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Nepal: Introducing index-based insurance for flood-prone communities

Practical Action, Stonestep TFD Pvt. Ltd., Global Parametrics Ltd.,

Shikhar Insurance Co Ltd., InsuResilience Solutions Fund (ISF)



Nepal's smallholders face severe weather risks such as flooding, landslides and windstorms. A partnership headed by **Practical Action** and co-funded by the InsuResilience Solutions Fund (ISF) is developing an innovative insurance approach to introduce index-based insurance to flood-prone communities in western Nepal. The aim is to increase the resilience of smallholder farmers against flood events. The insurance is bundled with agricultural advisory services and will cover yield losses if there is a hazardous flood event.

Country context

Nepal, located in the Himalayas between India and China, is highly prone to natural hazards, primarily because of its diverse topography and climatic conditions, geological position, rugged mountains, and steep landscape. Climate change is already significantly impacting the environment – glaciers are melting, and the frequency of precipitation extremes is increasing. Floods are the most frequent, damaging, and widespread hydro-meteorological hazard, which puts the agricultural sector at high risk with potential losses and damage relating to crops. Agriculture is one of the mainstays for the livelihoods of more than 65% of the Nepalese population. The most recent major flood events in Nepal took place in 2017 and 2021. They exceeded previous flooding in scope and magnitude, resulting in losses and damage to crops and property.

The riverine communities located downstream of the large Karnali River host the majority of the poor, marginalized, and indigenous population, who are particularly exposed and vulnerable to floods. Despite the immense risk for loss of life and property, only limited investments have been made in disaster risk reduction.

The international development organization Practical Action has joined forces with product designer [Global Parametrics](#), the local branch of Insurtech Stonestep and local risk bearer [Shikhar Insurance](#) to tackle these emerging hydro-climatic challenges. The partnership developed an index-based flood insurance for smallholder farmers in the Lower Karnali region of Western Nepal. ISF co-funds project implementation, helps to accelerate growth, and facilitates extension to other regions.

Project description

The project is developing a flood insurance product by partnering with microfinance institutions (MFI) and cooperatives acting as policyholders on behalf of their smallholder clients (farmers). They therefore serve as the main distribution channels at local level.

The twin-track approach enables the insurance product to benefit farmers' families in two ways. Firstly, the insured cooperatives or MFIs are the official policyholders and they receive payouts from Shikhar Insurance based on the index values of observations reflecting river flow and rainfall events. Secondly, insured cooperatives forward the insurance payouts to eligible households.

The objective is to achieve 267,000 beneficiaries by 2025. The project partners aim to strengthen the resilience of poor, marginalized, and indigenous populations by providing a solution to stabilize their income and food security. This will be achieved by implementing the project in tandem with Practical Action's Flood Resilience Programme (Zurich Flood Resilience Alliance), which in turn contributes to wider flood resilience-building efforts.

Since the start of the ISF project in March 2021, eleven cooperatives were selected for project implementation, a baseline survey was conducted and the collection of risk data and subsequent analysis has begun. Orientation on index-based flood insurance has been completed at local level and invitations have been issued to local stakeholders, including local and provincial governments.



A flood caused by a summer cloudburst fills a river in Nepal and causes severe flooding. Here next to paddy plant fields.

Maize is one of the most widely grown crops in Nepal and is crucial for food security in the country.

Challenges and lessons learned

One of the challenges faced by the project is the lack of hydrological data and records of extreme events for small rivers. This gap makes it difficult to develop indexes for communities experiencing floods caused by these rivers. The product therefore initially covers communities where sufficient data is available to model the indexes and develop the index-based flood-insurance product. At the same time, the project partners are working with the Department of Hydrology and Meteorology (DHM) to establish new hydrological stations and obtain watershed data to cover communities located along smaller rivers.

Parametric insurance is new to the target group of smallholder farmers and so education on parametric insurance is a key

component of the project. A lot of work was done in close cooperation with the target communities and local governments to explain the features of index-based flood insurance and gain a consensus for the product design. This proved to be greatly beneficial in improving local risk understanding and uptake of the insurance product.

Hazards covered

Flood

Product/Solution

Index-based flood insurance

Objective of the project

Improving resilience of smallholder farmers in Lower Karnali, Nepal, against hazardous flood events

Beneficiaries

Smallholder farmers and their families (267,000 target beneficiaries by 2025)

Involved organizations / parties in the project

- Practical Action
- Stonestep TFD Pvt. Ltd.
- Global Parametrics Ltd.
- Shikhar Insurance Co Ltd.
- InsuResilience Solutions Fund (ISF)

Project duration

March 2021 – March 2023



“Index-Based Flood Insurance (IBFI) is a simple, easy, and innovative way of risk transfer – as smallholder farmers will access their insured amount as soon as the indexes are met and soon after the flood crosses the pre-defined threshold. In this regard, IBFI is revolutionary in the insurance sector and many smallholder farmers are attracted to this scheme. Since cooperatives from the communities are policyholders on behalf of farmers, they trust the insurance scheme and have a positive outlook towards it.”

Dhundi Raj Rijal,
Branch Manager, Shikhar Insurance Bardiya

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