



Agriculture crop insurance: a few market insights from around the world.

Eastern Europe NDE Forum | September 8th

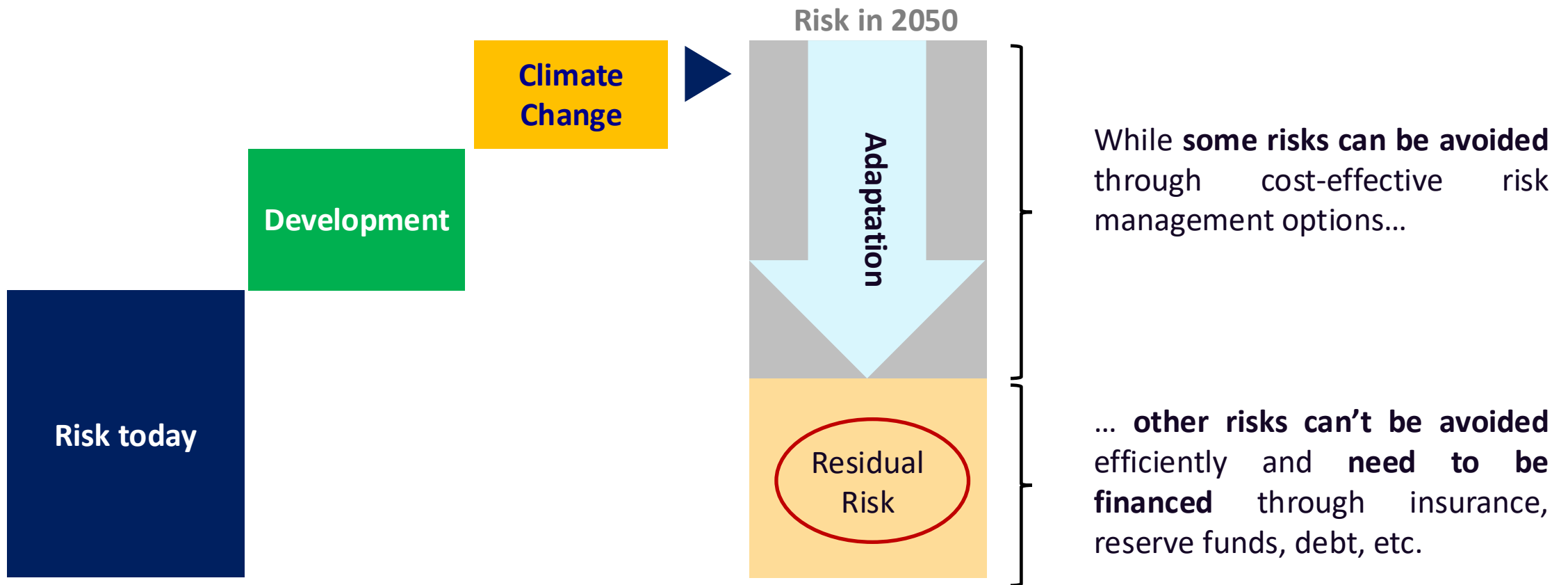


1. Introduction

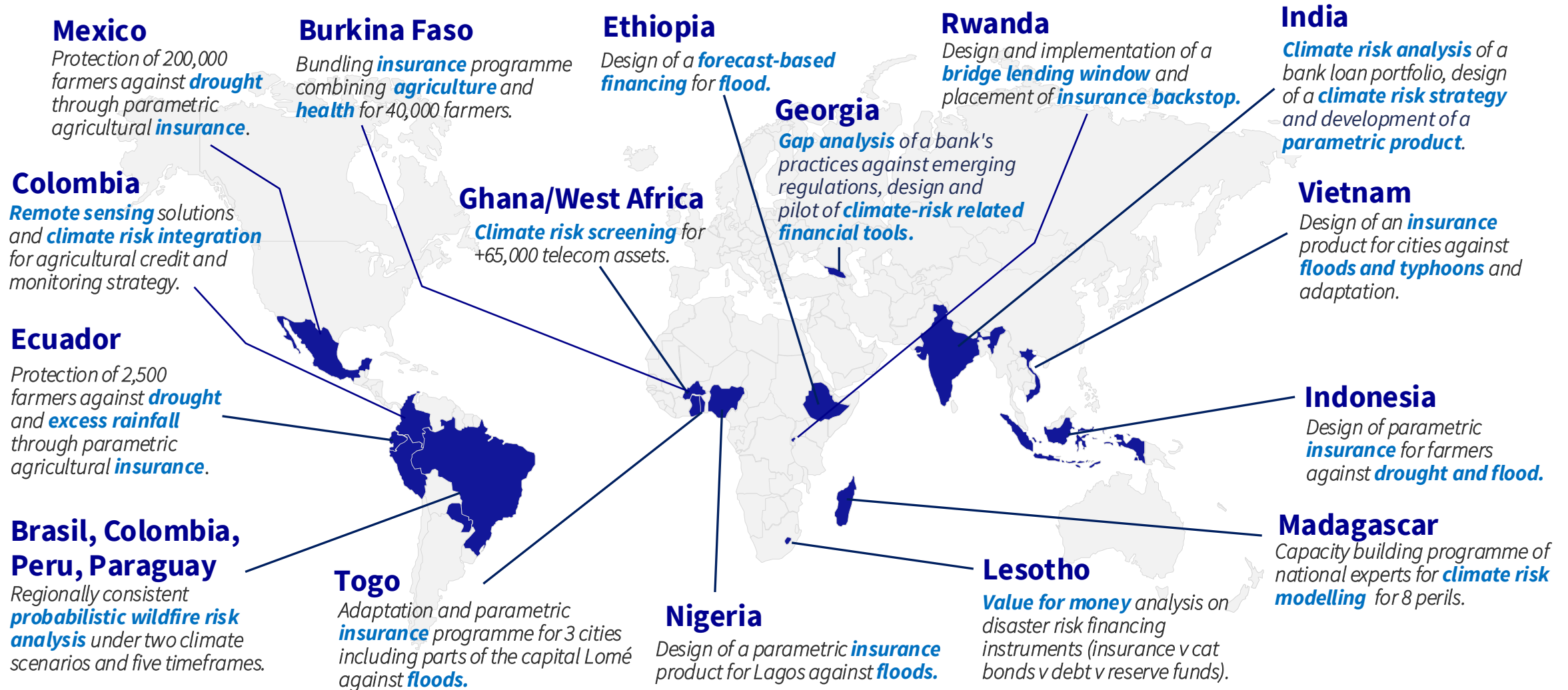


In agriculture as in most other sectors, development and climate change will increase the value of risks over time.

While some of the risk can be reduced, some of it should be retained or transferred.



We help building the resilience of vulnerable countries through climate risk modelling and risk finance solutions design.



Parametric insurance is one of the tools that can help bridge the protection gap.

Parametric insurance consists of compensating the client as soon as a natural parameter exceeds a pre-defined threshold.

The natural parameter is measured objectively by an independent data source, most often by European or American public satellites.

The key advantages of parametric insurance are its transparency and the speed of payment to the client, as no on-site damage assessment is required.

FOR EXAMPLE

- A cyclone exceeds 160 km/h
- Less than 3 cm of rain falls in the last month
- A magnitude 6.1 earthquake shakes the city

→ **Immediate compensation triggered**

We build innovative protections for people, crops, or infrastructure for numerous risks, among which:



FLOOD



DROUGHT



CYCLONES



EARTHQUAKES

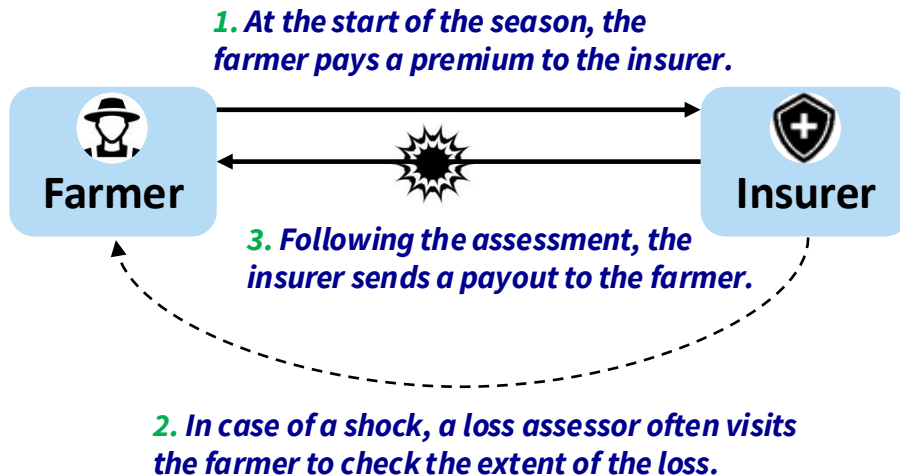
2. Focus on agriculture (parametric) insurance.



There are two main types of agriculture insurance:

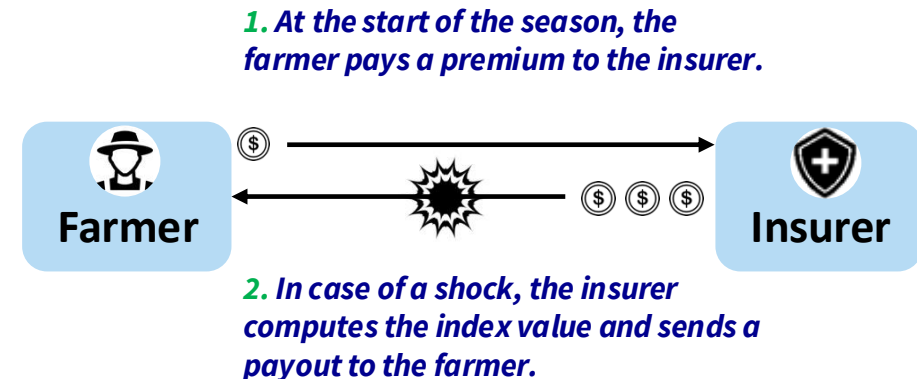
1 Classic yield insurance

- ✓ Covers yield losses due to any reason.
- ✓ Often requests the intervention of a loss assessor and/or crop cutting experiments.

