Best Practices of Ground Water Harvesting in Different Parts of India

(State Departments & Local Bodies 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.

L1	Andaman & Nicobar
Title/ Name of work undertaken	Roof top Rainwater harvesting in Prothrapur jail, Port Blair, South Andaman district
Location	Prothrapur jail, Port Blair, South Andaman district
Organisation/NGO/Persons responsible to undertake the work	APWD, A&N administration
Description	Series of check dams for conservation of rainwater and surface water
Outcome	This area falls under tremendous water scarcity and during 20.12.2014 earthquake which caused Indian Ocean tsunami, it was observed that groundwater in higher course declined, lot of water started oozing along the streams located at lower topographic levels like the current stream. Accordingly, CGWB opined to construct series of check dams to conserve the out flowing water to sea. The check dams were constructed forthwith and currently form a dependable source for drinking water in parts of South Andaman.
	Photographs

L2	Andaman & Nicobar
Title/ Name of work undertaken	Artificial recharge and conservation of subsurface water using subsurface Dam/dyke in Guptapara village, South Andaman district
Location	Guptapara village, South Andaman district
Organisation/NGO/Persons responsible to undertake the work	APWD, A&N administration under the technical advice and field supervision of CGWB.
Description	Successful application of subsurface dam/dyke along with collector well and lifting device
Outcome	Prior to construction of this structure, this village used to face extreme water scarcity. A well of 4-5m diameter, 6m depth used to yield only 4000-5000 liters per day. However, after the intervention, the well is yielding 80,000 liters/day and eradicated the drinking water scarcity in the village.
Photographs	

L3	Andaman & Nicobar
Title/ Name of work undertaken	Series of Check Dam for conservation of fresh water for drinking and Artificial recharge to ground water -Lalmitty dam at Beadnabad, South Andaman district
Location	Lalmitty dam at Beadnabad, South Andaman district
Organisation/NGO/Persons responsible to undertake the work	APWD, A&N Administration.Constructed from UT funds
Description	Series of check dams for conservation of rainwater and surface water
Outcome	This area faces tremendous water scarcity. During 26.12.2014 colossal earthquake which caused Indian Ocean tsunami, it was observed that groundwater in higher areas declined. Lot of water started oozing along the streams located at lower topographic levels as found in the current stream. Accordingly, CGWB opined to construct series of check dams to conserve the out flowing water to sea. The check dams were constructed forthwith and currently form a dependable source for drinking water in parts of South Andaman.
	Photographs

L4	Andaman & Nicobar
Title/ Name of work undertaken	Check Dam for conservation of fresh water for irrigation and Artificial recharge to ground water at Village Diglipur and Dhanikhari, North Andaman
Location	Village Diglipur and Dhanikhari, North Andaman
Organisation/NGO/Persons responsible to undertake the work	Department of Agriculture, A&N administration
Description	Check dams for conservation of rainwater and surface water.
Outcome	There was no assured source of irrigation in the area and environs prior to the intervention. During 2002-03, as per the recommendation of CGWB (Hill to sea model), 141 nos. of check dams were constructed in South , North-Middle Andaman district. This has created significant irrigation potential in Andaman. A check dam can irrigate 5-6 hectares of land.
Photographs	

L5	Assam
Title/ Name of work undertaken	Regeneration of a traditional rain water harvesting system at Golaghat under FPARP-II Assam
Location	Da-Chamua Gaon, Furkating, Assam
Organisation/NGO/Persons responsible to undertake the work	Rural Development Department, Govt of Assam through MGNREGA
Description	Regeneration of an age old ”pukhuri”- a form of traditional rain water harvesting system carried out at Golaghat under FPARP-II
Outcome	Many traditional rain water harvesting structure like ponds have fallen into disuse because of expansion of government drinking water schemes . These pond when regenerated can provide irrigation, recreational and ecological service to the community. Community sensitization and participation in water harvesting.
Photographs	

