



Global
Parametrics

ANNUAL IMPACT

REPORT 2022



Table of Contents

ABOUT US	04
-----------------	-----------

FOREWORD	05
-----------------	-----------

HIGHLIGHTS FROM 2022

• OUR YEAR IN NUMBERS	07
• EXTERNAL ENGAGEMENT	08
• SPOTLIGHT ON: HANNOVER RE PARTNERSHIP	10
• KEY PARTNERS IN 2022	11
• CELEBRATING OUR PARTNERS	12

ACHIEVING IMPACT

• OUR APPROACH TO IMPACT	14
• MEASURING OUR IMPACT	16

THE NATURAL DISASTER FUND

• THE NATURAL DISASTER FUND IN 2022	19
• PORTFOLIO HIGHLIGHTS	22
• THE NDF TECHNICAL ASSISTANCE FACILITY	28
• CASE STUDY: MAHILA HOUSING TRUST CLIMATE RISK INSURANCE	32
• CASE STUDY: DEVELOPMENT OF A GLOBAL FORECAST TROPICAL CYCLONE PRODUCT	34

PARTNERSHIP SUCCESSES IN 2022

• INDEX-BASED FLOOD INSURANCE IN NEPAL	37
• STRENGTHENING URBAN PREPAREDNESS THROUGH PRE-EMPTIVE ACTION IN THE PHILIPPINES	37

ANNEX

• LEGAL NOTICES AND DISCLAIMERS	39
---------------------------------	----

About us

Climate change presents a huge challenge to the insurance industry. Clients are looking for affordable protection against growing extreme weather and natural catastrophe risks.

Global Parametrics was founded to build the tools needed to understand, manage and mitigate the risks of extreme weather and climate events anywhere in the world and with a particular focus on low-and-middle-income countries. We aim to drive impact through innovation, driving global leadership in parametric product design and distribution.

Global Parametrics

We offer “end-to-end” business services, providing structured parametric products and risk capacity for a range of natural hazards and extreme weather. We develop tailored solutions for many sectors including finance, agriculture, government, utilities and more.

Our solutions are backed by the risk capacity of the Natural Disaster Fund (NDF) and of our MGA, Global Parametrics Risk Solutions.

The Natural Disaster Fund (NDF)

Our team manages the NDF, a public-private partnership designed to mitigate the challenges in natural hazard and extreme weather resilience for ODA-eligible countries. The NDF is capitalised with investment from the UK and German Governments through FCDO and BMZ (the latter channelled via KfW). Hannover Re provides matching risk capacity for transactions underwritten by the NDF. The NDF Technical Assistance Facility, financed by KfW, provides catalytic grants covering product development and risk capacity deployment activities related to the NDF.



Our Vision

Is a world which is thriving and resilient to extreme weather and natural hazards.

Our Mission

Is to supply and support financial solutions that prevent natural hazards becoming disasters for poor and vulnerable communities.



Foreword

by Angus Kirk
CEO and General Counsel



We are delighted to present you with Global Parametrics' 2022 Annual Impact Report.

This marks the sixth year of our continued mission to close the protection gap through parametric disaster risk management solutions and to reach our core vision of a world of thriving communities resilient to the impacts of natural hazards and extreme weather events.

In 2022, we demonstrated this through reaching over 23 million beneficiaries with risk transfer in 55 countries. Of these, a large majority can be classified as poor and vulnerable to climate events.

With the continued support of a wide range of partners and stakeholders including the UK Government's Foreign, Commonwealth and Development Office, the German Government's BMZ and KfW and Hannover Re, we have continued to expand and to grow our work across these communities.

In 2022, we were delighted by the growth of several key programmes which were catalysed by the Natural Disaster Fund, providing proof of concept for parametric risk transfer schemes to develop from pilot programmes into mature market tools for enhancing protection. We were also delighted to be able to support several new and innovative transactions including the pandemic risk transfer programme for the benefit of the Government of Senegal and our flagship ARDIS programme with VisionFund International entering into its fifth year.

We also undertook research and development for impactful and innovative new risk transfer products, including a forecast tropical cyclone product and a global flood product, funded through the NDF Technical Assistance Facility.

Finally, we expanded our market presence in particular through the launch of our MGA, Global Parametrics Risk Solutions, thereby

enabling the deployment of our products globally and through the physical relocation of our London office to the Lloyds Building on Lime Street.

Whilst it has been encouraging to see the wider acceptance of parametric risk transfer both by the market and by policy makers, the increasing severity and changing nature of the risks faced by communities across the world mean that there is so very much more that remains to be done to build resilience and to close the insurance protection gap.

