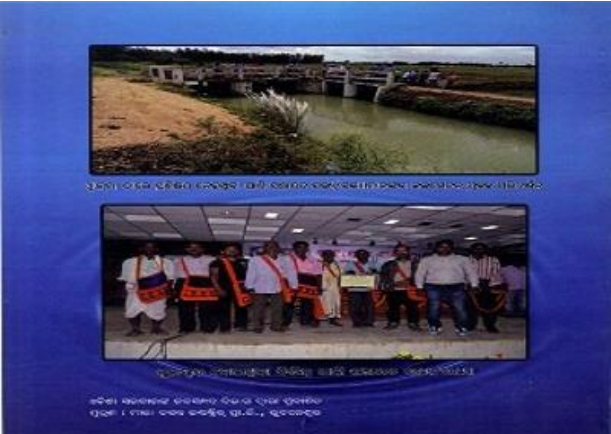
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S8 Odisha	
Title/ Name of work undertaken	Pani Panchayat : Odisha Water Resource Consolidation Project
Location	Odisha
Organisation/NGO/Persons responsible to undertake the work	Dept of Water Resources, Odisha
Description	<p>The primary objective of Orissa Water Consolidation Project (OWRCP) was to improve the planning and development process for the state's water resource; thus increasing the overall agricultural productivity through investments for improvement of the existing scheme. Participatory Irrigation Management was introduced in Orissa in 1995 on a pilot basis under Orissa Water Resources Consolidation Project (OWRCP) under the banner of Farmers Organization and Turnover (FOT). Experiencing its success at large, it was extended to all the commands of Major, Medium, Minor and Lift Irrigation Projects. The main objectives of the intervention were to promote and secure equitable distribution of water among its users, adequate maintenance of irrigation system, efficient and economical utilization of water to optimize agricultural production and to protect the environment and to ensure ecological balance inculcating sense of ownership of the irrigation system in accordance with the water budget and the operational plan.</p>
Outcome	<p>The intervention has a well-defined institutional framework. The legal system comprises of several acts and policy framework "The Odisha Pani Panchayat Act-2002" has been enforced in the state since 15.11.2002, "The Odisha Pani Panchayat Rules" 2003 has also been enforced since 23.04.2003. Prior to enforcement of Pani Panchayat Act & Rules, Pani Panchayats were registered under the Societies Registration Act-1860. Some amendments to the 2002 Pani Panchayat act has been made since then like inclusion of fisher folk, increase in tenure of Pani Panchayat office Bearers and Executive Body from 3 years to 6 years subject to replacement of 50% by lottery, election of members from the Chaks on a rotational basis and representing, head, middle and tail reach and inclusion of women by reservation of 1/3rd of the total number of seats in the Executive Committee. Other outcomes that mark the empowerment of Pani Panchayat are like a quarterly Publication of Pani Panchayat Samachar that helps in exchange of knowledge, organization of Pani Panchayat fortnight from 26th December to 9th January every year, broadcasting of program on All India Radio and Television, felicitation of best</p>

	performing Pani Panchayats during the fortnight celebration every year, regular on campus and off campus training program by Water and Law Management Institute Orissa (WALMI) and interstate and intra-state training-cum-exposure visit.
Photographs	



S9 Odisha	
Title/ Name of work undertaken	Rooftop Rainwater Harvesting & Ground Water Recharge
Location	urban local areas of Bhubaneswar , Berhampur, Titilagarh, Bolangir and Jharsuguda
Organisation/NGO/Persons responsible to undertake the work	Dept of Water Resources, Odisha
Description	<p>Rooftop Rainwater Harvesting Systems (RRHS) in private and Govt. buildings with following four components:-</p> <ol style="list-style-type: none"> 1. Rainwater Collection Unit - PVC (110-150 mm) pipeline with fittings for rooftop rainwater collection and conveyance to different units. 2. Filter Unit - Masonry tank with a bed of filter materials. 3. Storage Unit - RCC underground rainwater tank of 5,000 - 10,000 liters capacity 4. Recharge Unit - Dug Well / Bore Well / Tube Well with depth range of 10-50 m
Outcome	It will improve the ground water levels

Present Status of the Scheme

In the first phase following five water stressed towns(Sl. 1 to 5) have been taken up under the Scheme.Later on during the FY 2018-19 ,06 more no. of towns have been added under this scheme. The year-wise cumulative physical and financial achievements made since FY 2014-15 up to end of **April 2018** (FY 2018-19) are indicated below.

