Global Shield
against Climate Risks

# Assessing cost effectiveness impacts of CDRFI implementation under the InsuResilience Vision 2025

## Assessment of indicator 4.c on the competitiveness of the private insurance market

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## Executive Summary

In 2019, the InsuResilience Global Partnership (IGP) launched Vision 2025 to strengthen resilience in developing countries and protect poor and vulnerable people from climate shocks and disasters with faster, more reliable, and cost-effective responses. As part of the ongoing efforts to track progress under **Vision 2025**, the Global Shield Secretariat has commissioned Oxford Policy Management (OPM) to conduct three studies on the three indicators under result area 4[1]. The three indicators assess the **cost-effectiveness of Climate and Disaster Risk Finance and Insurance (CDRFI) solutions: a) Basis risk monitoring, b) low cost of providing coverage, and c) competitiveness of the private insurance markets.** These studies complement and validate the data acquired through annual data collections under Vision 2025, which is predominantly self-reported.

The primary objectives of the three studies are to **evaluate the impact and progress made in achieving the targets set under the aforementioned indicators and to contribute to the evidence base on cost-effectiveness of CDRFI more broadly.** Field research was conducted on a small, randomly selected sample of active macro-, meso-, and micro-level CDRFI solutions across fourteen countries (Colombia, Burkina Faso, Ethiopia, Fiji, Kenya, Madagascar, Malawi, Mauritania, Mexico, Nigeria, Rwanda, Pakistan, Solomon Islands, and Tchad). It is important to consider the small sample size when reviewing the results. Additionally, a major challenge in conducting these studies was the low response rate, which further reduced the already limited sample size.

Nonetheless, the findings from these studies offer valuable insights into the fourteen countries where the sampled projects and products are implemented, with a particular focus on the four selected countries (Colombia, Fiji, Kenya, and Pakistan) used for case studies under indicator 4.c. The results shed light **on how basis risk is being managed in relevant programs contributing to Vision 2025, on how these programs are ensuring low cost of financial protection in climate vulnerable contexts, and on the competitiveness of insurance markets,** all of which are relevant for protection of vulnerable people from climate risks. These insights thus contribute to the global knowledge base and could inspire further research activities on cost-effectiveness of CDRFI.

The assessment on the **market competitiveness of the private insurance market** reinforces that **demand-side constraints** such as **poverty levels and low-financial education** are still barriers, despite the modest improvement in competitiveness across the four country cases. **The affordability of insurance products** has not necessarily improved with competition, highlighting the need for targeted interventions. These could include enhancing financial literacy and subsidizing premiums in line with the Smart Principles of Premium and Capital Support among other policy options.

[1] The indicators under result area 4 cover cost-effectiveness from various perspectives. Indicator 4.a measures the extent of basis risk monitoring for index-based solutions. Indicator 4.b evaluates the costliness of products, ensuring costs are not excessive but sufficient to support high-quality product development. Indicator 4.c examines the competitiveness of the insurance market. Finally, Indicator 4.d assesses how well donor-supported projects promote pro-poor outcomes in vulnerable countries. For further details on Vision 2025 and its indicators, please refer to: Vision 2025

## Objectives and methodology

The Vision 2025 indicator 4.c assessment aims to create a picture of the insurance market in the four countries covered (Colombia, Fiji, Kenya, and Pakistan). This is assessed against the M&E framework for this indicator in InsuResilience Vision 2025 (Vision 2025 from now in the text), which considers four elements: (a) barriers to market entry, (b) openness to innovation in the insurance markets, (c) the regulatory barriers that pose challenges to introducing new climate and disaster risk insurance schemes, and (d) the user satisfaction of the existing insurance schemes. The study also gathers stakeholders' perceptions of IGP's contribution to shaping market competition.

This summary note presents key findings against each criterion. This research is limited to assessing the indicators and parameters set out in the Vision 2025 M&E framework. Therefore, it does not conduct an in-depth assessment of the country's context, and results need to be interpreted as preliminary findings. The small sample size, and rather low response rates (ranging between 33% and 66%) should be considered when reviewing the findings. The results of this research should not be seen as representative but rather as a contribution to broader growing evidence on climate insurance. Country-wide generalisable findings and conclusions will need to be explored further in future studies. Representatives from a sample of twelve schemes (54.2% response rate) across four countries were interviewed.

*Table 1 IGP insurance schemes per instrument type implemented in selected countries in 2022*

| | **Meso-micro schemes** | | | **Macro schemes** | | **Total of schemes reporting to Vision 2025** | **Response Rate** |
|---|---|---|---|---|---|---|---|
| | C.I. Risk Transfer | Ins. businesses | Ins. households | Sovereign Risk Transfer | Sub-Sovereign Risk Transfer | | |
| Colombia | - | 6 | 4 | 1 | 1 | 12 | 58.3% |
| Fiji | - | 1 | 1 | - | 1 | 3 | 33% |
| Kenya | 1 | - | 6 | - | - | 6 | 50% |
| Pakistan | - | - | 3 | - | - | 3 | 66% |
| Total | 1 | 9 | 12 | 1 | 2 | **24** | **54.2%** |

Source: OPM elaboration from IGP M&E database 2022

## Findings

### Barriers to entry

Across all countries, new insurance providers have entered the insurance sector. Table 2 presents insurance penetration rates. Although insurance penetration remains low, available data points to an increasing trend. In the case of Fiji, supply-side figures indicate that 100,000 households hold general insurance, so given a population of ~900,000, this equates to 40% of the population[2]. In Fiji, two parametric insurance products[3] are currently available. Both provide coverage of 12 months, and payouts are admissible one month following policy commencement.

*Table 2 Insurance penetration index across all lines of business 2015-2023[4]*

| | 2015 | 2019 | 2020 | 2022 | 2023 |
|---|---|---|---|---|---|
| Colombia | | 2.80% | | 3.20% | |
| Fiji | 12.00% | | | 15.00% | |
| Kenya | 2.70% | | | | 3.50% |
| Pakistan | | | | | 0.87% |

Source: Country reports in Annex A-D

Despite what stakeholders describe as a "dynamic climate risk insurance market", uptake remains low. Table 3 below summarises the key barriers highlighted by interviewees. Overall, findings suggest that the main barriers to entry remain on the demand side and point to high poverty levels underpinning low literacy and unaffordability of products. In addition, stakeholders in Colombia, Kenya and Pakistan underscore the challenges related to geographical dispersion and the difficulties of providing coverage in "difficult" to-reach areas.

*Table 3 Assessment of key barriers and challenges*

| | Unaffordability (high premiums) | Low literacy / awareness levels | Limited access to technology | Geographical dispersion |
|---|---|---|---|---|
| Colombia | √ | √ | | √ |
| Fiji | √ | √ | | |
| Kenya | √ | √ | | √ |

[2] The household size factor corresponds to ~4.09, based on estimates provided by Global Data Lab, built on UNICEF's Multiple Indicator Cluster Survey (MICS) programme.
[3] The products were launched in 2021[2] by the Pacific Insurance and Climate Insurance Programme (PICAP) under the United Nations Capital Development Fund (UNCDF) in conjunction with the United Nations Development Programme (UNDP) and the United Nations University – Institute for Environment and Human Security (UNU – EHS). They include wind, rainfall and cyclone cover (combined wind and rainfall).
[4] As per information available in the country reports. No data available in all four countries for 2020.

| Pakistan | √ | √ | √ | √ |
|---|---|---|---|---|

Source: OPM elaboration on stakeholders' interviews

In **Pakistan**, stakeholders report additional challenges, including the unavailability of reinsurance companies or markets[5]. Microfinance institutions implementing indemnity-based microinsurance for livestock cover (targeting low-income female entrepreneurs) also point to insurance companies' requests to claim premiums upfront, which clients could not afford. It took time for microfinancing institutions to 'convince' the insurance companies of the ground realities and borrowers' challenges. Low regulatory barriers and the role of Vision 2025 in fostering collaboration and partnership among key stakeholders were seen as key enablers—this is further explored in the sections on Regulatory barriers and InsuResilience Global Partnership's contribution further below.

## Regulatory barriers

As illustrated in Table 4 below, interviewees report low regulatory barriers across countries. In the case of **Colombia**, this is as recent as 2023, with the new regulation considering parametric insurance claims inherent damage. Through regulatory recognition of parametric insurance, payouts can now be activated faster as they do not require a verification of the claims. In the case of **Pakistan**, regulatory challenges are more pronounced for microfinance institutions than insurance companies. Indeed, regulations are stringent for commercial and microfinance banks, which are regulated by the State Bank of Pakistan (SBP). Instead, government approval is not required for the latter before launching new products in the market. For **Kenya**, no specific barriers were reported. In **Fiji**, the government provided a concession granting a Value Added Tax (VAT) exemption for premiums on parametric insurance products, effective 1st of August 2021.

