

ECOTIPPING POINTS VIDEO SCRIPT

INDIA'S WATER WARRIORS: RAINWATER HARVESTING IN RAJASTHAN

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Most of us take water for granted. We turn on the tap and out comes water, even if we don't know where it came from. But it is not that way for everyone. For some, if the rains don't come, or the rivers run dry, there is no water. As the Planet's expanding population and growing economy consume more water every year, water scarcity is a concern that none of us can ignore. More than one billion people now live in regions of severe water scarcity, and that number is expected to reach nearly two billion within the next fifteen years.

What can we do? Innovative solutions will be essential. Gopalpura, a small, humble village in Rajasthan, India, offers an example of the possibilities.

Water has always been scarce in Rajasthan, where most of the rainfall is confined to the short monsoon season from July to September. Despite this, for millennia Rajasthan's farmers met their food needs with year-round irrigated agriculture. They got the most out of every drop of rainfall by building small earthen dams, called *johads*, which captured rainwater. Water from the ponds formed by these dams seeped down through the ground into the aquifer below, which protected it from evaporating away under the hot sun. This underground water recharged Rajasthan's rivers and wells, providing enough of the precious liquid to sustain people, animals, and crops such as wheat, beans, and mustard throughout the year.

Two major changes in the mid-Twentieth Century upset this delicate balance. The first came in the late 1940s, when commercial logging set off a slow-motion chain reaction. Monsoon rains washed the topsoil down newly deforested slopes, depositing silt into the *johad* ponds. This decreased the amount of rainwater they could hold and reduced the amount of water they channeled to underground storage. The underground water level began to drop, but then during the 1950s came the second important change. Tube well technology began to spread through the region. Powerful drills were used to dig wells deeper than ever before, and motorized pumps brought the water up. This seemed the perfect solution to Rajasthan's underground water problem. When there was not enough water in a well, they could just drill the well deeper. The supply of underground water appeared to have no limits. People stopped maintaining their *johads*, because it looked like they no longer needed them. The *johads* gradually filled in with silt, and within 20 years they disappeared – forgotten.

Unfortunately, the underground water eventually began to run out. Wells started to go dry, and people were thrown into a vicious cycle of drilling even deeper wells, pumping as much water as they could and depleting the underground water even further. Soon the wells, streams, and rivers were dry over an area of several thousand square kilometers. Village trees, which had provided essential firewood for cooking, disappeared because the water level was too far below the reach of their roots. Stocks of cattle and goats declined, and wildlife such as antelope and leopards disappeared. With the wells no longer providing irrigation water for year-round farming, the men in the villages were forced to start moving to cities to find work to support their families. The women and children back in the villages had to walk long distances – up to 10 hours a day –

collecting and carrying the firewood and water that they needed for household use. Women no longer had time for their household chores, and children had no time for school.

Then, in 1985, the story began to change. Enthusiastic volunteers with the “Young India Organization” Tarun Bharat Sangh, known as TBS, came to Gopalpura village to build a clinic. A village elder expressed his gratitude for the good intentions but explained that the most urgent need was water. The village elders remembered how the *johads* were built and cared for, and on their advice, TBS volunteers and some of the villagers began to dig the silt out of one *johad*, rebuilding its earthen dam. It took seven months to do the job, but when the monsoon rains came later that year, a pond formed behind the dam, and within a few more months a nearby well, long dry, began filling with water again.

To manage their water, the villagers decided to revive a traditional village council, called the “*gram sabha*,” which they had abandoned in recent years. This council featured a representative from every family in the village and made its decisions by consensus. Every family felt it had a say and was committed to getting the work done. The entire village united to build another *johad* each year, until Gopalpura had a total of nine. By then, every well in the village was full, even during the dry season, and there was plenty of water for irrigation.

The community’s pride in its success gave the village council the courage to try reviving and managing their village forest as well. The villagers replanted their forest and devised strict rules to protect the trees. To remind themselves of their commitment to the trees, they tied colorful *rachis*, or kinship bracelets, around the trunks, a traditional symbol of family protection. Families could break off dead branches for firewood, but were fined for cutting living ones. Restoring the forest protected the watershed around the village. With less soil erosion, less silt washed into the *johads*, making them easier to maintain and capturing more rainwater to replenish the underground water even more.

The results from managing the village water supply and forest have been dramatic. Livestock herds recovered, and now that there was enough water for year-round farming, the men could stop working in cities and return to the village and their families. And with their return, the community support system became stronger. There were more people to work on maintaining their life-saving *johads* and to make other community investments to improve their lives. The farmers were able to diversify their agriculture to include additional crops such as sugar cane, potatoes, and onions. With water and firewood just a short walk away from their homes, women had time to return to their housework, and inspired by the positive changes, started cooperatives selling milk products, handicrafts, and soap. Children had time to go to school.

The success of resurrecting the *johads* in Gopalpura inspired other villages to do the same. With organizational and engineering assistance from TBS, more than 800 villages have followed the example of returning to traditional rainwater harvesting, using their own manpower and financial resources to build more than 5,000 *johads*. With aquifers recharged across the region, the rivers came back to life, the wildlife returned, and the people regained a decent life.

Their gains did not come easily. They faced challenges that went far beyond commitment and hard work. The government tried to sell away the fishing rights to their newly restored rivers, illegal miners poisoned their underground water, and the government even tried to tear down some of their dams because it felt the villagers were infringing on government authority over the

underground water. In response, villagers created the “Water Warriors of Rajasthan,” and turned the pride of success into the strength and solidarity needed to defend their resources, through sit-ins, lawsuits, and other nonviolent actions. And they were successful!

These people discovered that they could be active participants in shaping their own destiny. They realized that they did not have to become victims of collapse if the community chose to tip the balance in a positive direction. Restoration of the *johads* was an EcoTipping Point – a lever that reversed decline, turning the people and their natural resources to a path of restoration and sustainability. No matter who we are, or where we live, Gopalpura and the other villages of Rajasthan have shown us the power of environmentally sound community action to restore the ecological health of our Planet.

Details of Rajasthan’s rainwater harvesting story and dozens of other environmental success stories can be seen at the EcoTipping Points website: www.ecotippingpoints.org.