CASE STUDY

Development of a sub-sovereign natural disaster risk insurance scheme for Nagaland, India

InsuResilience Solutions Fund

2025

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OVERVIEW

OBJECTIVES

- Enhance the robustness and reliability of the State Disaster Response Fund and National Disaster Response Fund disbursements of emergency relief and compensation of damages incurred by the population of Nagaland.
- Enhance resilience by mobilising additional funds to pay a more meaningful compensation to disaster-affected victims, with efficient and transparent methods of pay-out in the distribution / compensation process.
- Build the capacity of the State around building-back better principles when rebuilding infrastructure after the occurrence of a disaster.

OUTCOMES

- **350,000 households** totalling around 2 million people protected by a parametric excess rainfall insurance obtained by NSDMA with coverage levels more than double that a pilot conducted in 2020. This led to enhanced financial resources of Nagaland state government to respond to disasters by approximately 22%.
- A **3D Digital Hazard Risk Mapping** for 12 district headquarters of Nagaland was conducted in order to identify regions and locations most likely to be affected (high risk zones).
- **15 automated weather stations** (AWS) have been installed and are up and running. The additional data is used for the insurance coverage instead of using satellite-only data as it was the case in the pilot in order to increase accuracy or reduce basis risk.
- A **decentralised payout system** based on blockchain technology was established in order to speed up cash disbursements.

PROJECT CHARACTERISTICS

Target group
350,000 households totaling around 2 million people

Target region
Nagaland

Insured asset
Property, agricultural production, critical infrastructure, emergency relief measures

Insured peril / hazard
Excess rainfall

Insurance type
State-level scheme

Partnership
Nagaland State Disaster Management Authority (NSDMA), Tata AIG General Insurance Company, Swiss Re, Faber consulting Limited

Project timeline
March 2021 - June 2023

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PROJECT SUMMARY

Nagaland is the first Indian State to opt for insurance to increase the financial capacities of its State Disaster Response Fund (SDRF). ISF supported the public-private partnership project aimed at strengthening the state's climate resilience by enhancing its insurance protection against natural catastrophes.

Nagaland - one of the smallest and most agriculture-dependent states in India – faces high levels of disaster and climate change related deaths, injuries, and loss of public and private property due to high humidity, heavy monsoon rains causing floods, and earthquakes.

The "norms of assistance" (guidelines specifying relief payments for specific items) under the existing SDRF are not sufficient to compensate for actual damages, while the back-up of the National Disaster Response Fund (NDRF) managed by the Central Government remains underfunded. Thus, the Nagaland State Disaster Management Authority (NSDMA), together with Tata AIG General Insurance Company Limited and Swiss Re partnered to strengthen and expand the existing risk transfer solution to provide additional financial capacities for the SDRF, building on the results of a basic parametric excess rainfall cover piloted in 2020.

The project included premium support to (1) enhance product coverage without increasing premium levels, and (2) strengthen long term affordability.

An important focus of the project included facilitating the rapid disbursement of payouts to beneficiaries. The project set up a system that provides payouts through a decentralised payout system so that beneficiaries do not need to travel long distances to receive their compensation from the SDRF. The payout system has also been integrated with the Nagaland State Disaster Management Information System (NSDMIS) and is applied for all compensation payouts, not only insurance.

PROJECT STRUCTURE

ISF PROJECT PARTNERS

Policyholder	Product design	Risk taker	Project lead
• Implementation of emergency relief measures • Distributes payouts according to norms of assistance	• Local insurance company • Provides payouts to NSDMA • Leads product design and development	• Reinsurance to Tata AIG General Insurance	• Project coordination • Policy Management System platform provider • Loss Assessment • Digital last mile tools

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KEY TAKEAWAYS

- Through the inclusion and active participation of the local governmental authority (NSDMA) throughout all stages of the product development and beyond, the approach ensures local ownership and government support.
- Capacity building of government institutions around bringing their risk financing needs and negotiating ability to the insurance market provides a critical proof of concept that an Indian state government can initiate an innovative insurance cover.
- Advanced financial literacy and willingness to try new approaches are key to the state governments' overall willingness to pay for insurance premiums.
- It is important for the policyholder at the sub-sovereign level to understand the data and threshold for the payout trigger, as well as to understand the relationship between premium and risk. The government may want to focus on low severity, high frequency events to create buy-in for the insurance cover through more frequent payouts. However, insurance is most suitable and affordable for high severity, low frequency events.
- The success of the public private partnership relies on open and transparent communication and decision making.
- Community value is enhanced through (1) increased compensation made possible by insurance payouts to NDRMF by a predefined trigger (high level of rainfall) and (2) timely, accessible and more efficient compensation through the decentralised customer service points.
- The digital Disaster Management Information System, a novel and robust system based on blockchain technology, has received much positive attention outside Nagaland and is considered a system with high replication potential.
- Nagaland was able to fulfil the target exit from premium support as set in the project proposal. There are three key reasons for successfully achieving the targets: (1) Nagaland government has been an integral part of the project from day one, (2) Nagaland was actively involved in structuring the insurance product and (3) was willing and able to contribute premium payment from the beginning of the project.
- NSDMA was encouraged by the central government to share their experience with insurance and to convince other states in India to replicate the approach.

