

# **Best Practices of Ground Water Harvesting in Different Parts of India**

(Corporate 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.

<b>C1 Madhya Pradesh</b>	
Title/ Name of work undertaken	Integrated Watershed Management Programme (IWMP)
Location	Phanda block,Bhopal Madhya Pradesh
Organisation/NGO/Persons responsible to undertake the work	Mahindra and Mahindra
Type of intervention	Name of Activity and Numbers are as follows: Gully plugs 5 Gabion 47 Field bund 31800 Spur Gabion 2 Stone outlet 16 Recharge Shaft 3 Stop dam 48 Farm pond 74 Percolation tank 1 Tank repairing 8
Outcome	The major impact of this work is additional storage and conservation of 7,06,838 -cum- of water, direct benefit to more than 130 families, resolving the problem of water logging up to 50 hectares. The tube wells are recharged and a great extent of soil erosion has been controlled. Revival of rivers and streams has brought them in to their original form.River revival has helped farmers to overcome from water logging problems and converting their rainfed farming in to irrigated. The results are very encouraging and this can be replicated in the other areas.
<b>Photographs</b>	

**Activity Farm Pond**

**Village Name – Phanda Kala**



**Before**



**After**

**Activity- Stop Dam No.01**

**Village Name – Phanda Kala**



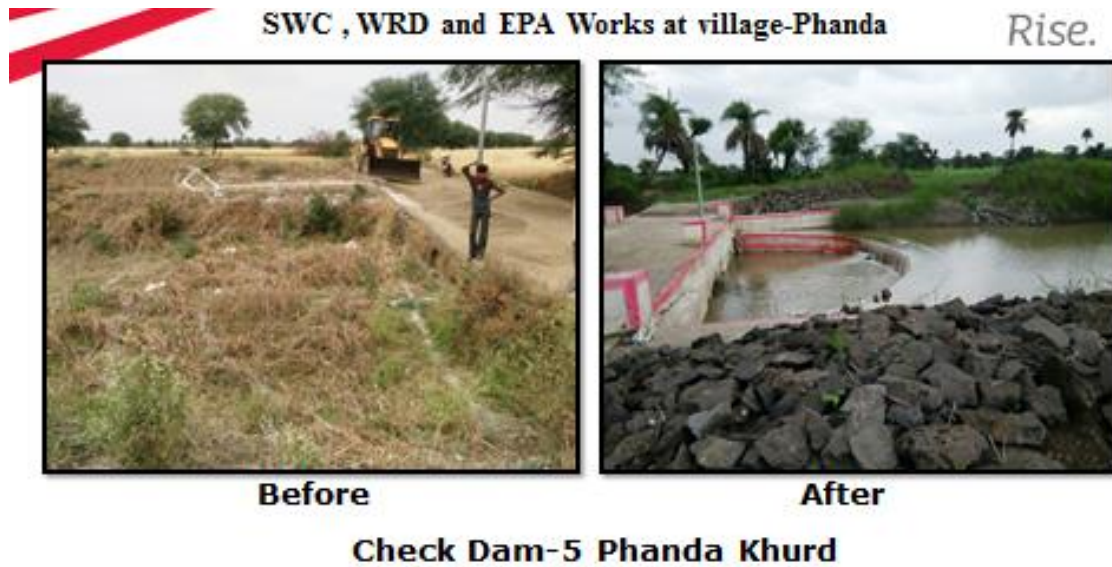
**BEFORE**



**AFTER**



Innovative Arc dam structure in Phanda kala Stop dam capacity increased by addition of cement bags



All Stop dam Structures planned in Series and capacity of structures been increased by additional storage measures like deepening and widening of nala and increasing temporary height by addition of bags filled with soil

