



InsuResilience
Solutions Fund

ANNUAL REPORT
2021



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Foreword

2021 has been a year of compounding risks marked by the dramatic effects of COVID-19 on economies and communities, as well as more frequent and severe extreme weather events that threaten livelihoods and food security worldwide. People, communities and nations are at risk from the impacts of climate change. The reality is that these impacts are very unequally distributed, hitting disproportionately vulnerable people in developing and emerging countries who have less risk financing and coping solutions in place. The pandemic exacerbates their vulnerabilities and hinders recovery on an unprecedented scale.

Comprehensive action to address climate change is critical and urgent. Only an integrated and complementary set of financial mechanisms can help to reduce and manage the risks. Innovative, affordable and accessible climate risk insurance solutions, adapted to the needs of the most vulnerable communities, can contribute to providing access to finance and recovery measures.

The InsuResilience Solutions Fund (ISF) helps affected families, business owners, farmers and governments access climate and disaster risk insurance to strengthen resilience to the impacts of climate change. In 2021, our third year in operation, we made considerable progress in achieving our mission to close the protection gap for vulnerable populations.

- We have received **additional funding** for a new project phase from the German government to expand support in the area of advisory and introduction of new insurance solutions thus contributing to the development of integrated, comprehensive solutions.

In this annual review, we reflect upon our achievements, activities, and lessons learned, and take a look ahead. We are grateful to our partners around the world who have inspired us with many innovative ideas, concepts and creativity. We're working together to make a meaningful contribution to strengthening resilience of vulnerable communities through climate risk management and insurance, even under the most challenging conditions.

I wish you an interesting and enjoyable read.

Fatma Dirkes
Frankfurt School of Finance
& Management,
Director and
Vice President;
ISF Technical
Committee Member



"In 2021, our third year in operation, we made considerable progress in achieving our mission to close the protection gap for vulnerable populations."

Fatma Dirkes

I would like to highlight some of our key achievements:

- We **launched three Calls for Proposals for insurance product development** that generated worldwide interest from the private and public sector, as well as civil society. We received over 120 applications for co-financing the product development of innovative climate risk insurance solutions.
- We **signed seven grant agreements for product development support** with global outreach from Latin America to South East Asia, committing ISF co-funding of almost seven million euros; the benefits of the supported insurance products are projected to reach more than 9.5 million beneficiaries by 2025.
- We actively supported the implementation of the **Tripartite Agreement** between the German Federal Ministry for Economic Cooperation and Development (BMZ), the Insurance Development Forum (IDF), and UNDP to increase resilience for climate vulnerable countries. We approved co-funding for the development of an insurance solution for Colombia – a priority country under the Tripartite Agreement.
- We have **completed three Economics of Climate Adaptation (ECA)** studies in Honduras, Ethiopia and Vietnam. The studies provide decision makers with information about potential climate-related damage to their environment, economies and societies, and help them to identify and prioritise cost-effective climate adaptation measures.





Integrated approaches to complex challenges

COMPOUNDING AND CASCADING CLIMATE-RELATED EVENTS

As a result of climate change, the frequency and intensity of extreme weather events such as floods, cyclones and droughts are increasing. Compounding and cascading events increase the threat to livelihoods, lives and economies, and jeopardize the achievements of the SDGs, in particular in combination with the COVID-19 pandemic and other crises. The reality is that the risk of losses and damages from climate change are very unevenly distributed across populations and geographies¹. While being least prepared, low- and middle-income countries are disproportionately affected.

COMPLEMENTARY FINANCIAL MECHANISMS

The best means of staying out of harm's way is having a comprehensive risk management system. Therefore, it is crucial for governments to combine and blend different risk management instruments, including approaches of risk reduction, risk retention and risk transfer in a complementary way². At the international level, the potential role of climate risk insurance as part of a comprehensive risk financing strategy is increasingly recognised. Climate and disaster risk insurance solutions can play an essential role in climate change adaptation by absorbing losses through fast insurance payouts, thus accelerating economic recovery. Despite the advantages of pre-arranged and reliable funding, significant gaps remain in financial protection levels, coverage for climate risks and access to climate risk insurance. Research by the Centre for Disaster Protection revealed that only 2% of global disaster response was pre-arranged funding³. Furthermore, in high-income countries over half of

economic losses and damages from climate-related extreme events are insured, while in developing countries it is less than 10%. For some especially vulnerable countries, this percentage can be as low as 1 to 3%⁴.

RISK UNDERSTANDING AS PREREQUISITE

This is partly due to the lack of access to risk data and understanding needed to build national disaster risk markets and support governments in making key climate investment decisions⁵. Climate risk understanding and access to risk analytics are a prerequisite for informed decision-making and the development of comprehensive climate adaptation and climate risk management strategies. Limited access to data, models and climate risk analyses often represent a barrier for governments, cities and citizens to developing their own strategies. But it also creates barriers for insurance companies and markets to develop adequate financial solutions to address these risks with pre-agreed risk financing and insurance.

NEED FOR INTEGRATED APPROACHES AND INCREASED COHERENCE ACROSS ACTORS

With the aim of significantly expanding the use of pre-agreed risk financing and insurance mechanisms embedded in comprehensive disaster risk management, ISF advocates for integrated approaches. We see insurance as one component of a holistic risk management strategy and push for comprehensive approaches that combine insurance solutions with prevention, early warning and other climate adaptation measures, thus complementing broader resilience and adaptation efforts.

¹ [OECD \(2021\): Managing Climate Risks, Facing up to Losses and Damages](#), OECD Publishing, Paris.

² Ibid.

³ [Centre for Disaster Protection \(2021\): Methodology for calculating pre-arranged ODA funding](#), Note for discussion.

⁴ [Insurance Development Forum \(IDF\) \(2021\): Weathering Climate Risk: V20 Group and the IDF call for joint collaboration and international support to strengthen global physical climate risk management capabilities](#).

⁵ Ibid.



About InsuResilience Solutions Fund

WHO WE ARE

The InsuResilience Solutions Fund (ISF) promotes the development of innovative and sustainable climate risk insurance products that improve the resilience of poor and vulnerable households in low- and middle-income countries against the impacts of climate change and extreme weather events.

ISF was established and is funded by KfW Development Bank on behalf of the German Ministry for Economic Cooperation and Development (BMZ). Frankfurt School of Finance & Management is responsible for implementing the programme since 2019.

