

# INCLUSIVE INDEX INSURANCE

*Insights and recommendations for practitioners and donors  
based on case studies of SCBF project partners*



Swiss  
Capacity  
Building Facility

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# Acknowledgements

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# Cultivating Resilience: Voices of Smallholder Farmers

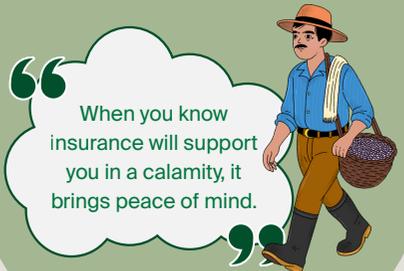


## Colombia



“Grateful for their financial support, especially with the weather so unpredictable.”

“Small coffee growers feel helpless, and this support covers our production costs.”



“When you know insurance will support you in a calamity, it brings peace of mind.”



Financial Security



## India



“Farmers always need security, and crop insurance offers that support when times are hard.”



“When over half my crop was damaged last year, this insurance gave me support.”



Growth



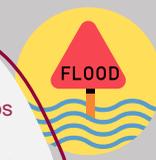
## Côte d'Ivoire



“Our land is arid and crops are aging. Insurance helps me improve the farm and manage droughts or floods.”



“Now, insurance helps me invest in my plantation and supports me if illness or drought occurs. It gives me security.”



Informed decision-making



## Mali



“We get real-time weather updates, including rainfall information, through the insurance.”



“I bought seeds and fertilizer with the insurance payout.”



Common Themes



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## Case Studies

[Blue Marble - Colombia](#)

[OKO - Mali & Côte d'Ivoire](#)

[IBISA - India](#)

[ACRE - Rwanda](#)

[One Acre Fund - Malawi](#)





## Executive Summary

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### Why index insurance matters

Smallholder farmers are vital to global food security and agriculture provides the main source of livelihoods in rural areas, yet farmers remain highly vulnerable to climate shocks. Inclusive index insurance has proven it can help households protect assets, recover quickly, and invest in more productive strategies. But coverage is still limited, reaching only 2% of rural populations worldwide.[1] In this report we share insights on what works and where challenges remain for the donors and practitioners developing index insurance products that positively impact smallholder farmers, have potential for scale, and employ cost-effective strategies for the long-term.

### Key insights

- **Focus on farmer needs, not product solutions.** Integrated programmes that support farmers with agricultural advice, weather information, access to loans for inputs, savings incentives and risk protection are highly valued by farmers.
- **Impact beyond payouts.** Farmers with insurance are less likely to sell assets during crises, more likely to replant after shocks, and better able to access credit.
- **Trust depends on accuracy and clarity.** Basis risk, lack of communication and a feeling of unfulfilled promises remain the biggest barriers to retention.
- **Innovation is maturing.** Hybrid indices, better data quality, forecast-based modelling, mobile-based payouts, and meso-level delivery through farmer organisations are improving relevance and cost-efficiency.
- **Scale and sustainability require partners.** Bundled solutions, aggregator-led models and collaboration with government schemes consistently outperform direct-to-farmer sales.

[1] Microinsurance Network, [Landscape of Microinsurance 2024](#).

- **Gender gap remains.** Men are often the default policyholders in agriculture due to cultural norms in most countries. Women are underrepresented but report strong financial and psychological benefits when reached through targeted channels.
- **Subsidies are double-edged.** They are essential in early-stage insurance markets and to reach the most vulnerable farmer segments but unsustainable without clear transition strategies.

## Priorities for donors

1. **Deploy smarter subsidies.** Prioritise vulnerable groups and high-value/high-risk crops<sup>[2]</sup>; define clear but patient exit paths.
2. **Invest in shared data.** Expand weather, soil, and yield data collection as public goods to reduce costs and basis risk.
3. **Fund insurance education.** Collaborate with government extension services and cooperative networks to embed insurance training systematically.
4. **Test and evaluate targeted interventions.** Increase proof of successful interventions that best drive uptake, scale and farmer outcomes.
5. **Support bundled, aggregator-led models.** Incentivise partnerships with MFIs, cooperatives, and agribusinesses.
6. **Close the gender gap.** Fund channels and designs that intentionally reach women.
7. **Enable innovation-friendly regulation.** Back regulators to create clear standards and faster payout rules.

## Priorities for practitioners

1. **Focus on trust first.** Work with farmer-trusted aggregators, develop clear messaging and transparent communication that encourages farmers to think of insurance as a safety net, minimising the focus on financial compensation. Ensure payouts are seamless and direct to farmers' accounts. Trust building mechanisms are as important as technical design.
2. **Design for uptake and customer satisfaction.** Embed insurance into loans, inputs, or value chains to convince first-time customers; rarely does it succeed as a stand-alone product. Co-design insurance coverage and develop strong farmer relationships; satisfied customers are more likely to renew and promote the product to their peers. Surveys show that satisfaction is often linked to tangible value (e.g. payouts or other benefits), communication, and understanding.
3. **Invest resources and time in partnerships.** Collaborate with government agencies, local insurance companies, technology partners and key actors in the agriculture value chain to create enduring and high impact strategies that anchor index insurance in the market.
4. **Leverage digital but stay human.** Use of mobile enrollment apps and payouts cut costs, but farmers learn and communicate through personal, trusted networks.
5. **Build for women.** Adapt distribution, timing, and eligibility so products work for women farmers and entrepreneurs.

<sup>[2]</sup> Crops that are vital to food security and smallholder livelihoods (e.g. maize in Malawi or coffee in Colombia).



**6. Measure outcomes continuously.** Use client feedback and impact data to refine products, plan subsidies, and improve retention.

Index insurance is already showing real value. With donors helping to build the right foundations, and practitioners focusing on trust, integration, and inclusion, it can move from scattered pilots to a lasting pillar of rural resilience.





# 1. Introduction: The Role of Index Insurance in Smallholder Farmer Resilience

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## 1.1 Smallholder Farmers: Vulnerabilities and Opportunities

Smallholder farmers - more than 500 million households worldwide[3] - form the backbone of food production in low-income countries, yet they remain acutely vulnerable to climate shocks, price volatility, and conflict. With limited assets, access to financial services or safety nets, even a single failed season can push households into poverty. Recent crises, from prolonged drought in the Horn of Africa[4] to heatwaves in South Asia[5], show how quickly crops and livelihoods can be wiped out.

Yet smallholders are also remarkably adaptive, often diversifying income or experimenting with new practices. For farmers, access to financial tools that reduce risk is transformative. Index insurance offers one such tool, providing a financial buffer that enables households to recover faster, protect assets, and invest in more productive strategies. By stabilising incomes, it can strengthen both household resilience and rural food security.

## 1.2 Inclusive Index Insurance: Definition and Context

Inclusive index insurance is designed to meet the needs of low-income farmers and rural households who are typically excluded from formal insurance. Instead of on-farm loss assessments, payouts are triggered by pre-defined thresholds from weather-related indices (such as rainfall, wind speed, soil moisture, etc.) or satellite-derived vegetation data, enabling expanded coverage of farmers across geographies, reducing costs and speeding up payouts. Farmers typically receive compensation within two weeks of a shock - often via mobile wallets or bank transfers - improving both resilience and financial inclusion.