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<b>C2 Maharashtra, Karnataka, Telangana, Tamil Nadu, Andhra Pradesh, Kerala and Punjab</b>	
Title/ Name of work undertaken	Sustainable Water Resource Development and Management  (SWRDM) Programme
Location	7 states (namely, Maharashtra, Karnataka, Telangana, Tamil Nadu, Andhra Pradesh, Kerala and Punjab)
Organisation/NGO/Persons responsible to undertake the work	Pepsico
Type of intervention	Harvesting & management of surface water resources by the rejuvenation of rainwater harvesting ponds, its regular maintenance in terms of de-silting and other related issues Community members, Gram Panchayats, various forms of user groups and Water User Associations' (WUAs) capacities have been built around various issues and towards a larger development perspective.
Outcome	In 2016, water recharge projects replenished over 4.5 billion litres of water benefitting nearly 55,000 community members.
<b>Photographs</b>	





**Drone shot**



**Pond rejuvenated by PepsiCo at Channo , Punjab**



**Sangareddy, Telangana**



**T.Kuppe pond Nelamangala- Karnataka**



**SRICITY , Andhra**



**PALAKKAD , Kerala**



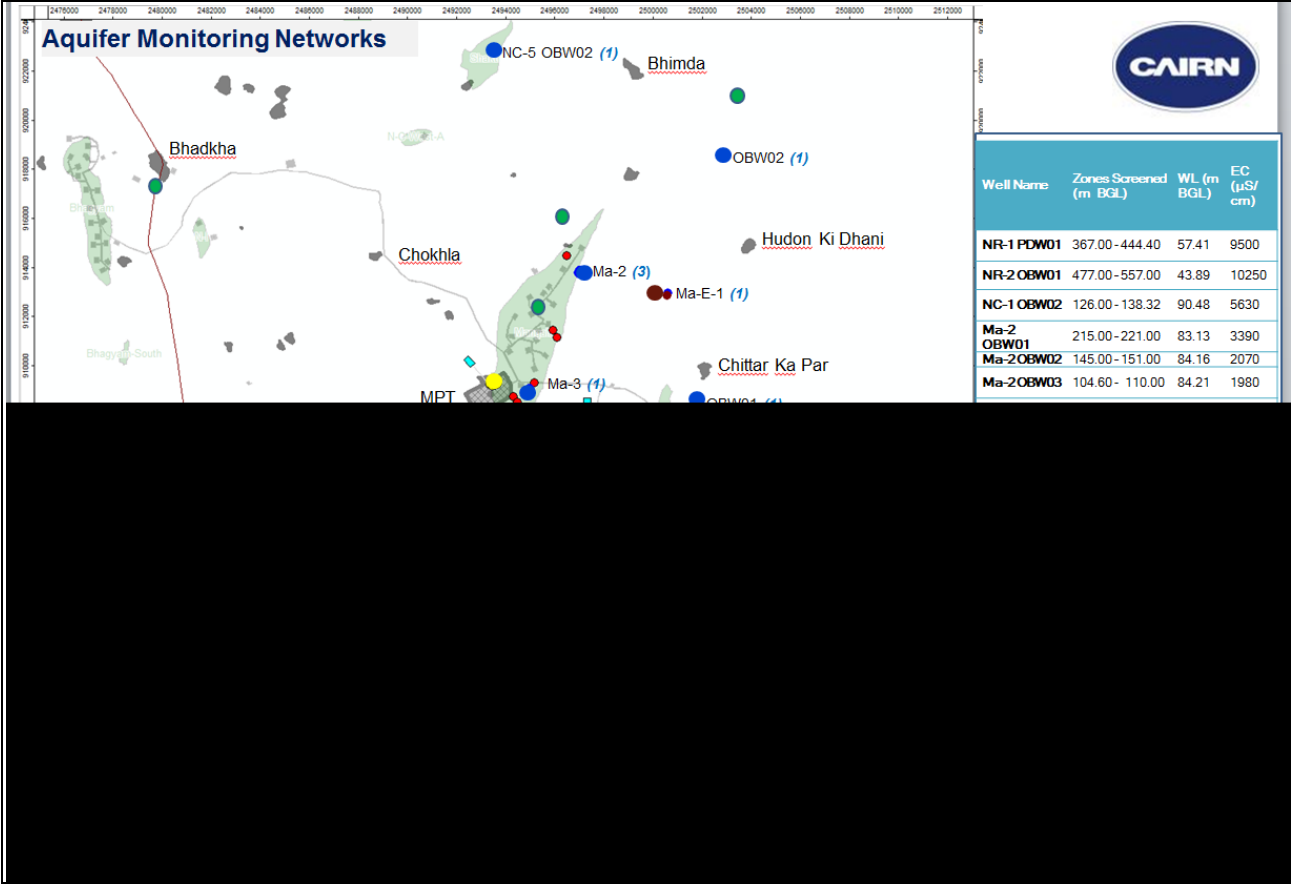


**Check Dams at Paithan, Maharashtra**

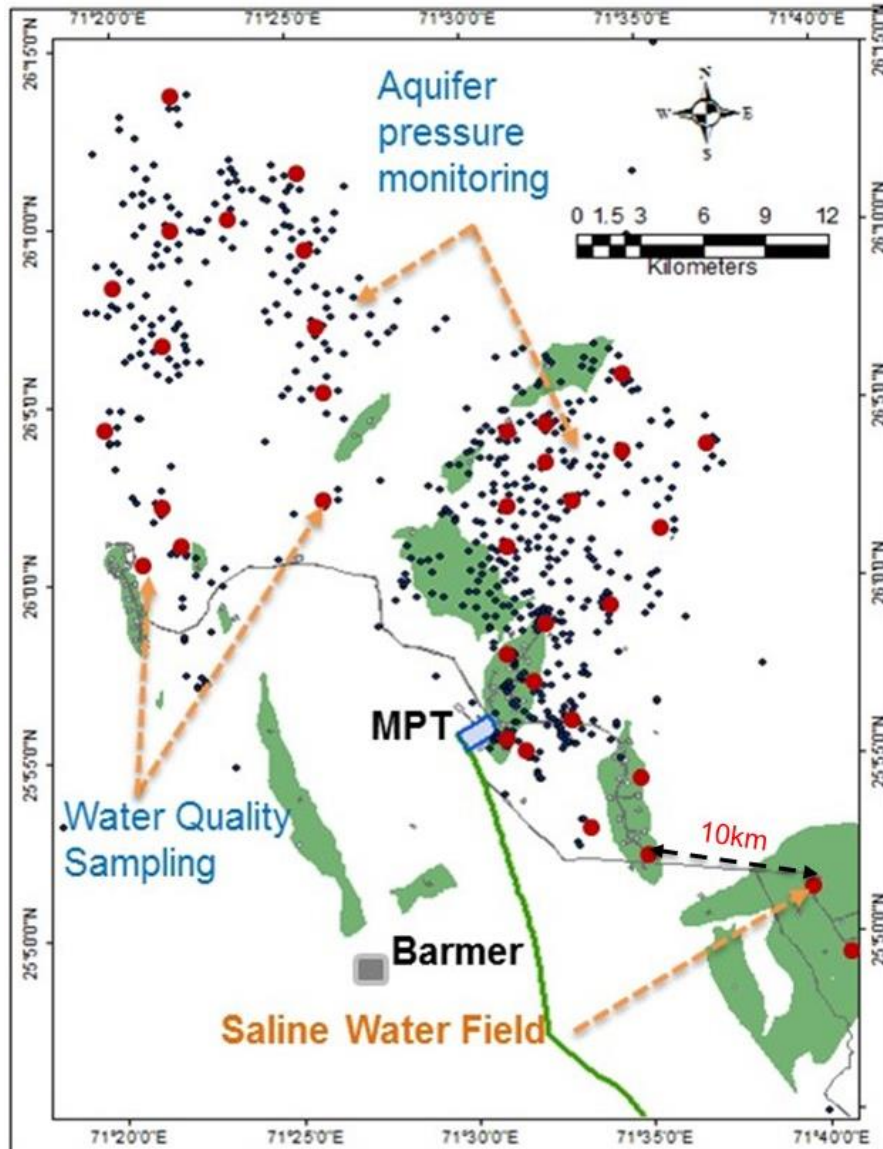


**Mamandur, Tamil Nadu**

<b>C3 Rajasthan</b>	
Title/ Name of work undertaken	Management of Deep Saline Aquifer for Oil Field Development in Rajasthan, India.
Location	Barmer district of south-western Rajasthan
Organisation/NGO/Persons responsible to undertake the work	Cairn Oil & Gas, Vedanta Ltd.