ISF represents a pivotal implementing programme of the InsuResilience Global Partnership. This global partnership for climate and disaster risk financing was launched at the 2017 UN Climate Conference in Bonn. It is a joint initiative of G20 and V20 countries, bringing together more than 110 government institutions, insurers, NGOs and academia, to promote the development of climate- and disaster risk finance instruments, including insurance. The partnership's vision is, among others, to increase the share of climate and disaster losses to vulnerable populations covered by climate and disaster risk finance and insurance solutions by 15% and to help protect an additional 500 million poor and vulnerable people in developing countries against extreme-weather events by 2025. Through our activities, we actively contribute to fulfilment of the goals of the Vision 2025 strategy.

With its support, ISF also constitutes an important implementing programme for the Tripartite Agreement between BMZ, the Insurance Development Forum (IDF) and UNDP, aiming to increase resilience in climate-vulnerable countries.

OUR MISSION AND VISION

Our mission is to support the development of innovative climate risk insurance products to mitigate the negative impacts of climate change such as floods, storms, droughts and cold spells, and help vulnerable and poor households access climate and disaster risk insurance.

Our vision is to close the protection gap by focusing on solutions for those who are disproportionately exposed to climate risks and who currently have no access to adequate risk management and insurance solutions.

OUR APPROACH: LEVERAGING PRIVATE SECTOR EXPERTISE

High development costs, lack of market knowledge, and uncertain demand discourage international insurance companies from investing in new insurance solutions in developing countries. Moreover, local companies are often in need of additional expertise and finance to develop innovative products. By providing partial grant funding for product development, ISF creates incentives for international and local companies to work together to develop insurance markets in low- and middle-income countries and reduce high market-entry barriers. At the same time, we also contribute to improved risk management by providing detailed information on climate risks helping to increase risk understanding and develop insurance markets for climate-related hazards.

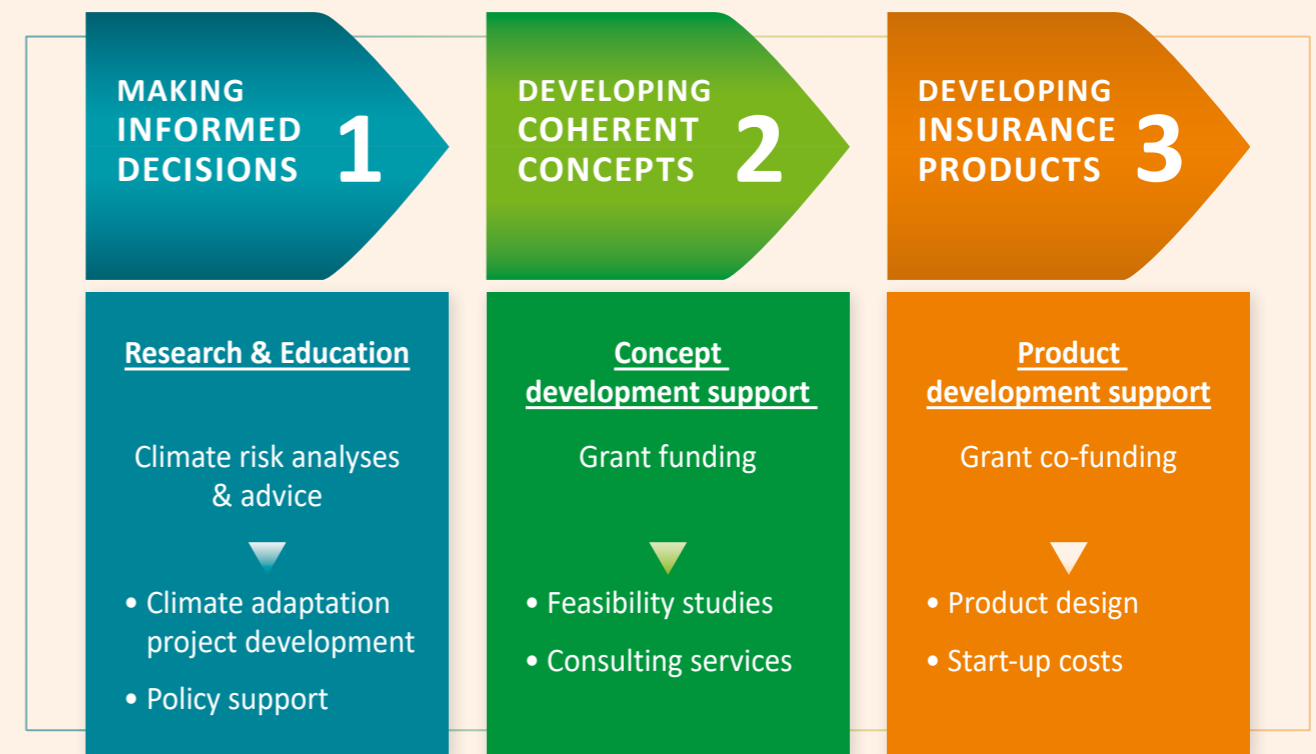
We systematically leverage private sector expertise and risk capital through all stages of insurance product development. We bring together companies from the insurance sector and the demand side in our partner countries, thus fostering consistency between demand and supply in the long term.

OUR INSTRUMENTS

To achieve our mission we follow an integrative value-chain approach covering all stages of insurance

product development, from risk analysis through concept development, to product introduction and scale-up.

THE THREE PILLARS OF ISF



1 CLIMATE RISK ANALYSIS

We conduct comprehensive climate risk analyses that provide governments, businesses, and civil society with important data and information. This empowers partners to identify the full spectrum of adaptation strategies necessary to build resilience with an integrated approach.

2 CONCEPT DEVELOPMENT SUPPORT

We fund studies and consulting services to identify innovative climate risk insurance solutions. We provide guidance and advise on the elements that are necessary to design and conceptualise effective insurance projects, taking into account the specific needs of poor and vulnerable population groups.

3 PRODUCT DEVELOPMENT SUPPORT

We support and promote joint product development and scale-up, as well as the market introduction of innovative climate risk insurance products that add value for the people hit hardest.



IMPACT AND KEY ACHIEVEMENTS SINCE 2019

6 Completed **six climate risk analyses** providing decision-makers with more comprehensive risk information for a better targeted response to climate risks.

12 Funded **12 advisory and feasibility studies** for the development of new approaches to climate risk insurance.

6 Launched **six Call for Proposals for insurance product development** that have attracted interest from around the world. Applicants included businesses and organisations from the private and public sectors, as well as civil society.

240 Received almost **240 Concept Notes** to co-finance the product development of innovative climate risk insurance solutions.

15 Currently co-funding the product development of **15 climate risk insurance projects**. The insurance solutions are projected to **protect more than 15 million poor and vulnerable beneficiaries by 2025**.