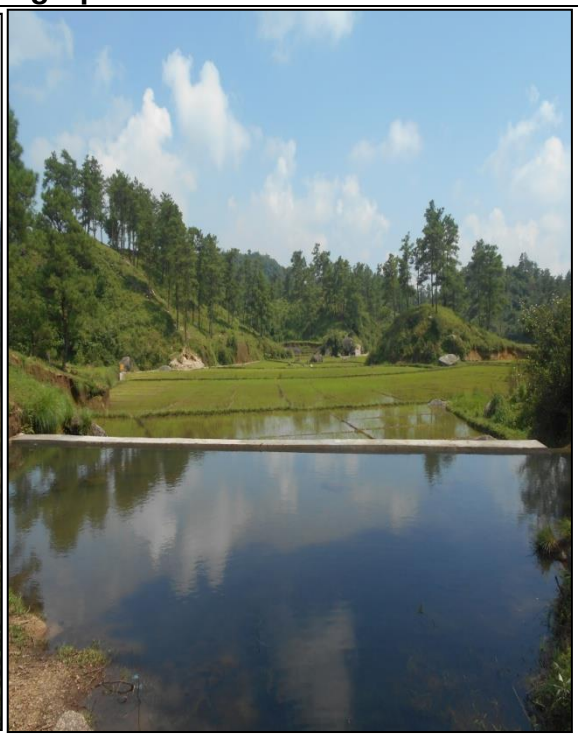
L6	Bihar
Title/ Name of work undertaken	Project Jal Sanchay - Check dams and Ahar pynes
Location	Nalanda
Organisation/NGO/Persons responsible to undertake the work	District administration
Description	A model of water conservation— Project Jal Sanchay—adopted successfully by the authorities in Nalanda district, was conferred the national award for excellence under Mahatma Gandhi National Rural Employment Guarantee Program by the ministry of rural development. Under the project, dozens of check dams were constructed and more than a 1,000 km of traditional ahar-pyne irrigation system were dug up and traditional water bodies were desilted and renovated, accompanied by campaigns to create awareness about rainwater harvesting.
Outcome	Community sensitization and participation in water harvesting. Source: https://www.hindustantimes.com/india-news/nalanda-model-of-water-conservation-chosen-for-national-award/story-C9RNsxjgQM87xYS4ubRnQN.html Image taken from above web page
Photographs	

L7	Gujarat
Title/ Name of work undertaken	Bhungroo – Ground Water Injection Well
Location	Gujarat state
Organisation/NGO/Persons responsible to undertake the work	Govt of GJ, Naireeta Services
Description	Bhungroo' is a water management system that injects and stores excess rainfall water underground. This water is then used for irrigation during summers .The intervention was carried out in sites identified by the Gram Panchayat through resistivity surveys by the Ground Water Department and Geologists from DWMA (District Water Management Agency) for this purpose. Design and estimation was done under MGNREGS. The pilot project was carried out in Gujarat with user groups. The steps such as installation of one unit with sub-surface storage at three levels between 25 to 110 feet with a total capacity of 2 crore litres was implemented. The farmers were trained in installation of Bhungroos. Installation of piezometer was done for water level monitoring on a day-to- day basis.
Outcome	Artificially recharging of aquifers by adding rainwater to underground water reservoirs enables the communities to continue farming for more than half of the year. The non-saline rainwater when mixed with the underground saline water brings down the salinity of the groundwater, making it fit for agricultural use. The system also enables one to lift up and use the stored water during dry spells. The massive underground reservoir can hold as much as 40 million litres of rain water. It harvests water for about 10 days per year and can supply water for as long as seven months. These wells can hold up to two crore litre of rain water. Source : https://www.thehindu.com/society/this-simple-technology-has-transformed-gujarat-farmlands-into-an-oasis/article22529034.ece Images have been taken from above web page.
Photographs	

L8	Kerala
Title/ Name of work undertaken	Revival of water bodies
Location	Entekulam at Kochi in Kerala
Organisation/NGO/Persons responsible to undertake the work	District administration, Kochi
Description	In May 2017, replicating the success of 'Entekulam' first phase, Kochi district administration decided to revive '100 ponds in 50 days' with the help of community. Under the 'Entekulam' first phase 53 ponds were revived. Under second phase about 85 ponds were revived in 37 days. As per Collector around 20 years back the district had 2,500 ponds but now only 600 remain.
Outcome	Community sensitization and participation in water harvesting. Source : http://www.newindianexpress.com/cities/kochi/2017/may/09/reviving-the-lost-ponds-1603007--1.html Images have been taken from above web page.
Photographs	

