

Desert Rainwater Harvesting

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This is a grassroots project aimed at alleviating poverty and providing a reliable water supply to some of the most remote populations in rural Rajasthan who have been in the grips of severe drought for the last four years.

The project will utilise traditional Rainwater Harvesting techniques to provide a sustainable model to be used in drought affected areas throughout the world.

Overview

To address the major water crisis in the desert state of Rajasthan India, the International Sri Deep Madhavananda Ashram Fellowship, has launched a Desert Rainwater Harvesting initiative.

This Rajasthan initiative will utilise traditional Rainwater Harvesting techniques in conjunction with community based watershed management plans to provide a sustainable model to be used in drought affected areas throughout the world.

The Desert Rainwater Harvesting Initiative is a grass roots project aimed at alleviating poverty and providing a reliable water supply to some of the most remote populations in rural Rajasthan, who have been in the grip of severe drought for the last decade.

A key outcome of the Initiative will be the formation of global partnerships and the establishment of an international centre to promote Rainwater Harvesting for desert and semi-arid regions of the world.

The Need for the Desert Rainwater Harvesting Initiative The Rajasthan Water Crisis

Rajasthan is a desert state in India with a geographical area equal to 10 percent of the country, but with only one percent of the country's water resources. The scarce and fragile water resources in this semi-arid environment are under threat from frequent droughts, increasing groundwater salinity and falling water tables.

The region's recent drought has lasted over 4 years, today almost all bore wells are dried up or providing water that is so salty that it is not fit even for irrigating plants and crops, let alone for drinking.

The bulk of Rajasthan's annual rainfall, (54 to 82cm) falls during the monsoon season followed by months of dry hot days that typically yield only several centimeters of additional rain.

These rural areas are also faced with increasing desertification as a result of over grazing and wide spread tree cutting by local people. A combination of both wind and monsoon rains create severe erosion of up to 3000 tonnes per hectare.

The state's poor rural communities, which account for 77 percent of the population, need access to fresh water for drinking and agriculture.

The Desert Rainwater harvesting initiative will provide a wholistic approach that addresses the freshwater needs of local communities, as well as promoting sustainable agriculture, reforestation and increased biodiversity.

The Rainwater Harvesting Solution

The Desert Rainwater Harvesting Initiative was created in response to the ever increasing water crisis facing India's remote rural communities in Rajasthan and from direct requests from villages affected by a recent 4 year drought.

The Initiative aims to provide a year round supply of fresh water for rural communities in drought affected areas of Rajasthan where the Lead Partner has had a long standing presence and ongoing working relationship with the local villages. By using a combination of traditional water harvesting technologies together with modern watershed management tools the DRHI will provide long-term solutions at a local village level by actively involving the local communities in all aspects of the Initiative. The local villagers will be empowered to create their own Village Water Action Plans and will be responsible for designing, planning, implementing, assessing and maintaining their own projects and programs.

The benefits for the local communities will be on three fronts; social, economic and environmental including improved

health by providing safe drinking water, enhanced local environments through reforestation and increased ground water recharge, and enhanced local economies through improved agriculture and food supply.

The initial rainwater harvesting activities in Jadan started as a small scale project to construct a traditional rainwater reservoir and provide water delivery via tanker to a surrounding drought affected communities. With the drought extending into its fourth year, it was soon realised through discussion with villagers and from increasing requests for water solutions in communities throughout the wider Rajasthan region that this was an issue on a much larger scale in urgent need of attention.

With the launch of the DRHI, the reservoir will now be just one strategy to be used in combination with a range of others (including village rainwater jars, small wells, interceptor dams to recharge groundwater, sustainable agriculture practices and reforestation projects) to transform the region into a model of sustainability. The Desert Rainwater Harvesting Initiative aims to build capacity within the community to empower villages to independently manage their own water resources through an innovative process called Village Water Action Planning. It is anticipated that the Desert Rainwater Harvesting Initiative will provide a Blue Print for other semi-arid and drought affected regions of India and the rest of the world.

Village Water Action Planning - Community Based Water Management

Village Water Action Planning is a community based participatory process originally developed by OzGREEN (Global Rivers Environmental Education Network - Australia) in 1997 for the World Bank. The process involves working directly with local villages and training them to conduct an environmental assessment of their village and watershed and then develop Village Water Action Plans that will provide the village with a sustainable freshwater supply as well as restore the health of their local environment.

During the preliminary phases of Village Water Action Planning, the community is consulted at all levels and Village Water Committees are formed along with Women's Action Groups to ensure complete participation in all aspects of the initiative. Engaging the Women's groups is a crucial component of successful Village Water Action Planning as women are primarily responsible for the daily collection of water and fuelwood, grazing livestock, collecting produce as well as working in the fields. Being the major providers of household needs it is essential that they are actively involved in designing and implementing the Village Water Action Plans.