Farmer willingness to pay for index insurance at market rates is low.[6] Subsidies play a critical enabling role. In high-income and low-income countries, they mostly take the form of premium subsidies. In 2024, 58% of agricultural insurance products were subsidised by governments or donors, highlighting the importance of public support in improving affordability and encouraging uptake for first time users.[7] Agricultural insurance accounts for the largest share (42%) of all subsidised microinsurance products, representing USD 3.7 billion in written premiums. While these subsidies support uptake, there is still a major protection gap in emerging and developing countries – in 2022, more than 85 percent of insurable crop production was unprotected[8].

[3] Food and Agriculture Organization of the United Nations (FAO), [Family Farming Knowledge Platform](#), 2025.

[4] United Nations Office for Disaster Risk Reduction (UNDRR), [Horn of Africa floods and drought, 2020-2023](#).

[5] United Nations Environment Programme (UNEP), 2022. In [South Asia, record heat threatens future farming](#).

[6] Abdul Latif Jameel Poverty Action Lab (J-PAL). [Leveraging index insurance to protect farmers from weather-based risk](#). October 2024.

[7] Microinsurance Network. [Landscape of Microinsurance 2024](#).

[8] Swiss Re (2023). [Crop insurance: offering a way to support food security](#).





A growing movement of international insurance stakeholders are setting good practice standards on the topic of targeted premium support, smart subsidy principles and sustainable pricing models.[9,10] Average premium prices, loss ratios and policy renewal rates are key indicators to understand affordability and sustainability. Loss ratios in the range of 70% reflect a fair level of indemnification to insured farmers and a sustainable loss trend for the insurance company. Because payouts are tied to weather or index triggers, annual variations are expected, but maintaining a balanced multi-year average is essential. This equilibrium signals that products are both client-centric and actuarially sound, capable of scaling sustainably in the long run.

Premium subsidies seem to be most effective in markets where insurance is new, awareness and understanding are low, or farmer populations are extremely vulnerable. However, it is important to carefully analyse the market, climate trends, and gaps in the agricultural market and the insurance market to design an effective premium support strategy.

Reinsurance is another foundational pillar. Nearly half (48%) of agricultural index insurance products globally are reinsured, providing risk-sharing capacity and access to advanced pricing and modelling expertise that may be unavailable locally.[11]

Since 2011, SCBF has supported 40 index insurance projects across Africa, Asia, and Latin America, reaching more than 900,000 low-income households - 45% of them women. These projects target key weather-related risks such as drought and floods, while piloting innovative delivery models with cooperatives, MFIs, and digital platforms. Globally, the market remains nascent: only 2.1% of rural populations are covered[12], and most products depend on public or donor subsidies. Nonetheless, new approaches, such as bundled products, group policies, and mobile-first delivery, are helping to overcome barriers of affordability, trust, and distribution – leading to impact, scale and sustainability.

### 1.3. The Tangible Benefits of Index Insurance

When designed effectively, index insurance delivers far more than financial payouts. Evidence from index insurance studies and SCBF projects shows that it:

- **Protects financial well-being**, reducing reliance on distress strategies such as selling livestock or reducing food intake.[13] In SCBF projects[14], 60 – 76% of farmers reported feeling better prepared to manage shocks thanks to their insurance; in other circumstances they would have sold assets or indebted themselves by borrowing from their social networks or lenders, potentially weakening their long-term financial well-being.

[9] Global Shield Solutions Platform. Operationalisation of Premium Support. August 2025.

[10] InsuResilience Global Partnership. Smart Premium and Capital Support. Policy Note 01/2022.

[11, 12] Microinsurance Network. Landscape of Microinsurance 2024.

[13] World Bank & Global Index Insurance Facility (GIIF, 2018). Insuring Resilience: The Role of Index Insurance.

[14] Oko Mali 60 Decibels Insights Report, 2025.





- **Enables timely recovery**, with payouts typically initiated within 30 days after passing the index trigger for the weather risk.
- **Encourages investment**, with insured farmers increasing input use by 15–30% and achieving yield gains of 10–20%.<sup>[15]</sup> In SCBF projects in Colombia and Cote d'Ivoire, approximately 86% of farmers who received a payout used it to purchase agricultural inputs or invest in their farming business.
- **Expands credit access**, by allowing lenders to bundle insurance with loans, farmers access input loans without the burden of a guarantee and reduce default risk.
- **Supports women's empowerment**, as insured women report greater confidence in financial decision-making and improved resilience.

These benefits show why index insurance is increasingly recognised as a catalyst for resilience and rural development. Realising its full potential, however, requires targeted education, gender-sensitive outreach, and more strategic approaches to subsidies and market development. Equally important is addressing barriers related to affordability, trust, and distribution to enable broader adoption and scale.

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[15] Innovation for Poverty Action (IPA, 2013). Index Insurance Impact Evaluations in Ghana.





## 2. Cross-Cutting Findings from Case Studies

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The five case studies published in parallel to this report illustrate the diversity of contexts and innovations in index insurance. **Tables 1 and 2** on the following pages provide an overview of the case study partners, their index insurance products and key indicators. Data was collected through partner interviews, project reporting documents and outcome studies conducted with 60 Decibels in 2024 and 2025. Each of the index insurance products are in different growth stages having been launched within the past decade, yet common patterns emerge:

**Scale is achieved with public-private partnerships and aggregators** - One Acre Fund Malawi and ACRE Rwanda are examples of scale that are heavily influenced by the distribution model, specifically government schemes and partnerships with cooperatives or financial institutions. Blue Marble Colombia, also provides an example of expansion from a pilot project with a client reach of 7,000 farmers in 2022 to almost 40,000 farmers by the end of 2024, underscoring the importance of strong institutional partnerships and farmer cooperative relationships. Experience shows that these partnerships take many years to develop and scale and companies should be willing to invest time and resources.

**Subsidised products establish trust, driving uptake and renewal** - Premium subsidies support new product development, de-risk innovations, allow companies to build index insurance capacity and farmer trust, and reduce administrative costs. Over time, as risk pools deepen and administrative costs fall, the need for subsidies should diminish. In the case of Blue Marble and ACRE, initial subsidies helped to establish index insurance through farmer cooperatives. The current aid environment and questions around fiscal sustainability of premium subsidies mean that partners are shifting from subsidy dependency with products that farmer cooperatives can afford by reducing coverage or bringing in value chain actors to pay part of the insurance premium.

**Innovation lowers cost of customer acquisition and builds trust** - Newer initiatives such as OKO Mali, OKO Côte d'Ivoire and IBISA India serve as innovation pilots testing digital dashboards to increase index transparency, mobile applications for onboarding and delivery models with a variety of stakeholders in the value chain. By focusing on reducing friction to optimise processes, companies can harness innovation that results in client gains. These innovations position index insurance for rapid scaling once proof-of-concept is established and challenges around trust and communication are resolved.

**Index insurance contributes to food security and livelihood resilience** - East African programs like ACRE and One Acre Fund primarily focus on staple crops such as maize and beans, reflecting their role in household food security and vulnerability reduction. Meanwhile, projects in West Africa, such as OKO, tend to concentrate on cash crops like cotton and cocoa, which expose farmers to market volatility as well as climate risks. In Latin America, Blue Marble Colombia stands out for engaging coffee farmers—linking insurance to a high-value export sector. This crop-specific orientation indicates that index insurance plays a critical role in mitigating risk in the context of smallholder households and also on the national level.