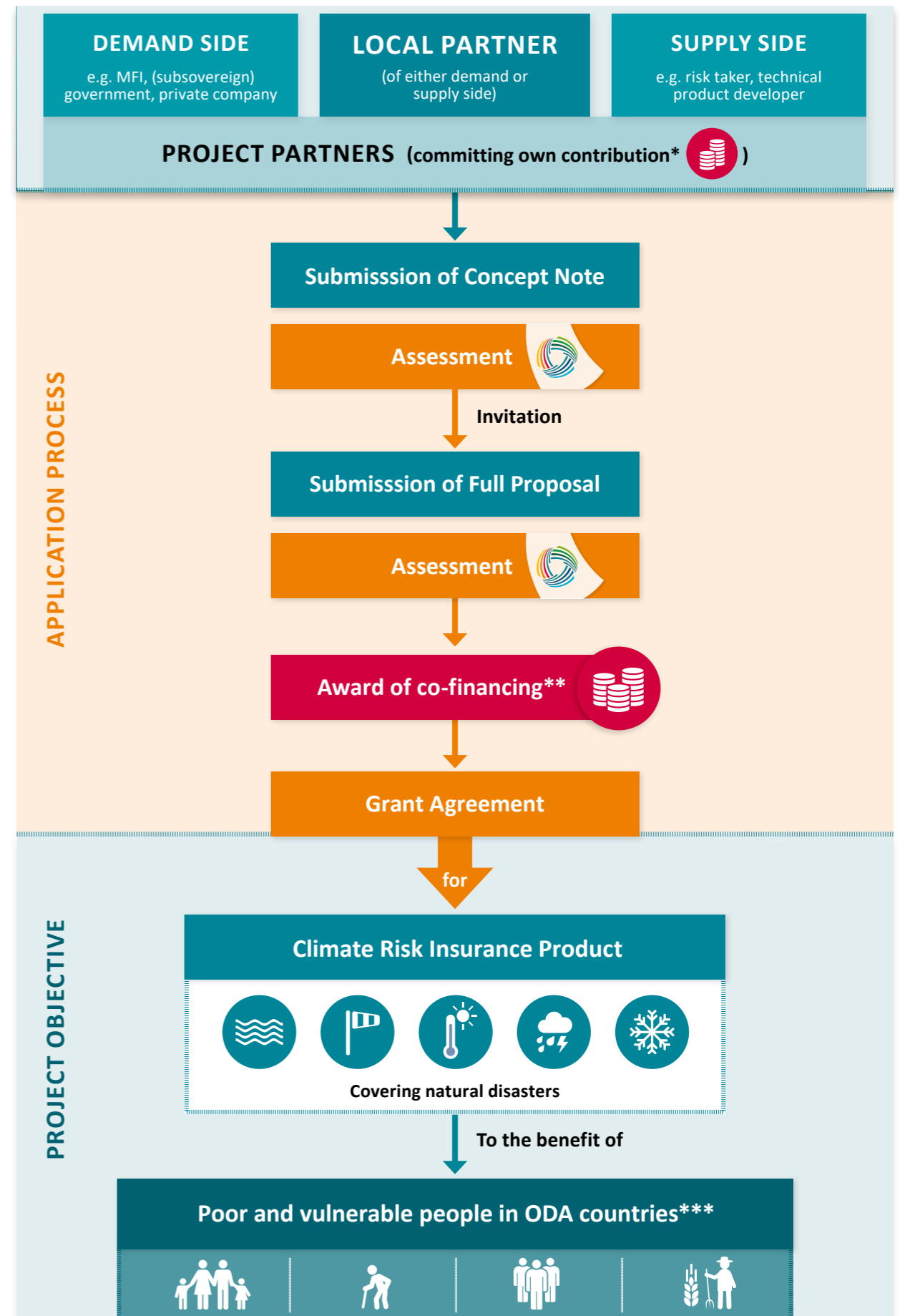
Overall, over 40% of product development costs have been met by the private sector: a significant leveraging of private sector capital and expertise.

LOOKING AHEAD

Going forward, ISF will expand its support in the area of climate risk analysis, and support for the market introduction and scale-up of successful products. It will continue to work closely with key partners of (sub-)sovereign governments, communities, private and public representatives of the insurance sector, academia and civil society. Furthermore, the Fund will strongly focus on implementation, thus enhancing its contribution to Vision 2025, and international work on climate and disaster risk finance and insurance.



ISF grant-based co-funding for development/improvement of climate risk insurance products



* Own contribution must at least match the requested ISF funding amount. May include financial and/or in-kind contribution.

** Grant-based co-financing may be awarded of up to 2.5 million EUR.

*** Official development assistance (ODA) as defined by the OECD Development Assistance Committee (DAC). Countries that are official candidates for accession to the European Union or beneficiaries of the European Neighbourhood Instrument East are considered to be non-eligible for ISF funding. These include: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kosovo, Moldova, Montenegro, North Macedonia, Serbia, Turkey and Ukraine.



„Interviews



Integrated solutions to unlock co-benefits between risk transfer and risk reduction

We have interviewed our Strategic Committee¹ members Dr. Heike Henn from BMZ and Barbara Schnell from KfW Entwicklungsbank on global climate and disaster risk finance, and the insurance agenda.

Dr. Heike Henn



Dr. Heike Henn
Director for Climate and Energy; sustainable urban development; environment; Commissioner for climate policy and climate financing, BMZ

What are your takeaways from the UN climate conference, COP 26, specifically related to the global climate and disaster risk finance and insurance agenda?

Henn: This COP, more than any other before, prominently featured resilience as a priority. The Race to Resilience created momentum to adapt to the impacts of climate change, raising this to be a parallel agenda item to the Race to Zero. On a political level as well, calls were loud and clear that more needs to be done on adaptation, resilience and loss and damage. Concretely, at COP26 the global Climate and Disaster Risk Finance and Insurance – in short CDRFI – agenda took steps forward.

To name just three: firstly, the InsuResilience Global Partnership launched an [Evidence Roadmap](#) that provides a framework for the entire CDRFI community to strengthen the evidence base for CDRFI according to six key priorities. Secondly, the [InsuResilience Centre of Excellence on Gender-smart Solutions](#) was launched

with support from Canada. This centre consolidates the knowledge and efforts of a growing community of gender champions on a central platform. Thirdly, a very important milestone was the approval of the [Principles for SMART Premium and Capital Support](#) by the InsuResilience High-Level Consultative Group just before COP26. This framework sets to ensure greater affordability and sustainability of prearranged risk financing solutions and serves as a catalyst for the urgent global shift from ex-post disaster finance to ex-ante risk financing. Under the G7 presidency in 2022, these workstreams will play a significant role for BMZ in 2022 and beyond, and will feed into Germany's efforts to strengthen the resilience of poor and vulnerable people.