Village Water Action Planning ensures that culturally appropriate rainwater harvesting methodologies are adopted and 'owned' by the community ensuring their ongoing maintenance and care. Villagers create a vision for the future for their community and village and then set about implementing a range of on-ground actions to achieve it.

Village Water Action Planning allows local communities to sustainably manage their local environment by developing and implementing strategies that:

- Provide safe reliable water reducing public health issues and water borne diseases
- Protect and rehabilitate village water supply watersheds recharging groundwater
- Promote sustainable farming practices resulting in a better local economy and alleviating poverty
- Identify links with government agencies and NGOs to provide technical advice and assist with funding
- Sustainably manage natural resources and enhancing biodiversity
- Manage and reduce wastes
- Promote and provide ongoing training for women, children and disadvantaged groups
- Allow for ongoing monitoring and assessment to provide feedback resulting in improved outcomes.

Village Water Action Plans are developed through active community participation. This involves working in close collaboration with all community stakeholders (including women's groups, elders, landholders and labourers from all castes) and liaising with NGOs and government agencies in order to develop strategies appropriate to the local situation. Developing a VWAP involves the following steps:

- Villagers prepare a village resource map (define village watershed area)
- Villagers are trained in environmental assessment techniques eg water quality, vegetation mapping, soil and land capability, erosion areas, waste
- A Village Water Committee and Women's Action Group is formed to oversee all aspects of developing a VWAP
- The trained teams then conduct an assessment of the village environment themselves by conducting a village watershed walk.

Once the initial assessment is carried out, villagers then meet to prepare a Water Action Plan which involves:

- Identification of Key Issues - The results of the village and watershed environmental assessment are presented at a community meeting; key environmental issues are identified and prioritised by the community.
- Development of a Vision for the Future - Villagers develop a vision for how they would like their village to be in 25 years

covering social, economic and environmental areas. A projected village map is developed.

- Develop Strategies and Identify Priority Actions - The community then develops priority action plans to address the identified key issues and to create the vision they've developed for their village.
- Implementation of the Village Water Action Plan - Once the actions have been prioritised and responsibilities defined, a timeline is developed and on-ground actions begin in conjunction with partner organisations and NGOs.
- Monitor and Evaluate VWAP - Using the skills gained in the training phase, villagers regularly monitor the changes in the village and watershed environment to evaluate the effectiveness of their programs and modify the VWAP as necessary.

Village Water Action Planning also takes into account the dissemination of a range of sustainable approaches to watershed management including:

- water conservation through village level watershed protection plans
- identification and rehabilitation of groundwater recharge areas
- increase native vegetation through reforestation and pasture improvements
- soil and erosion control through re-vegetation and contour dams
- recharging groundwater through interceptor dams and percolation tanks
- promoting the planting of low water use crops and crop diversification
- improved irrigation methods allowing for increased areas of cultivation
- pasture/fodder development and livestock management

Village Water Action Planning also helps build social capital. Active participation in VWAP helps build community. Promoting community ownership of all aspects of the Desert Rainwater Harvesting Initiative enables communities to come together, share knowledge and experiences, and develop their technical skills so they have the capacity and self confidence to initiate their own solutions. This will ensure the ongoing maintenance of the water harvesting structures and a commitment to following through on the sustainable practices that will protect and conserve the natural resources (including soil, water, ground water and catchment areas) for the benefit of the whole community for now and future generations.

A Global Blueprint

Taking the Initiative through Rajasthan

Using the experience in the Jadan region, the International Fellowship and its partners will extend the Desert Rainwater Harvesting Initiatives to six other locations throughout remote, rural Rajasthan - where it's other Education and Research Centres have been operating for decades within the local communities. The project will benefit the local communities by providing local employment, fresh water for drinking and agriculture, education opportunities for women and children, reducing pollution, preventing water related diseases and improving public health.

A Global Blue Print for Desert Rainwater Harvesting

All aspects of the Desert Rainwater Harvesting Initiative will be documented on an ongoing basis and made available through the Internet, this information includes:

- technology development
- implementation and capacity building strategies
- community and environmental impact and
- a training manual for methodologies of developing successful Village Water Plans

The initiative will be designed to be used as a blueprint for other Desert water projects around the world.

Partnership & Funding A Global Partnership

The initiative is led by the International Sri Deep Madhavananda Ashram Fellowship and the Australian Association of Yoga in Daily Life.

Other contributing partners include:

OzGREEN - Global Rivers Environmental Education Network, Australia
 Om Vishwa Deep Gurukul, Jadan Pali District, India
 Sri Devapuriji Ashram, New Delhi, India
 Sri Deep Ashram, Jaipur, India

Yoga in Daily Life - centers in America, Austria, Croatia, Czech Republic, Germany, Hungary, Slovakia, Slovenia, Yugoslavia, Australia, New Zealand, Canada.

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