We are proud of the achievements and successes we have delivered alongside our partners to date. Thank you for your continued support and we are very much hoping that 2023 will prove to be another year of collaboration, of growth and of increasing impact.

Highlights from 2022



Global
Parametrics



Our Year in Numbers

55

countries

23 Million

beneficiaries covered



19 Million

beneficiaries classified as poor & vulnerable covered

\$1.6 Million

grant funding deployed to facilitate high impact programmes

16

transactions in ODA-eligible countries

100%

renewal of 2021 NDF transactions

7

trigger events with payouts

6

perils covered

5

Sustainable Development Goals supported

1

Lime Street residency

External Engagement

Global Contributions



LexMex Conference
 “The Role of Lawyers in the Climate Crisis”
 Juan Pablo Sainz, Deputy General Counsel
 London, United Kingdom



CLIMBS Weather Protect Insurance Roadshow
 Wendy Smith, Impact and ESG Manager
 Davao City, Mindanao & Cebu, Philippines



ASEAN Insurance Congress
 “The Power of Parametrics”
 Wendy Smith, Impact and ESG Manager
 Kuala Lumpur, Malaysia



DZ Bank AG Sustainable Finance Day
 “The Role of Capital Markets in Disaster Risk Financing”
 Hector Ibarra, former CEO
 Berlin, Germany



European Geosciences Union General Assembly 2022
 “Extreme Heat Index for Parametric Risk Transfer”
 Obbe Tuinenberg, Senior Weather Scientist
 Vienna, Austria



10th Global Dialogue Platform on Anticipatory Action:
 “Anticipatory Action in the Philippines”
 Wendy Smith, Impact and ESG Manager
 Berlin, Germany

Industry Participation



Insurtech Insights European Conference



18th Singapore International Reinsurance Conference



Scottish Government 'Practical Action: Addressing Loss and Damage' Conference



Insurance Innovators Summit 2022



Artemis Conference 2022



UK Department of Business & Trade and Department of International Trade 'Business of Resilience' Conference 2022

Our Work Featured



"Fulfilling a Legacy of Societal Risk Management"
UN CCHLC, UN Race to Resilience, Adrienne Arsht-Rockefeller Foundation Resilience Centre & Marsh McLennan.
Pgs. 17-25



"IGP Annual Report 2021"
InsuResilience Global Partnership
Pg. 17



"Issue #55: InsurTech Talk"
Modern Insurance Magazine
Pg. 73



"Potential for Anticipatory Action & Disaster Risk Finance"
ODI, Start Network
Pgs. 20, 74



"Building Resilience of the Urban Poor: The Potential for Disaster Risk Financing Solutions used by Microfinance Institutions"
-Asian Development Bank

Spotlight On: Hannover Re Partnership

Global Parametrics has strategically partnered with Hannover Re, one of the world's leading reinsurers, since 2019 to meet our shared mission to use innovative financial solutions to make a meaningful contribution to closing the global protection gap.

Hannover Re has demonstrated its commitment to this mission ever since – providing matching capital to the Natural Disaster Fund to form a unique, purpose-driven, and sector-leading public-private partnership with the UK and German governments.

In 2022, our partnership has developed such that Hannover Re provided matching capacity to double the impact of the NDF across 12 transactions.

With the establishment of the Global Parametrics MGA, Global Parametrics Risk Solutions, in 2022 and the grant to it of global delegated authority by Hannover Re, the partnership has expanded its reach to complement the efforts of the NDF and will enable us to do more together in 2023 and beyond.

“

“Hannover Re is proud of the collaboration with Global Parametrics, which thanks to the Natural Disaster Fund has taken an important step to strengthen the climate and disaster resilience of 23 million people in 55 countries.

We are motivated by the thought that this might inspire the further development of markets and products supporting communities affected by climate change. We will continue to work together with Global Parametrics and our public sector partners to ensure the widening availability of insurance solutions.”

Jean-Jacques Henchoz

Chief Executive Officer (CEO), Hannover Re



Key Partners in 2022

In 2022, we continued to work with a wide range of partners from across sectors who share our vision and mission. Each such partnership is extremely valuable to us as we continue our journey and we very much look forward to continuing collaborating for a more resilient world.



Celebrating Our Partners

In November 2022, we hosted our second annual Global Parametrics London Market Event, held in the Lloyd's Building Marble Reception, to mark our move to the iconic Lloyd's Building and to thank our partners from across different sectors for their support and collaboration that enables the achievement of our mission.



Achieving Impact



Global
Parametrics



Our Approach to Impact

Global Parametrics was created to deepen the markets for natural hazard and extreme weather risk protection and drive increased resilience globally in the face of growing vulnerability.