Where do you see the role of the InsuResilience Global Partnership and its implementing programmes, such as the InsuResilience Solutions Fund, in advancing these priorities?

Henn: Under Germany's co-chair position of the InsuResilience Global Partnership and through our contributions to various implementing programmes, we will work closely with InsuResilience members and the Secretariat to keep up the momentum for resilience-building through enhancing CDRFI solutions in our partner countries. Every implementation programme under the InsuResilience umbrella makes a valuable contribution to realising the goals under Vision 2025, including the InsuResilience Solutions Fund and its distinct ability to leverage the private sector for enhanced resilience in vulnerable countries. Moreover, the Principles for SMART Premium and Capital Support will now need to be operationalised and implemented in the relevant programmes. This will require further technical work and will not be possible without the strong commitment and engagement of the programmes.

The current discussion on loss and damage from climate change makes a strong call for greater coherence in reducing risks associated with climate change. How can the risk management and insurance community contribute to a comprehensive risk management system and build a more resilient world?

Henn: To realise the full potential of CDRFI for reducing and addressing losses and damages from climate change, we need to stop thinking, implementing and funding in siloes. We need a more systematic, coherent and sustained global CDRFI architecture – one that closes the most pressing protection gaps and keeps up with increasing climate impact over time. For this to succeed, well-coordinated contributions by multiple partners and instruments are needed. The InsuResilience Vision 2025 aims at such a systemic approach.

At a national scale, for instance, CDRFI instruments should be deployed in combination to address the various layers of risk. These comprehensive risk financing strategies will also need to be aligned with the country's overall climate change and development policies. We want to see more integrated solutions that can unlock co-benefits between risk transfer and risk reduction. For example, in the field of agriculture, climate risk insurance can be linked to climate smart agricultural practices to foster transformation in the sector. Therefore, we welcome the current ISF Call for Proposals that puts such linkages in the spotlight. We would very much like to see more of this.

"Every implementation programme under the InsuResilience umbrella makes a valuable contribution to realising the goals under Vision 2025"

Dr. Heike Henn

Barbara Schnell

KfW has contributed significantly to climate and disaster risk finance in recent years. Could you give us some examples of how KfW supports vulnerable countries in managing climate change?

Barbara Schnell
Director Sector Policy, KfW Development Bank



- The **African Risk Capacity (ARC)** provides insurance to African countries, humanitarian agencies and agriculture intermediaries for droughts, floods and tropical cyclones. ARC encourages contingency planning which ensures insurance payouts reach the poor and vulnerable. Over 90 million Africans have been covered, transferring \$900 million of risk to global markets.
- The **Natural Disaster Fund (NDF)** offers innovative disaster risk protection solutions, for example, forecast-based insurance, which pays out before a potential disaster, allowing poor and vulnerable people to prepare (e.g. in the Philippines in 2020 and 2021).
- The **InsuResilience Investment Fund (IIF)**, a public-private partnership, invests capital in companies along the insurance value chain. IIF aims to increase climate risk insurance offerings for poor and climate-vulnerable households, as well as micro, small and medium enterprises. Through its investees almost 30 million poor and vulnerable people are currently protected against climate risks.

¹ The Strategic Committee is key to the governance of ISF, consisting of representatives of BMZ as donor and KfW as implementing organisation of ISF. Together with the Technical Committee, it is part of the Steering Unit, which is responsible for the strategic and technical oversight of all ISF operations.



„Interviews



Integrated solutions to unlock co-benefits between risk transfer and risk reduction

- The **InsuResilience Solutions Fund (ISF)**, supports all stages of insurance product development - from risk analysis through concept development, to product introduction and scale-up, and also works closely with the private sector.

How important is de-risking development finance for achieving the SDGs? To what extent is climate risk analysis and mitigation reflected in KfW's project cycle and portfolio?

Schnell: As the German development bank, we aim to support our partners in attaining the SDGs and eradicating poverty. Disasters are a major threat, as one severe shock might roll back decades of progress. With COVID-19 further reducing the financial leeway of many partners, the next disaster might have even more dire consequences, particularly for poor and vulnerable people.

De-risking development finance and building resilience are therefore important elements of what we do. We assess climate risk for every new KfW project and – if applicable - include risk reduction measures and measures to manage residual risk into our project design.

Given the catastrophic flood in Germany last summer, are there lessons from KfW's disaster risk insurance projects?

Schnell: In our experience, integrated climate risk management goes a long way: systematic climate risk analysis, risk reduction measures, and the management

of residual risks including insurance and ideally early warning systems and contingency plans. Early warning systems could have helped people to evacuate, and might have prevented casualties, especially for the most vulnerable people. Updated contingency plans would have also been useful, as responsibilities and evacuation modes would have been clearer. In addition, well-designed insurance products help households and communities to bounce back more quickly after a disaster as financial assistance arrives within days.

"In our experience, integrated climate risk management goes a long way: systematic climate risk analysis, risk reduction measures, and the management of residual risks including insurance and ideally early warning systems and contingency plans."

Barbara Schnell

Priorities of the V20 for climate and disaster risk finance and insurance

H.E. Mambury Njie

The **Vulnerable 20 (V20) Group of Ministers of Finance** is a key partner of ISF. In the first **V20 Climate Vulnerables Finance Summit**, the need for a global public-private partnership for risk analysis and resilience was communicated. Thus, with its approach to leverage, the expertise and capacities of the private sector in analysing and managing climate and disaster risks ISF addresses the needs of the V20 and its member countries.

We interviewed H.E. Mambury Njie, Minister of Finance and Economic Affairs of The Gambia on the need to improve access to data and modelling for vulnerable countries and fostering local capacities.

What measures are member states of the V20 implementing to reduce and manage the impacts of climate change?

Which measures should be prioritized?

Njie: Member states of the V20, especially the most vulnerable communities, are already paying for climate impacts. However, measures are being implemented across the V20 to reduce and manage the impacts of climate change. Some of our members have access to regional risk pools, contingency financing, and micro solutions. For the past five years, The Gambia, for example, has participated in a regional risk pool on drought to protect its vulnerable farming community. Nevertheless, financing the insurance premium has proven a significant challenge for the government. As such, financial protection tools must overcome significant barriers in terms of affordability and investment in order to be effective in reducing and managing the impacts of climate change.

