

## Water is no pipe dream here

Konkodi Bhat lives with his family in the village of Idkidu on the west coast of India in Karnataka State. He has devised a simple pipe system which allows his family to use rainwater for half the year and lets the excess recharge the open well for usage in the remaining months. His easily replicable technique can successfully reduce groundwater usage in heavy rainfall areas, reports Shree Padre.

Konkodi Bhat has an open well and a borewell, but he doesn't need to use either of these for almost six months of the year—thanks to a simple pipe system that he has devised. The system collects rainwater from the roof into a tank which supplies water for the family's day-to-day use, while the overflow is used to recharge the open well.

Idkidu village receives an average rainfall of 3500 mm. The rainwater collected from the 1,000 square-foot ground floor roof serves not only the four-member family, but the cattle and other needs. Since 2003, the family has not had to pump up water from their well to cover the dry period from May

to November.

The harvested rainwater flows into an old open tank that is six feet above the ground. It is seven feet high and can hold up to 14,000 litres, but when water depth reaches 5.5 feet it starts overflowing, through a locally made filter, into the open well. So the tank actually only holds 11,000 litres of water before it overflows.

"Only if there is no rain for 15 consecutive days do we run the open well pump. But such instances are very few," says Shailaja, Bhat's wife. "During the monsoon we lift a few pots of filtered water from the well for drinking and cooking. The water is

safe—nobody catches a cold. Previously when we were using borewell water, we used to boil it before drinking."

### How it all started

Bhat constructed his house in 1996. The open well was dug in 2003. Till then, they were using borewell water for drinking and other domestic needs. At that time, they were using the roof water to recharge the borewell. In 1992, a campaign for rain harvesting started in the village, including a house-to-house survey initiated by Amrutha Sinchana Raithara Seva Okkoota (Farmers' Service Federation), a local farmers' organisation. Most of the families started harvesting rain in one way or the other. The media named Idkidu as a 'water literate village', and this brought many visitors.

Bhat recalls, "Our entire village was contributing towards water conservation. I too thought I should join in. How could I conserve rain here? That question generated this idea."



Konkodi Bhat's well showing inlet pipe on the right.

*Credit Shree Padre*



Konkodi Bhat, his wife Shailaja, and their son and daughter standing by their well. In the background Bhat's simple pipe system.

*Credit Shree Padre*

#### **Automatic recharge**

Bhat has devised a simple pipe system for taking the excess water off to the open well. He decided not to use a ball valve. Instead, a pipe is taken off the down pipe from the roof and led into a small circular tank that holds a filter. Excess water flows automatically once the water level in the main tank reaches the predetermined height.

The filtered water flows down to the open well. The recharge process goes on almost everyday during the monsoon.

This system cost Bhat Rs.1000 in 2003. The family has learnt to use water very judiciously during the monsoon so that there is plenty of excess to recharge the well. Once the monsoon is over, withdrawal from the well starts. Bhat's idea of making small savings has paid off rich dividends.

#### **Replicable technique**

For people who want to adopt the same system, Bhat has this tip: "This system can be done in houses with only ground floor roof. Nowadays everybody keeps the ground floor roof or the terrace at 12 feet above ground level. So, construct your tank so that its lower level is at

least six feet above the ground. You can fill this tank upto six feet. Keep the capacity of the tank as per your requirement." His wife, Shailaja, adds, "The water pressure in the taps will not be high. But then, the higher the pressure more the wastage."

Has anybody followed this idea? "Thousands of people have come, seen and appreciated," replied Shailaja. "A few have shown keenness to implement this. Maybe some might have already done so. But we haven't got any information on this so far."

Bhat's pioneering success in reducing the groundwater use by half has shown a way for others as to how to make their water management sustainable in heavy rainfall areas. In the Dakshina Kannada district, many industries, institutions and even farmhouses that are unfortunately borewell dependent, can learn a lesson or two from Bhat's example.

The options are many. If the roof water can be stored in the tank and brought to the taps by gravity, as Bhat has done, there is no need for power. Excess water can be used for open well/borewell recharge. If daily water requirement is large, like in institutions

and industries, large Ferro cement water tanks - maybe underground - can be built that can be connected with filtered roofwater.

This will completely do away the groundwater requirement for a minimum of five months, that is, 150 days, or 41 per cent. This means a saving in electricity that otherwise is required to pump water up from 300 to 400 feet. More important is that when the borewell is rested, its life will improve. More so if all the excess water after use is recharged in a proper way.

It is high time the rain-rich areas look at rainwater as a valuable resource and start utilising it instead of sending it away. This forethought would make most of the water management systems here sustainable and 'tanker proof'.

*Shree Padre is a journalist with many years of experience in agricultural reporting. He is the author of several books, including one on rainwater harvesting, published by Altermedia.*

*More information from Shree Padre, Post Vaninagar, Via Perla, Kerala, India. E-mail: shreepadre@gmail.com*