Our vision of a world of thriving and resilient communities is fundamental in the approach we take to doing business. We believe resilience is a catalyst for sustainable economic growth, poverty reduction and the realization of human potential. A well-developed market for natural hazard and extreme weather risk is a core component of economic development, by increasing investment through strengthening the risk-taking capacity of the private sector, and by enabling businesses to engage in higher-risk, higher-return activities that contribute to growth.

This is reflected in our values:



Thrive at the nexus of what is social, political, financial and technical



Realize human potential – as much for beneficiaries of what we do as for our employees – through compassion, assistance, and engagement



Work globally to help the vulnerable mitigate severe disruptions



Value transparency and openness – in software, data, and operation



Adopt mental and organizational systems that catalyze our ability to create and respond quickly to opportunities



Leverage technology to educate communities about risk and democratize risk information

With these dynamics in mind, our impact approach is formed from core outcomes:

✓ **Continuity of service across the value chain post-disaster.**

Through well-placed risk management solutions, businesses, financial institutions, governments and NGOs are able to keep operations and services running smoothly post-disaster. This continuity helps to ensure that employees, borrowers, customers and citizens can better weather these shocks.

✓ **Improved access to capital across the value chain.**

Improved risk management practices can facilitate new international and domestic capital in the form of debt and equity capital for businesses and other institutions both large and small. This new liquidity targets both the growth of existing activities as well as expansion into new regions or business types.

✓ **Lower cost of capital across the value chain.**

Improved risk management practices should also reduce the volatility and overall cost of capital for businesses and other institutions unlocking more efficient means to invest and grow.

✓ **More informed and efficient resilience planning.**

Firms, governments, NGOs and the people they serve gain new access to climate data and its derivatives at various time scales facilitating greater awareness and improved utilization of such data.

Taken together, these outcomes are expected to contribute to deeper markets for natural hazard and extreme weather risk and ultimately more resilient communities globally.



Measuring Our Impact

We aim to make a positive impact for people and planet through our work. For us, responsible business means not only developing impact-oriented risk transfer solutions, but also holding ourselves accountable for our work through robust monitoring and reporting on our impact.

Protecting Poor and Vulnerable Beneficiaries

A key indicator for calculating our impact is the number of people who benefit from NDF risk transfer. Through consultation with partners and stakeholders including representatives from KfW and FCDO, the InsuResilience Investment Fund (IIF), and participation in industry working groups within the InsuResilience Global Partnership (IGP), we have aligned our beneficiary methodology to leading industry standards.

We principally calculate the total beneficiaries protected by our risk transfer services for each transaction, while also estimating the proportion of beneficiaries classified as poor and vulnerable covered to ensure our products and risk capacity are targeted to those who need it most. Our methodology classifies poor and vulnerable as those with income under \$PPP 15/day, in line with IGP methodologies.

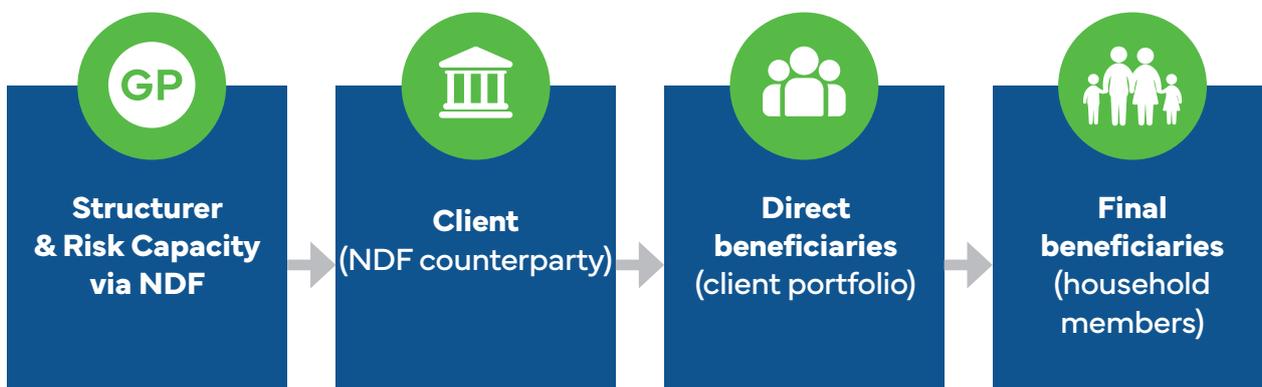
We target products and services to risk 'aggregators' who have a direct impact upon the lives of individuals they serve through

the provision of key activities – the continuity, availability and quality of which are directly impacted by natural hazards and extreme weather.