Sl. No.	Towns	FY						FY					
		2014-15	2015-16	2016-17	2017-18	2018-19	Total	2014-15	2015-16	2016-17	2017-18	2018-19	Total
		Nos. of Govt. Building provided with RRHS						Nos. of Private Building provided with RRHS					
1	Bhubaneswar	08	37	32	26		103	-	383	698	1153		2234
2	Berhampur	05	25	21	13		64	-	131	314	476	15	936
3	Bolangir	-	07	06	06		19	-	59	108	225		392
4	Jharsuguda	-	09	15	06		30	-	48	156	180		384
5	Titilagarh	-	02	02	06		10	-	06	38	112		156
6	Puri												
7	Cuttack												
8	Angul												
9	Talcher												
10	Sambalpur												
11	Roukela												
Total Physical Achievement(Nos.)		13	80	76	57	0	226		627	1314	2146	15	4102
Total Financial Achievement(Rs. Lakhs)		34.00	200.00	220.00	169.80		623.80		245.00	500.00	799.62	4.83	1549.45

Photographs



S10 Odisha	
Title/ Name of work undertaken	Mukshyamantri Adibandha Tiari Yojana(Construction of check dams)
Location	Odisha
Organisation/NGO/Persons responsible to undertake the work	Dept of Water Resources, Odisha
Description	<p>Check dams/In-stream storage structures in small rivers, streams and anicuts in major rivers and streams to utilize a part of surface runoff flowing down the sea. The objective is to conserve water at end of monsoon to meet following requirements.</p> <ul style="list-style-type: none"> • to provide drinking water facilities in the villages along both the sides of river after monsoon period. • to provide incidental irrigation to crops during late khariff and rabi by storing water at the end of monsoon, mainly through lifting devices. • Irrigation use of water flowing down drainage channels. • to divert water from perennial / semi-perennial streams in hilly areas for irrigation purpose. • to recharge ground water. • Other uses by villagers like bathing, washing, fishing, recreation etc. depending on location and potentiality.
Outcome	<ul style="list-style-type: none"> • In-stream storage will be developed near urban centers, if suitable rivers and locations available for multipurpose domestic and irrigation use.
Photographs	



Check dam constructed in Khandomal



Dhenkanal Badajore nalla Check Dam (DS) in Gondia Block



S11 Odisha	
Title/ Name of work undertaken	Deep Borewell Secha Karyakrama
Location	Odisha
Organisation/NGO/Persons responsible to undertake the work	Govt of Odisha
Description	<ul style="list-style-type: none"> The average unit cost of each borewell would be around Rs.3.88 lakhs including electrical substations, power-line and pumping units. Beneficiary contribution in the project would be 10% of the project cost subject to a maximum of Rs.20,000/-. Beneficiary is to pay Rs.1000/- (non-refundable) after scrutiny of application and the remaining Rs.19,000/- would be paid after successful completion of drilling and testing of bore well. Power supply would be made up to borewell point and the pumping unit. The beneficiary has to bear all cost towards service connection, inspection fee and security deposit and enter into power supply agreement with respective DISTCO. The borewell after energisation would be handed over to the beneficiary for operation and maintenance. <p>Beneficiary would pay the energy charges regularly to the DISTCOs after taking over the unit.</p>
Outcome	It will help farmers in irrigation
Photographs-Yes	
Status of Deep Bore Well through online system as on (31/12/2017)	
Online system of receiving application from the farmer was opened for the year 2015-16 on	01-09-2015
Online system of receiving application from the farmer was closed for the year 2015-16 on	31-12-2015
Online system of receiving application from the farmer was opened for the year 2016-17 for 11 districts on	01-01-2017
Online system of receiving application from the farmer was closed for the year 2016-17 for 11 districts on	31-03-2017
Online system of receiving application from the farmer was opened for the year 2017-18 on	01-08-2017
Online system of receiving application from the farmer was closed for the year 2017-18 on	31-12-2017
Nos. of farmer registered through Deep Bore Wells	200736
No of famer have deposited their share Rs.20000/-(General) / Rs. 10000/- (BPL,SC & ST) in advance in shape of Bank Draft in their name in Union Bank Of India	61429

No. of Bore Wells Drilling attempted	24850
No. of Bore Wells Failed during drilling	5069
Total no. of Bore Wells successfully drilled	19781
Nos. of Deep Bore Well tested	19497
Nos. of Deep Bore Well failed after YDD test	634
Nos. of Deep Bore Well successfully installed	18863
Electrification started after installation	3633
Energisation of Bore Well and handed to Beneficiary	7995