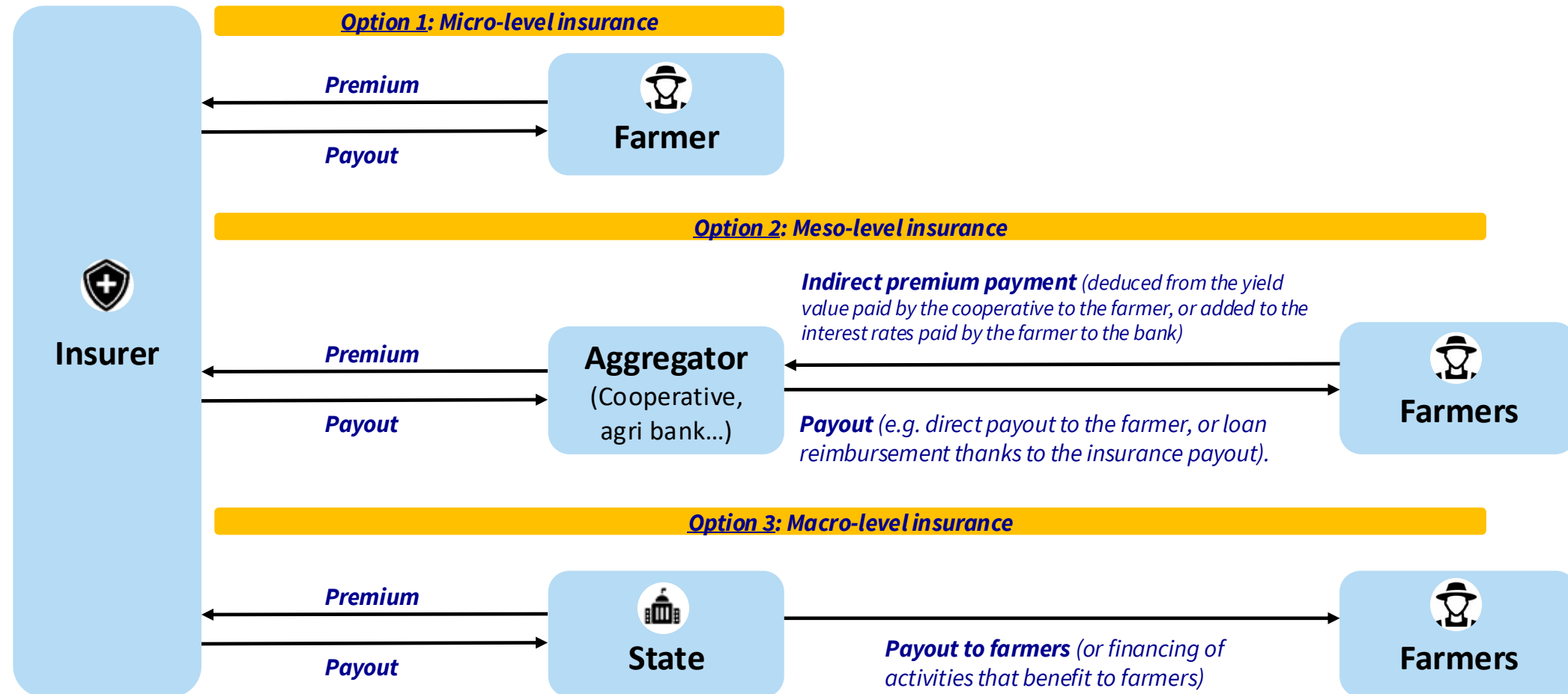


2 Parametric insurance

- ✓ Covers yield losses due to a specific peril (often drought, frost or excess rainfall).
- ✓ Is based on objective data, often on open source satellite data.
- ✓ Is paid quickly, without field assessment.



Agriculture insurance can be implemented at micro, meso or macro levels.



Agriculture insurance can generate positive outcomes for farmers, among which:

Poverty reduction

Insurance helps farmers avoid poverty traps following a climate shock.

Adoption of green farming practices

Research¹ shows that farmers feel more confident transitioning to greener practices when they know that a possible yield drop could be covered by insurance.

Increased investment and modernization

Research² shows that farmers tend to have better access to agriculture credit when they are insured, but also that they feel more confident in investing.



1. Aubert C., Raineau Y., Raynal M. (2025), *Learning about best management practices: Theory and experimentation under the umbrella of crop insurance*, *European Review of Agricultural Economics* (jbaf065)
2. Folus, D., Casal Ribeiro, P., Lepoivre, B. et Roumigué, A. (2020). L'assurance et la protection financière de l'agriculture. *Annales des Mines - Réalités industrielles*, 2020(1), 30-38.
<https://doi.org/10.3917/rindu1.201.0030..>

Agriculture insurance is paradoxical: despite huge needs and many projects worldwide, uptake among farmers remains very low.



We are designing parametric insurance to boost the climate resilience of Dominican Republic's social security program

OUR SOLUTION

Alongside UNDP and other industry partners, and in close cooperation with SUPROAT, we are developing a parametric insurance product that ensures quick access to financial resources to respond to climate-related hazards, including excess rainfall, wind, and drought.

We will also be leveraging government-led endorsement events and campaigns to inform beneficiaries of current risk exposures in an individual and accessible way.



We reinsured a consortium of three local Zambian insurers covering 40k farmers

OUR SOLUTION

Our reinsurance covers 3 local Zambian insurers providing protection for around 40,000 farmers against drought.

The main component is distribution of improved inputs directly or through an e-weather system, with an insurance component. The farmers are protected on five types of crops (maize, rice, sorghum, soya beans and groundnuts) against:



In the Democratic Republic of Congo, we designed a drought insurance product for 380,000 farmers

OUR SOLUTION

We have carried out a cost-benefit analysis of different protection systems for farmers. We propose to combine a reserve fund for frequent events and a parametric insurance scheme for more severe ones. We have co-designed our solution with the national regulator and local insurers. The insurance policy (sum insured below) will be launched in January 2025.