H.E. Mambury Njie
Minister of Finance and
Economic Affairs,
Republic of
The Gambia,
V20 Member



Further measures to be prioritized include:

- **The development of domestic financial insurance markets** through investment in capacity, South-South learning and exchanges in product development. The **V20's Sustainable Insurance Facility** focuses on micro, small and medium enterprises because they are dynamic, represent a major share of all climate risk exposure in the V20, and can act as engines for the growth of this new market.
- **Time-bound subsidization strategies** to be available in a systematic way so that climate and disaster risk financing products can gain sufficient market scale and thus generate sustainable internal momentum. For as long as market scale remains small, financial protection products will be largely unaffordable, halting market growth in its tracks.
- Climate-vulnerable finance and **V20 Climate Prosperity Plans** will become critical tools for strategizing actions and investments needed to ensure more resilient economies while maintaining high growth and maximizing V20 contributions to the Paris Agreement.
- Creation of special **financial assistance and crisis support**, which the IMF's Resilience and Sustainability Trust can facilitate.



„Interviews



Priorities of the V20 for climate and disaster risk finance and insurance

- The V20 face very high capital costs due to a variety of country-related risks, one of which is increasing climate risks. Capital cost hurdles are one of the greatest impediments to our resilient and sustainable development. **Access to lower cost of capital** can improve debt sustainability and allow sustainable and resilient investments to succeed. Support for initiatives such as the [V20-led Accelerated Financing Mechanism](#) can provide off-balance sheet de-risking tools to reduce the cost of capital to build climate resilience.
- The most vulnerable communities do not have access to resources. We need a global protection shield for the most vulnerable to **deal with loss and damage**.
- We furthermore advocate for greater priority, accessibility, and affordability of climate and **disaster risk finance and insurance** for the most vulnerable. This requires the development of a global disaster risk finance architecture that prioritizes disaster risks sharing among the most vulnerable developing and low-income countries, as well as developed economies.

The need to integrate climate and sustainable development objectives and improve policy coherence was stressed at COP26. How could this be pursued more rigorously?

Njie: The V20 are developing Climate Prosperity Plans to optimize the integration of climate priorities and resilience into development policy. We encourage all of our development partners to support us with these exercises. The implementation of these plans will provide an important opportunity for bilateral, multilateral, and economic cooperation with the V20. Our priorities include the delivery of 100 billion US dollars per year in climate finance, including the doubling of funding for adaptation with access and

programs like [Africa Adaptation Acceleration Program \(AAAP\)](#), and over and above this financing for loss and damage. The failure to finance adaptation as well as the unaffordability of climate-smart insurance and other disaster risk financing tools has translated to loss and damage.

As long as there is no balanced support for adaptation and resilience, loss and damage will be our main concern. We must ensure that prior to the next COP, concrete financing options for loss and damage are rigorously explored. Furthermore, climate-vulnerable countries should not be penalized because of their growing climate risk, which leads to high capital cost, and limits our ability to attract investment in adaptation. As such, we need international support to optimize financial tools such as the use of guarantees to de-risk investment. This is a key component of the V20's Accelerated Financing Mechanism. In order to effectively close the protection gap, we must look beyond insurance. We must put in place the right mechanisms to allow for complementary investment in resilience building.

In the 1st V20 Climate Vulnerable's Finance Summit in July 2021, the need for a global public-private partnership for climate risk understanding and climate resilience was highlighted by V20 representatives. As part of the COP26 summit in Glasgow, the Insurance Development Forum (IDF) with the V20 Group announced the Global Risk Modelling Alliance (GRMA). What are your expectations of the partnership? How exactly will V20 member states benefit from enhancing expertise and knowledge in the area of climate risk analysis?

Njie: Indeed, efforts to close the protection gap and to mobilize finance for effective risk management need to be accelerated in order to protect the prosperity of our

people and future-proof our economy. This means more than putting in place financial protection schemes for when the limits of adaptation are breached. We thus need better access to existing models and data as well as more regional and sectoral detail. This includes being able to analyze climate risk to capital stock in financial terms and drive the upgrade to climate-resilient business models in the context of long-term investment planning. We need people-centered metrics to create safety nets for the most vulnerable. For that, we require open access to risk and resilience planning analytics. The persistent lack of

access to the required data and modelling instruments represents a significant barrier to enabling the use of insurance and mobilizing investment. The V20 looks forward to [Global Risk Modelling Alliance \(GRMA\)](#) to make accessible risk analytics. Gaining such nationally owned and strategic view of risk is a key step in constructing an effective risk management system, which is based on risk-informed policy measures, cost-effective risk reduction investments, and complementary risk financing instruments.





2021 - A year in numbers



3 Economics of Climate Adaptation studies completed

2 CLIMADA climate risk analysis completed

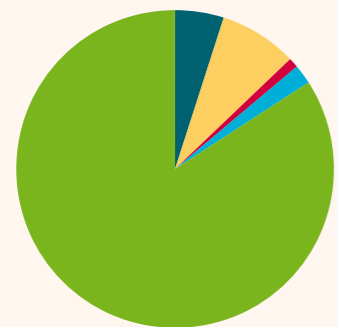
3 Feasibility studies and advisory services completed



3 Call for Proposals launched

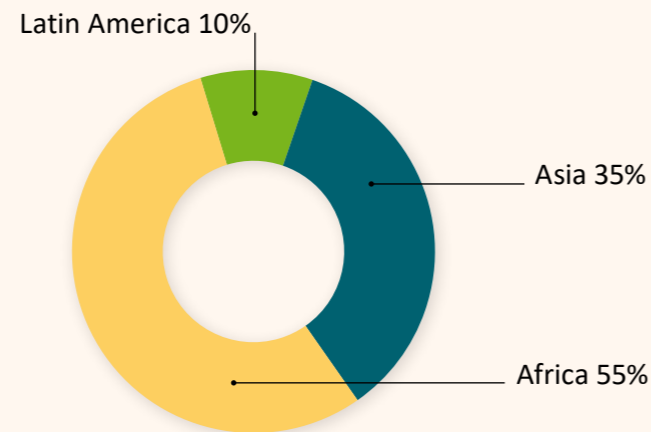
129 Concept notes received

HAZARDS TO BE COVERED



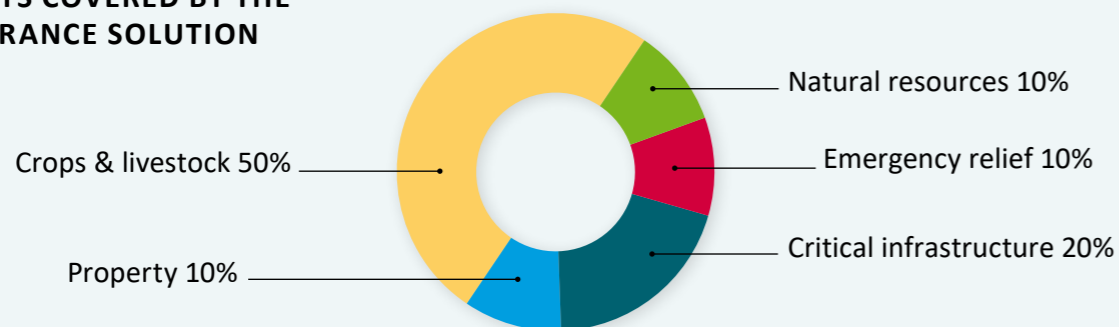
■ Multi-coverage 85%
 ■ Flood 5%
 ■ Drought 8%
 ■ Storm 1%
 ■ Extreme rainfall 2%