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**Table 1. Overview of SCBF Index Insurance Case Studies**

|  | Case study 1<br>Blue Marble<br>Colombia   | Case study 2<br>OKO<br>Mali   | Case study 2<br>OKO<br>Cote d'Ivoire  | Case study 3<br>IBISA<br>India   | Case study 4<br>ACRE<br>Rwanda   | Case study 5<br>One Acre Fund<br>Malawi  |
|--|---|---|---|--|--|--|
| <b>SCBF Project number and documents</b> | PIUW 2020-05:<br><a href="#">Factsheet</a><br><a href="#">Final Report</a><br><a href="#">Outcome Study</a> | PIUW 2019-04:<br><a href="#">Factsheet</a><br><a href="#">Final Report</a><br><a href="#">Outcome Study</a> | PIUW 2023-08:<br><a href="#">Factsheet</a><br><a href="#">Final Report</a><br><a href="#">Outcome Study</a> | PIUW 2022-10:<br><a href="#">Factsheet</a><br><a href="#">Final Report</a><br><a href="#">Outcome Study</a>  | PIUW 2018-05:<br><a href="#">Factsheet</a><br><a href="#">Final Report</a><br>& <a href="#">3-D client value assessment</a><br>FEW-17:<br><a href="#">Factsheet</a> & <a href="#">Final report</a> | PIUW 2023-03:<br><a href="#">Factsheet</a><br><a href="#">Final Report</a>                                 |
| <b>Index product description</b>         | Drought and excess rainfall index insurance   | Drought, excess rainfall and soil moisture index insurance<br><br>+ Loan<br>(depending on partner)          | Drought and excess rainfall index insurance   | Drought, excess rainfall and disease-favourable days index insurance<br><br>+ <a href="#">Lakhpati Kisan</a> , program to increase farmers' quality of life through increased income | Area yield index and livestock insurance.<br><br>Pilots for hybrid products with area yield index, weather index and soil moisture index   | Farmer input loan with embedded index insurance: Hybrid Water Balance Index (WBI) + Area Yield Index (AYI) |
| <b>Crops covered</b>                     | Coffee  | Maize, millet, sorghum, sesame, cotton, groundnuts  | Cocoa, cotton, maize, coffee, cashew  | Bitter gourd, brinjal, chilli, cucumber, okra, tomato, bottle gourd and paddy rice   | Irish potatoes, rice, chili, French beans, poultry, and pigs   | Maize  |
| <b>Policy types</b>                      | Meso – group policies signed by cooperatives  | Micro – individual (via sales agents and aggregators)<br>Meso – group                                       | Micro – individual (via aggregators)<br>Meso – group  | Meso – group policies signed by cooperatives   | Meso – group policies signed by cooperatives   | Meso – group policy through lender   |
| <b>Partners</b>                          |   |   |   |  |  |  |
| <b>Distribution</b>                      | Farmer Cooperatives   | OKO trained insurance agents, Orange Money, Microfinance Institutions (VisionFund), NGOs (CARE)             | Commodity traders, agro-industry, farmer organisations, input suppliers                                     | Collectives for Integrated Livelihood Initiatives (CINI)   | National Agriculture Insurance Scheme (NAIS), farmer organizations, Banque Rwandaise de Développement, Equity Bank, Banque Commerciale du Rwanda   | One Acre Fund loans and field agents   |



**Table 1. Overview of SCBF Index Insurance Case Studies - Continued**

|  | <b>Case study 1<br/>Blue Marble<br/>Colombia</b>  | <b>Case study 2<br/>OKO<br/>Mali</b>  | <b>Case study 2<br/>OKO<br/>Cote d'Ivoire</b>  | <b>Case study 3<br/>IBISA<br/>India</b>  | <b>Case study 4<br/>ACRE<br/>Rwanda</b>  | <b>Case study 5<br/>One Acre Fund<br/>Malawi</b>  |
|--|---|---|--|--|--|---|
| <b>Payout channels</b>   | Payouts directly to farmers: Financial institutions and mobile payments   | Payouts directly to farmers: Orange Mali (direct integration) Financial institutions  | Payouts directly to farmers: Mobile money  | Payouts to cooperatives: Financial institutions  | Payouts to cooperatives: Financial institutions  | Loan forgiveness or cash payout via mobile money for farmers with low/no credit balance; Seed redeliveries  |
| <b>Others</b>  | Nespresso Fair Trade  |   | African Risk Capacity (ARC) Touton Fairtrade   |  | BK TecHouse Rwanda Green Fund  |   |
| <b>Government subsidies or taxes</b>                               | Government subsidies (80-90% on premiums)   | No subsidies 20% tax on insurance premiums  | No subsidies 15% tax on insurance premiums   | No subsidies (operating outside of nationally subsidised programs)   | Government subsidies (40% on premiums)   | Donor subsidies (60-70%)  |
| <b>Key Innovations</b>   | <ul style="list-style-type: none"> <li>- Co-design with farmers</li> <li>- Tailor product to microclimate variations and phenological stages</li> </ul> | <ul style="list-style-type: none"> <li>- Mobile app for on-boarding &amp; management</li> <li>- Local language voice messaging, weather alerts and ag advice.</li> <li>- Flexible payments</li> </ul> | <ul style="list-style-type: none"> <li>- Dynamic start of season</li> <li>- Sharing premium with value chain stakeholders</li> </ul> | <ul style="list-style-type: none"> <li>- Development of a disease favourable days index</li> <li>- Dashboard modelling for index performance simulation</li> </ul> | <ul style="list-style-type: none"> <li>- Picture-based insurance (PBI)</li> <li>- Facial recognition for cattle</li> </ul> | <ul style="list-style-type: none"> <li>- Responsive and preventative seed redelivery</li> <li>- Innovative Reinsurance Facility</li> <li>- Machine learning and AI-based yield prediction models</li> </ul> |
| <b>SCBF Project Outreach Data (from project start to Dec 2024)</b> |   |   |  |  |  |   |
| <b>Total new clients [16]</b>                                      | 39,838  | 27,224  | 1,234  | 78,419   | 139,000  | 142,036   |
| <b>% Women</b>   | 32%   | 30%   | 12%  | 100%   | 59%  | 66%   |
| <b>% Renewal</b>   | 85%   | 48%   | NA   | 75%  | 60%  | 91%   |
| <b>Payout amount (CHF)</b>   | 7,445,910 CHF   | 246,896 CHF   | 20,116 CHF   | 8,607 CHF  | 45,475 CHF   | 1,202,880 CHF   |

[16] Total new clients reported to SCBF during project funding and up to three years after project completion. OKO Cote d'Ivoire and One Acre Fund Malawi are projects that only recently came to completion in 2025, so there has been no post-project outreach reporting yet.



**Gender inclusion** emerges as another point of divergence. While IBISA India stands out with a 100% female client base, reflecting deliberate targeting of women farmers, other projects like OKO Mali and Blue Marble Colombia report much lower women’s participation (20–32%). During the outcome studies with 60 Decibels, women in India were often hesitant to respond to telephone interviews, preferring to allow a male member of the family to respond on their behalf. These gender differences highlight the need for varying strategies in designing and distributing index insurance products and suggest opportunities for greater gender-sensitive approaches, especially in West African contexts.

**Bundled approaches - from a resilience and well-being perspective,** IBISA India consistently shows the strongest performance, with 60% reporting improved quality of life, 57% higher incomes, 58% more savings, and 76% feeling more prepared for climate shocks. Even though only 13% of IBISA farmers reported receiving payouts, as they benefitted from broader support programmes, the overall value perception of the insurance remains high. This points to the importance of product bundling with broader services and delivery through trusted organizations.