We arrive at our total beneficiary estimates through partners and clients' calculations for their own individual beneficiaries, adding in a household multiplier where applicable¹. Where this information is limited or unavailable, we use pre-approved third-party sources for calculating these figures. Wherever possible, we gather gender disaggregated data from our partners, understanding the heightened risks and impacts for women.

In keeping with our founding mandate, we monitor our progress on beneficiary figures on a quarterly and annual basis and share such information with our stakeholders and partners.

For more information regarding our beneficiary calculation methodology please get in touch with our team.



1. Household multiplier figure received nationally from Insuresilience Global Partnership

Impact Alignment

As a business, we aim to make a positive contribution in how we operate and who we operate with, and ensure our practices, policies and procedures meet the guidelines for sustainability, aligning to sector standards where applicable and as appropriate. To ensure we achieve this aim, we are designing a new Environmental, Monitoring and Sustainability System (ESMS) which we shall be launching in 2023.

UN Sustainable Development Goals

Our intended outcomes have broad implications for many of the UN's Sustainable Development Goals (SDGs). We have identified the five goals that we believe are most aligned with and guide our day-to-day activities:

- **SDG 1: No Poverty**
- **SDG 2: Zero Hunger**
- **SDG 8: Decent Work and Economic Growth**
- **SDG 9: Industry, Innovation, and Infrastructure**
- **SDG 13: Climate Action**



The Natural Disaster Fund



Global
Parametrics

The Natural Disaster Fund in 2022

Established in 2018 and advised by the Global Parametrics team, the Natural Disaster Fund (NDF) provides risk capacity to underwrite natural catastrophe and extreme weather risks in ODA-eligible countries. Investment into the NDF is derived from the UK government through the Foreign, Commonwealth and Development Office (FCDO) and the German Government through the Federal Ministry for Economic Cooperation and Development (BMZ) via KfW. Hannover Re provides matching capital for transactions.

The portfolio of the NDF seeks to include a diversified range of high impact transactions, providing proof of concept for innovative disaster risk management initiatives and countercyclical funding for clients. The NDF can transact by means of a wide range of instruments including derivatives, reinsurance (transformed through Hannover Re) or catastrophe bonds, dependent on client capacity and market need.

The NDF targets markets where the opportunity for impact is greatest.

Transactions are designed to:



Enable scale

The NDF is designed to develop and incubate risk transfer transactions, providing capacity for pilot transactions, as a proof of concept for innovative products and scaling to be taken on by the wider market.



Ensure continuity of protection

Through well-placed risk management solutions, the NDF can be deployed to ensure continuity of risk transfer programmes in the face of volatile market dynamics, guaranteeing sustained protection for clients' increasing risk.



Address the most vulnerable

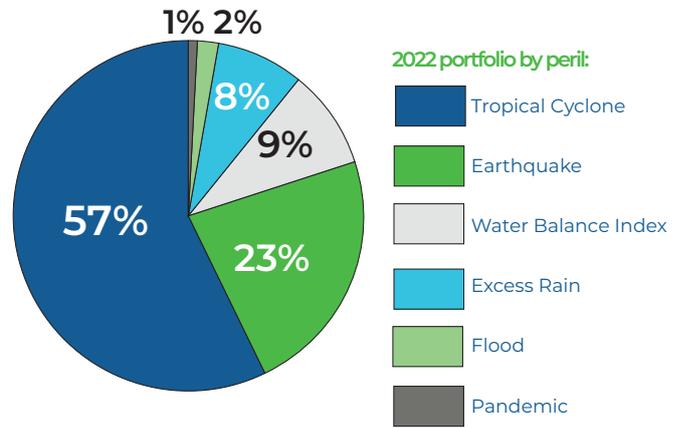
Our impact focus is streamlined through the governance structure of the NDF- each transaction must be approved by a Development Committee to assess the developmental value for each transaction, ensuring protection is targeted to those who need it most.

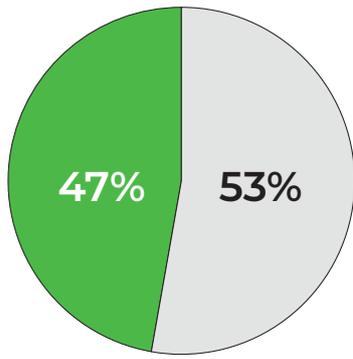
Global Distribution of Transactions

In 2022, the NDF portfolio supported 16 risk transfer transactions spanning 55 official development assistance (ODA) recipient countries. This included renewal of all 10 transactions from 2021, demonstrating the value of the NDF offering and the embedding of parametric solutions in new and emerging markets with our clients.

