

Collective farming, water budgeting: Purulia's weapons against drought

Joydeep Thakur, Hindustan Times, Kolkata - Updated: Jun 04, 2016



In Purulia, farmers have formed clubs for rainwater harvesting and collective farming, which has resulted in increased yields. (Samir Jana/HT Photo)

It was 12 noon and the summer season was at its peak at the fag-end of May. The sun was rolling high mercilessly over the parched lands of Purulia – one of the most drought prone districts of West Bengal. Most of the water bodies had dried up revealing cracks in their beds. The mighty Damodar River had turned into a mere trickle in some portions. Children, carrying water buckets, were queuing up in-front of a water-hole to collect drinking water. The district had been hit by droughts over the past two consecutive years and this year too, conditions seemed to be heading that way.

But Vikram Mahatha a resident of Paradi – a remote village in Purulia's Raghunathpur-II block – seemed confident and wore a smile on his face despite all odds. Over the past two years, despite the district reeling under drought conditions, his farmland has yielded a good harvest of mustard, wheat and various kinds of vegetables.

“In 2013 we had started rain water harvesting by digging water catchment areas and wells. A small farmer's club, comprising around 30 farmers, was formed. This paved the way to start collective farming in the village instead of each farmer carrying on with their subsistence agriculture. Water budgeting was also done to use the stored water judiciously so that some water is left for rearing fishes and carry on household chores throughout the year. Results have started pouring in,” said Mahatha.



Most villagers in Purulia are forced to dig the soil to find underground drinking water sources. (Samir Jana/HT Photo)

Experts in the state agriculture and irrigation departments claimed that Purulia gets ample rain, much like the other districts of south Bengal, during the three months of monsoon season. On an average the district receives 1100 mm – 1500 mm of rain every year.

“But as the district has a very undulating terrain, nearly 50% of this water is wasted and can’t be used. The average height of the district is 300 m which goes up to more than 650 m in the hilly terrains of Ayodhya Hills. Run-off is very high which makes the district prone to droughts. Thus the district is called ‘Ahalya Bhumi’ the land with a stony heart,” said a senior official of the state agriculture department.

But things have started changing in some portions of the district over the past three years. A Kolkata-based NGO South Asian Forum for Environment (SAFE) with funds from National Bank for Agriculture and Rural Development (NABARD) has taken up rain water harvesting which experts claimed is the only way to change the scenario in the district.

“As the terrain is undulating, we have built catchment areas measuring 150 – 200 square metres or may be smaller at different heights so that the rain water, even if it runs off, is collected at each and every level. One such catchment area caters to around one hectare of farmland. Some water is left behind for fishery and other daily needs liking bathing and washing,” said Diganta Mukherjee senior executive (community development) of SAFE who is in-charge of Purulia district.

At present more than 70 such farmers clubs have come up in five blocks of Purulia – Raghunathpur-II, Hura, Kashipur, Jhalda-I and Arsa. Each club comprises around 60 – 70 members on an average with some clubs having more than 200 members. While six clubs have fully adopted the concept others are gradually taking it up.

“It is hard to make the farmers of such remote villages aware of new concepts and persuade them to take up new and innovative farming methods. There is always a resistance as they want to stick to their traditional ways even if the yield is less. The scenario has however started changing of late,” said Mukherjee.



Villagers of Uka at Raghunathpur-II block in Purulia district dig a catchment area for rainwater harvesting. (Samir Jana/HT Photo)

But this is just half the story behind their success. Along with rain water harvesting other innovative measures such as ‘collective farming’, wherein farmers harvest a single crop over several acres of land instead of growing various crops in their fragmented individual farmlands and ‘water budgeting’ in which the members of the club decide on what crops to grow according to availability of rain leaving some water for daily use and growing fishes have also helped the farmers.

“Such collective farming has not only increased our yields by about 30% at least, it has also made the work much easier. The members work in shifts and the work load gets distributed. The owner of the land, in which the catchment is dug, gets the right to grow fishes. When the crop is harvested he also gets a proportion of the yield according to the area he had donated to the village for water harvesting,” said Shibu Bagdi a villager of Rambon Bagdipara in Raghunathpur who had donated nearly a half hectare plot for a catchment area.

The Rambon Bagdipara Farmers’ Club which has one of the maximum numbers of members (more than 200 farmers) and is running over the past three years harvested wheat from over 72 hectares and mustard from over 15 hectares. The water bodies are also yielding fishes like Rui, Katla and Mrigail, which gives farmers an extra source of income.

“In a bid to further reduce the water usage we have adopted methods such as System of Rice Intensification (SRI) and System of Assured Rice Production (SARP) - a technology promoted by the department of agriculture for the cultivation of Aman rice. The farmers are also being asked to do away with all kinds of chemical fertilizers and instead use organic fertilizer such as soil from ponds, cow dung, vermi-compost among others,” said Dipayan Dey chairman of SAFE. With yields increasing more farmers are now showing interest to form farmers clubs. Take the example of Paradi Farmers’ club. When it took off in 2013 the club had just 17 members with around seven acres of farmland under it. Today the club has more than 30 members and the area of farmlands has also increased to 28 acres.

“The next target is to make at least five villages go totally organic. We are gradually moving towards that by strictly doing away with chemical fertilizers and pesticides,” said Dey.