**Inclusivity metrics** such as income inclusivity and vulnerability provide insight into the profile of the beneficiaries. Blue Marble Colombia, IBISA India, and OKO Mali serve relatively more vulnerable groups (vulnerability rates of 66%, 61% and 50% respectively), with IBISA also showing very high inclusivity of low-income populations (1.76). All of the partners are successfully reaching a high proportion of low-income smallholder farmers compared to national poverty lines. Taken together, the data suggests that while all projects contribute to expanding insurance access, those that innovate in delivery methods, target marginalized groups, and embed services within broader support programs achieve deeper developmental impact.

**Table 2. SCBF Project Outcome Data Collected by 60 Decibels (2024 -2025)**

|  | <b>Blue Marble<br/>Colombia</b> | <b>OkO<br/>Mali</b> | <b>OkO<br/>Côte d'Ivoire</b> | <b>IBISA<br/>India</b> |
|--|---------------------------------|---------------------|------------------------------|------------------------|
| % Women  | 27%                             | 23%                 | 11%                          | 21%                    |
| % Rural  | 92%                             | 92%                 | 93%                          | 100%                   |
| Average age  | 57                              | 47                  | 47                           | 38                     |
| <b>Income inclusivity</b> [17]                             | 1.27                            | 1.27                | 1.48                         | 1.76                   |
| % <b>Vulnerability</b> [18]                                | 66%                             | 50%                 | 29%                          | 61%                    |
| <b>Access</b> % first time users                           | 93%                             | 91%                 | 96%                          | 95%                    |
| <b>Well-being</b> % improved quality of life               | 60%                             | 43%                 | 41%                          | 60%                    |
| <b>Income</b> % increased income                           | 30%                             | 36%                 | 36%                          | 57%                    |
| <b>Savings</b> % increased savings                         | 22%                             | 34%                 | 36%                          | 58%                    |
| <b>Resilience</b> % feel more prepared for a climate shock | 65%                             | 37%                 | 60%                          | 76%                    |

[17] Inclusivity Ratio (degree to which low-income customers are served compared to national poverty lines) 1 = parity with population; >1 = over-serving; <1 = under-serving

[18] Vulnerability = difficulty coming up with emergency funds in a month





The following sections synthesise the patterns found across the project partners into three domains: tangible benefits, persistent challenges, and emerging innovations. Unlike the case study profiles, which go deep into country-specific details, this section distills lessons that cut across contexts and are most relevant for donors, policymakers, and practitioners.

## 2.1. Tangible Benefits

**Beyond financial compensation to valued safety nets** - The evidence from SCBF-supported projects shows that index insurance provides more than just financial compensation and is valued as a safety net. It helps farmers protect their assets during crises, strengthens their confidence to invest in higher-yield practices, and improves access to formal credit. Women farmers, though still underrepresented, reported gains in financial security and decision-making power. Across contexts, the consistent pattern is clear: insurance acts as both a safety net and an enabler, reducing vulnerability while opening opportunities for growth and empowerment.

**Strong reach to rural, low-income and vulnerable** - Index insurance is extremely successful in reaching low-income and vulnerable populations in rural areas. The majority of clients use insurance for the first time, and many do not have access to additional financial services. Index insurance is increasingly used as a risk mitigating tool to provide additional financial services to these populations, such as in the case of Mali, Malawi and Rwanda.

**Resilience and risk reduction** - Across projects, insured farmers consistently reported fewer negative coping strategies during shocks. Whether in Rwanda, where farmers avoided distress sales, or Malawi, where payouts enabled replanting, insurance created stability that allowed households to preserve assets and food security.

**Catalysing investment** - Insurance did more than compensate losses: it changed behaviour. Farmers with coverage were more likely to purchase inputs, diversify crops, and adopt climate-smart practices. This pattern was seen across Rwanda, Colombia, and India, where confidence in future security encouraged greater risk-taking in production.

**Improving access to finance** - Bundled models showed that insurance strengthens relationships with lenders. MFIs in Mali and Rwanda offered larger or more flexible loans when insurance was included, reducing default risk. In Malawi, loan forgiveness tied to payouts sustained high renewal rates, underlining the value of linking insurance to credit.

**Delivering support and safety** - Farmers are truly satisfied when multiple needs are met in parallel. In Colombia through the Café Seguro program, in India through the Lakhpati Kisan program and in Malawi through One Acre Fund's package of services: when farmers are part of a broader program that includes their network of peers, they feel empowered with knowledge through agricultural extension services, receive support to grow their livelihoods and feel protected through insurance.

**Women's empowerment** - Although women remain underrepresented in most programs, when included they experienced notable gains in financial confidence and household





decision-making. Importantly, women's feedback highlighted the psychological benefit of insurance - reduced stress and greater preparedness - even when payouts were not triggered.

## 2.2. Persistent Challenges

Index insurance holds significant promise, yet scaling its impact requires confronting persistent challenges that cut across design, delivery, trust, and sustainability. Many of these challenges merit deeper exploration in dedicated research but are surfaced here to inform ongoing discussions on the role - and limitations - of index insurance in smallholder contexts.

### **Basis risk undermining trust**

The gap between payouts triggered by the predetermined index threshold and farmers' actual losses remains the sector's Achilles' heel. While project partners work tirelessly to find technical fixes and co-create with farmers on product design (hybrid indices, crop cuts, disease indices, farmer feedback), the cross-cutting lesson is that trust depends not only on model accuracy but also on communication and transparency.

### **Affordability and demand**

Insurance is not yet a "pull" product. Without subsidies or cross-subsidisation through bundles, most smallholders remain unwilling or unable to pay full premiums. This structural issue spans all contexts, from Rwanda's subsidised model to Mali's unsubsidised one, where uptake is possible but fragile.

### **Distribution and education costs**

Reaching farmers remains expensive. Case studies detail the roles of cooperatives, MFIs, and farmer organisations, but the broader lesson is that insurance requires ongoing investment and explanation, not one-off campaigns. Farmers also need clarity on weather data sources so that they monitor the same data used for their index insurance.

### **Subsidy dependency**

While subsidies are powerful in establishing insurance in nascent markets and catalysing adoption, long-term fiscal sustainability is unresolved. Proof of successful transition and exit strategies are limited, and without them, schemes risk remaining dependent on public finance. In fragile or ultra-poor contexts, long-term subsidies may be required but should be guided by targeted objectives and capacity building. Fragile contexts or countries with extreme vulnerability to climate risks and food insecurity require long-term subsidy strategies to support social safety nets with a broader approach to protecting resilience.

## 2.3. Emerging Innovations

Despite these constraints, SCBF-supported partners are pioneering creative solutions that point the way forward. From hybrid indices that reduce basis risk, to digital tools that improve transparency and onboarding, to bundled products that integrate insurance with loans or extension services, innovations are reshaping the sector. Crucially, aggregator-driven models demonstrate that insurance works best when embedded in trusted networks, making it more relevant, accessible, and scalable for smallholders.





## Digital tools

From voice-based local language chatbots to mobile wallet payouts and farmer dashboards, digital platforms are reducing costs, improving transparency, and creating new channels for engagement. Yet digital divides - connectivity, literacy, device access - remain barriers to universal adoption.

## Hybrid indices

Combining multiple datasets—rainfall, soil moisture, crop yields, disease thresholds—along with close monitoring of on-the-ground farmer realities, emerged as the most promising strategy to reduce basis risk and rebuild trust. Hybrid models signal a broader shift away from reliance on single indicators. However, there are potential downsides to operating hybrid indices with negative implications on trigger verifications and payout times.