*Table 4 Assessment of regulatory barriers*[6]

| | No barriers | Low barriers | Intermediate barriers | High barriers |
|---|---|---|---|---|
| Colombia | | √ | | |
| Fiji | | √ | | |
| Kenya | | √ | | |
| Pakistan | | √ | | |

Source: OPM elaboration on stakeholders' interviews

## Market innovation

[5] The fact that local reinsurance companies are not readily available is mainly explained by low climate insurance uptake (0.85%)

[6] The assessment is based on stakeholders' response to a series of questions focused on specific examples on regulatory barriers. For a more detailed overview of the methodology, see the Coding Matrix (Question 8) in Annex E.

Across all countries, interviewees highlight that the climate risk insurance sector's landscape is very dynamic, with new insurance companies, brokers, reinsurers and products coming into the market. In countries like **Colombia**, some new companies have "branched out" from other insurance companies in more traditional lines, such as life insurance, to climate risk insurance. This has translated into the development of (i) simpler and more affordable insurance products and (ii) collective insurance schemes that can be more easily sold through, or in partnership with, mass commercialisation channels.

Stakeholders interviewed in **Kenya** manifested that the products were *not new per se* and that existing insurance products were repackaged and filed for approval by the Insurance Regulatory Authority (IRA). In the case of **Fiji**, the government has allocated funding for a premium of the beneficiaries under the targeted social welfare index insurance scheme. Innovation is reported in the success of replicating the product in five additional countries in the Pacific.

*Table 5 Assessment of market innovations[7]*

| | Closed to innovation | Supported innovation | Market driven innovation |
|---|---|---|---|
| Colombia | | | √ |
| Fiji | | √ | |
| Kenya | | | √ |
| Pakistan | | | √ |

Source: OPM elaboration based on desk research

**Interviews in all countries highlight the role of technology in supporting the launch of new and improved products.** For example, in **Pakistan**, according to interviewees, Muzzle-based tagging[8] through an application could potentially be a game changer for the livestock insurance industry, as it has increased the accuracy and precision of verifications and claims processes. Yet, its current accuracy is only 60%, which still shows significant limitations. Another example includes a new index-based insurance scheme for crops. Interviews point to the fact that underwriting is easier and claim settlement is faster and simpler than the government's crop loan schemes for the commercial and microfinance banks that follow through the calamity on the crop. Telecommunication companies and start-ups are also active in the space, offering tech-based solutions to improve crop protection insurance.

[7] Levels of market innovation in this research include:

- Market driven innovations: at least one new insurance product in the last year. The majority of insurance products are introduced in the market without government support at least one new insurance product in the last year.
- Supported innovation: The majority of insurance products are introduced in the market with government support
- Closed to innovations: No new insurance products in the last year

[8] Muzzle pattern, similar to fingerprint in humans, is unique to each bovine. Muzzle-based identity technology *helps identify the bovine during insurance claims.*

## User satisfaction

Climate risk Insurance schemes are relatively new in all countries, and this novelty makes it difficult to establish a clear trend about satisfaction. Projects and programmes interviewed do not have formal surveys as part of the business model, and the research team has no access to evidence supporting findings against this criterion. Yet, renewal rates were reported in some projects (**Colombia, Pakistan, Kenya**), pointing to an average of **70% renewal rate**.
In **Fiji**, the growth trajectory of the scheme policy uptake demonstrates high user satisfaction and a high renewal rate. Stakeholders reply that this is possible due to constantly improving and innovating distribution channels, capacity building, raising awareness, and bringing new products online to better respond to climatic hazards, such as combined flood and wind). This can also be attributed to the approach taken by UNCDF – which was highly collaborative – obtaining political support from the government from the onset.

## InsuResilience Global Partnership's contribution

Interviewees rated IGP's contribution as vital. However, **it is important to note that only projects working directly with IGP recognise its added value**. When directly asked about IGP's role, other stakeholders operating in the country, like private companies in Colombia and Kenya that have not engaged with IGP, were not knowledgeable about its work, which is why the below table shows "none" for those stakeholders.

*Table 6 Assessment of IGP's contribution to market competitiveness*[9]

| | Vital | Important | Co-contributor | Marginal | None |
|---|---|---|---|---|---|
| Colombia | √ | | | | |
| Fiji | | √ | | | |
| Kenya | √ | | | | |
| Pakistan | √ | | | | |

Source: OPM elaboration based on stakeholders' interview

Across countries, IGP's main contribution refers to **facilitating and increasing dialogue** and partnerships amongst key stakeholders. In **Kenya**, this includes linking private insurance entities in collaboration with the government and other non-government actors. Stakeholders also highlight IGP's contribution to **building the national capacity** and encouraging investments into the sector by insurance

[9] Levels of contribution assessed in this research include:

- Vital: Without IGP, changes in the market wouldn't have happened (e.g. innovation and regulatory framework)
- Important: The actions of IGP and/or the presence of programmes & products supported by IGP are one of the most important factors, but there were others too
- Co-contributor: IGP is or was part of the factors that make the market (more) open today, but not the most important factor. An array of other factors influenced change
- Marginal: IGP shifted things slightly, but other factors were much more important
- No contribution: IGP had/has no impact on the market competitiveness

industry players, including insurers, microfinance institutions and Insurtechs. Interviewees report that without such an entity to intermediate and show the business case to **attract the private sector**, the insurance companies would not have otherwise taken up crop insurance.

In **Fiji**, IGP fostered collaboration with UNCDF and PICAP to strive for the **sharing of best practices and innovation** to achieve an optimal and sustainable model. In Colombia, stakeholders report that IGP enabled discussion and **collaboration between public and private stakeholders**, which led to a favourable parametric insurance regulation and, according to stakeholders, a seemingly successful and accelerating portfolio of products in Colombia. In **Pakistan**, IGP is reported to had been a "vital" (see definition in the footnote below) contributor to the **rollout of the first of its kind 'weather index insurance product'** and indemnity-based micro livestock insurance for households.

## Key takeaways

Overall, despite the limited sample of this research, evidence suggests a modestly improved market competitiveness across the four countries examined. IGP's role in driving this ranges from supportive to crucial. IGP had this role until it transitioned into the Global Shield. One of the main elements of the Global Shield (GS) is its focus on country-specific assessment of CDRFI needs for support. It seems likely that this will keep the GS prominent in the climate insurance market development over the coming years.

Yet, the Vision 2025 M&E framework assumes that **more competition will translate into more affordable products**. Findings suggest this is still not the case in the four countries. In the future, the CDRFI community should continue to test this assumption and unpack key barriers to product affordability. Demand-side barriers, mainly poverty levels and low financial education, are still the main challenges to insurance penetration. Bringing these aspects to the forefront of the discussion and efforts may increase the effectiveness of future CDRFI initiatives. In-depth country-specific research - beyond the Vision 2025 project and programme sampling - would be necessary to formulate recommendations and improve indicator assessment.

The annexes of this report capture country-specific takeaways and recommendations. **Text box 1** below provides a summary of these.

*Text box 1 Summary of key takeaways from the country case studies*

| **Country** | **Key takeaways** |
|---|---|
| Colombia | • The main barriers to the uptake of climate insurance schemes are demand-side barriers, including low-income and low-risk and/or financial education.<br>• Since 2023, a solid and supportive regulatory framework for parametric insurance products is in place.<br>• IGP support was crucial to generating collaborations that led to favourable parametric insurance regulation. Interviewed stakeholders highlight the need to maintain the collaboration between public and private institutions to address future regulatory, social, and technological hurdles. |

| | |
|---|---|
| Fiji | • The uptake of index-based climate risk insurance schemes has been high, and the growth trajectory is strong,<br>• This uptake is associated with Fiji's government support (e.g. VAT exemption) and a favourable regulatory setting without burdensome regulations.<br>• Evidence suggests that IGP made a notable contribution to the development of index-based insurance sector in Fiji and the Pacific region. |
| Kenya | • The uptake of climate risk insurance remains low, in line with the overall low penetration index of other insurance products.<br>• The regulatory framework does not hamper the development and commercialization of parametric insurance products.<br>• Interviewed stakeholders highlighted that market development may be fostered by:<br>o The integration of climate and disaster risk insurance with other instruments e.g., catastrophe bonds, social protection, and emergency response.<br>o Government engagement in providing subsidies in geographically challenging regions and difficult to insure sectors<br>• IGP has made a visible contribution to the insurance industry in Kenya by encouraging the uptake of index-based catastrophe and climate risk insurances. This contribution is acknowledged at the programme's level.<br>• However, the projects supported by each programme did not perceive in the same way the relevance of IGP, as such Climate and Disaster Risk financing insurance sector should get closer to the projects implementing insurance products to deepen understanding of Vision 2025 outcomes. |
| Pakistan | • The uptake of climate risk insurance remains low, in line with the overall low penetration index of other insurance products.<br>• The regulatory framework is open to the development and commercialization of index insurances.<br>• Interviewed stakeholders highlighted the need for subsidies from the government, as well as grant-based support and capacity building for microfinancing institutions<br>• The international CDRFI community should consider supporting solutions to the challenges of the cost of equipment/technology for index insurance on which the products are designed. |

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# Annex A Country case study Colombia

## Context

**Colombia's global insurance penetration rate, including all lines of business, has grown slowly but steadily in recent years, reaching 3.2% in 2022**[10]. Considering the gap with the average penetration index of 9.3% for OECD countries (OECD Stat, 2024), the Colombian insurance market is considered to have significant room for growth. Stakeholder interviews for this case study attributed the increase in the penetration rate to either (or both in some cases) the effort of insurance companies to develop collective insurance products and the use of mass insurance retailing channels, which make it easier for insurance companies to reach and underwrite clients they could not have reached or engaged previously.