We have defined homogeneous Unit Areas of Insurance (UAI) to underpin a parametric livestock insurance product in Somalia

THE NEED

The World Bank is launching an index livestock insurance project in four regions of Somalia (Bakool, Gedo, Galguduud, Hirshak). AXA Climate and the International Livestock Research Institute (ILRI) were selected to design an index and validate it on the ground with local stakeholders.

OUR SOLUTION

In partnership with the ILRI, we have recommended a possible delineation of UAIs in Somalia. We computed the daily values of 22 years of Normalized Difference Vegetation Index (NDVI) and Soil-Adjusted Vegetation Index (SAVI) and assessed their statistical similarity and correlation at Admin 2 level. We have



In Ecuador, we are developing parametric insurance for smallholder farmers covering drought and excess rainfall

OUR SOLUTION

Funded by the ISF, AXA Climate and industry partners will develop a parametric insurance product to protect against the risks of excess rainfall and drought affecting regions where the three main staple crops—maize, sorghum, and beans—are grown. The product will include an efficient payout distribution mechanism to effectively reach the target population.

The ISF Consortium will work closely with the regulator (Junta de Regulación Política y Económica) to develop the legal requirements and conditions for parametric products to operate in Ecuador.



We cover more than 40,000 Senegalese cotton producers against drought through parametric insurance

OUR SOLUTION

Implemented since 2022, this parametric insurance program offers parametric drought cover to cotton farmers in Senegal. AXA Climate has driven the technical components of the program, developing the parametric drought product with innovative data providers and with the critical input of the Compagnie Nationale de l'Assurance Agricole du Sénégal (CNAA) to tailor the product to farmers' needs. AXA is also providing capacity as lead reinsurer of the program supporting CNAA.



In Burkina Faso, for L'Oréal, we built a program bundling agriculture and health insurance for 40,000 farmers

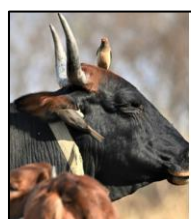
THE NEED

L'Oréal seeks to protect against climate and health risks shea farmer providing raw materials for its shea butter products.

Shea collector estimated that maize, which they also grow, is more at risk than shea. The decision was thus made to focus on maize for the agriculture part of the product.

OUR SOLUTION

We carried out a demand assessment to determine key agriculture risks faced by women shea collector and the suitable



We created a parametric insurance program for small scale milk producers under World Bank's DRIVE project

OUR SOLUTION

We conducted a pre-feasibility study to identify a pilot country among Ethiopia, Kenya, Somalia, according to the maturity of its milk value chain and distribution potential. With the help of local partners, more than 45 interviews were led in the three countries.

We performed a detailed market study of the prioritized country (Kenya), with several workshops organized in four counties to co-design product features with end beneficiaries.

We assessed the correlation between milk production drops and several climate parameters through the design and testing

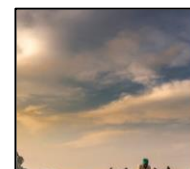


In Tanzania, we are investigating insurance products to cover smallholder maize farmers against drought and floods

OUR SOLUTION

The ISF is funding a pre-feasibility study, for which AXA Climate and industry partners are studying the current landscape of climate insurance for agriculture in Tanzania, to identify a new climate insurance product to bridge the coverage gap.

For this pre-feasibility study, more than 350 farmers were interviewed in three regions of focus. Some surveys were also shared with climate smart and organic agriculture practitioners.



AXA Climate supports the national Indian agriculture insurance scheme

OUR SOLUTION

The scheme protects farmers from multiple perils including drought, cyclone, natural fire, flood, etc. More than 43 million farmers have benefited from agriculture insurance in India, among which the following crops:

Wheat Cotton Rice
Sugarcane Tea



We did a feasibility assessment to set up a national agriculture insurance program for Niger Government

OUR SOLUTION

We conducted more than 50 interviews and performed several site visits to identify the needs of the producers and test their appetite for possible product coverage options. We collected historical crop production and yield figures and assessed their correlation with a selection of indices (including soil moisture, Normalized Difference Vegetation Index, evapotranspiration, cumulative precipitation, and water requirement satisfaction index).