LOCATION



ASSETS COVERED BY THE INSURANCE SOLUTION

7 Grant agreements signed



7 Grant agreements signed

Projects in: Colombia, India, Kenya, Mesoamerican Reef, Nepal, Togo, Uganda

100% implemented with a local partner (key eligibility criteria)

€ 6.9 million ISF funding (about 50% of total product development costs)

100% implemented with private sector participation

35% Private-sector share of total product development costs

8.9 million people poor and vulnerable to climate change expected to benefit by 2025 (estimated)

INSURANCE SOLUTION APPROACH

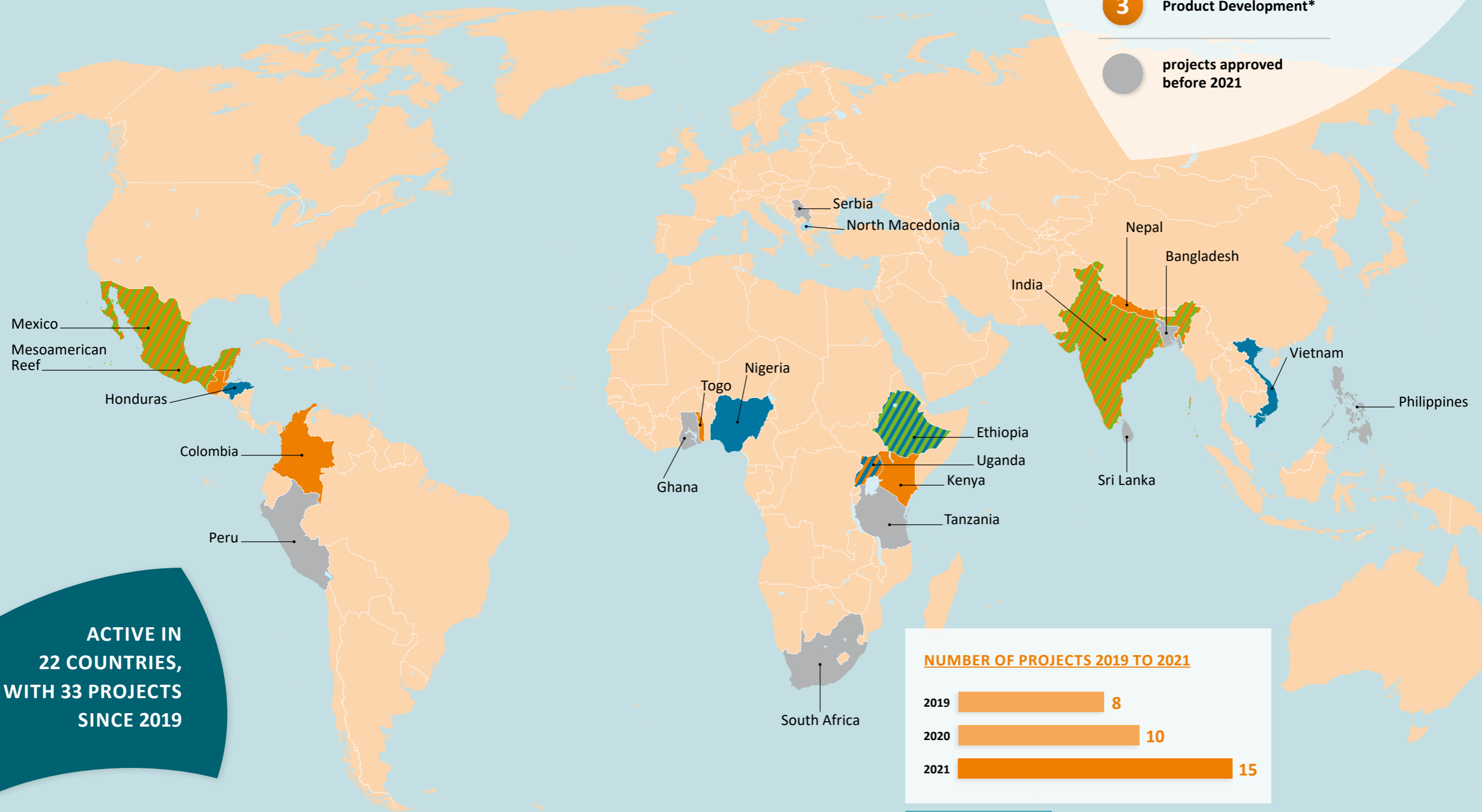




ISF projects around the world

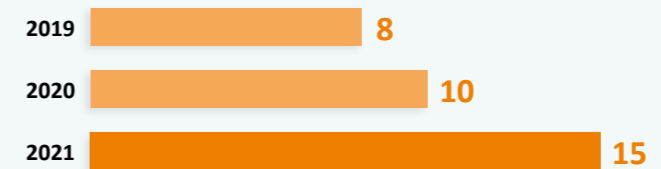
OUR PROJECTS IN 2021

- 1** Climate Risk Analysis*
 - 2** Concept Development*
 - 3** Product Development*
-
- projects approved before 2021



**ACTIVE IN
22 COUNTRIES,
WITH 33 PROJECTS
SINCE 2019**

NUMBER OF PROJECTS 2019 TO 2021



*see three pillars of ISF / page 9



Pillar 1

1

Comprehensive climate risk analysis

Applying risk analysis tools and models developed by the insurance sector, ISF offers comprehensive climate risk analyses as an essential basis for informed climate and disaster risk and adaptation policies. The results provide governments, businesses, and civil society with important data and information to become proactive risk managers.

Better understanding and timely information of complex climate and disaster risks is a first step for a well-targeted and effective response. We promote the mainstreaming of risk-management tools and instruments by supporting the use and further development of climate risk analysis. By quantifying the expected future impact of climate risks and estimating the benefits of different adaptation options, climate risk analyses help decision makers to identify and prioritise cost-effective climate adaptation measures. The outcomes of the climate risk analysis directly contribute to the InsuResilience Global Partnership's Vision 2025 that aims to improve access to and understanding of data and modelling for vulnerable communities. For the analyses, ISF advocates the use and further development of open-source platforms, such as CLIMADA and the inclusive methodology of Economics of Climate Adaptation (ECA) studies.

