

## The Economic Times

Title : Voila, Water!

Author : KP Narayana Kumar

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# Voila, Water!

Using the simplest water conservation methods, a clutch of villages in parched Jaipur have become water-sufficient

:: KP Narayana Kumar

**P**rahlad Singh and his friends look at each other, amused as they point to the handpump situated at the centre of their village. "This," he says drawing an arc in the air, "used to be the grand battlefield."

The stout middle-aged man, who works as a driver, cuts back to 2005. In those days there would be hundreds of women queuing up to fill their buckets. Invariably, there would be a few skirmishes over getting the buckets filled. But sometimes it got worse and led to even more serious incidents with the men taking sides and beating up their neighbours.

"Life used to be miserable. There was always tension in the air and every morning would begin with the sound of people shouting at each other," adds Prahlad, a resident of one of the villages of Phagi block, about two hours away from Jaipur.

As there was hardly any water for daily use, a bath used to be a weekly affair. The high prevalence of fluoride in water also led to several chil-



 **Prahlad Singh** (extreme right) with his neighbours pose in front of the village handpump, the setting for many a skirmish in the past

dren becoming physically challenged. Nand Singh, a farmer, says farming was also a difficult proposition and they could manage to grow only one crop a year. Due to the extreme paucity of water, every year hundreds of youngsters had to leave their villages in these parts and work in distant cities.

As the group of middle-aged men discuss the past, they break into laughter. The smiling faces and the camaraderie are evidence of the change, and the water conservation tank brimming in the background gives away the reason behind the change in the last 10 years.

Looking around them, it is easy to relate to why they feel so good about their present. Pachala village now has a rainwater harvesting structure that appears to be overflowing. Similar stories of abundance in the adjoining villages can be heard, of tanks that are full all through the year.

A cool gust of wind moves through the leafy



## Phagi Block

Used to be the driest part of Jaipur district

**Primary source of water is the scanty and uncertain rainfall**, confined to just two months of the year

**The industries present in the area used lot of ground water** with no recharging and conservation measures in place

**Violent encounters between the villagers over access to water** used to be a daily affair

**Advit Foundation established a clutch of rain-water harvesting projects** in the region that has transformed the area

trees and people from the village gather around the familiar water pump to chat and exchange pleasantries. Somebody cracks a joke that was passed on through WhatsApp and everybody joins in the laughter. The transformation of the village is complete.

The story of how Phagi Block became water sufficient dispels many misconceptions and even offers a rather simple route map to achieving superlative results in taking water to the drier parts of the country. It all started in 2005 after Prahlad Singh happened to meet Charu Jain, director at Advit, an organisation that worked on water conservation in particular apart from renewable energy. The water expert happened to be working on a project at the company that employed Prahlad. Prahlad told Jain about the problems at his village and surrounding ones. Soon Charu Jain, director, and Chandramouli Chandrasekaran, president of Advit Foundation, started travelling to these hamlets. Initial assessments revealed that water was at least 600 feet under, making any project prohibitive. So they advised the villagers to consider migrating from the village.

For their part, the villagers were in no mood to leave. "They are very attached to their land and so we were forced to revisit the project after a couple of years," says Jain.





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**"They have really taken this project to heart. We had asked them not to pump water and last year even during peak summer the water bodies were full"**

Chandramouli Chandrasekaran,  
president, Advit Foundation



**"There were no roads and we used to get lost so often in the early days. The water we got to drink was naturally unsafe"**

Charu Jain, director, Advit Foundation



**Pachala village now has a rainwater harvesting structure that appears to be overflowing all through the year**

In order to be sure about their analyses, the Advit team collected satellite data, land use and village level data. A participatory resource appraisal (PRA, which takes into account the knowledge and opinion of villagers) was conducted in each project village to ensure the participation of village communities. As a result, detailed PRA maps were developed for each village. Individual maps for all the selected villages and topographic maps covering the project area were collected from respective agencies. Remote sensing data and maps were collected from the National Remote Sensing Agency (NRSA).

