

Voices from Karnali, Nepal

A Zurich flood resilience program case study

When monsoon rains caused the Karnali river to burst its banks in July 2014, communities along the length of the river were forced to flee. While many made it to safety, numerous people lost assets, their livelihoods were interrupted, and property was damaged. Practical Action has been working with the affected communities including the village Rajapur to find ways to help them better cope with the aftermath of this devastating flood.



Susila's house. Karnali, January 2015

The damage: Susila

Susila's house (pictured left) is one of the few still standing after the July 2014 floods. As is typical in *terai* (lowlands) villages, the walls are made of a mixture of mud and straw.

During the latest floods, water reached the middle of the house (the dark line seen in the picture). Flood water could easily pour through the walls – as evidenced by the holes around the line. Susila was lucky because she didn't have to rebuild her home completely. However, she has not yet been able to afford to repair the damage, so this winter has been particularly cold and drafty.

Practical Action works with communities in three distinct ways:

1. Reading the weather

More time to evacuate means more lives saved. With adequate warning, assets can also be moved out of the water's path. Practical Action is working with the Nepal government's Department of Hydrology and Meteorology (DHM) to develop early warning systems. To give communities more time to prepare for flood emergencies, weather forecasting linked to river monitoring aims to allow for more timely warnings.

Weather boards have been set up at various key points in the village. They provide a seven-day forecast, including temperature, weather conditions and the potential implications for local farmers.

Helping farmers

Weather forecasting also improves crop yields. Kumari, 45 (pictured), is part of the Greenery Farmers cooperative. She is very positive about the benefits of this new approach, which includes publishing information on a board (pictured right):



"We never had a forecast before. We would harvest earlier than necessary to avoid risking losing our crops in bad weather. Now we can look at this board and time our agricultural activities depending on the weather."

2. Providing emergency shelters

If a community has robust and accessible emergency shelters that are easily reached when floods threaten, more people and assets can be evacuated safely.

In Rajapur, an emergency shelter is being built on private land on high ground, away from the river. When the river rises above a certain level, warning sirens alert villagers to gather essential belongings and go to the shelter with their families. The shelter has drinking water, cooking facilities, high shelves to store possessions off the floor, and community toilets, allowing 150 people to take shelter until the water level decreases.



When it is not flood season, the shelter is used as a health center where villagers can come to be immunized against diseases or get first-aid treatment.

"Before, when the floods came, we used to go to higher ground but there was no safe place for us, [so] we would find shelter under trees. Now we have a place to go, where the whole family can come, it is clearly marked how to get there and there are facilities we can use until the water goes down and we can return home."

Sarita (pictured above), 23, mother of three children (all under six)

Community ownership

To boost engagement and give a sense of ownership, Practical Action work with the local community, encouraging them to be actively involved in the building of the shelters. Very often this means women build the shelters while their husbands work abroad in India or the Gulf states as they can earn more abroad than at home.

Bhangilal Tharu (pictured right) is 63. He owns the land that the shelter is built on. He donated this land to the project to help improve the community's defenses against floods and to be remembered in the village for his contribution.



"Now the people have a safe place to come to, I am happy. Also everyone will know about this contribution for many years to come, this makes me proud and my children will benefit."



Shova (pictured left), aged 28, said: ***"I am proud that I can contribute for the benefit of the whole community. Knowing the shelter is there makes people feel more confident and secure. They know that when the floods come, we will be safe."***

Accessibility

Shelters not only need to be reliable, but also easy to get to. The walkway (pictured below) is next to Susila's house. During floods the river's deep channel fills very quickly, making it impossible for villagers to gauge the water's depth, putting them at risk of being swept away. Walkways make it possible to reach higher ground and the emergency shelter. Because water sometimes covers the walkways, red and white poles indicate water depth and also where the end of the bridge is.



Ram Prasad, 42 years old, with four teenage children attests to the value of walkways: ***"During the last flood, before the walkways, it took us a long time to reach higher ground as we had to find a safe way around the overflowing river. Now with the bridge, we walk straight across. We can be at the emergency shelter in 15 minutes."***

The third major way Practical Action can help is by finding more options for people in communities to earn a living. If their incomes are not interrupted by flooding, recovery and repairs can be made more quickly.

3. Securing livelihoods during the floods

Rajani (pictured below) and her husband have two daughters. Rajani used to look after the small plot of land behind their house, which provided the family's food. During the last flood, Rajani and her family lost their whole store of grain and had to rely on the generosity of neighbors to eat. She recently took a 15-day vocational training course provided by Practical Action, which included instruction on how to make cane furniture, as well as entrepreneurial skills and marketing.

Rajani now has new skills she can use to earn additional income. Her husband is actively involved in the flood resilience program as a discussion leader and in assessing the community's needs.



Rajani explained: ***"Thanks to this training, I now work in the cane furniture industry. I try to save the extra money I earn for when the monsoon comes, in case we need it. We won't lose everything again; maybe next time, we can help the neighbors who helped us last year."***

This holistic approach to enhancing flood resilience will help to reduce the impact of future floods on these communities.

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About the Zurich flood resilience alliance

An increase in severe flooding around the world has focused greater attention on finding practical ways to address flood risk management. In response, Zurich Insurance Group launched a global flood resilience program in 2013. The program aims to advance knowledge, develop robust expertise and design strategies that can be implemented to help communities in developed and developing countries strengthen their resilience to flood risk.

To achieve these objectives, Zurich has entered into a multi-year alliance with the International Federation of Red Cross and Red Crescent Societies, the International Institute for Applied Systems Analysis (IIASA) in Austria, the Wharton Business School's Risk Management and Decision Processes Center (Wharton) in the U.S. and the international development non-governmental organization Practical Action. The alliance builds on the complementary strengths of these institutions. It brings an interdisciplinary approach to flood research, community-based programs and risk expertise with the aim of creating a comprehensive that will help to promote community flood resilience. It seeks to improve the public dialogue around flood resilience, while measuring the success of our efforts and demonstrating the benefits of pre-event risk reduction, as opposed to post-event disaster relief.

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