CLIMADA

This open-source risk-modelling platform provides globally consistent multi-hazard risk assessments from the national to local levels. The probabilistic-modelling approach estimates expected economic damage as a measure of risk today: the incremental increase from economic growth and the further incremental increase due to climate change¹.

Economics of Climate Adaptation Studies (ECA)

This methodology offers a systematic and transparent approach for the flexible identification of cost-effective climate adaptation measures that combines probabilistic risk modelling techniques of CLIMADA with in-depth, inter-sectoral stakeholder engagement.

In 2021, we completed ECA studies on the municipal, regional, and national level in Honduras, Ethiopia, and Vietnam in cooperation with ETH Zurich and United Nations University – Institute for Environmental and Human Security (UNU-EHS). The three studies focused on different hazards, assets, environmental, and institutional settings highlighting the methodology's flexibility. Furthermore, we implemented two CLIMADA studies on flood risks in Uganda and Nigeria.

¹ More Information about CLIMADA: <https://wcr.ethz.ch/research/climada.html>



Case Study

Vietnam: Scaling up holistic climate risk management – from the analysis of climate risks to concrete insurance solutions

Cities and communities in Vietnam struggle with rising climate risks. ISF implemented a comprehensive climate risk analysis in southern Vietnam and actively supports the insurance sector in developing innovative climate risk insurance solutions in the urban infrastructure sector.

Vietnam is one of the most disaster and climate risk-prone countries in the world, and the damages associated with disasters due to natural hazards are increasing. Climate change itself poses additional threats because of various factors, such as sea level rise, more intense and less predictable flooding, and cyclones. Floods and typhoons are believed to be the most frequent causes of economic losses in Vietnam.

ISF supported the city of Can Tho in analysing the risks the city phases due to floods and heatwaves with an ECA study in cooperation with the United Nations University – Institute for Environment and Human Security (UNU-EHS). This methodology combines climate risk assessment and cost benefit analyses of potential adaptation measures including insurance solutions. The analysis uses the open-source risk-modelling platform CLIMADA to estimate the expected economic damages due to climate risks and involves comprehensive engagement of all relevant stakeholders.

Working closely with the local government and key stakeholders from academia, the ECA study in Can Tho identified cost-effective climate change adaptation measures for a variety of assets and sectors. Analysing the impact of flood and heat waves on public buildings, roads, houses, and people, the climate risk analysis assessed the costs and benefits investing in structural adaptation measures, with up to 94% of the total flood

risk but only 6% of heat risk which could be potentially averted. Consequently, the analysis also revealed remaining risks in the case of extreme events, even after risk reducing effects of adaptation measures are achieved. These remaining risks could be addressed through complementary financial measures such as climate risk insurance in order to secure funding for necessary relief measures, as well as reconstruction of damaged assets.

Building, among others, on the results of the ECA analysis, a new partnership of members of IDF, in collaboration with ADB and UNDP, supports city-level Disaster Risk Transfer Solutions in Vietnam. On the basis of a sound understanding of risk, the objective of the project is to develop a disaster insurance solution in selected cities of Vietnam. ISF actively supports the partnership through funding a feasibility study to shape and contextualize the development of the climate risk insurance concept. As a pilot city, Can Tho will be part of the feasibility study.

Working closely with the local government and key stakeholders from academia, the ECA study in Can Tho identified cost-effective climate change adaptation measures for a variety of assets and sectors.



Pillar 2

2

Support for climate risk insurance concepts

ISF offers funding for feasibility studies and advisory services to develop innovative climate risk insurance concepts taking into account the specific needs of poor and vulnerable populations.

The lack of data and uncertainty about the regulatory and legal framework are some of the major market barriers for the development of innovative climate risk insurance products in developing countries. With our support, these barriers can be identified and assessed so as to develop appropriate insurance concepts. By

providing advice on the elements necessary to design and conceptualise effective insurance projects our guidance constitutes the basis for new climate risk insurance approaches.

In 2021, we funded feasibility studies in India and Mexico, and provided advisory services in concept development in Ethiopia. The advice in concept development seeks to support the application of partnerships for co-funding under a subsequent Call for Proposal.



Case Study

Mexico: Supporting the development of agriculture insurance for vulnerable farmers

Climate change puts poor and vulnerable farmers in Mexico at risk. With the aim to insure smallholder farmers against drought and excessive rainfall, ISF funded a feasibility study for a sovereign parametric insurance solution. The proposed insurance solution is being promoted by a project consortium formed by the IDF in close cooperation with the Mexican government.

In Mexico, over 80% of total economic losses from weather-related disasters in the last two decades occurred in the agricultural sector. Smallholder farmers are hit hardest as they practice rain-fed agriculture and have less access to technology, formal credit and commercial agricultural insurance.

To insure smallholder farmers against the impact of natural disasters, the Mexican government implemented the fully subsidised CADENA programme. The programme was discontinued in 2020 mainly because payouts did not reach the target group, leaving around 3.5 million smallholder farmers growing corn without protection against extreme weather events.

To improve the resilience of currently uninsured smallholder corn farmers to extreme drought and rainfall events, a project consortium led by Guy Carpenter, Munich Re, Swiss Re and AXA Climate formed, which includes state-owned re/insurer Agroasemex as a key local partner. This marks a public-private partnership project under the Tripartite Agreement between the German government, IDF and UNDP to support risk-management solutions for climate-vulnerable countries.

ISF financed a dedicated feasibility study to substantiate the elements that are necessary to develop a suitable insurance cover to protect smallholder farmers. The Ministry of Finance and Agroasemex strongly

supported the study, as well as the proposed development of an insurance scheme that ensures that insurance payouts will reach farmers directly and rapidly to mitigate the impact of natural events. Three states (Oaxaca, Chiapas and Tabasco) were selected to conduct the study, given their large population of low-income smallholder farmers and their level of vulnerability.

The study revealed that in order to develop a sovereign, parametric insurance solution several milestones need to be targeted. These include, among others, the run of a small-scale pilot to validate the operation assumptions, the development of an IT platform to ensure a large number of insurance payouts directly reaching farmers, and the implementation of a robust and efficient distribution model. Based on the results of the feasibility study, the partnership successfully applied for ISF co-funding for the product implementation phase.

This marks a public-private partnership project under the Tripartite Agreement between the German government, IDF and UNDP to support risk-management solutions for climate-vulnerable countries.

About the project consortium, formed by the IDF in close cooperation with the Mexican government



Pillar 3

3

Support for climate risk insurance products

At the heart of our operations, we support and promote joint product development, including the introduction and scale-up of innovative climate risk insurance products that add value for affected people.