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LESSONS LEARNED

PUBLIC PRIVATE PARTNERSHIP

- The success of the partnership relied on **open and transparent communication** and **decision making** as well as the strong project commitment of the government.
- Having an **independent climate and disaster risk financing advisor** to support the government enhanced their capabilities and trust in both insurance product and sector.
- Key challenges that affected the partnership related to **differing objectives** between the government and industry partners. The government wanted to focus on low severity, high frequency events to create buy-in because of more frequent payouts. However, insurance is most suitable for high severity, low frequency events.

CLIENT VALUE

- **Local ownership**: Through the inclusion and active participation of the local governmental authority (NSDMA) throughout all stages of the insurance product development and beyond, the approach ensures local ownership and government support.
- Greater **awareness and understanding** of the payout thresholds and understanding the relationship between premium and risk is key in enhancing trust in the product and client value.
- Through a **decentralised payout mechanism** (at community level) a faster and more reliable compensation will directly be provided to the affected population. Time until payout is less than 4 weeks once the payout is triggered by predefined level of rainfall.
- **Digital innovation**: Claimants are required to submit their initial claim at a nodal office, but thereafter, they benefit from digital innovation as they receive updates on claim and payment progress digitally, via phones and bank accounts. In the absence of a bank account, the scheme has a “locker” facility for cash payments.
- A **complaints mechanism is in place** and end beneficiaries know how to use it. Complaints can be made to NSDMA or Nagaland state government through the digital platform (of NSDMIS).

WILLINGNESS AND ABILITY TO PAY

- The Government of Nagaland has demonstrated its **willingness and ability to pay for insurance premium** when implementing the small pilot insurance cover for the 2020/21 policy year, taking over sustainable disaster risk ownership.
- NSDMA received approval to spend up to a max. of 5% of the SDRMF (currently approx. EUR 285,000) for **insurance premium payments**.
- **Advanced financial literacy, support for weather stations** and **willingness to try new approaches** were key to the governments overall willingness to pay for insurance premiums.

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PREMIUM SUPPORT

- **Premium support was requested** from ISF for the critical start phase of the project, i.e. the first 3 policy years.
- Premium support proved important to **improve confidence and secure commitment** of the government of Nagaland, in particular when the insurance coverage was increased significantly in policy years 2021/2022 and 2022/23.
- The project included an **exit strategy from premium support** with a decrease from 50% for the policy year 2020/21 to 43% for the policy year 2021/22 to 26% for the policy year 2022/23 (representing approximately EUR 235,000 in 2022/23).
- The project demonstrates **strong government commitment** to funding insurance premiums.

RETENTION RATE

- The state government has **extended the insurance coverage**, reasons include:
  - Insurance product was significantly improved.
  - Further premium support by ISF beyond the project period.
  - Innovative multi- year solution with "no claims" bonus for the government of Nagaland.
- **Key factors influencing retention rate**:
  - Product value perception
  - Awareness and understanding of the product
  - Trust
- **Strategies to enhance retention rate include**:
  - Continuous product improvement and feedback

TECHNOLOGY

- With the introduction and enhancement of the blockchain technology-based **Disaster Management Information System (NSDMIS)**, processes became streamlined as they are now fully digitalised. Information entered at the decentralised level (CSPs -Customer Service Points) is available in real-time at the district and central level. This ensures timely and efficient compensation for affected population.
- **Online bank payments and timely updates on claims** are a significant improvement for the claimants who formerly might have travelled several times to pursue their claim and receive payment.
- **Trust in the product and transparency**: The NSDMIS integrates and archives risk data, generates reports using geo-tagged risk data, asset classification, hazard mapping, and loss data, enhancing trust in the product and transparency.
- **Investments into further automated weather stations**, and on-the-ground verification as well as drones for 3D Digital Hazard Risk Mapping were very useful to increase the variety of data sources and accurate risk assessments and reduce basis risk.

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OUTLOOK

ISF provides further premium support of 600.000 EUR over a period of 3 years with a decreasing share to strengthen and expand on the initial project outcomes. The focus will be on (1) integrating the advanced data from automated weather stations into insurance models and (2) scaling up coverage and duration through a multi-year coverage. NSDMA will continue to work towards increasing financial capacities and improving disaster response mechanisms, ensuring that Nagaland can better manage and mitigate the impacts of natural disasters. From policy year 2026/27 onwards, Nagaland will either pay 100% of the insurance premium and/or join a multistate catastrophe insurance pool in India which is still unclear.

During the 2024–2025 insurance year, under the current multi-year policy supported by ISF, the first claim (for excess rainfall during the monsoon season from June to October 2024) was settled on 28 February 2025. The insurance payout was INR 1,06,50,000 (c. EUR 118,333), and INR 1,06,47,000 was disbursed to end beneficiaries through NSDMA's Disaster Relief Payment System. A second claim (for the non-monsoon period) has also been triggered. While the final amount has already been determined (INR 1,77,45,000 (c. EUR 197,000)), it is still in the process of being disbursed.

There has also been an increase in the insured coverage: annual sum insured is now INR 500,000,000 (c. EUR 5.03 million) under the new multi-year policy (3 years), compared to INR 100,000,000 under the previous single-year cover.

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