Type of intervention	<p>Cairn Oil &amp; Gas has taken initiative to augment the groundwater resources of the area through construction of rainwater harvesting structures (Khadim/Nadi) and roof top rainwater harvesting structures at community level in Barmer district.</p> <p>List of Implemented Schemes</p> <ol style="list-style-type: none"> <li>1. Rainwater harvesting pit of ~72,000 m3 storage capacity with groundwater recharge structures at Mangala Processing Terminal (MPT), Kawas, Baitu.</li> <li>2. Rainwater harvesting pit (lined) of ~58,000 m3 storage capacity at NR-1 (MadpuraBarwala, Baitu) with provision to conserve the water in deep saline aquifer.</li> <li>3. Renovation of more than 1300 traditional rainwater harvesting structures (Tanka and Tankli) in Barmer area. Total rainwater harvesting potential of 21,000m3.</li> <li>4. Installation of more than 6 community based desalination plant in purely saline groundwater zone.</li> </ol>
Outcome	<p>The identification and utilization of huge deep saline water resources has helped Cairnto systematically developing oil and gas fields of Barmer Basin. The strong and high quality aquifer monitoring programme has helped regulator and other stakeholders to understand that abstraction saline water from deep aquifer is not impacting limited shallow fresh groundwater system in the area. This also helped regulator take quick decision on the basis of strong hydrogeological database. This has also helped to minimize the use of limited fresh water resources for industrial purposes</p>
<b>Photographs</b>	



. The Locations of Monitoring Wells



Locations of Hydro-census wells (Public and Private well)





- Construction of Small Water Harvesting Structures (Khadins) - 1,90,000 m<sup>3</sup>
