



Global Insurance Innovators Community

Thematic Case Briefs 2025 | Parametric Insurance for
Climate Action

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About the UNDP IRFF Global Insurance Innovators Community

The Global Insurance Innovators Community (GIIC) brings together pioneering organizations that are applying insurance in innovative ways to advance the UN Sustainable Development Goals. Its members include the finalists of UNDP's Insurance Innovation Challenges, a global initiative led by the UNDP Insurance and Risk Finance Facility (IRFF) to unlock inclusive, tech-driven insurance solutions for underserved communities. Through national and global-level competition, the initiative identifies and supports innovators developing products that close the insurance protection gap. The Insurance Innovation Challenges leverage **UNDP's SDG Pipeline Builder** investment platforms, giving GIIC members the opportunity to work with UNDP for targeted support to strengthen investment readiness and capital-raising efforts by connecting promising solutions with a diverse range of financiers. Winners also receive financial support, technical assistance and access to a global community of peers and partners.

Thematic Area: Parametric Insurance for Climate Action

Climate change is driving more frequent and severe weather shocks, putting smallholder farmers at risk of crop failure, income loss and food insecurity. Traditional indemnity insurance struggles to respond effectively because of costly field-based loss assessments, lengthy claims processes and limited distribution reach, which ultimately weaken the business case for insurers to serve smallholder farmers.

Parametric insurance offers a more efficient and scalable alternative. By using objective, pre-defined indices such as rainfall, temperature, vegetation conditions or wind speed to design products and trigger payouts, parametric insurance enables faster and more transparent compensation. This innovation reduces administrative burdens, lowers costs and supports the development of tailored insurance products that better match local climate risks. It expands protection to those most vulnerable.

Featured Innovators

This brief highlights solutions from three Innovation Challenge winners from two continents:

- **Senegal** [The National Agricultural Insurance Company of Senegal \(CNAAS\)](#): Combines parametric and indemnity coverage to insure sugarcane outgrowers against drought, floods and fire with rapid payouts.
- **Viet Nam** [Military Insurance Corporation \(MIC\)](#): Delivers fast, parametric rice insurance through a fully digital platform, protecting small farmers from rainfall shocks.
- **United Republic of Tanzania** [AfriGuard](#): Provides hybrid indemnity and parametric insurance to sugarcane outgrowers against rainfall, fire, disease following flooding and pest infestations.

These solutions show how innovators can help close protection gaps, support resilient livelihoods and advance inclusive development.

UNDP's Insurance Innovation Challenges are made possible through the generous support of:



SENEGAL Parametric Insurance for Climate Action

UNDP in partnership with the Government of Germany (BMZ)

Multi-index Parametric Model Through CNAAS

www.cnaas.sn

Development challenge:

Overlapping drought and flood risks

Senegalese farmers are highly vulnerable to climate hazards, including recurring droughts and flooding from river overflows. In 2024, floods displaced over 56,000 people and devastated harvests in regions such as Matam and Tambacounda. Erratic rainfall and droughts have also caused localized crop failures. These shocks lead to major production losses that undermine food security, incomes and agricultural investment. Yet approximately 90 percent of smallholder farmers remain uninsured. In terms of product design, farmers face overlapping drought and flood risks that make conventional single-index insurance ineffective at capturing their full exposure.

Solution

Cover for key crops

Insurance targets producers of millet, rice, groundnuts and other key crops for domestic consumption and export.

Subsidized premiums

Strategic partnerships and partial premium subsidies reduce costs for farmers.

Localized distribution

Insurance is delivered via cooperatives, microfinance institutions and partners to increase accessibility in rural areas.

Climate-smart training

In-person training sessions on agricultural practices are provided regularly to help farmers better adapt to climate change.



Philomène Ndour, an insured farmer in Loul Ndoundour in the region of Fatick.

Digital innovation

The National Agricultural Insurance Company of Senegal (CNAAS) has developed a parametric insurance product that uses real-time ground and satellite rainfall data to monitor precipitation, agricultural yields and river flow. When pre-set thresholds are surpassed, automated algorithms trigger payouts, avoiding inspection delays common in traditional indemnity insurance. By combining multiple indices in a single product, CNAAS introduces a unique innovation in parametric insurance. This approach enables coverage that is tailored to different agroclimatic zones and responds to the climate risks affecting Senegalese farmers.