For this case study, four interviews were planned, although seven key informant interviews (KIIs) were conducted. One of the initial interviewees suggested including a wider group of stakeholders to cover public, NGO, and private sector partners involved with parametric climate risk insurance in Colombia. Based on the introductions, OPM scheduled interviews with a parametric insurance provider, an insurance industry association, a government agency, and a financial institution that does micro-loans and bundles parametric insurance with its products. This broader spectrum of stakeholders has provided a better understanding of Colombia's lessons and challenges for developing and rolling out parametric insurance products. However, due to the limited number of interviews, the results of this research should not be seen as representative but rather as a contribution to broader growing evidence on climate insurance.

## Findings

### Barriers to entry

Four of the seven KIIs report that although some requirements must be met and maintained by insurance companies to sell insurance products of new types or in different sectors**, the most important barriers limiting the industry come from demand-side conditions**. Indeed, all stakeholders interviewed do not expect an increase in the insurance penetration index in the coming years due to demand-side barriers related to (i) the low income of many Colombian citizens or households, (ii) the low-risk awareness and financial education of the Colombian population and (ii) the difficulties that exist in reaching many of the lower income or vulnerable populations due to geographical dispersion of the population.

None of the seven KIIs expects the penetration to attain significant increments in the coming years due to existing demand-side barriers: **(i) low-income** households and individuals form a significant

[10] 2022 Financial Inclusion Report (SFC and Banca de las Oportunidades, 2023)

part of the Colombian population[11], **(ii) low levels of risk awareness and financial education** and **(iii) the geographic dispersion** of the population and internal connectivity and accessibility challenges within the country. Low income means that Colombian households use all or most of their income to meet their present (basic) needs, leaving little to use for insurance products. Low risk and financial education mean that, even if the households had some disposable income, they are unlikely to spend it on insurance. The geographic dispersion and limited internet coverage mean many customers may not be reached and/or convinced.

After some deregulation efforts realized by the Colombian government regarding insurance products that can be sold on the channels used to sell traditional insurance products, some companies have made significant efforts to develop new, tailored and more affordable insurance products. Private companies are increasing partnerships with mass retail channels like utility companies or (micro) financing institutions to reach and engage more customers. More innovation in terms of insurance policy tailoring and the use of mass channels or technology should help to continue reducing these barriers. However, additional effort may be required to reach the most vulnerable or hard-to-reach population.

All stakeholders agreed that **most parametric insurance products developed so far have focused on microinsurance products for low-income or vulnerable farmers with only a few with a focus on other sectors**. These products consider flood or drought events as insurance claim triggers. Also, most of these products have had to pay insurance claims due to extreme events, which were said to have been fair and have paid the claims quickly. There were reports of some adjustments being made to one insurance policy to adjust the requirements to suit better real-life conditions, which was not seen as a problem but as part of the learning process that these new types of products need to go through.

**The insurance sector is considered to be an open and competitive one, with public sector owned insurance companies being additional players**. The National and local governments own some insurance companies, and for most sectors and types of coverage, they compete with private sector providers on equal terms. Direct involvement has been mostly through subsidies for agricultural insurance premiums, ensuring that publicly owned insurance companies provide some coverages or policies required for some activities or, in few extreme cases like in times of terrorist attacks or social unrest, taking policies that would cover damages to citizens that could be affected in these times.

## Regulatory barriers

Interviews with stakeholders highlight no current regulatory barriers for index insurance.

All seven KIIs concur in mentioning that the **Colombian insurance industry is competitive and dynamic**; around half consider it innovative, and government and industry association KIIs added that it is also a (financially) healthy sector. Premium prices are unregulated except for mandatory car

[11] Poverty in Colombia increased from 30.9% in 2016 to 34.5% in 2022, remaining above the Latin America and the Caribbean (LAC) average of 24.1%. Extreme poverty also increased, from 12.0% in 2016 to 16.9% in 2022, standing above the LAC average (8.3%). (Source: ECLAC (2023) Social Panorama of Latin America and the Caribbean)

accident insurance and labour health and safety policies, allowing companies to compete. Private sector KIIs associated competitiveness and dynamism of the market with the growth potential and the general profitability of the market, with NGO and public sector ones being more grounded by saying that profitability is a direct result of the technical (i.e. risk management) and financial (income and reserves) capabilities of insurance companies.

**KIIs agreed that no real regulatory barriers could prevent the development and sale of parametric insurance products in Colombia**. Parametric agricultural insurance has had appropriate regulatory support since 2014, and the other sectors have also seen regulatory improvements since 2023 after Congress passed some reforms. It is important to note that the regulatory problem had to do with the nature or considerations of insurance policy payments after an event rather than with parametric insurance schemes in general.

KIIs concurred that, before these reforms, the barrier to the broader use of parametric insurance came from a requirement by Colombia's "Código de Comercio" (trade code/trade act), which stated that insurance payments should not create a net benefit to the insurance taker after paying out the insurance. The conflict with parametric insurance came from the fact that an insurance payout would be made after an event according to the insurance contract, even if the assets sustained no real damage or loss, and this could create a scenario that would seem to be breaking the legal mandate. KIIs mentioned that verifying and assessing losses and payouts based on that analysis would make it more challenging to offer insurance for more remote areas. The assessment of actual losses could be either costlier, slower or both when the insurance taker and the event's location were in remote or less accessible areas in Colombia, where the population that stands most to benefit from real parametric insurance lives.

Reforms have clarified that extreme events that could trigger a parametric insurance claim can be considered inherent damage. Thus, a provision that avoids having to conduct a review and assessment of the claims before paying out is an advantage of parametric insurance schemes and a critical element that helps keep costs low.

**One of the projects being pursued with support by programmes contributing to Vision 2025 follows the objective of leveraging the legal requirements of regional or local governments**. The aim is to have and execute climate event response plans to develop insurance that could be taken up and paid for by local governments to cover and benefit the poorest or most vulnerable groups in case of a disaster or extreme event. This insurance scheme is being developed in 2024 and will be piloted in 2025, with a potential rollout in 2026. It is expected that the piloting phase will help to identify and mitigate any regulatory, administrative or other barriers that could arise from the development of this new product. To facilitate any subsequent rollout of the new scheme, the KII has already started to liaise with the Colombian Agency for Financial Studies and Regulation Drafting and with the Superintendencia Financiera de Colombia being ready to review and discuss ways to solve any issues or barriers that may arise.

## Innovation

**The Colombian insurance industry ranked high within the innovation scale criteria. However, the results varied from a "supported innovation" score to a "market-driven innovation",** depending on whether the KII could channel government funding to subsidise the insurance.

The aforementioned competitive context in the Colombian insurance industry means that there has been a recent innovation drive along two main lines: (i) developing simpler/more transparent and more affordable insurance products and (ii) developing collective insurance schemes that can be more easily sold through or in partnership with mass commercialisation channels like utilities, banks or other schemes that use large companies to sell insurance to clients or suppliers. The relevance of these innovations has been their direct relationship with making insurance more inclusive due to the increased geographical reach and the use of collective insurance schemes that contribute to the viability of the solutions.

Many KIIs also mentioned a "hackathon" type event carried out in late 2023 to develop solutions for hostels or small hotels. It was considered successful after 18 independent teams signed up for the challenge, and the hackathon's winning team is now developing a solution for commercialisation. These KIIs also mentioned that this high participation and the positive feedback from the event will likely lead to many other hackathon-like events being conducted in 2024 or in the coming years to try and identify and develop new opportunities and solutions for insurance products.

## User satisfaction

**Parametric insurance schemes are relatively new in Colombia, even more so for non-agricultural uses whose regulatory framework was only adjusted in 2023. This novelty condition makes it difficult to establish a clear trend in relation to satisfaction**. Still, according to information provided by KIIs, there is a growing number of people taking agricultural parametric insurance and "renewing" the insurance on a semester or yearly basis, according to the conditions of the particular crop. One of the insurance providers interviewed shared a presentation claiming that over 70% of policyholders had renewed their policies.

Establishing the actual renewal from parametric insurance policies bundled with credit products, like micro-loans, might be difficult as these insurance products are usually required by the credit or microcredit institutions to be taken with the loan to ensure payment even under adverse conditions. The microloan institution interviewed suggested that, for "bundled" parametric insurance, "renewal" should be considered not in the monthly payments but in the decision of the microloan takers to take the insurance along with any new microloans they take in the future. Considering this measure, it is not possible yet to measure renewal, as the microloans that had the insurance bundled will only finish the instalment payments in the coming months.