- Renovation of Nadi Structure
- Construction of Community Khadin Structures

**Barmer Unnati – Runoff Water Management for Crop Production**



ABOVE: 1. Beneficiary inspects the structure, 2. Spillway structure for overflow management of water, 3. Crop grown in the structure

**Barmer Unnati – Capturing Rainwater to Improve Farming**



ABOVE (from left): Barren field before construction of khadin; Water harvested in khadin following rain in July 2014; Chatur Singh's wife Prithvi Devi with crops (Moong and Mott) successfully grown in drought conditions

**Jalsla Community Khadin**



Jalsla Community Khadin Before Construction

Jalsla Community Khadin After Construction



Jalsla Community Khadin After Rain during July, 2015 with Harvested Rainwater



**Jadesar Community Khadin:**



Jadesar Community Khadin Before construction



Jadesar Community Khadin During and After construction



Water Harvesting structures.



Roof Top Rain Water Harvesting structures in Schools



- Installed 6 community based RO plants in Barmer
- CIL has provided one time capital cost
- Plant Independently run and managed by Village Water Committee

Sl. No.	Village	Plant Capacity
1	Guda Malani	1.5 m <sup>3</sup> /hr
2	Bhakarpura	1.5 m <sup>3</sup> /hr
3	Adel	1.0 m <sup>3</sup> /hr
4	Koslu	1.0 m <sup>3</sup> /hr
5	Bhadka	1.0 m <sup>3</sup> /hr
6	Jogasar Kua	1.0 m <sup>3</sup> /hr



### Community Desalination Plants



Photograph showing Recharge pit of storage capacity of (72,000 m<sup>3</sup>) constructed in Mangala Processing Terminal (MPT), along with recharge shaft for artificial recharge of groundwater.