Rabi2016-17
Village - Vegipadar
GP- Gudialipadar
Block- Bhawanipatna

Latitude: 19.935678
Longitude: 83.192498
Elevation: 286.4m
Accuracy: 3.0m
Azimuth: 92° (E)
Pitch: -4.8° (-3.2°)
Time: 02-22-2017 18:08

Powered by *AngleCam*



S12 Rajasthan	
Title/ Name of work undertaken	"Mukhyamantri Jal Swavlamban Abhiyan"(MJSA)
Location	Rajasthan
Organisation/NGO/Persons responsible to undertake the work	Government of Rajasthan
Description	Rain water harvesting-Construction of Various water Conservation structures, Participatory Approach, IEC activities.
Outcome	<p>Creation of additional storage capacities to harvest 128 Mcum (4516Mcft) water coupled with extensive and vigorous watershed development activities in an exhaustive and scientific manner helped in intercepting additional 11170 Mcft monsoon water which resulted in:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Better availability of potable water during summer. <input type="checkbox"/> Improvement in ground water. <input type="checkbox"/> Revival of defunct handpumps, tubewells & open wells. <input type="checkbox"/> Enhanced water availability for lean season irrigation resulted in Increased area under lean season crop & orchard. <input type="checkbox"/> Developing and sustaining flora & fauna. <input type="checkbox"/> Mitigating drought abuses and reducing plight of masses.
Photographs	



Village Pond



Field Bunding



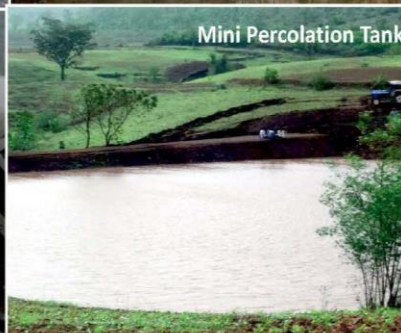
Low cost water harvesting masonry structure (Anicut)



Farm Pond



Minor Irrigation Tank



Mini Percolation Tank



Ranayara Anicut, Bhawanimandi, District Jhalawar



Construction of mini Percolation tank at Pali



From the conserved Water shown above there will be additional sowing of wheat in 6 hectares resulting into additional annual income of Rs 2 lakhs



Water level in the dugwells has shown rise of 5 meters

S13		Sikkim
Title/ Name of work undertaken	Artificial recharge for Spring rejuvenation South Sikkim district, Sikkim.	
Location	South Sikkim district, Sikkim.	
Organisation/NGO/Persons responsible to undertake the work	RM&DD, Govt. of Sikkim	
Description	Staggered trench for artificial recharge in the spring shed	
Outcome	Enhancing yield of springs for spring rejuvenation.	
Photographs		



S14		Telangana
Title/ Name of work undertaken	“Mission Kakatiya” programme for restoring all the minor irrigation tanks and lakes in Telangana State , The objective of Mission Kakatiya is to enhance the development of agriculture based income for small and marginal farmers, by accelerating the development of minor irrigation infrastructure, strengthening community based irrigation management and adopting a comprehensive programme for restoration of tanks.	
Location	The programme helps in rejuvenating 46,531 tanks and lakes, storing 265 TMC water across the state in five years The project was taken up in four phases: <ul style="list-style-type: none">• Phase 1 - 8003 tanks• Phase 2 - 8927 tanks• Phase 3 - 5886 tanks• Phase 4 - 6000 tanks• Phase 5 - Remainder and New tanks creation	
Organisation/NGO/Persons responsible to undertake the work	Government of Telengana The Government has prioritized to take the restoration of minor irrigation tanks to restore them to store their original capacity and to effectively utilize 255 TMC of water allocated for Minor irrigation sector under Godavari & Krishna River basins	
Description	<ul style="list-style-type: none">• De-silting the tank beds to restore original water storage capacity of tanks.• Repairing dilapidated sluices, weirs etc.,• Strengthening the tank bunds to its original standards.• Repairing the feeder channels to standards for getting water freely into tanks.(Part of chain of tanks)• Re-sectioning of irrigation channelsto standards & Repairs to CM & CD works for smooth distribution of water to fields according to their requirement. Big tanks and lakes, with higher ayacut, were taken up first. By March 2018, 27,713 lakes work was completed, spending ₹8700 crores, stabilizing and providing water for 20 lakh acres.	
Outcome	By using surface water instead of bore well water there was a marked change in quality. Over 2.88 lakh acres of new ayacut was stabilised and will reach 12 lakh acres by the completion of the project. The ground water table increased from 6.9% to 9.2%. The livelihood of fisherman community was also restored.	
Photographs		