Clients spanned the financial, agricultural, public, and retail sectors, demonstrating the increasing awareness of the benefits of parametric insurance solutions as part of their disaster risk management strategies. NDF coverage deployed was purchased with the objective to support public sector post-event reconstruction and recovery, to protect against loss and damage in agriculture and ensure business continuity.

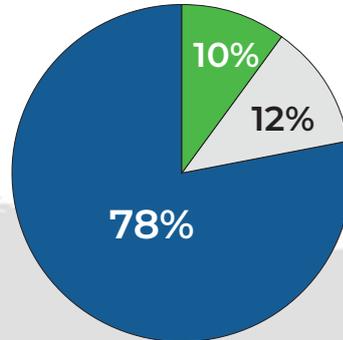
The hardening of the reinsurance market in 2022 saw the NDF contribute in sustaining and building markets in vulnerable, highly exposed regions where other global reinsurance providers were unable to participate fully. For example, our concentration of risk in Latin America and Africa in 2022 supported local insurance partners and clients when it was needed most, ensuring they maintained (and, if possible, grew) coverage for existing programs and had capacity for new and innovative pilots protecting majority poor, vulnerable and otherwise uninsured communities.





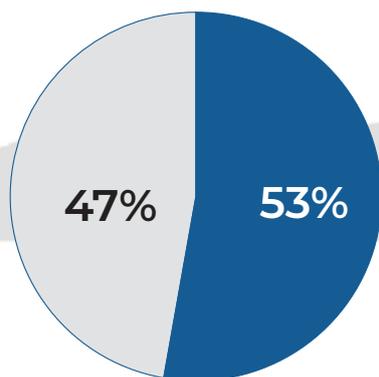
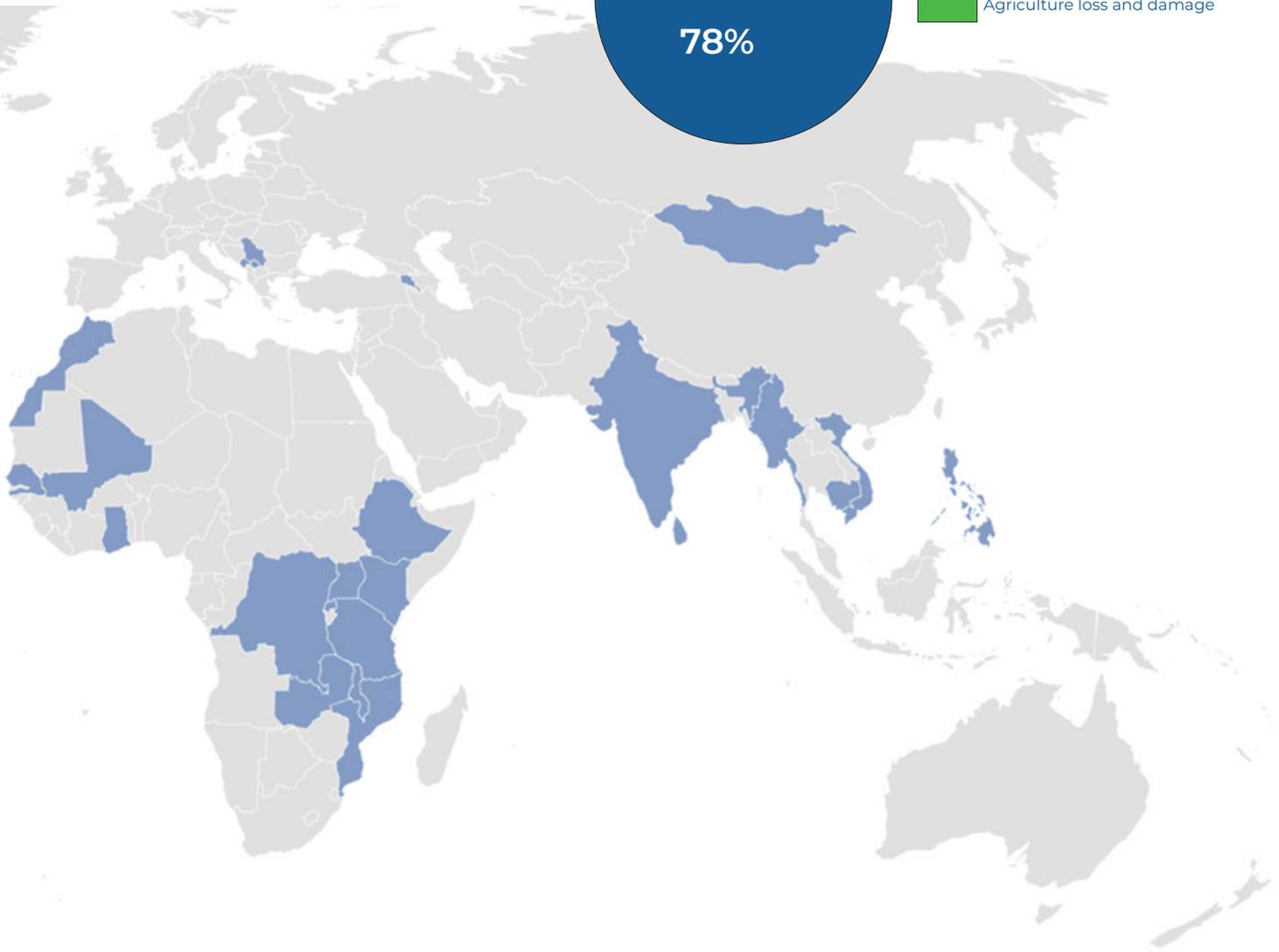
2022 portfolio capacity deployed by:

- Renewal from 2021
- New business transaction



2022 portfolio by coverage objective:

- Public sector response and recovery
- Business continuity
- Agriculture loss and damage



2022 portfolio by beneficiary status:

- Income >\$15 ppp/ day
- Poor & vulnerable

Portfolio Highlights



Agriculture

Loss of agricultural yield due to extreme weather and natural hazard risks poses a significant challenge for businesses and individuals all over the world, and parametric risk transfer offers one solution for clients to hedge their losses and build resilience. In 2022, the NDF provided risk transfer capacity to clients to enable their resilience following agriculture losses caused by a range of hazards, including the following:

CLIMBS Weather Protect Insurance Climbs General and Life Insurance Cooperative



Sector : *Agriculture*

Objective : *Cooperative lending protection*

Perils : *Tropical Cyclone windspeed and excess rain*

The Weather Protect Insurance is an excess rain and tropical cyclone wind programme offered by CLIMBS, a cooperative general and life insurer operating across the Philippines, to their network of participating cooperatives.

Using a digital policy monitoring dashboard developed by partners IBISA Network, cooperatives can log in to view their policy, visualise the parametric index and CLIMBS is able to monitor index triggers to see if there has been a payout following an event. NGO CIAT Biodiversity Alliance provides agricultural advisory services for participating cooperatives in order to provide holistic and comprehensive risk management.

The CLIMBS programme has been operating since 2021, growing from an initial 5 to over 100 participating cooperatives, representing 63,000 farmers in 42 provinces. In 2022, the product triggered for 5 events, resulting in payouts for 11 cooperatives.

The engagement and enthusiasm of partners like CLIMBS to take this product forward and to scale has been evident in the growth trajectory over the last two years. It has offered multiple opportunities for expansion in the market.





Weather Protection Programme One Acre Fund

Sector : *Agriculture*

Objective : *Farmer lending protection*

Perils : *Drought and excess rain*

One Acre Fund is a social enterprise providing smallholder farmers in Africa with financing and agriculture inputs to combat poverty and hunger. Global Parametrics has partnered with One Acre Fund since 2020.

Our Water Balance Index drought and excessive rain product provided coverage for their operations, since 2020 in Tanzania, and in 2022 scaled to include Malawi. The NDF capacity enables One Acre Fund to hedge against loss of yield and provide loan repayment forgiveness to their smallholder farmer lenders when a payout is triggered.

In 2022, Global Parametrics and One Acre Fund evaluated the product for its accuracy to conditions experienced on the ground, and piloted a new structure to capture peak drought and excessive rain events that correspond most to loss of yield during the key growing periods for staple crops.

In Tanzania and Malawi, the programme now provides protection for 174,500 smallholder farmers, of which 60% are women. It is a key example of the opportunities parametric solutions provide business and organisations whose operations and client base are dependent on stable agriculture yield for livelihood stability. It will continue to grow beyond 2022 to include One Acre Fund's operations in Rwanda in 2023.



Government of West Bengal Bangla Shasya Bima (BSB) Scheme Agriculture Insurance Company of India

Sector : *Agriculture*

Objective : *Farmer loss and damage mitigation*

Perils : *Area crop yield*

Since 2021, the NDF has provided capacity for the West Bengal BSB Scheme. The programme provides subsidized coverage for smallholder farmers in the State of West Bengal, India, against a range of perils affecting crop yield. In 2022 the NDF continued participation for the monsoon and winter crop seasons (Rabi and Kharif).