Clarity, affordability and effectiveness are three aspects that KIIs highlighted as key to consolidating and scaling up parametric insurance products, mainly if they are aimed at low-income or vulnerable groups. I Stakeholders report that insurance premiums must take into consideration the income or revenues of the insurance takers and set the prices at levels that are affordable to them. Communicating the payment of the premiums and the effectiveness of these insurance products will also be key, as that will help produce a relatable business case that enables many of the potential customers to decide whether to obtain the insurance product.

## IGP's contribution

Colombian insurance companies, insurance industry associations, and micro-loan institutions interviewed were not familiar with IGP or its related initiatives (like ISF) due to their more domestic focus.

However, the other four KIIs, including the Colombian government, mentioned that IGP could be considered a “**vital contributor**” to the development of parametric insurance solutions.

**KIIs coincided in that IGP and its partner institutions, like MiCRO or UNDP, had brought together key stakeholders from the industry across the private and public sectors to participate in a coordinated and collaborative fashion** to develop parametric insurance products and retail channels and identify and address any regulatory or other barriers that could hold back large development and scale -up. The regulatory reforms passed to enable parametric insurance and the growing number of solutions developed and implemented are proof of this progress.

## Key takeaways

IGP support was crucial to generating the discussions and collaboration that led to favourable parametric insurance regulation and a seemingly successful and accelerating portfolio of products in Colombia. With the regulatory reform passed in 2023, Colombia has a solid and supportive regulatory framework for parametric insurance products. Yet, stakeholders highlight that they expect regulatory, social, and technological hurdles to become apparent over the next few years as new products are developed and sold. Maintaining and leveraging collaboration across public and private sector institutions will continue to be essential.

A key takeaway from the Colombian experience is that demand-side barriers, including low income and low risk or financial education, are the main barriers to climate risk insurance penetration. Bringing these demand-side aspects to the forefront of the discussion and efforts may increase the effectiveness of future CDRFI products.

## Annex B Country case study Fiji

### Context

**Fiji's overall insurance penetration index, including all lines of business, was around 12% in 2015 and around 15% by 2020**. The overall index trend is increasing. Supply-side figures indicate that 100,000 households hold insurance, so given the population of ~900 000, this equates to 40% of the population[12].

This case study aimed to triangulate findings in the insurance market in Fiji by interviewing stakeholders from a range of schemes and products[13]. However, given the limited uptake of alternative schemes in Fiji and the wider Pacific, UN Capital Development Fund (UNCDF) is the only initiative to date that has demonstrated strong traction. Results were primarily garnered via one main KII, the UNCDF parametric scheme combined with an interview with the Government and desk research. The results of this research should not be seen as representative but rather as a contribution to broader growing evidence on climate insurance.

Before presenting the interview findings, we briefly present the scheme.

**The parametric climate and disaster risk insurance product is a weather index-based insurance mechanism officially launched in 2021, making it the first of its kind in the Pacific.** Two products are available in the market. These aim to improve the financial preparedness and resilience of Fiji's farmer population, which is most vulnerable to the devastating effects of a cyclonic events and other natural disasters. The products were launched in 2021 by the Pacific Insurance and Climate Insurance Programme (PICAP) under the United Nations Capital Development Fund (UNCDF) in conjunction with the United Nations Development Programme (UNDP) and the United Nations University – Institute for Environment and Human Security (UNU – EHS).

**Figures 1** and **Figure 2** illustrate the structure of the products, respectively. Both provide coverage of 12 months, and pay-outs are admissible one month following policy commencement.

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[12] The household size factor corresponds to ~4.09, based on estimates provided by Global Data Lab, built on UNICEF's Multiple Indicator Cluster Survey (MICS) programme. For more detail, please access the database, here.
[13] Rural resilience initiative – Fiji considers the experience with microinsurance not strong enough to be considered in this study, noting it was conducted two years ago and lasted only one year.

*Figure 1 Fiji wind and rainfall payout structure*

| Payout Structure Wind Speed (FJD) | | | | |
|---|---|---|---|---|
| Max. Wind Speed Range (km/hr); TC Category* | Distance to the Eye of the Cyclone (km) | | | |
| | 0-25 | 25-50 | 50-75 | 75-100 |
| ≥ 119 WS < 154 - Cat.1 | $ 30 | $ 0 | $ 0 | $ 0 |
| ≥ 154 WS < 178 - Cat.2 | $ 60 | $ 40 | $ 0 | $ 0 |
| ≥ 178 WS < 209 - Cat.3 | $ 160 | $ 60 | $ 40 | $ 0 |
| ≥ 209 WS < 252 - Cat.4 | $ 280 | $ 120 | $ 60 | $ 40 |
| ≥ 252 - Cat.5 | $ 400 | $ 280 | $ 120 | $ 60 |

| Payout Structure Rainfall (FJD) | |
|---|---|
| Sum RF Range (Day before, same day & day after sum RF) - mm | Additional loss factor |
| ≥ 150 RF < 200 | $ 30 |
| ≥ 200 RF < 250 | $ 60 |
| ≥ 250 RF < 300 | $ 120 |
| ≥ 300 | $ 180 |

* As per Saffir Simpson hurricane scale
Wind data: JTWC
Rainfall data: ECMWF

*Figure 2 Fiji cyclone - combined wind and rainfall payout structure*

**OPTION 1: SUM INSURED $ 1000**

| Payout Structure Wind Speed (FJD) | | | | |
|---|---|---|---|---|
| Max. Wind Speed Range (km/hr); TC Category* | Distance to the Eye of the Cyclone (km) | | | |
| | 0-25 | 25-50 | 50-75 | 75-100 |
| ≥ 119 WS < 154 - Cat 1 | $ 30 | $ 0 | $ 0 | $ 0 |
| ≥ 154 WS < 178 - Cat 2 | $ 60 | $ 40 | $ 0 | $ 0 |
| ≥ 178 WS < 209 - Cat 3 | $ 160 | $ 60 | $ 40 | $ 0 |
| ≥ 209 WS < 252 - Cat 4 | $ 280 | $ 120 | $ 60 | $ 40 |
| ≥ 252 - Cat.5 | $ 400 | $ 280 | $ 120 | $ 60 |

| Excess Rainfall | | |
|---|---|---|
| Index definition | Cumulative rainfall over 5 consecutive days | |
| Strike | Strike (mm) | Payout (FJD) |
| Strike 1 (≥) | 300 | $ 125 |
| Strike 2 (≥) | 350 | $ 250 |
| Strike 3 (≥) | 400 | $ 375 |
| Strike 4 (≥) | 450 | $ 500 |

| Total Maximum payout (sum insured) | 100% or $ 1000 combined |
|---|---|

* As per Saffir Simpson hurricane scale
Wind data: JTWC
Rainfall data: ECMWF

**OPTION 2: SUM INSURED $ 2000**

| Payout Structure Wind Speed (FJD) | | | | |
|---|---|---|---|---|
| Max. Wind Speed Range (km/hr); TC Category* | Distance to the Eye of the Cyclone (km) | | | |
| | 0-25 | 25-50 | 50-75 | 75-100 |
| ≥ 119 WS < 154 - Cat 1 | $ 75 | $ 0 | $ 0 | $ 0 |
| ≥ 154 WS < 178 - Cat 2 | $ 250 | $ 100 | $ 0 | $ 0 |
| ≥ 178 WS < 209 - Cat 3 | $ 550 | $ 400 | $ 200 | $ 0 |
| ≥ 209 WS < 252 - Cat 4 | $ 800 | $ 650 | $ 450 | $ 200 |
| ≥ 252 - Cat.5 | $ 1000 | $ 850 | $ 650 | $ 400 |

| Excess Rainfall | | |
|---|---|---|
| Index definition | Cumulative rainfall over 5 consecutive days | |
| Strike | Strike (mm) | Payout (FJD) |
| Strike 1 (≥) | 300 | $ 250 |
| Strike 2 (≥) | 350 | $ 500 |
| Strike 3 (≥) | 400 | $ 750 |
| Strike 4 (≥) | 450 | $ 1000 |

| Total Maximum payout (sum insured) | 100% or $ 2000 combined |
|---|---|

* As per Saffir Simpson hurricane scale
Wind data: JTWC
Rainfall data: ECMWF

**Engagement with mobile phone companies has been critical**. It is significant to note that multiple events are covered within one policy year (to a maximum of 100% of the sum insured), and payments can be serviced digitally, including MPaisa and MyCash wallet. **Both insurance products are underwritten by local insurance companies** Fiji Care and Sun Insurance. It should be noted that this scheme is intended to cover social protection rather than full loss. The payout works as a social protection mechanism to ensure livelihood rather than being designed to cover the full loss The scheme has full government endorsement across ministries and the Office of the Prime Minister (OPM).

