

A SEAT AT THE TABLE

SLADRC's Water Management through Farmers Groups brings meaningful farmer participation and inclusion

Climate change is a reality and farmers in Himachal Pradesh are the worst affected. Himachal Pradesh is a mountainous state that receives its water from glaciers. After winter, melt-water from glaciers and the snow cover regularly feeds the groundwater as well as other downhill water sources such as springs, wells, bawries, lakes, rivulets, streams and rivers. However, the snowfall rate has decreased not only in Himachal Pradesh but across the Himalayan region in the past several decades.

With less rain and snowfall, farmers are hard hit. They are moving apple orchards to higher altitudes, drying of traditional water sources, reduction in crop yields, and increased vulnerability of winter cropping due to changes in rainfall patterns are to name a few. The water levels of major rivers have declined along with the amount of rain and snow received by the Himalayan state, which logged a 62% rain deficiency in March.

Lack of sufficient rainfall in Himachal Pradesh, between January and March, has caused major losses in the crops sown in winter.

With weather variations causing overall precipitation deficiency during winter, water sources in villages and small towns in the state have already started drying up and this could lead to drinking water shortage.

Snowfall rate has decreased not only in Himachal Pradesh but across the Himalayan region in past several decades. Temperature over the Himalayas warming due to climate change, has led to a significant melting and decline in glacier mass over the Himalayan region in the recent decades, say experts.



About SLARDC



Sustainable Livelihoods of Agriculture-Dependent Rural Communities (SLADRC), a project funded through the National Adaptation Fund on Climate Change (NAFCC) and nationally implemented by The National Bank for Agriculture and Rural Development (NABARD) is an intervention aimed at promoting a combination of Climate Smart Farming Technologies along with required social engineering and capacity building process. In Himachal Pradesh, it is being implemented in the district, Sirmour, by the Department of Environment Science & Technology. The objective of the programme is to improve the adaptive capacity of the marginal farmers by providing climate-smart irrigation facilities. The best weapon to survive climate change is adapting climate smart technologies. The project has taken this as its mission.

Voices from the Field: Rohit Sharma, Farmer

Rohit Kumar Sharma, a farmer from the village Jamal, had begun to lose all his hope. He and his fellow villagers have been witnessing sudden bursts of rainfalls that result in flash floods along with increasingly scanty rainfalls which have caused a drought-like situation. Flash floods cause a lot of destruction, both to human lives as well as crops. Rohit is the Pradhan of Gawahi Gram Panchayat and lives in Jamal. It is a village where most inhabitants are farmers and rely on agriculture to put food on their plates. The farmers of this village are dependent on rainfall for agriculture. The quality and quantity of their harvest are completely dependent on the rains. They would have a decent income when the amount of rainfall is optimal but when it is scanty, their income would take a hit.

However, under SLADRC's climate-smart irrigation component, a micro irrigation facility, i.e a water tank has been constructed in the village. The tank stores rainwater and also taps into the nearby small stream sources. The tank has provided the farmers with an alternate source of irrigation. During the dry seasons, farmers had no choice but to leave their lands untilled. But after the construction of the tank, they have started growing crops even in the absence of rainfall.

Wheat and maize were their major crops. The only cash crop they grew were tomatoes. They grew it on a small scale during the rainy season. However, this water tank has given them new rays of hope. The lands that once laid barren during the dry seasons, now glee with peas, garlic, ginger, tomatoes, capsicum and the French beans growing in them. The despair in Rohit's voice disappears as he starts talking about how these additional cash crops are adding Rs. 50,000/- to 60,000/- in their annual income. Earlier, the highest income a farmer could make growing cash crops (tomatoes) was limited to only Rs. 20,000/-.

Rohit tells us that they use a pipe system to irrigate their land. They have also established a committee under their Farmers Interest Group (FIG). This committee has been established by the Farmers Interest Group to ensure that all the farmers in the village get equal access to the water tank. "We have planned to collect a small amount of money from the farmers in the village and establish a fund for the future maintenance of the tank. We will also routinely clean the tank together with the help of volunteers from the village," said Rohit explaining the management of the water tank.

Water is one of the most important production assets. But farmers are rarely part of the water management process. Minor Irrigation Tanks are managed by Farmers Interest Groups and adopts a participatory and inclusive process. Water management affects their livelihoods. Farmers meaningful participation in the decision-making process gives them a voice to advocate their interest.

When they were asked for suggestions to help solve the water scarcity issue in the region, the farmers of the village proposed to build catch pits to help recharge the region's water source. These catch pits will store the rainwater and act as a reservoir of water for usage during the winter and summer seasons. Many regions in the Himachal Pradesh have natural streams of water, 'khuds', and water bodies that overflow during the monsoon season. This causes the excess rainwater to be unusable. Check dams will tap into these natural water resources and ensure rainwater harvesting round the year.

Mr. Pratap Singh, Junior Engineer, Block Development Office, Sangrah informs about the 15 schemes that were handed over by the Integrated Development Project (IDP) under SLADRC in February 2018. At Present, five schemes are physically complete, six are nearing completion, and four are yet to start. The Minor Irrigation Tank in Jamal village under the Gawahi gram panchayat, is one of the completed schemes.

There was no nearby facility to store water and there were inadequate natural sources of water in the village. A water source was identified within 500 metres of the village and the storage tank was built. SDP pipes are being used to irrigate farmland. The tank came as a respite during the drought season. Farmers who had no choice but to keep their lands barren during dry season, now have found a solution.

"Farmers in this village used to grow only the traditional crops due to water shortage and earned their income from that. Post the construction of the water tank, they are now able to grow cash crops and make a good profit out of them. This simple step has helped the farmers of their village to improve their socio-economic status," said Mr. Singh with a voice resonating with hope and promise.

Tank Capacity	69,000 litres
Households benefited	15
Irrigation capacity	1-1.5 Ha

Schemes under SLADRC project have proven to be very useful and giving a good number of benefits to the farmer community on the ground. I would suggest converging them with other departments to get more benefits.

- Mr. Pratap Singh, Extension Officer

The farmers used to mainly cultivate maize and wheat on their land as they were mostly dependent on rain-fall. Now as they have access to the irrigation systems even during the drought season, they have also started growing garlic, ginger, and tomatoes. This has immensely helped them increase their income.

Jamal's Climatic Background:

The village of Jamal does not have any natural water source nearby. With great difficulty they managed to get drinking water during the dry season. Farming was out of the question as there was no water to feed the crops. Villagers who were earlier struggling to get drinking water for themselves, now have access to water which can be used to irrigate their farmland.

How the Tanks are used and upscaled for more users:

The farmers ration the water and use it on a rotation basis. Every farmer in the village waits for their turn to use the water. This system is adopted to ensure everyone gets equal access to the water. The Panchayat and the farmer committee decide on a schedule and follow the schedule for ensuring judicious use of water.

Benefits:

Some farmers in the village had tried to grow cash crops in the past. However, due to the lack of adequate water, their yield was trivial. Now that they have access to sufficient water, their production has increased, and income has almost doubled. With an increased income, their socio-economic status will also improve a lot. The surrounding villages and Panchayats around Jamal find the Micro-irrigation tank useful and are taking proactive steps to install similar structures.



**Department of Environment, Science Technology & Climate Change
Government of Himachal Pradesh**