## Picture-based insurance

Image processing technology combined with knowledge from local agronomists, enables picture-based analysis of crop growth and yields to become a viable and sustainable option for insurers.[19] While smartphones are not yet democratised across rural areas in low-income countries, they are becoming more widely affordable, available and used.

## Bundled products

Insurance proved most effective when layered with loans, input packages, or cooperative services. Bundling increases perceived value, spreads costs, and aligns incentives across stakeholders. This is a clear direction for future scale. These types of products will need to be carefully developed alongside regulatory authorities to ensure that consumer protection best practices are implemented, ensuring price transparency and enabling consumers to mix and match offers from various lenders and insurers where possible.

## Aggregator-led models

Every successful case involved strong aggregators. Whether government schemes in Rwanda, cooperatives in Colombia, Farmer Producer Organisations (FPOs) in India, or MFIs in Mali, aggregators served as trusted entry points. The sector-wide lesson is that stand-alone, direct-to-farmer models are unlikely to succeed as they are cost and time intensive.

## Mission driven insurance

Local insurance providers lack capacity and incentives to design products that are affordable and provide relevant coverage for smallholder farmers. Initiatives like One Acre Fund Re[20] can build local capacity, spur local insurance market growth and ensure that profit margins from subsidised products benefit smallholder farmers.

[19] IFPRI. [Picture-Based Crop Insurance \(PBI\)](#).

[20] Stanford Social Innovation Review. [Building a Stronger Foundation for Climate Resilience, 2023](#).





## 3. Strategic Recommendations for Donors and Partners

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The case studies supported by SCBF demonstrate both the potential and the limits of inclusive index insurance. Farmers benefit in measurable ways—from faster recovery after shocks to greater access to credit and inputs—but scaling these solutions sustainably requires a more deliberate role for donors and development partners. This section outlines five priority areas where targeted investment and coordination can make the greatest difference.

### 3.1. Smarter Subsidy Design

Subsidies have been indispensable in catalysing uptake, particularly in Rwanda and Colombia where national schemes drove insurance awareness and rapid enrolment. Yet subsidies may also lead to maladaptation and fragility – farmers’ risk mitigation strategies are skewed, risk pricing is distorted, and governments face growing fiscal pressure as climate risks intensify.

Donors can play a critical role by supporting smarter, phased subsidies that are targeted, transparent, and time bound. Instead of blanket subsidies, premium support should focus on:

- **Vulnerable populations** (women-headed households, ultra-poor farmers, conflict-affected regions, etc.).
- **High-risk crops** that are strategic for food security but unattractive to insurers.
- **Transparent pricing** especially of expected loss ratios to encourage accountability and sustainable practices that enable index insurance products to grow in the long-term without subsidies.
- **Early adoption phases**, especially in nascent markets where insurance is unknown to farmers. As the market develops, providers should plan a clear glide path toward gradual cost-sharing between farmers, cooperatives, and value-chain actors, which may take several years.

Table 3 on the following page provides illustrative scenarios for premium support depending on the market context with implications for investments in scale, assumptions on the effects of sustainability and targeted impact on smallholders.





**Table 3. Illustrative Index Insurance Subsidy Scenarios with Implications on Scale, Sustainability and Impact**

| Index insurance premium subsidy scenarios   | Market context   | Scale   | Sustainability  | Impact  |
|---|--|---|---|---|
| <p><b>Scenario A</b></p> <p>Unsubsidised premiums</p>   | <p>Primarily in markets with strong agricultural value chains and insurance awareness. High digital connectivity and literacy facilitate outreach.</p>                         | <p>High investment in farmer trust, literacy and communication. Distribution through farmer-trusted aggregators and digital channels.</p>             | <p>Market-led product drives focus on reduction of cost of customer acquisition and sustainable risk pricing.</p>   | <p>Farmers increase investments in inputs and farm diversification. Farmers may be able to access input loans.</p>  |
| <p><b>Scenario B</b></p> <p>40-70% Subsidised premiums</p> <p><i>Case study example: ACRE Rwanda</i></p>          | <p>Markets with established agricultural value chains but limited insurance awareness. Strong engagement from public and private sector to build local insurance capacity.</p> | <p>Leverage technology and local networks to increase insurance understanding and awareness. Focus on timely payouts to prove value of insurance.</p> | <p>A medium level of subsidies provides positive incentives to balance costs and risk pricing, while enabling insurance to be established in new markets.</p> | <p>Farmers increase uptake and renewal of insurance. Farmers are satisfied with insurance and promote it to peers.</p>                                    |
| <p><b>Scenario C</b></p> <p>70-90% Subsidised premiums</p> <p><i>Case study example: One Acre Fund Malawi</i></p> | <p>Fragile and vulnerable markets – e.g. food insecurity, climate risks, poverty. Premium subsidies through government programs or donors.</p>                                 | <p>Focus on building insurance capacity and aggregator partnerships. Develop partnerships to facilitate timely payouts.</p>                           | <p>Long term strategy to strengthen risk management with support of value chain actors and develop smallholder trust and insurance awareness.</p>             | <p>Vulnerable or excluded farmer populations (ultra-poor, women, migrants, etc.) in fragile contexts and climate exposed regions increase resilience.</p> |





### 3.2. Investment in Data Infrastructure

Accurate and reliable data is the backbone of index insurance. Without it, basis risk remains high and trust collapses. Yet across all SCBF projects, weather station coverage is sparse, satellite data needs local calibration, and crop-yield records are incomplete.

Donor investment in **open-access data infrastructure** can deliver public goods that benefit the entire market:

- Expanding **ground weather stations** to validate satellite data.
- Supporting **remote sensing platforms** that integrate rainfall, soil moisture, and vegetation data.
- Funding **yield data systems** that cooperatives and governments can share across insurers.

Just as roads and electricity are critical to markets, climate and yield data are critical to insurance markets and understanding the future of climate risks. This is an area where public investment will have system-wide benefits, reducing product costs, enabling more accurate, trusted indices and developing capacity for predictive models as the nature and intensity of climate risks changes.

### 3.3. Bundling with Credit and Aggregators

Insurance on its own is a hard sell; farmers rarely demand it unless bundled with services they already need. SCBF's case studies in Malawi, Mali, and Rwanda confirm that when insurance is embedded in loans, input packages, or cooperative services, adoption is higher and sustainability stronger.

Donors should prioritise funding models that integrate insurance into **aggregator-led service bundles**. This includes:

- Encouraging MFIs, cooperatives, and agribusinesses to **embed insurance in credit and input supply**. Many MFIs focus primarily on microentrepreneurs and small businesses; they will need additional incentives to open their portfolios to smallholder farmers as insurance alone has not been enough to unlock broad scale lending in agriculture.
- Supporting pilots that **layer insurance with health or savings products** to increase perceived value.
- Funding **aggregator capacity-building** to ensure they can educate farmers, manage enrolment, and administer claims effectively and transparently.

By aligning insurance with services farmers already trust and demand, bundling reduces distribution costs, increases retention and satisfaction, and creates real value for all stakeholders.





### 3.4. Gender-Sensitive Outreach

Women face distinct barriers to accessing insurance, from limited land ownership to lower access to mobile phones and financial services. Yet when included, they report significant benefits: greater household decision-making power, reduced stress, and more stable livelihoods.

Donors should support **gender-sensitive approaches** that explicitly address these barriers:

- Designing products with **flexible enrolment criteria**, not tied exclusively to land titles.
- Partnering with **women's cooperatives and savings groups** as distribution channels.
- Ensuring outreach uses **communication methods accessible to women** (e.g., local-language radio, community meetings timed to avoid household labour peaks).
- Collecting **gender-disaggregated data** to track uptake, retention, and outcomes.