L9	**Meghalaya**
Title/ Name of work undertaken	Mawtongtin Multiple Water Uses Model Water Plus initiative at Jakrem village, South West Khasi Hills)
Location	South West Khasi Hills
Organisation/NGO/Persons responsible to undertake the work	Soil & Water Conservation Department, MBDA through BDU, South West Khasi Hills, Community/SWKHS&WC Div. Sports Association
Description	Construction of an irrigation Dam/Weir through AIBP Project along with an irrigation channel
Outcome	➢ Catchment protection, ➢ Domestic water provision, ➢ Green energy provision • Domestic water Hydraulic Ram Pump(HRP) : 38 households • Green energy : 5 households & 5 street-lights • Catchment improvement : 2 households (14 ha)
Photographs	

Before Construction



After Construction

L10	**Punjab**
Title/ Name of work undertaken	Kandi Community Micro Irrigation (CMI)
Location	Kandi Belt, Talwara and Hajipur Blocks of Hoshiarpur District, Punjab
Organisation/NGO/Persons responsible to undertake the work	Department of Soil and Water Conservation, Govt. of Punjab with Jain Irrigation Systems Ltd.
Description	A type of irrigation project where solar PV energy is being used for pumping water from a canal to irrigate area under command with micro irrigation either by sprinkler or drip irrigation. • Solar pumping with micro irrigation. • 1.2 MW solar power generation. • Based on "resource to root™" concept. • The system operation is web based, wireless irrigation management. • Training of farmers for advance farming and cropping pattern. • Network is made up of HDPE pipes, where designed life is 100 plus years. • Integrated community micro irrigation project run by water user association (WUA).
Outcome	• Area brought under irrigation expanded • Project has been executed in undulating/hilly terrain • Crop diversification was made possible • Increase in yields and income levels of the farmers. • Huge water savings because of drip and sprinkler irrigation • No dependence on electricity. Solar pumping system is in use. • Reliable energy at zero costs have resulted in reduced input cost to the farmers. • Automation is integral part of system to promote precision agriculture in Punjab.
Photographs	

Over view of sump well with solar pumping system along Kandi Canal

Kandi Canal with Siphon

Solar Pump Testing

L11	**Telangana**
Title/ Name of work undertaken	Percolation tank at Chandrayanapalli, Vikarabad
Location	Mominpet village, Chandrayanapalli habitation, Mominpet mandal, Vikarabad district, Telangana
Organisation/NGO/Persons responsible to undertake the work	Constructed by Panchayat Raj and Rural Development Department, Govt of Telangana
Description	Ground water recharge structure has been constructed in form of percolation tank.
Outcome	Assured groundwater irrigation due to improvement in water levels and bore well yields.
	Photographs

L12	Telangana
Title/ Name of work undertaken	Check Dam undertaken in Ramnathgudipalli, Mominpet mandal, Vikarabad Dist
Location	Ramnathgudipalli, Mominpet mandal, Vikarabad District, Telangana
Organisation/NGO/Persons responsible to undertake the work	Constructed by Panchayat Raj and Rural Development Department, Govt of Telangana
Description	Ground water recharge structure has been constructed in form of percolation tank.
Outcome	Assured groundwater irrigation due to improvement in water levels and bore well yields.
Photographs	

L13	**West Bengal**
Title/ Name of work undertaken	Water conservation and artificial recharge structure -Siada, Kashipur Block, District-Purulia, West Bengal.
Location	Siada, Kashipur Block, District-Purulia, West Bengal.
Organisation/NGO/Persons responsible to undertake the work	Water Resources Investigation and Development Department, ADMIP, Govt. of West Bengal.
Description	Check Dam
Outcome	There was no provision for irrigation water. The project has created adequate source of water and 8 hectares of land has been brought under irrigation.
	Photographs