Vietnam Coffee Farmer protection Bao Minh Insurance Corporation

Sector : *Agriculture*

Objective : *Farmer loss and damage mitigation*

Perils : *Excess and lack of rainfall*

ECOM Coffee Group are the second-largest coffee trader in the world. Since 2021, GP has structured its lack of rainfall and excess rainfall product and provided coverage via the NDF for local insurance partner, Bao Minh Insurance Corporation, to protect ECOM Coffee Group's smallholder coffee farmers in Dak Lak and Lam Dong regions of Vietnam.



Business Continuity

Extreme weather and natural hazard risks create disruption and damage for businesses in exposed geographies. Parametric solutions provide clients with the ability to quickly recover lost income and additional expenses resulting from events, enabling them to continue their business operations more readily. In 2022, the NDF provided risk transfer capacity to clients to build their resilience through business continuity following a range of hazards, including the following:



African and Asia Recovery Disaster Insurance Scheme VisionFund International

Sector : *Business continuity*

Objective : *Recovery lending and risk management*

Perils : *Excess rain, Tropical Cyclone, Drought, Earthquake, Flood*

The ARDIS programme is thought to be the largest non-governmental climate-insurance programme in the world, established by GP/NDF in partnership with VisionFund International in 2018.

ARDIS increases access to finance and provides post-disaster recovery lending to rural families and smallholder farmers who participate in VisionFund's microfinance network with loans typically ranging from \$70-\$300. Payouts to MFIs are triggered by a multi-peril index covering earthquakes, tropical cyclones, drought, floods and excess rain developed and monitored by GP and supported with capital from the NDF.

In 2022, the programme celebrated 5 years of protection. In that time, the programme has scaled to 27 countries of VisionFund's microfinance operations, protecting almost 1 million active borrowers of which 67% are women. In 2022, the product triggered payouts for VisionFund's MFIs in the Philippines following Tropical Cyclone Rai, enabling recovery lending and resilience building for the members it serves.





The Mesoamerican Reef Protection Programme Banorte

Sector : *Business continuity*

Objective : *Nature-based solution for economic continuity*

Perils : *Tropical Cyclone*

The Mesoamerican Reef Protection Programme (MRPP) is an innovative nature-based solution, enabling business continuity for communities in State of Quintana Roo, Mexico, whose livelihoods are dependent on the protection of the reef.

GP has structured its product to trigger payouts based on tropical cyclone windspeed, covering a key section of the Mesoamerican Reef in the Yucatan Peninsula of Mexico.

The reef and beaches are key assets for local tourism, but are vulnerable to tropical storms and hurricanes that cause destruction and damage requiring investment for repair, and causing loss of income for those who depend on it for their livelihoods.

The NDF provides reinsurance capacity enabling speedy payouts to the Coastal Zone Management Trust that represents stakeholders from the local government, tourism and hospitality sectors that enable rapid repair to mitigate loss and damage and impact on local communities.



Climate Resilience Enhanced Debt Facility (CRED) Enabling Qapital

Sector : *Business continuity*

Objective : *Recovery lending*

Perils : *Drought, Flood*

GP/NDF launched the CRED Facility in partnership with microfinance specialist Enabling Qapital in 2021, with an innovative contingent credit and recovery lending structure to build participating MFI resilience to extreme weather events.

In 2022, the NDF continued providing risk transfer capacity to Enabling Qapital for the CRED product using GP's drought and flood indices to trigger contingent credit from Enabling Qapital's Enabling MicroFinance Fund to Cambodian microfinance institution, Chamrouen, to help nearly 2,000 active borrowers continue operating in the face of extreme weather events.



Flexible Hurricane Protection Corp-EFF

Sector : *Business continuity*

Objective : *Household income loss recovery and response*

Perils : *Tropical cyclone*

GP/NDF has been working with local partners in Dominica to develop and launch the Flexible Hurricane Protection product for communities in the face of tropical cyclone risk. The product incepted in 2021.

In 2022, the NDF continued to provide risk transfer for the product to local partner Corp-EFF. The product is structured using GP's tropical cyclone windspeed index to trigger payouts in the aftermath of a triggering event.



Public Sector

Multi-national, national and sub-national public sector agencies require pre-agreed and speedy access to finance following extreme weather and natural hazards events to ensure public safety, recovery and reconstruction. Parametric solutions provide clients with the ability to enhance their emergency preparedness and immediate post-event reconstruction efforts. In 2022, the NDF provided risk transfer capacity to clients to support their disaster risk management strategies, including the following:



Government of Senegal Pandemic Protection African Risk Capacity

Sector : *Public sector*

Objective : *Health emergency response*

Perils : *Epidemic-prone diseases*

In 2022, the NDF participated as part of a consortium of capacity providers in the world's first parametric insurance programme covering epidemic-prone diseases. The innovative programme, developed by African Risk Capacity, uses a parametric product for capturing rates of high-risk diseases, Ebola, Marburg and Meningitis, to trigger payouts to the Government of Senegal for quick response to mitigate epidemic outbreaks.