Closing the gender gap is not only an equity issue -it is a scale issue. Women make up the majority of agricultural labour in many regions. Without them, index insurance cannot reach its full potential.

### 3.5. Building Enabling Regulatory Frameworks

Strong regulation underpins sustainable insurance markets. Regulators set rules for group policies, ensure consumer protection, and influence how quickly payouts reach farmers. In some countries, regulatory bottlenecks have delayed claims processing, eroding trust. In others, like Mali under the CIMA framework, enabling regulation has created space for innovation.

Donors can play a convening and technical assistance role by:

- Supporting regulators to **develop guidelines** for parametric insurance.
- Funding **peer-learning** between regulatory bodies in pioneering countries.
- Encouraging frameworks that enable faster payouts, transparent communication, marketplaces for bundled products and innovation-friendly pilots.

An enabling environment ensures that donor-funded pilots can evolve into sustainable, market-led solutions.





## 4. Looking Ahead

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The experience of SCBF and its partners shows that inclusive index insurance is no longer an experiment. It works. Farmers benefit. Aggregators are willing partners. Private insurers are increasingly engaged. The challenge is how to move from promising pilots to sustainable, large-scale markets.

### 4.1. Where the Sector Needs to Go Next

- **From subsidies to sustainability.** Donors and governments must design subsidy strategies with clear goals and timelines appropriate to the market context (e.g. long-term subsidies for vulnerable contexts and mid-term timelines for nascent markets) that shift costs gradually to farmers, cooperatives, and value-chain actors.
- **From fragmented pilots to systemic approaches.** Insurance needs to be integrated into national financial inclusion strategies, agricultural policies, and climate adaptation plans.
- **From single products to bundles.** Multi-risk, multi-service products - covering health, credit, and inputs alongside climate risks - will be more relevant and sustainable.
- **From manual systems to digital scale.** Mobile enrolment, AI-driven indices, smart contracts, and picture-based insurance can lower costs, speed up payouts, and improve transparency.
- **From anecdotes to measured outcomes.** Robust client-level impact data is needed to guide subsidy design, evaluate sustainability, and ensure products deliver real value.
- **From assumptions to evidence-based improvements.** Test new approaches to building trust and awareness, delivery of embedded insurance literacy and tailored distribution models to increase uptake among smallholder farmers broadly but also specifically for women and other subsegments of the farmer population.





## 5. SCBF's Role in the Next Phase

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As a donor-funded platform with a global track record, SCBF is uniquely positioned to catalyse this next stage of growth. SCBF's 2026 – 2030 strategy will focus on:

- **Innovator support.** Continuing to fund early-stage insurtechs and financial institutions testing new models, with flexible financing instruments (grants, returnable grants, impact-linked finance). Supporting technical assistance to build capacity for aggregators, targeting women's cooperatives and savings groups.
- **Evidence generation.** Expanding partnerships with knowledge partners to systematically capture farmer outcomes, ensuring that donor strategies are grounded in client voices.
- **Convening and influence.** Acting as a bridge between innovators, donors, regulators, and private insurers - sharing lessons, harmonising approaches, and positioning index insurance as a core tool for climate resilience and financial inclusion.

By combining funding, evidence, and convening power, SCBF can help shift index insurance from niche innovation to mainstream resilience infrastructure - ensuring that millions more smallholder farmers are protected against the growing risks of climate change.





## Annex 1: List of Index Insurance Projects since 2011

| # | Product category  | Project description   | Country    | PFI/FSP   | Grantee                    | Related documents         |
|---|-------------------|---|------------|---|----------------------------|---------------------------|
| 1 | Flood Insurance   | Innovative housing microfinance solutions integrating flood and health risk protection to strengthen financial inclusion and resilience for low-income households, particularly women and youth.  | Kenya      | Britam MI & VisionFund Kenya                        | Habitat for Humanity       | <a href="#">Factsheet</a> |
| 2 | Agriculture       | An innovative parametric insurance solution that integrates weather-based risk protection into financial services, strengthening smallholder farmers' resilience to climate-related shocks.   | Bangladesh | APDS, DESHA, Green Delta                            | IBISA SA                   | <a href="#">Factsheet</a> |
| 3 | Income protection | An integrated weather-index insurance solution providing protection against extreme heat and excess rainfall, improving health, livelihood resilience, and financial security for low-income self-employed women.   | India      | Self Employed Women's Association                   | Blue Marble                | <a href="#">Factsheet</a> |
| 4 | Livestock         | A satellite-based drought index insurance solution protecting livestock farmers and pastoralists from rainfall deficits, enhancing climate resilience, income security, and access to affordable risk protection.   | Senegal    | Compagnie Nationale d'Assurance Agricole du Sénégal | IBISA SA                   | <a href="#">Factsheet</a> |
| 5 | Agriculture       | An intervention supporting the rollout of parametric agricultural insurance as part of broader efforts to protect farmers against drought and excess rainfall for smallholder coffee farmers, supporting income stability, climate resilience, and access to formal financial protection. | Indonesia  | Zurich Insurance Company                            | Blue Marble Microinsurance | <a href="#">Factsheet</a> |





## Annex 1: List of Index Insurance Projects since 2011

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| # | Product category | Project description  | Country          | PFI/FSP                        | Grantee   | Related documents  |
|---|------------------|--|------------------|--------------------------------|---|--|
| 6 | Agriculture      | An index-based crop insurance initiative expanding access to affordable weather risk protection for smallholder farmers, improving income stability and climate resilience through stronger last-mile distribution.  | Ivory Coast      | Allianz Ivory Coast            | OKO Ivory Coast   | <a href="#">Factsheet</a><br><a href="#">60 DB Report</a>    |
| 7 | Agriculture      | An initiative to strengthen agricultural insurance for smallholder farmers by improving risk modelling and index design, making insurance more effective in de-risking farm investments, supporting access to credit, and advancing financial inclusion for rural, low-income communities. | Malawi & Nigeria | One Acre Fund                  | International Research Institute for Climate and Society at Columbia University | <a href="#">Final Report</a>                                 |
| 8 | Agriculture      | An inclusive input-bundled insurance solution that combines quality agro-inputs with index-based risk protection, helping smallholder farmers manage climate, pest, and disease risks while improving productivity and resilience.   | Zambia           | Mayfair Insurance Company Ltd. | Sustainable Agriculture Foundation (earlier name Syngenta Foundation)           | <a href="#">Final Report</a>                                 |
| 9 | Agriculture      | A digital financial inclusion intervention that integrates weather index insurance with credit, helping smallholder farmers better manage climate risks, access finance, and improve income stability through more effective and trusted insurance solutions.                              | India            | Avanti Finance Private Limited | IBISA SA  | <a href="#">Final Report</a><br><a href="#">60 DB Report</a> |