**The products strongly emphasize female empowerment, providing women with financial security and independence while enhancing their knowledge about insurance more broadly**. Indicators against both gender and disability form part of the programme's Theory of Change (ToC) and evaluation. The work stemmed from UNCDF Financial Inclusion work, which has been in place since 2014 – with a focus on consumer empowerment, working on financial literacy and building financial skills and competence, including integrating a formal financial education into the school curriculum in Fiji. An interim evaluation was conducted when the initial programme came to an end. There was a strong recommendation from stakeholders, including government and central banks, that UNCDF should focus on improving access to finance. This could include Technical Assistance on blended finance, performance-based grants, loans and guarantees, and micro and meso-parametric insurance to reach outer island communities and those who disproportionately are not able to reap benefits from such schemes - even though they are often the worst affected. Early models were based on lessons from the Caribbean Catastrophe Risk Insurance Facility[14].

PICAP is based on four work streams, namely i) enabling a policy and regulation, ii) implementing a digital ecosystem, iii) inclusive innovation, and iv) empowering customers. At the customer level, this is expected to lead to the overall programme objective of improving the financial preparedness and resilience of Pacific households, communities, small businesses, and **the government to climate change and extreme weather events**.

## Findings

### Barriers to entry

The main barriers and obstacles to uptake both across government and the target population were lack of awareness (of parametric insurance mechanisms and benefits), lack of capacity (technical insurance expertise and developing a regulatory enabling environment) and lack of finance (both for premiums and domestic budget) to some extent, competing priorities – for example, economic and health crisis caused by COVID.

Since the solutions developed by PICAP are largely at meso and micro levels, policy level engagement has been largely with Central Banks, however as highlighted in this report PICAP also engage with

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[14] The Caribbean Catastrophe Risk Insurance Facility (CCRIF) is a risk pooling facility designed to limit the financial impact of catastrophic hurricanes and earthquakes on Caribbean and Central American governments. It provides parametric insurance policies for tropical cyclones, earthquakes, excess rainfall, and the fisheries and electric utility sectors.

Ministries[15] and other public sector entities. As a member of the Pacific regional Disaster Risk Finance Working Group, UNCDF/PICAP plays a pivotal role in engaging with policy makers (largely in Ministries of Finance), other development partners and donors to present its work at the meso and micro levels through a market system approach.

The scheme's launch during COVID-19 also faced a significant barrier, and they were starting from a zero baseline. The big challenge was how to start implementing the plan on the ground when a lot of fieldwork, partner engagement, and workshops were required. To a certain extent, PICAP adapted to remote/ virtual workshops at the outset and needed to be extremely cautious due to travel restrictions.

'*When it comes to every new line of insurance, like parametric insurance, it becomes more difficult because you are selling a promise based on an extreme weather event that may or may not happen. The type of intervention is market-based – not somebody subsidising the premium – a small business, women, or vendor must pay the premium. This would be a low priority for people as general insurance awareness is low. So how do you shift the mindset to buy insurance and pay a premium?*'

The strategy to overcome barriers strongly emphasises a localised approach combined with strong capacity building and raising awareness. The key differentiating factor between this and other existing parametric schemes is that sovereign risk pools do not place insurance locally but via an external re-insurance mechanism. The UNCDF supported scheme capacitates the local insurance market ecosystem including private sector insurers to retain up to 40% of the total risk while the rest is reinsured globally. This approach has been possible by providing technical capacities and targeted financial support and building in-house technical expertise of national staff. Critical to effective product design was identifying optimal distribution channels and building financial literacy and competency combined with a deep understanding of behavioural drivers. The UNCDF team established robust relationships with relevant government departments, central banks, the local private sector, mobile money, and digital service providers with fintech, creating a solid foundation. The initiative works with local insurance companies[16], local cooperatives, agriculture cooperatives and fisheries associations, women market vendor associations and other groups and invests in building their capacities to offer.

**To ensure strong government engagement at the outset**, the UNDCF team wrote a policy paper on the 'Economic Impacts of Natural Hazards on Vulnerable Populations in Fiji'[17] to the Ministry of Economy (MoE) – which resulted in the VAT exemption on premiums – which both demonstrates solid political will and has had a significant impact on policy uptake. What differentiates this model from sovereign risk pools is the emphasis on developing market capacity. The VAT exemption was announced as part of the 2021 national budget[18] .

According to stakeholders interviewed, sovereign risk pools tend to place insurance through an international entity rather than locally, generally via a global reinsurance.

[15] These include Ministry of Finance, Environment, climate change, women, rural development etc., as well as other entities such as national provident funds, national development banks.
[16] Products are underwritten by Fiji Care and Sun Insurance local firms.
[17] Please see the press release, here.
[18] ibidem

## Regulatory barriers

**The assessment score in the Fiji context is 3, which indicates a 'low' level of regulatory barriers**. Given the scheme is the first of its kind, there are limited requirements for catastrophe insurance imposed by law. The Government has demonstrated a strong political will toward the scheme by providing a concession granting a Value Added Tax (VAT) exemption for premiums on climate and disaster risk parametric insurance products, effective 1 August 2021. In addition, the Fijian Government has also allocated **funding for the premiums** of 2,000 individual beneficiaries under the targeted social welfare parametric insurance scheme. These aims make the product more affordable, especially for Fiji's low-income and vulnerable population.

Given the underdeveloped regulatory environment on index insurance, UNCDF worked with the Access to Insurance Initiative[19], the implementing arm of the International Association of Insurance Supervisors, to analyse ten global parametric insurance markets and products to establish parameters and regulations and to set best practice guidelines for parametric insurance applicable to and adopted by Fiji (and wider Pacific).

**The scheme has developed a strong proof of concept to innovate and attract further financing and scale**. The benefit to the government is a marked increase in resilience across local communities, ultimately avoiding humanitarian crises in the future. The strong local integration and dominance of this UNCDF parametric product mean that it is more challenging for new service providers to enter the market. However, the UNCDF intention is not to shut out new service providers from entering the market. But rather to build technical capacities in the local market. This is also evidenced by the recent capacity building initiatives undertaken in PNG and Fiji by getting a number of local insurers from various Pacific countries to a joint training organized by UNCDF and supported by UNU-EHS, Lloyds (Sustainable Markets Initiative) and Howden.

**UNCDF has successfully developed a Community of Practice (CoP) among insurance providers, which was inspired by IGP's successful approaches in CoP development**. They worked closely with the Reserve Bank of Fiji (RBF) and other regional central banks/insurance regulators, including Tonga, Vanuatu, Samoa, Papua New Guinea, and now the Solomon Islands. The RBF has formed a coordination committee where the insurance providers collaborate, meeting monthly to share their challenges, progress, and how they can work together. RBF used its FinTech regulatory sandbox to approve the products, while other central banks used tools like conditional approvals. This has worked well.

UNCDF have also transferred some responsibility from the regulator to the Reserve Bank as part of an exit strategy – transferring their responsibilities to local institutions. The current phase will

[19] The UNCDF a2ii joint publication on index insurance best practices is the first of its kind that provides regulators (and industry) an insight into how to regulate (or not) nascent index insurance markets by following appropriate processes- that could include for instance conditional approvals and sandboxes to foster innovation and develop the industry. Focus of the publication has been on consumer protection and the role of different entities- Government ministries, regulators, insurance providers, distributors, FinTech/InsurTech. For more details, please see the publication (here).

operate in Fiji until 2025, and there will be an additional phase until 2030. In parallel, index insurance best practice guidelines are now available online as an e-learning course. This helped improve regulators' understanding of how to treat parametric insurance products in their nascent markets.

**There were no additional licenses or authorization for other stakeholders**. In Fiji and other countries, the Central Banks used their existing insurance regulations to fit the new services to ensure compliance with core areas like solvency, actuarial reporting, product design, consumer protection specific to education, grievance redress, etc.

## Innovation

**The market innovation assessment score for this criterion is "open to innovation"**. The scheme was initiated in Fiji in 2021 and has been constantly evolving, based on recommendations from mid-line evaluation combined with emerging evidence that feeds into the process. A clear proof of concept has been demonstrated, and as a result, the scheme has innovated and scaled to five countries in the Pacific and is now expanding to two more. This has been integral to the programme's success: continuously innovating and examining different models, products, and technologies and constantly working on and developing the product to ensure it maintains appealing to the target population.

*"Since 2021, when the first parametric insurance product was released in Fiji, we have worked on improving it. We now have the product's third iteration, which significantly improves build structure, pricing, and distribution channels. All those things have happened in the last 2-3 years, and we have seen significant improvements to the business models.''*

## User satisfaction

**The user satisfaction score for PICAP is high**. The growth trajectory of policy uptake in the scheme demonstrates high user satisfaction and a high renewal rate. The team is constantly improving and innovating on distribution channels, capacity building, and raising awareness. For example, UNCDF is responsive to feedback and evaluation – bringing new products online to better respond to climatic hazards (such as combined flood and wind) and incorporating new indicators – such as disaggregation by gender and disability needs.

*'In 2023, following the heavy rainfall in Fiji, more than 1000 households received the payout, ranging between $250 to $750, all within ten days to two weeks of this event.'*

There is continuous M&E: after the first claim (pay-outs in Q1 of 2023), several surveys were conducted by the UNCDF team, independently by journalists and even by our donors. In this regard, an e-**learning course is open to all other stakeholders in the insurance sector**. It offers comprehensive insights into regulatory expectations, consumer protection, and technical aspects of index insurance[20].