Partnerships Partnerships are invited to apply for co-funding by submitting proposals for the development of new or improved climate risk insurance solutions focused on coverage for climate change-related hazards. Joined partnerships with representatives from the demand side (e.g. national governments, cities, local insurance sector or civil society) and from the supply side (e.g. insurance sector, insurtech, data provider) can apply in Call for Proposals.

We provide grant-based co-funding of up to 2.5 million EUR to partnerships where at least:

- one partner is representing the demand and needs of end beneficiaries **AND**
- one partner is willing to act as risk taker **AND**
- one partner is located in the target country.

In 2021, we launched three Call for Proposals that generated high interest. We received and evaluated over 120 applications for co-financing development costs for insurance products. In the same year, we signed grant agreements with partners for seven projects on the macro, meso, and micro levels.

THE KENYA PROJECT AT A GLANCE

Risk to be covered	Drought, excessive rain and climate-related pests and diseases
Product / Solution	Soil moisture index combined with picture-based loss verification tool
Objective	Increasing resilience of Kenyan smallholder farmers against climate-related risks
Beneficiaries	Smallholder farmers and their families
Partnership members	ACRE Africa; Ministry of Agriculture, Livestock and Fisheries; Alliance Biodiversity International and International Center for Tropical Agriculture; VanderSAT; Swiss Re; ZEP Re
Project duration	March 2021 – March 2023



Case Study

Kenya: Building smallholder farmer resilience through crop insurance

In spite of agriculture being an important source of income in Kenya, small-scale farmers in particular are exposed to numerous production risks including that of natural disasters. A new project co-funded by ISF offers smallholder farmers the opportunity to insure themselves against the consequences of drought, excess rainfall and climate-related diseases.

Agriculture and livestock account for one third of Kenya's annual economic output. Climate change, however, is making weather patterns increasingly unpredictable, which is why Kenya's farmers in particular feel the effects of droughts. Smallholder farmers who depend upon rain-fed agriculture and use low-technology farming methods are particularly vulnerable, given that less than 1% are currently protected by some form of insurance.

To tackle this challenge, ISF is supporting the development of an insurance scheme for Kenya's smallholder farmers by providing co-funding for the product development. The project is implemented by a partnership encompassing: ACRE Africa, one of the largest microinsurance provider in Africa; the international research and development organization, Alliance Biodiversity International and International Center for Tropical Agriculture; and VanderSAT, a leading provider of global satellite-observed data. The project will work closely with the Kenyan Ministry of Agriculture, Livestock and Fisheries as part of its climate smart insurance strategy for smallholder farmers.

The project combines the implementation of two technological innovations in climate risk insurance: soil-moisture index insurance and a picture-based loss verification tool. By introducing these technological innovations into insurance product design, the aim is to minimise the cost of loss verification and make

crop insurance more attractive and accessible to smallholder farmers, while optimising the technical product design over time. At the same time, the picture-based tool helps smallholder farmers reduce future losses by offering advisory services to farmers, including both climate-smart agriculture practices and weather-related decision support.

The product is distributed directly to smallholder farmers as a microinsurance product through trained champion farmers. Furthermore, the programme offers insurance on the meso-level to agri-service providers, such as financial institutions and input providers, as well as on the macro-level to county governments. In 2021, 39,615 farmers were insured; this number is expected to increase to 300,000 farmers before the end of 2022. The result is a versatile product that strengthens the resilience of smallholder farmers against climate change.

“This project has enabled me to network with more farmers in my location and partners in the agricultural value chain. I have also understood how crop insurance works and gained access to it at affordable premiums of as low as KES.100 per season.”

Ferdinant Makhau
Champion Farmer, Bungoma County



Pillar 3

Nepal: Introducing index-based insurance for flood-prone communities

ISF is co-funding an innovative insurance approach to introduce index-based insurance to flood-prone communities in western Nepal to increase smallholder farmers' resilience against flood events. The insurance is bundled with agriculture advisory services and will cover yield losses in case of a hazardous flood event.

Nepal is one of the countries with the highest risk of natural hazards and is particularly vulnerable to flood and landslide risks. Floods are the most frequent, damaging and widespread natural hazard events, which put the agricultural sector at high risk. They cause loss and damage of crops which is one of the mainstay of livelihoods for more than 65% of the Nepalese population.

To tackle these emerging hydro-climatic challenges, the international development organisation Practical Action, the product designer Global Parametrics, the local branch of the insurtech Stonestep, and local risk taker Shikhar Insurance, started to develop an index-based flood insurance for smallholder farmers in lower Karnali of western Nepal. ISF co-funds the project implementation and thereby helps to accelerate growth and enable extension to other regions. The project is developing a flood-insurance product partnering with microfinance institutions (MFI) and cooperatives; they act as policyholders on behalf of their smallholder clients (farmers) and thus serve as main distribution channels.

Through a two-layered approach, the insurance product will benefit the farmers' families twofold. In the first layer, the insured cooperatives or MFIs, as official policyholders, receive the payouts from Shikhar Insurance based on the index values of observations reflecting the river flow and rainfall events. In the second layer, insured cooperatives forward the insurance payouts to households.

With the objective to reach 267,000 beneficiaries by 2025, the project partners aim to offer a solution to stabilise the income and food security of poor, marginalised, and indigenous populations, thereby strengthening their resilience. This will be achieved by implementing the project in tandem with Practical Action's Flood Resilience Programme (Zurich Flood Resilience Alliance) and thus contributing to wider flood resilience building efforts. Since the start of the ISF project, eleven cooperatives were selected for project implementation, a baseline survey was conducted, and the collection of risk data begun. Orientation on index-based flood insurance was completed at local level, inviting local stakeholders, including local governments.

“Index Based Flood Insurance (IBFI) is a simple, easy and innovative way of risk transfer – as smallholder farmers will access their insured amount as soon as the indices are met and soon after the flood crosses the pre-defined threshold. In this regard, IBFI is revolutionary in the insurance sector and many smallholder farmers are attracted to this scheme. Since cooperatives from the communities are policyholders on behalf of farmers, they trust the insurance scheme and have positive outlook towards this.”

Dhundi Raj Rijal
Branch Manager, Shikhar Insurance Bardiya



Case Study

THE NEPAL PROJECT AT A GLANCE

Risk to be covered	Flood
Product / Solution	Index-based flood insurance
Objective	Improving resilience of smallholder farmers in lower Karnali, Nepal, against hazardous flood events.
Beneficiaries	Smallholder farmers and their families
Partnership members	Practical Action Stonestep TFD Pvt. Ltd. Global Parametrics Ltd. Shikhar Insurance Co Ltd.
Project duration	March 2021 – March 2023



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