## Annex 1: List of Index Insurance Projects since 2011

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| #  | Product category                  | Project description   | Country  | PFI/FSP  | Grantee                            | Related documents  |
|----|-----------------------------------|---|----------|--|------------------------------------|--|
| 10 | Agriculture                       | A mobile-enabled crop insurance solution that brings affordable weather index insurance directly to smallholder farmers, improving income stability, climate resilience, and financial security - particularly for women and rural communities - through digital distribution and automated claims. | Uganda   | The Jubilee Allianz General Insurance Company Ltd. | OKO Crop Insurance Distribution    | <a href="#">Factsheet</a>                                    |
| 11 | Agriculture & Financial Education | A commercial index-based crop insurance intervention expanding access to affordable risk protection for smallholder farmers, supporting agricultural lending, strengthening resilience to yield and weather shocks, and helping build a sustainable market for agricultural insurance.              | Cambodia | AMK Microfinance Institution & Forte Insurance     | Sustainable Agriculture Foundation | <a href="#">Final Report</a>                                 |
| 12 | Agriculture                       | A parametric insurance solution for smallholder coffee farmers offering automated protection against drought and excess rainfall, strengthening income stability and resilience among underserved rural households.   | Colombia | Seguros Comerciales Bolivar                        | Blue Marble Microinsurance         | <a href="#">Final Report</a><br><a href="#">60 DB Report</a> |
| 13 | Agriculture & Financial Education | A weather index insurance solution for smallholder farmers providing protection against drought and excess rainfall, helping stabilise incomes, improve resilience to climate shocks, and enable access to capital through de-risked agricultural value chains.                                     | Zimbabwe | Old Mutual Insurance Company                       | Blue Marble Microinsurance         | <a href="#">Final Report</a>                                 |





## Annex 1: List of Index Insurance Projects since 2011

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| #  | Product category | Project description   | Country | PFI/FSP                   | Grantee                            | Related documents  |
|----|------------------|---|---------|---------------------------|------------------------------------|--|
| 14 | Agriculture      | A mobile-enabled index insurance solution for smallholder farmers providing protection against drought and flood risks, strengthening income stability, climate resilience, and access to micro-loans for underserved rural households.   | Mali    | OKO Mali                  | OKO Finance                        | <a href="#">Final Report</a><br><a href="#">60 DB Report</a> |
| 15 | Agriculture      | A bundled agri-finance and climate risk insurance solution that supports smallholder farmers with credit, insurance, and agronomic advice, strengthening resilience to climate shocks, improving access to finance, and enabling more sustainable agricultural livelihoods—particularly for women and low-income rural communities. | Sudan   | EBDAA Bank                | Sustainable Agriculture Foundation | <a href="#">Final Report</a>                                 |
| 16 | Agriculture      | A weather-index agricultural insurance solution enabling smallholder farmers to manage climate risks, invest in quality inputs, and build resilience in disaster-prone farming systems.   | Myanmar | Ayeyarwaddy Seeds Company | Sustainable Agriculture Foundation | <a href="#">Final Report</a>                                 |
| 17 | Agriculture      | An agricultural insurance distribution initiative leveraging SACCOs, mobile money, and peer-to-peer networks to expand affordable climate risk protection for smallholder farmers, increasing trust, accessibility, and uptake—particularly among women.  | Rwanda  | ACRE Rwanda               | ACRE Africa                        | <a href="#">Final Report</a>                                 |





## Annex 1: List of Index Insurance Projects since 2011

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| #  | Product category                       | Project description   | Country  | PFI/FSP   | Grantee   | Related documents            |
|----|--|---|----------|---|---|------------------------------|
| 18 | Agriculture                            | A credit-linked crop index insurance solution that helps smallholder farmers manage weather risks while improving access to seasonal finance, reducing default risk for lenders, and supporting more productive agricultural investment.  | Mali     | Reseau de Micro Institutions de Croissance de Revenus | Grameen Credit Agricole Microfinance Foundation | <a href="#">Final Report</a> |
| 19 | Agriculture & Good Agronomic Practices | A weather index replanting insurance solution protecting smallholder farmers' investments in improved seeds by covering poor rainfall during germination, enabling more confident input use and reducing climate-related production risk through simplified mobile access.                | Kenya    | ACRE Africa   | Sustainable Agriculture Foundation              | <a href="#">Final Report</a> |
| 20 | Agriculture                            | An index-based agricultural insurance solution that replaces costly farm-level claims with weather and satellite data, enabling affordable premiums and timely payouts for smallholder farmers while reducing climate-related production risks.   | Tanzania | Kilimo Salama   | Sustainable Agriculture Foundation              | <a href="#">Final Report</a> |
| 21 | Input-linked index insurance           | A community-led financial and climate literacy intervention that strengthens smallholder farmers' understanding of savings, credit, and climate risk insurance, empowering rural households—especially women—to make informed financial decisions and build resilience to climate shocks. | Zambia   | Agora Microfinance Zambia                             | Sustainable Agriculture Foundation              | <a href="#">Factsheet</a>    |





## Annex 1: List of Index Insurance Projects since 2011

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| #  | Product category                       | Project description  | Country  | PFI/FSP  | Grantee                            | Related documents            |
|----|--|--|----------|--|------------------------------------|------------------------------|
| 22 | Agriculture & Good Agronomic Practices | A financial education study aimed at strengthening financial literacy and insurance awareness among smallholder farmers, while building the capacity of financial institutions to deliver effective, credit-linked crop insurance and farm management training.  | Cambodia | AMK Microfinance Institution & Forte Insurance | Sustainable Agriculture Foundation | <a href="#">Final Report</a> |
| 23 | Agriculture                            | A financial education study focused on improving financial literacy and climate risk awareness among smallholder farmers, particularly women and rural communities, by promoting the use of savings, credit, and weather index insurance to strengthen resilience to climate shocks.                                   | Zimbabwe | Old Mutual Insurance Company Zimbabwe          | Blue Marble Microinsurance         | <a href="#">Final Report</a> |
| 24 | Agriculture                            | A financial education study aimed at strengthening smallholder farmers' understanding of savings, credit, and agricultural climate risk insurance, improving attitudes toward borrowing and insurance, increasing uptake of credit-linked insurance, and enabling more confident farm investment and income stability. | Sudan    | EBDAA Bank                                     | Sustainable Agriculture Foundation | <a href="#">Final Report</a> |
| 25 | Agriculture                            | A financial education study focused on building financial literacy and awareness of weather-index agricultural insurance among smallholder farmers—particularly farm women—to support better financial decision-making, risk management, and confident investment in quality agricultural inputs.                      | Myanmar  | Ayeyarwaddy Seeds Company                      | Sustainable Agriculture Foundation | <a href="#">Final Report</a> |





## Annex 1: List of Index Insurance Projects since 2011

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| #  | Product category                   | Project description  | Country    | PFI/FSP                                    | Grantee                            | Related documents            |
|----|------------------------------------|--|------------|--|------------------------------------|------------------------------|
| 26 | Agriculture                        | A financial education study strengthening smallholder farmers' understanding of climate risk and insurance, improving uptake of risk management solutions and supporting more resilient, productive agriculture—particularly for women.  | Rwanda     | ACRE Rwanda                                | ACRE Africa                        | <a href="#">Final Report</a> |
| 27 | Agriculture                        | A financial education study aimed at improving smallholder coffee farmers' understanding of agricultural insurance, savings, and risk management, supporting greater uptake of affordable insurance and stronger income stability in the face of climate and market risks.     | Uganda     | Nucafe                                     | BFC GmbH                           | <a href="#">Final Report</a> |
| 28 | Agriculture Savings / Mobile Money | A financial education study focused on improving smallholder farmers' understanding of index-based agricultural insurance, helping them manage drought risks through affordable products, timely payouts, and clearer access via MFIs, input companies, and mobile channels.   | Tanzania   | Kilimo Salama                              | Sustainable Agriculture Foundation | <a href="#">Final Report</a> |
| 29 | Agriculture                        | A feasibility study assessing the viability of parametric cyclone and excess wind insurance to protect low-income households from extreme climate shocks, laying the groundwork for an inclusive, cost-effective insurance solution where traditional coverage is unavailable. | Mozambique | Hollard Moçambique Companhia de Seguros SA | Blue Marble Microinsurance         | <a href="#">Final Report</a> |