[20] Publicly available here, the scheme undergoes quarterly evaluations in the field.

## IGP’s contribution

**UNCDF has been working closely with IGP, who is considered an “important contributor”**. This is because they have worked collaboratively with UNCDF and PICAP to share best practices and innovation to create an optimal and sustainable model. UNCDF is a member of the regional disaster risk financing technical working group under the Pacific Resilience Partnership, comprised of a policy framework endorsed by Pacific leaders. The Pacific Resilience Partnership also has a technical working group on disaster risk financing. They have been key contributors to the Pacific data bank.

UNCDF is a member of the former IGP, and through premium finance and new product development, UNCDF expect to address the remaining barriers. Global Shield (IGP’s successor) is also committed to working with UNCDF in Fiji and ensuring lessons are incorporated into the design of the country programme. Fiji is developing a disaster risk financing (DRF) plan, which will be completed by the end of 2024. This plan can act as a guiding document for future planning.

## Key Takeaways

Overall, evidence suggests that IGP made a notable contribution to the development of the index-based insurance sector in Fiji and the wider Pacific. The uptake of the PICAP, UNCDF, UNDP, and UN-EHS parametric schemes has been high and shows a strong growth trajectory. The government of Fiji has demonstrated that it is keen not to impose overly burdensome regulations that will stifle innovation.

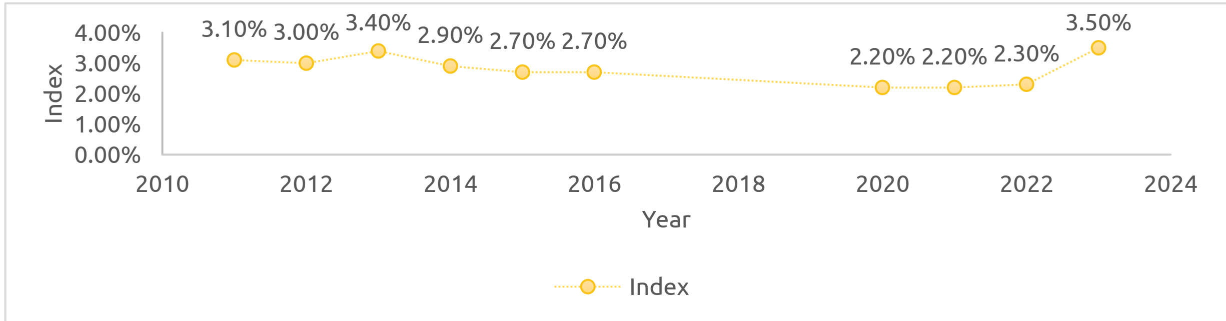
Fiji has been a forerunner, with strong Government support in the form of VAT exemption. UNCDF would like to see similar traction in other markets and is working to ensure this through innovation and awareness raising. Overall, governments in the region have been very supportive of the schemes, with strong political will and Ministers participating and showing their support during product launches. Due to its success and uptake, plans are underway to replicate and scale this model via UNCDF mechanisms across Africa and the Caribbean.

## Annex C Country case study Kenya

### Context

The insurance industry in Kenya is governed by the Insurance Act and regulated by the Insurance Regulatory Authority (IRA). The Authority is mandated to control, supervise and develop the insurance industry. **Low penetration levels of insurance products, including all line of business, characterize the industry, only rising marginally in the past five years to about 3.5%.** Although the penetration level is increasing over the past two years, it places Kenya third lowest in Sub-Saharan Africa,

*Figure 3: Insurance penetration in Kenya*




with South Africa at 17%, leading the way. This trend is summarised in **Figure 3** below.
Source: Cytonn Report, 2023 and key informant observations

A total of 6 KII were conducted virtually, with representatives from the different programmes sampled for the study, making the total number of successful interactions six (out of 12), with a response rate of 50%. This includes the Vision Fund International and ARDIS Program Kenya; (ii) Blue Orchard and SUMAC Microfinance Bank; (iii) representatives from PULA; (iv) R4 Rural Resilience Initiative (WFP) in Kenya; and finally; (v) Zap-rep from the Global Risk Financing Facility programme, provided a written response. A low response rate means that interviews focused on non-governmental respondents and did not include responses from government representatives. The study's findings are also compromised by limited access to the country-level representatives. Interviewees were not willing to divulge information, for example, about innovation and customer satisfaction surveys, citing these as specific to their use. The results of this research should not be seen as representative but rather as a contribution to broader growing evidence on climate insurance.

### Findings

#### Barriers to entry

Interview respondents confirmed the trend highlighted above, adding that the latest growth, mainly witnessed in business lines like medical and motor insurance, albeit modest, was aided by the actions of the insurance companies. In recent times, insurance providers have used various means to create a niche within the limited market. Further national growth in sectors such as commercial spaces has led to increased uptake in commercial fire classes, among others.

According to most respondents, the Kenyan insurance market has no **market-driven barriers to entry.** It was described as 'easy to access but with little institutionalization of the market dynamic'. According to interviewees, a key factor influencing competitiveness was the ability to achieve a high renewal rate and low distribution cost. However, scaling and intra-market support appeared to be limited, with one of the respondents citing the lack of a business association as a significant contributor to the lack of support for the development of the market.

**Yet, interviewees report that the Kenyan climate risk insurance market is still at an early stage of development.** On the supply side, the market is still characterised by a critically low number of players, including (re)insurers, financiers, development partners, and national and regional governments. As a result, product development still needs more research to find cutting-edge solutions; the demand side needs a sustainable distribution model and a premium subsidy to keep it affordable. Competition in the market can be viewed as stiff because of the focus on the few businesses available, which can be eased by focusing on developing a larger market.

Subsidies would need to be applied across all players and not limited to specific hand-picked companies. One of the KIIs pointed out this: *'The government was, in some ways, selective about the private insurance companies it chose to work with in PPPs'.* This is greatly limiting to small companies, which, as redistributors, have to apply additional commission costs to premiums paid by their clients.

**Some insurance providers capacity to compete is limited by their business model** of being primarily an insurance distributor. Distributors do not originate their products but customise existing products from insurance companies according to their customers' requirements. Their competitiveness in terms of pricing, for example, is therefore diluted by virtue of being part of a longer value chain.

**The geographical areas selected for crop and livestock insurance are primarily remote and far away from the capital city of Nairobi, where most insurance companies are headquartered.** Most insurance companies are centrally operated. The significant distance to the remote regions requires additional resource mobilization, such as personnel to mobilise farmers, recruitment, signing up, and following up seasonal activities. The additional administrative costs, therefore, limit the willingness of such insurance providers to work in the regions, which also limits market competition.

**Stakeholders highlighted the challenges of developing a sustainable distribution model and sustaining demand during projected better rains as a critical barrier**. The distribution is impaired by weak livestock value chain ecosystems in arid and semi-arid regions, where the cost of reaching pastoralists is very high. Demand sustainability is a challenge due to the low renewal rate, especially in years without any payouts. To address these challenges, the DRIVE project, for example, adopted a community led aggregation (supported by a platform) where community representatives were involved in the distribution of financial services and access to the market. The ultimate path was to link access to the market to access to financial services like other insurance products and credit.

## Regulatory barriers

**The overall assessment score for regulatory barriers is three (3), meaning there are low regulatory barriers in the country.** The Insurance Regulatory Authority (IRA) is mandated to regulate, supervise and promote the development of the insurance industry in Kenya. Other players, such as the

State Department for Livestock and other ministerial entities and partners like the World Bank, participate at the programme/project level and do not necessarily provide product or insurance approval.

Most of the KII stated that there are no regulatory barriers to entry into the Kenyan insurance market. Even the license cost was perceived as being "incredibly low," from about USD75 to USD200 per annum. The respondents also added that there was almost no time lag for approval, which was about 30 days. *'The approval is given on logic of silent consent'.*

Further, stakeholders report that the country has a framework for index insurance through a raft of index-based insurance policies and a microinsurance window, which provides an opportunity to underwrite microinsurance products more efficiently.

One respondent highlighted that the regulator (IRA) appeared willing to allow the design of insurance products even ahead of regulatory provisions or the existence of legal instruments because of the great need. This allowed for faster product delivery and is an enabling factor for the market to grow. As a result, to avoid regulatory uncertainty, some programmes have designed their operational settings and have managed to scale up transnationally.

Yet, some interviewees felt that the IRA was not playing its role in educating the masses regarding the importance of insurance and the various options in the market. The respondents' view was that if the government carried out consumer education, premium subsidies, or co-sharing of losses, this would enhance penetration, as one of the barriers to uptake is the costly nature of premiums, especially for smallholder farmers.

**According to the KIIs, there is currently no specific law compelling climate and disaster risk insurance uptake.** Thus, Insurance is left as a contract between the policyholder and insurance company in a "willing buyer-willing seller" relationship. However, plans are underway to introduce a claims tax to reduce the amount payable, especially for smaller claims. It is anticipated that this might become an obstacle to future uptake of insurance products.