In collaboration with the Ministry of Humanitarian Action and Agriculture, we prioritized four crops (millet, sorghum, maize and cotton) and designed an



We developed parametric insurance to protect farmers in Indonesia against both a lack, and an excess of rainfall

OUR SOLUTION

AXA Climate developed a parametric insurance product to protect West Java and South Sulawesi against a lack and an excess of rainfall. The roll-out phase was supported by VAS, a non-profit organization that focuses on social welfare activities to support sustainable agriculture, and JIVA, an agriculture-technology company. Their community outreach and farmer engagement, ensured that beneficiaries were well-informed about the product's benefits and enrollment process. While the project is still ongoing, 5000 farmers have been enrolled so far.

THE NEED

*In the last 6 years, for instance, we have worked on more than 15 new insurance schemes worldwide...
... and only a few of them have reached scale!*

Yet, there are good practices which can boost the uptake of agriculture insurance.

Bundling insurance with other services.

Bundle insurance with farming inputs, agricultural credit or advisory services, and build on existing national agriculture programmes to distribute insurance.

Subsidize premiums.

Subsidize premiums over the long run: farmers only trust insurance when public support is predictable year after year.

Keep insurance simple.

Keep products simple, so a farmer understands in one sentence what triggers a payment and how much will be received.

Opt for frequent payouts.

Aim for small and frequent payments: regular modest payouts prove the product works better than one rare, large indemnity.





We have designed a parametric insurance scheme to complement Dominican Republic's **social security program.**

OUR SOLUTION

Alongside UNDP and other industry partners, and in close cooperation with SUPÉRATE, we are developing a parametric insurance product that ensures quick access to financial resources to respond to climate-related hazards, including excess rainfall, wind, and drought.

We will also be leveraging government-led enrolment events and campaigns to inform beneficiaries of current risk exposures in an inclusive and accessible way.

This project is funded by the German development bank KfW through the Insuresilience Solutions Fund (ISF).

THE NEED

The Government of the Dominican Republic has a fully operational social protection program (SUPÉRATE) that distributes emergency funding in response to extreme weather events. They are now looking to develop a risk transfer mechanism as an additional layer of protection for the target group.

In Burkina Faso, for L'Oréal, we built a program **bundling** agriculture and health insurance for 40,000 farmers.

THE NEED

L'Oreal seeks to protect against climate and health risks shea farmer providing raw materials for its shea butter products.

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OUR SOLUTION

We carried out a demand assessment to determine key agriculture risks faced by women shea collector and the suitable features for the creation of health covers.

We tested the insurance product during a pilot phase. The current product is covering 21,000 female shea collectors and 19,000 other beneficiaries.

In France, the Government has found an interesting way to incentivize insurance uptake among farmers.



Since a 2023 reform, agriculture climate risks in France are shared in three tiers:

- Small losses are supported by the farmer
- Medium losses are covered by subsidized multi-peril crop insurance
- Exceptional losses are absorbed by a national solidarity fund.



To incentivize the take-up of insurance, state compensation for natural disasters is now advantageous for farmers who took out a private insurance policy.

KEY FIGURES

**Up to 70%
of subsidy on
premiums.**

**Only 30% of
farmers
insured.**



Parametric insurance can also help improving existing agricultural insurance programs: the example of Georgia.



Georgia already runs a State-subsidized agricultural insurance scheme: the public budget covers most of the premium (up to 70%), and thousands of farmers are protected against perils such as hail, storm, flood and frost for selected citrus.



A few improvements of the program could raise the value for farmers:

- Extend cover to drought and strengthen the frost coverage, two perils that hit vineyards and orchards – possibly through parametric insurance to speed up payouts.
- Address market distribution gaps over the territory, and simplify enrolment so smaller farms and more regions can join.



Any question?

Feel free to reach out:



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