## Annex 1: List of Index Insurance Projects since 2011

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| #  | Product category | Project description  | Country                        | PFI/FSP  | Grantee                            | Related documents            |
|----|------------------|--|--------------------------------|--|------------------------------------|------------------------------|
| 29 | Agriculture      | A pilot index-based flood insurance solution aimed at strengthening the resilience of climate-vulnerable smallholder farmers and marginalised communities, providing rapid, parametric payouts to manage flood risks and laying the foundation for scalable disaster risk protection in high-risk regions. | Nepal                          | Stonestep Nepal  | Stonestep AG                       | <a href="#">Final Report</a> |
| 31 | Agriculture      | A feasibility study exploring the viability of index-based livestock insurance to protect smallholder cattle farmers from drought-related losses, strengthening climate resilience, safeguarding livelihoods, and enabling access to broader financial services in semi-arid regions.                      | Mozambique , Namibia, Botswana | Hollard Moçambique Companhia de Seguros SA                       | CelsiusPro AG                      | <a href="#">Final Report</a> |
| 32 | Agriculture      | A feasibility study assessing index-based livestock insurance to protect pastoralist communities from climate-driven forage scarcity and livestock mortality, laying the groundwork for a scalable and commercially viable risk transfer solution.   | Sudan                          | EBDAA Bank   | Sustainable Agriculture Foundation | <a href="#">Final Report</a> |
| 33 | Agriculture      | A feasibility study exploring data-driven distribution and financial education models to expand access to affordable agricultural and index insurance, enabling better product design, lower costs, and increased outreach to underserved rural and low-income communities.                                | Ivory Coast                    | Allianz Ivory Coast  | Groots Consulting                  | <a href="#">Final Report</a> |
| 34 | Agriculture      | A feasibility study assessing pathways to distribute agricultural input and weather index insurance, supporting improved access to finance for smallholder farmers and laying the foundation for scalable crop insurance solutions.  | Cambodia                       | AMK Microfinance Institution & Forte Insurance & Rohat Agri Tech | Sustainable Agriculture Foundation | <a href="#">Final Report</a> |





## Annex 1: List of Index Insurance Projects since 2011

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| #  | Product category | Project description  | Country   | PFI/FSP                         | Grantee             | Related documents            |
|----|------------------|--|---|---------------------------------|---------------------|------------------------------|
| 35 | Agriculture      | A feasibility study evaluating the market potential for weather index-based agricultural insurance, identifying demand, distribution channels, and regulatory readiness to expand affordable risk protection for smallholder farmers.                              | Myanmar   | n/a                             | Syngenta Foundation | <a href="#">Final Report</a> |
| 36 | Agriculture      | A feasibility study assessing the demand, distribution pathways, and regulatory readiness for weather index-based agricultural insurance, with the aim of expanding affordable risk protection for smallholder farmers exposed to climate and production risks.    | Bangladesh                                      | n/a                             | Syngenta Foundation | <a href="#">Final Report</a> |
| 37 | Agriculture      | A feasibility study assessing the potential for index-based agricultural insurance to replace costly traditional crop insurance, reduce premiums, and deliver timely payouts—laying the foundation for scalable weather risk protection for smallholder farmers.   | Tanzania  | Kilimo Salama Insurance Service | Syngenta Foundation | <a href="#">Final Report</a> |
| 38 | Agriculture      | A feasibility study supporting the transition of a microinsurance provider into a financially sustainable social business, by developing a robust business and funding strategy to expand inclusive insurance solutions for low-income populations in West Africa. | Senegal, Mali, Benin, Ivory Coast, Burkina Faso | PlaNNet Guarantee Senegal       | PlaNNet Guarantee   | <a href="#">Final Report</a> |





## Annex 1: List of Index Insurance Projects since 2011

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| #  | Product category | Project description  | Country   | PFI/FSP                         | Grantee             | Related documents            |
|----|------------------|--|---|---------------------------------|---------------------|------------------------------|
| 39 | Agriculture      | A feasibility study assessing the potential for index-based agricultural insurance to replace costly traditional crop insurance, reduce premiums, and deliver timely payouts—laying the foundation for scalable weather risk protection for smallholder farmers.   | Tanzania  | Kilimo Salama Insurance Service | Syngenta Foundation | <a href="#">Final Report</a> |
| 40 | Agriculture      | A feasibility study supporting the transition of a microinsurance provider into a financially sustainable social business, by developing a robust business and funding strategy to expand inclusive insurance solutions for low-income populations in West Africa. | Senegal, Mali, Benin, Ivory Coast, Burkina Faso | PlaNet Guarantee Senegal        | PlaNet Guarantee    | <a href="#">Final Report</a> |





## Annex 2: List of Data Sources Provided by Project Partners to Develop Index Insurance

- Local agronomic data and meteorological data (e.g. India Meteorological Department-IMD),[21]
- Crop-cutting assessments from National Bureaus of Statistics or Independently collected
- TAMSAT, which provides estimated rainfall[22] data derived from thermal satellite imagery, calibrated and validated using ground-based rain gauges across Africa.
- Green Triangle,[23] which generates soil moisture index using a hybrid approach that combines remote sensing technology with ground sampling data.
- eLeaf[24], which supplies relative evapotranspiration data through satellite imagery to assess water loss from the soil - both by soil evaporation and plant transpiration - providing insights into crop water stress.
- ERA5[25] for precipitation and potential evapotranspiration estimates
- Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS) [26]
- Moderate Resolution Imaging Spectroradiometer (MODIS),[27]
- National Oceanic and Atmospheric Administration (NOAA) International Best Track Archive for Climate Stewardship (IBTrACS),[28]
- Passive microwave sensors, which detect energy related to the temperature and moisture of an object or surface
- Global Streamflow and Flood Forecasting System (GEOGLOWS)[29]
- Standardized Precipitation Evapotranspiration Index (SPEI)

[21] <https://mausam.imd.gov.in/>

[22] TAMSAT Rainfall Estimate for Africa. The TAMSAT rainfall estimates are based on Meteosat thermal infrared imagery, calibrated against ground-based rain gauge measurements, and cover all of Africa. The products also include rainfall anomalies. They are available in different frequencies: daily, pentadal, dekadal, monthly and seasonal.

[23] <https://www.green-triangle.com/>

[24] <https://eleaf.com/>

[25] ERA5 is the fifth generation ECMWF reanalysis for the global climate and weather for the past 8 decades. Data is available from 1940 onwards. ERA5 replaces the ERA-Interim reanalysis.

[26] <https://www.chc.ucsb.edu/data/chirps>

[27] <https://modis.gsfc.nasa.gov/>

[28] <https://www.ncei.noaa.gov/products/international-best-track-archive>

[29] <https://www.geogloWS.org/>





**Innovating Inclusive Finance**

The Swiss Capacity Building Facility (SCBF) is a membership-based public-private development platform dedicated to advancing responsible financial inclusion across emerging markets. By mobilising and blending resources from both public and private members, SCBF enables financial service providers, impact-driven organisations, and social enterprises to test, develop and scale client-centric financial solutions. Through catalytic funding - including technical assistance, repayable grants, and impact-linked finance - SCBF supports innovations that improve the lives of low-income households, smallholder farmers, and MSMEs, with a strong focus on women and youth, particularly in rural communities.

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