### . Rain Water Harvesting Structure at Mangala Processing Terminal



• More than 1300  
structures constructed/  
repaired

• Created more than 21,  
000 m<sup>3</sup> rainwater  
harvesting capacity



C4		Uttar Pradesh	
Title/ Name of work undertaken		Adoption of village ponds for rainwater harvesting for ground water recharge in over- exploited region around Gajraula town	
Location		60 Nos. of village ponds adopted in 10 Kms radius around the Gajraula Town	
Organisation/NGO/Persons responsible to undertake the work		M/s Jubilant Life Sciences Limited, BhartiaGram, Gajraula, District Amroha, Uttar Pradesh	
Type of intervention		Recharge structures were constructed in each of the 60 village ponds The construction of the recharge structure was monitored and documented through photographs taken at 4 stages of the project in each pond as below, after the following stage  <div><div>a) The original pond</div><div>b) Construction of Recharge well with brick lining and borewell pipe</div><div>c) Filing of Layers of filter with Peables and PeaGravel and Nylon filter cloth</div><div>d) Filling of Coarse sand layer</div></div>	
Outcome		Recharge of above 21 Lakh Cubic Meter of rainwater into saturated ground water aquifer and thus improve the ground water development status Improve the quantity and quality of ground water available for domestic and irrigation use Over a period of time, with improved ground water level, reduce the energy required for ground water extraction As the Ganga River on the left bank is a receiving stream with recharge from the phreatic ground water aquifer, the improved ground water table would increase the lean season flow in ganga, thus enhance the ecological flow and contribute to the “Aviral Ganga” program.	
Photographs			

Map showing location of Village ponds adopted by Jubilant Life Sciences Limited, Gajraula for artificial recharge

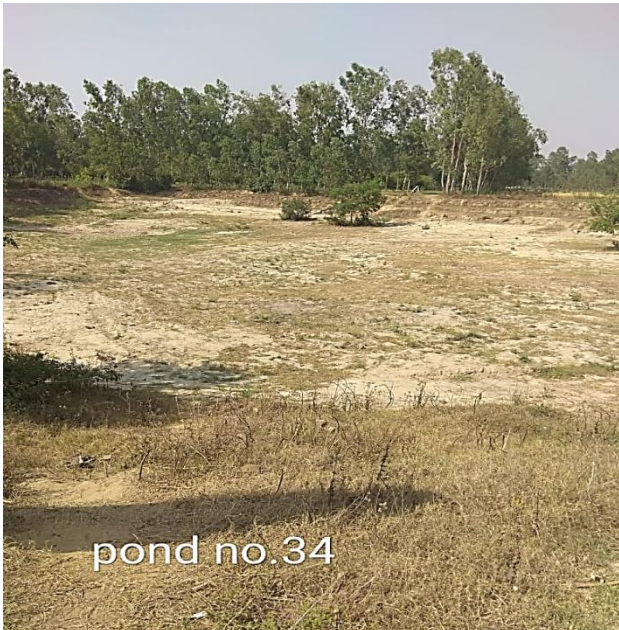


Village: Chuchela Kala



**Photo Stage 1: Date:10/06/18**

Site selection



**Photo Stage 2: Date:14.6.2018**

Excavation, Boredrill pipe with perforated section Civil work bottom PCC and Wall plastered



**Photo Stage 3: Date:12.06.2018**

Filter media upto Pebbles with borepipe buried



**Photo Stage 4: Date:16.06.2018**

Coarse Sand filled and Water compartment visible