## Sustainable Development

The team then began deepening the existing low-lying areas in this villages and constructing structures that would save the rainwater. Each of these structures cost less than ₹7 lakh

and each structure was completed in less than a month. Having built eight structures in four villages in phases, the Advit team also spent considerable time interacting with the villagers and ensuring they took to maintaining the projects.

"They have really taken this project to heart. We had asked them not to pump water and last year even during peak summer the water bodies were full as no one pumped out from them," says Chandrasekaran. "Now we can grow up to three crops a year and the youngsters won't have to go out looking for work. The average income in these parts too has more than doubled," adds Prahlad Singh. And the women of the village do not have to walk a distance to get water.

*Advit Foundation believes that to ensure water security, implementation at a micro level is the only sustainable way*



## The Set-up...

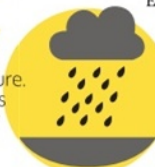
**Individual maps for all the selected villages and topographic maps** covering the project area were collected from respective agencies



**Remote sensing data and maps** were collected from National Remote Sensing Agency (NRSA)

**All the three kinds of maps were superimposed** to develop base map for the project area

**Eight rainwater harvesting structures were created** at a cost of about ₹7 lakh per structure. Each structure was constructed under four weeks



## ...and the Results

Each structure recharges about 1 km radius land area **or about 100 wells**

There is an increase in soil moisture which has increased cropping cycles from one a year to three.

**Average farm incomes have more than doubled**

**The water availability has led to more farmers getting into dairying** which has become a major source of additional income



**These villages have become peaceful** and local people are now able to cooperate and do more as a community

The project got financial support from organisations like IKEA, Coca Cola Foundation, Canara Bank, HSBC Bank, as well as local businessmen. Advit Foundation is a not for profit development organisation based in Gurgaon and works on conservation of environment resources and livelihood enhancement. The focus areas are water management, energy efficiency, skill development and environment education programs.

According to Jain, much of the problems that are associated with water scarcity in India have to do with the fact that governance and planning have shifted focus to "big projects" in recent years. Water conservation experts say that life may not have been so easy, if they had to go through the government to get things done. In the case of Phagi project, Advit only had to deal with the local community, banks and other stakeholders.

According to Jain and Chandrasekaran, the project was a logistical challenge more than a technological one. "There were no roads and we used to get lost so often in the early days. The water we got to drink was naturally unsafe.

Even the tea that would be served in the villages betrayed the poor quality of water."

Advit Foundation believes that to ensure water security, implementation at a micro level is the only sustainable way. Instilling a sense of ownership and responsibility among the community towards the harvesting structures is easier when the sizes are smaller. "This renders the structures much more effective as they are easily maintained," explains Chandrasekaran. He adds that small, easily manageable water conservation projects would become significant for the country in the coming days.

Chandrasekaran takes the instance of Kerala, which despite being a rain-blessed state is in desperate need of conservation. "On the one hand, Kerala has plenty of rivers, lakes, ponds and brackish water and receives two monsoons but, on the other hand, it is a water-stressed state with water availability per capita being lower than that of Rajasthan," says Chandrasekaran. Although Kerala has low groundwater potential because of its geography, most of its domestic and agricultural needs are met only by groundwater. Kerala has the highest density of wells in India, which has caused the water tables to fall.

The Advit team also says that a few research studies also support micro initiatives for water conservation. They indicate that smaller structures or watersheds are more impacted by human activity than natural processes. If human activity is controlled then it is much easier to maintain smaller watersheds than the larger ones, which are significantly affected by natural processes.

Going by the manner in which Advit executed the water conservation project at Phagi, it appears as if water is a problem that can be easily solved and with minimal efforts. Yet, the state governments in India appear to have been fighting the problem forever. The Advit team says that all it takes is two water conservation structures per village to ensure round the year availability of water. How difficult is that? ■