Impact

Strengthened agricultural insurance through inclusion, climate adaptation and technology:

- Targeting 70,000 rural farmers with active coverage by 2025/2026
- Aiming for an insurance penetration of 2.5 percent of Senegal's farmers within two years



VIET NAM Parametric Insurance for Climate Action

UNDP in partnership with the Government of Germany (BMZ)

Digital Parametric Rice Insurance Through **MIC**

www.mic.vn

Development challenge:

Traditional systems deter protection

The Mekong Delta, Viet Nam's largest rice-growing region, produces over 50 percent of the country's rice and 95 percent of its exports. However, extreme weather events like heavy rains, floods and storms reduce yields, lower rice quality, increase production costs and can cause losses exceeding US\$283 per hectare. Harvests often coincide with peak rainfall, leading to severe crop damage and income instability. Despite the scale of rice farming, insurance uptake remains low. Fewer than 17,000 farming households are covered, and rice farmers show particularly low participation. Cumbersome, slow procedures reduce farmer confidence and discourage participation, leaving many unprotected from weather shocks.

Solution

Affordable coverage

Offers competitive premiums for coverage against excessive rainfall, floods and storms.

Farmer advisory

Utilizes the established networks of seed, fertilizer and pesticide suppliers to deliver insurance directly to farmers at the local level.

Digital platform

Connects insurers, distributors and farmers through the MIC PRO digital platform, which enables automated policy issuance, claims processing and real-time transparency.



Farmer meeting for insurance literacy and enrolment in Chau Thành, An Giang province.

Digital innovation

Military Insurance Corporation's (MIC) rice insurance product covers farmers against storm and flood risks. It uses parametric triggers based on satellite-derived rainfall data to automatically activate payouts when predefined thresholds are crossed. This eliminates the need for in-field assessments and ensures farmers receive compensation within 15 days. The MIC PRO digital platform underpins the entire process, streamlining policy issuance and claims management. By embedding parametric design into a fully digital system, MIC sets a new benchmark for climate-responsive insurance in Vietnamese agriculture.

Impact

Scaled-up digital, index-based insurance to protect farmers against climate risks:

- Targeting 30 percent coverage of Viet Nam's total rice-growing area
- Integrating with the One-Million-Hectares rice project, safeguarding key production zones



Hybrid Sugarcane Cover Through **AfriGuard**

www.afriguard.co.tz

Development challenge:

Complex local and weather-related losses

In the United Republic of Tanzania, sugarcane outgrowers – who cultivate sugarcane under contract with larger companies – are facing increasing vulnerability to climate-induced shocks such as drought and excessive rainfall, with little financial protection. These widespread shocks, combined with localized hazards such as fires and pest outbreaks, mean frequent yield losses, reduced income security and constrained access to credit and inputs for outgrowers. Agricultural insurance remains underdeveloped, accounting for only 0.17 percent of total insurance sales in the United Republic of Tanzania, due in part to high premiums, slow claims processes and the complex assessments required by traditional indemnity-based insurance.

Solution

Bundled credit & inputs

Insurance is packaged with access to input credit schemes, seed fertilizer and other agronomic support to protect both outgrowers and lenders.

Digital-enabled access

Mobile-based enrolment, alerts, premium payments, payouts and education are via USSD and mobile apps for efficiency.

Farmer-centric outreach

Insurance is delivered via outgrower schemes, cooperatives, farming champions and extension agents focused on education and transparency.

Digital innovation

AfriGuard provides a tailored hybrid insurance model that combines parametric and indemnity coverage. Parametric payouts are triggered by weather indices (reduced/excess rainfall, thermal anomalies) that are monitored through software interfaces, remote sensing and weather networks. When the predefined thresholds are crossed, automated compensation is delivered within 14 days, avoiding delays and eliminating in-field assessments. Indemnity cover complements this by addressing non-indexed losses such as localized fires, disease and pest infestations. This dual approach accelerates recovery, lowers costs and facilitates scaling to remote growers.

Impact

Enhanced resilience and productivity through insurance and supporting increased yields:

- Targeting 10,000 insured sugarcane outgrowers within the first 2 years
- Aiming to ensure at least 70 percent of insured outgrowers access bundled inputs and credit
- Seeking to achieve 20–30 percent reduction in average annual yield losses at insured farms within three years





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