## Innovation

**Kenya's assessment of its market innovation profile corresponds to 'market-driven innovation'.** This significant drive for insurance innovation in Kenya can be attributed to the efforts of different insurance companies to create market differentiation, with numerous operations involving microinsurance and index insurance over the years. More recently, there has been an increased focus on the role of Insurtech companies in driving digitalisation in the sector[21]. In addition, a wide range of industry players has employed mobile money platforms like M-Pesa for premium payments and claims processing.

An example of innovation includes Britam Holdings PLC (Britam), which launched an Index-Based Flood Insurance solution in partnership with Oxfam in Kenya and global reinsurer Swiss Re. This was

[21] Insurtech companies combine insurance knowledge with technology like AI and data science to simplify the industry and streamline the enrolment process

meant to cushion small-scale farmers living along the banks of the Tana River in the Tana River County from the adverse effects of catastrophic floods.

Moreover, Artificial Intelligence (AI) was mentioned as a factor in support of innovation with its capacity to process large amounts of data with speed and accuracy. Insurtech companies also highlighted PULA's innovation in integrating insurance with blockchain technology. The triggers are automated so that once the system detects an upcoming pay-out, it eliminates the entire approval process, pools the money from different accounts, and pays the farmer directly. Other innovations included Etherrisk, which deals with carbon credits for insured farmers. The system allows the allocation of earned credits for premium payments, substituting donor subsidies for the co-benefit of aiding local carbon sequestration.

Given the support of both the government and insurance regulators for such innovations, it is possible that technological advancements could support insurance penetration by contributing to lowering the cost of premiums and improving the rate of response to claims.

## User satisfaction

**The user satisfaction level was high across the interviews, as evidenced by the renewal rates.** Vision Fund Kenya uses impact insurance stories and product satisfaction surveys at the point of renewal to gauge the impact and satisfaction of its farmer customers. The renewal rate was provided ranged between 90 and 95%. The impact stories were found to be useful in helping the farmers reflect on the product and its usefulness as well as motivating them to bring in referrals for fresh uptake by others.

SUMAC and Blue Orchard provided a 90-percentage point approximation for their renewal rate, mentioning that they had obtained about 2000 new customers in count over the past year. They provided evidence of satisfaction within the market as the best livestock insurers and have won national agricultural finance awards.

ZEP-RE (DRIVE) provided a renewal rate of 27%, with the user satisfaction survey being part of a broader system that includes a grievance redress system that allows pastoralists covered by the programme to express satisfaction or lodge complaints.

Assessing user satisfaction based on renewal rates does not work for the R4 initiative, as the cohort of farmers is fixed based on the availability of funds. Since the programme subsidises the insurance premiums, the expansion of the cohort is limited by the availability of funds.

## IGP's contribution

**IGP is generally perceived as a vital contributor to developing the local market for insurance** and unlocking the bottlenecks mentioned above. Investments in funds and technical partners like the World Bank have enabled product development, distribution model development, capacity development, premium subsidy, platform development and general support to ideate new models. Stakeholders report that IGP has enabled partnerships between private insurance entities and government and non-government actors like WFP. IGP has also helped build national capacity in disaster risk insurance by encouraging investments into a sector previously deemed purely commercial.

Furthermore, stakeholders report that, without such an entity to disseminate information on viable business cases to attract the private sector, crop insurance would not have been taken up by insurance companies the way it has. The private insurers have confidence that parametric insurance can be profitable in the long run.

Claims and premium assistance have been key success factors for multiple programmes and a salient indication of IGP's contribution. An example includes a crop insurance product where the customer paid 60% of the premium, whilst the programme settled the remaining 40%.

There are indirect contributions that IGP made outside of their core mandate or intended programme/project objectives, one of which relates to loan portfolio protection for Micro Finance Institutions (MFIs). MFIs, as clients, are able to grow by having a stabilised balance sheet while maintaining the capacity to provide money for clients when disaster arrives. Instead of resorting to poor coping measures like selling land or withholding children from school attendance, they can have their loans restructured.

## Key takeaways

By and large, evidence suggests that IGP has made a visible contribution to the insurance industry in Kenya by encouraging the uptake of parametric climate risk insurance, which the government does not currently mandate through its regulator. Although the IGP's contribution had been well understood at the program level, the projects supported by each programme did not perceive the relevance of the IGP in the same way. This is partially explained by the fact that, in some cases, projects were related to IGP. In the future, the Climate and Disaster Risk financing insurance sector should get closer to the projects to deepen understanding and a clear focus on Vision 2025 outcomes. In addition, the following takeaways were highlighted by partners:

**Product integration:** Consider integrating climate and disaster risk insurance with other instruments like catastrophe bonds, social protection and emergency response.

**Government engagement:** political will, support, and investment need to be mobilised to promote government engagement in providing subsidies to ensure insurance uptake in geographically challenging regions and difficult-to-insure sectors like agriculture and catastrophe risk.

## Annex D Country case study Pakistan

## Context

**The insurance penetration rate in Pakistan, including all lines of business, is less than 1% (0.87%)[22] for 2023, the lowest in South Asia**. The trends and data collected for this case study result from three key informant Interviews: one with Asia Insurance Company (Pakistan's leading insurance company), the market leader in the micro-insurance space, the Kashf Foundation and the commissioner from the National Insurance Regulatory Authority. One interview with the Punjab Agriculture and Rural Transformation project could not be scheduled due to changes in the Punjab government in Pakistan and the relocation of the project team. Due to the limited number of interviews, the results of this research should not be seen as representative but rather as a contribution to broader growing evidence on climate insurance.

## Findings

### Barriers to entry

**Stakeholders reported a trend of stagnancy in Pakistan due to various factors, including high insurance premiums, slow and inadequate efforts to enhance insurance literacy and awareness**, rising inflation, political instability, flood damages, and supply chain disruptions.

A stakeholder from the private insurance sector highlighted that 1% of the federal insurance fee payable on every premium in the country to the regulatory authority, i.e., the Pakistan Exchange and Security Commission (PECS), is reserved for insurance market development, including awareness building. Efforts to increase awareness and insurance literacy are underway, but more is needed.

*"The beneficiaries of the 2022 floods who received flood coverage as part of various government insurance schemes still lack insurance literacy and do not understand that it was insurance money, not the bank's lease, bank waivers, government subsidies, loan offsetting, etc."*

Stakeholders also reported that the demand for climate and disaster risk insurance is emerging in the country, with many insurance companies designing products for the agriculture and livestock sectors. Still, **the uptake is slow because, on the supply side, capital and technological advancements are missing for designing parametric insurance**. This is particularly relevant for monitoring and verification as the microfinancing institutions need more technical resources and paid-up capital resources to pilot parametric schemes with the microfinancing institutions. One significant finding was the

[22] https://www.sbp.org.pk/FSR/2018/Chp-4.3.pdf
https://profit.pakistantoday.com.pk/2023/05/03/pakistans-low-insurance-penetration-rate-reflects-industry-challenges/

Security & Exchange Commission of Pakistan's (SECP) facilitative role in microinsurance providers, with less stringent regulations for micro-financing and insurance companies[23].

*"The insurance industry plays a vital role in providing a social safety net for families, improving the livelihood of small and medium enterprises and farmers, promoting sustainable and climate-resilient infrastructure, and reducing the risk of doing business in Pakistan. Liquidity from the insurance sector could boost the development of the capital market and integration of the financial markets."*

The SECP is developing a five-year strategic plan that will be launched in 2024. This plan aims to improve the penetration index and set the tone for the future policy, legal, and regulatory landscape. It incorporates the recommendations of the insurance industry reform committee and will be published this year.

**Stakeholders interviewed confirmed that many insurance companies with microfinancing institutions are now designing and piloting household-level climate risk insurance products** (including the Asia Insurance and Kash Foundation with the InsuResilience Investment Fund in partnership with Blue Orchid) as there is demand for parametric / indemnity crop protection and livestock cover insurances. **When enquired about the market barriers, stakeholders referred to the low insurance literacy, the paid-up capital requirements and the unavailability of reinsurance companies or the reinsurance markets**. Since the insurance uptake is as low as 0.85%, local reinsurance companies are not readily available, and the risk cover for the borrowers investing into the insurance business becomes a significant issue as a reliable insurance company operating in Pakistan will have to partner with reinsurance companies. The interviewee too highlighted the importance of reinsurance companies as guarantees for risk covering.

**Challenges also refer to affordability and approval of claims**. For example, microfinance institutions implementing indemnity-based insurance for livestock cover for female entrepreneurs faced the challenge of insurance companies wanting premium collection upfront, and clients (poor women borrowers) could not afford it. It took time for major microfinancing institutions to convince the insurance companies of the ground realities and borrowers' challenges. Another example reported includes the approval of the livestock claims process by the insurance company, which is about 15 days of turnaround time. Stakeholders from microfinance institutions reported that a decentralisation process by insurance companies and more trust in microfinancing institutions would further reduce the time taken for the claim reviews.

**There are also some challenges on the technological side**. For instance, livestock insurance companies use a muzzle-based animal tagging system to monitor and verify claims (60% accuracy). This is less accurate, and there is more dependency on field verifications, which is time-consuming and costly. A key informant interviewee expects that:

*'a newly updated and more technologically advanced application will be a game-changer for the livestock insurance market, as it will fulfil the requirements of the third-party surveyors and will reduce the insurance cost'.*

[23] The Securities and Exchange Commission of Pakistan (SECP) is a regulatory body established with the objective of developing the corporate sector, insurance, non-banking financial companies (NBFCs), and capital markets.

Currently, livestock insurance, designed in 2017, started with a premium rate of 2.8 % but has been reduced by 1/3 in six years due to innovations in livestock insurance.

Microfinancing and insurance companies highlighted that **microfinance institutions offer products bundled with microloans as the administration cost is high.** With the rising demand, many players are expected to launch climate and disaster risk insurance in the next two years.

## Regulatory barriers

**The overall score for the regulatory barriers is low barriers.** The three interviews suggest that the regulatory authority plays a facilitative role in developing the insurance sector. There are stringent regulations for the banking sector and more relaxed and flexible protocols for microfinancing and insurance companies, especially for companies designing parametric insurance, which is relatively new to the country and has full government support.

**All premiums in Pakistan are subject to a 1% federal insurance fee, followed by a provincial sales tax**. The sales tax rates vary from province to province and sector to sector. For example, livestock is sold at a reduced sales tax rate compared to crop protection. The regulatory barriers are explained from both microfinancing and insurance companies' perspectives.

From a microfinancing perspective, stakeholders consider the SECP flexible and facilitative in helping market players develop the insurance space, especially for microfinancing institutions**.** The capital requirement for microinsurance company registrations has been 'massively reduced', and some leniency is offered. Yet, insurance companies are more inclined towards corporate insurance and have more of a 'for-profit agenda' than a mission for social change through financial inclusion and empowerment. Stakeholders also consider that SECP is putting in the effort to develop the insurance market by bringing together donors, commercial banks, multi-laterals, and micro-financing institutions through capacity-building initiatives and recently did an insurance strategy to address the bottlenecks and relaxation of rules for insurance companies to improve the insurance uptake in Pakistan. Also, the government is funding subsidies covering the risks related to agri-insurance products through the State Bank of Pakistan, a focus area for commercial and microfinance insurance banks.

Stakeholders from the insurance companies interviewed reported that the non-life insurance market is 'very open and relaxed' in Pakistan, and products, including index insurance, do not need to be approved by the SECP before launching. Where there are disputes in the claim disbursement, despite lengthy procedures, insurance companies are familiar with the process, which is well established by the relevant authorities. Regulations are stringent for commercial and microfinance banks, regulated by the State Bank of Pakistan (SBP). The stakeholder reports that **the regulatory challenges are more pronounced on the banking side than the insurance side.** When microfinancing banks launch an insurance product, they must get approval from SBP and follow a lengthy registration process; hence, these banks are hesitant to go for new and innovative products.

**Stakeholders also report that when microfinancing banks want to pilot new climate and disaster risk insurance products, they face regulatory challenges, including permits, licensing, risk management, taxation, and especially the restricted limits** on what they can charge to their borrowers vis-à-vis the benefits they must give in return. Similarly, microfinance insurance banks (MFIs) have relatively relaxed guidelines on their interaction with their customers so that they can test the products. The stakeholder also explained the mechanism for the crop loan insurance scheme and livestock

loan insurance, which are government schemes in Pakistan for borrowers of entities regulated by the State Bank of Pakistan. For these microfinance and commercial banks, there is a premium subsidy (amount not disclosed), and, on the crop side, it is capped on the acres of land, and there is a cap of 25 acres. There is no subsidy over the 25-acre limit, but below that, there is a subsidy of 100 % of the premium amount.

**Microfinance institutions are not eligible for the subsidy.** For them to access subsidies and grants, they need to go through alternative routes like Asia Insurance company's partnership with Jazz and GSMA innovation fund with support from the Foreign, Commonwealth & Development Office (FCDO). This partnership aims to enable the digitization of agricultural value chains and improve micro-insurance availability for farmers. The pilot-stage programme will provide tailored, parametric coverage for 500 farmers against excessive rainfall, droughts, and other natural disasters common to the region24. (See example below)

*'In partnership with Blue Marble Insurance and Asia Insurance, Reap Agro shared farmer profile and farm location data with the insurance provider to offer index insurance services to registered farmers. Initially, 304 farmers purchased rainfall insurance (covering excess or insufficient rainfall), and 236 received payouts following "out-of-bound" (above or below the defined range) rainfall. The service is now being enhanced to cover additional risks such as heat stress, wind and hailstorms'*[25]**.**

When enquired about the 'co-sharing of losses' through government support and subsidies, the respondent highlighted that there are one-time grants from disaster relief funds and ad hoc facilities. The co-sharing of losses is currently taken care of by relief funds, not insurance.

**Another key regulatory barrier highlighted by the insurance company's official was the quality of the judicator**. Where disputes arise in various jurisdictions outside the federal insurance ombudsman despite having tribunals, with retail insurance scaling up in the future, this area will require immediate attention from the government of Pakistan when regulating the insurance industry.

## Innovation

**The overall score for innovation is that the insurance market is** '*open to supported innovation'* an example highlighted during the interviews referred to the livestock insurance industry. **The muzzle-based tagging** through the application is expected to be a game changer for the sector of the claims verification process. With the process upgraded, it will have better accuracy and precision.

Similarly, a respondent refers to the parametric crop protection insurance. This index-based scheme is 'more innovative' than crop cover and other indemnity-based insurance schemes offered in the past. Underwriting is more accessible, and claim settlement is faster and more straightforward than the government's crop loan schemes for the commercial and microfinance banks that follow through the calamity on the crop. The government stakeholder also highlighted that many telecommunication

[24] Numbers added from : Blue Marble launches agriculture cover for Pakistani farmers | InsurTech Magazine (insurtechdigital.com)
[25] GSMA | Jazz Pakistan: Leveraging partnerships to improve farmer livelihoods, financial inclusion, and climate resilience in Pakistan | Mobile for Development

companies and startups are active in the space and offering tech-based solutions to improve property and crop protection insurance.

Overall, the stakeholders highlight that extensive research is being conducted to understand better **the technology needs for parametric insurance**. The specific details of this research were not shared by stakeholders.

### User satisfaction

Stakeholders report that 'the insurance companies do not have formal surveys as part of the business model' as they work through financial intermediaries, and the success lies in the power of retaining users and financial numbers. Stakeholders from projects implemented by IGP members also mentioned that projects are very recent, and the results 'will come in the near future'. Yet, respondents also highlight that although no formal surveys have been conducted, there is a hotline service (grievance redressal mechanism) where success stories are reported. **Respondents report a 70% renewal rate** for the livestock insurance scheme; 'the clients are satisfied with the scheme because the amount of claims is equivalent to the cost of the total animal'. In case of losses, the client has been offered a handsome amount to recoup losses, and the time of reclaim processing is 15 days. Other insurance products can instead take 2-3 months. Premium payouts are nominal, e.g., on a loan of 500 USD, there is an insurance of 5 USD, which could be paid in 12 equal loan instalments, so that is less than 1 USD per month, which is a 'very affordable and attractive package' for the livestock farmers.

### IGP's contribution

Respondents did acknowledge IGP as **a vital contributor in helping to roll out** first of its kind 'weather index insurance product' (in partnership with Asia Insurance as an investee of Bluewater) and indemnity-based micro livestock insurance for households in Pakistan, where premium subsidy was received through the InsuResilience Investment Fund. Yet, stakeholders emphasised the demand for premium subsidies from the farmers. An example of this includes limited traction of new products and piloted products with less traction due to the poor economic conditions of the farmers.

## Key takeaways

Overall, evidence suggest that IGP was a vital contributor to the roll out of the first weather index insurance product in Pakistan. However, since the market in Pakistan is geographically spread and there is disparity in incomes, there is a risk that the one-size-fits-all approach for weather index products will not work. The stakeholders interviewed underscored the importance of a tailored approach to meet the demand-side requirements. In the future, more attention should be paid to fostering innovation in the agri-insurance space as well as sourcing ideas (through calls for proposals and ideas) that could be tested and scaled.

In addition, interviewees suggest that climate and disaster risk insurances offer fixed capital costs, which no insurance company is currently ready to invest in Pakistan, as microfinancing institutions need more capacity to provide this type of insurance. The international CDRFI community should consider supporting solutions to the challenges of **the cost of equipment/ technology for parametric**

**insurance** on which the products are designed.  The following takeaways were also highlighted by partners:

**Grant-based support** must be provided for microfinancing institutions to innovate in the insurance sector. Training and capacity-building programmes are also required for microfinancing institutions to introduce climate and disaster risk insurance.

**Subsidies from the government** are required to support innovation and infrastructure development. Microfinancing institutions are only the distributors of insurance products/ users of the products, and hence, the responsibility to innovate lies more with the insurance companies.