Senegal is the first African country to benefit from this product, paving the way for other members of the African Union to implement financing mechanisms for public health resilience.

The NDF participation supports the pilot phase of the product to demonstrate its broad viability as part of the solution for sovereign disaster risk management, particularly in places vulnerable to compounding health, social, economic, climate and natural hazards risks.



Caribbean Catastrophe Risk Insurance Facility (CCRIF)

Sector : *Public sector*

Objective : *Government disaster response and reconstruction*

Perils : *Tropical Cyclone, Earthquake*

In 2022, the NDF continued providing reinsurance capacity for CCRIF, a multi-country risk pool designed to limit the financial impact of catastrophic tropical cyclones and earthquakes for 19 Caribbean and 3 Central American government members. In 2022, the NDF contributed to payouts as part of CCRIF following events tropical cyclone events. The NDF has participated in CCRIF since 2021.



Quintana Roo State Government Protection Banorte

Sector : *Public sector*

Objective : *State Government disaster response and reconstruction*

Perils : *Tropical Cyclone*

In 2022, the NDF provided reinsurance capacity for the State Government of Quintana Roo, Mexico, to establish a state-wide parametric tropical cyclone solution to cover its risk as part of its public disaster risk management strategy. The product was structured using GP's tropical cyclone windspeed index, with payouts upon trigger being utilised for early reconstruction and emergency response.



Government of Mozambique Tropical Cyclone Protection Africa Speciality Risks

Sector : *Public sector*

Objective : *Government disaster response and reconstruction*

Perils: *Tropical Cyclone*

The NDF participated in the launch of a new sovereign parametric protection programme for the Government of Mozambique in 2022. Reinsurance capacity from the NDF provides capital for payouts to the government for rapid response and reconstruction following damage and destruction caused by tropical cyclones.



Government of Morocco Parametric Earthquake Solidarity Fund (FSEC) Société Centrale de Réassurance

Sector : *Public sector*

Objective : *Government disaster response and reconstruction*

Perils : *Earthquake*

Since 2020, the NDF has provided much-needed capacity via local reinsurer Société Centrale de Réassurance for the Government of Morocco's Solidarity Fund (Fond De Solidarité contre les Evènements Catastrophiques), providing financial resilience to uninsured individuals and households following catastrophic earthquakes. The NDF continued this participation in 2022.

The NDF Technical Assistance Facility



Global Parametrics



NDF Technical Assistance Facility 2022

The Natural Disaster Fund Technical Assistance Facility (TAF) was established in 2021. It aims to facilitate high impact, scalable risk transfer transactions in partnership with the NDF, GP and its clients. It is envisioned that such transactions will seed replicable solutions with broader applicability serving to deepen the risk transfer market in developing economies, protecting poor and vulnerable communities. It is by the German Government's Federal Ministry for Economic Cooperation and Development (BMZ) via KfW.

Catalyzing the market for parametric extreme weather and natural hazard insurance in developing economies poses a number of challenges.

- ✓ Awareness and enabling environments for climate, disaster risk finance and insurance (CDRFI) are crucial for implementing innovative solutions for climate resilience. In new markets where the NDF aims to operate, complex legal and regulatory environments and lower levels of awareness of products due to absence of examples in the context make deploying products and protection difficult.
- ✓ Clients and partners we aim to work may be first time users of a parametric products.
- ✓ Innovative, small scale risk transfer pilots for proof of concept in the market require clients and partners to invest precious resources without prior evidence of return on investment and viability.
- ✓ Scaling programmes from contained pilots requires upfront investment to automate systems, enhance offerings and market products for mass commercial viability
- ✓ Current parametric products and technology do not always appropriately address clients' needs for covering their risks and make sense in their operating context.

Identifying these challenges, the TAF aims to be part of the solution. It provides small grants to fund activities that combine to support product deployment and product development.



Capacity building & knowledge sharing



Risk and needs assessment



New and improved product offerings



Enabling accessibility and transparency



Generating demand with proof of concept & scale

TAF in Numbers

€3 million investment

€1.6 million allocated to clients, partners and GP

8 projects funded

5 product deployment projects

2 product development projects

1 consultancy project

Outcomes

6 low and middle countries

13 partners

5 products developed

4 risk transfer transactions

1 digital policy platform developed

Rainfall-based Landslide Product Development, Manizales, Colombia

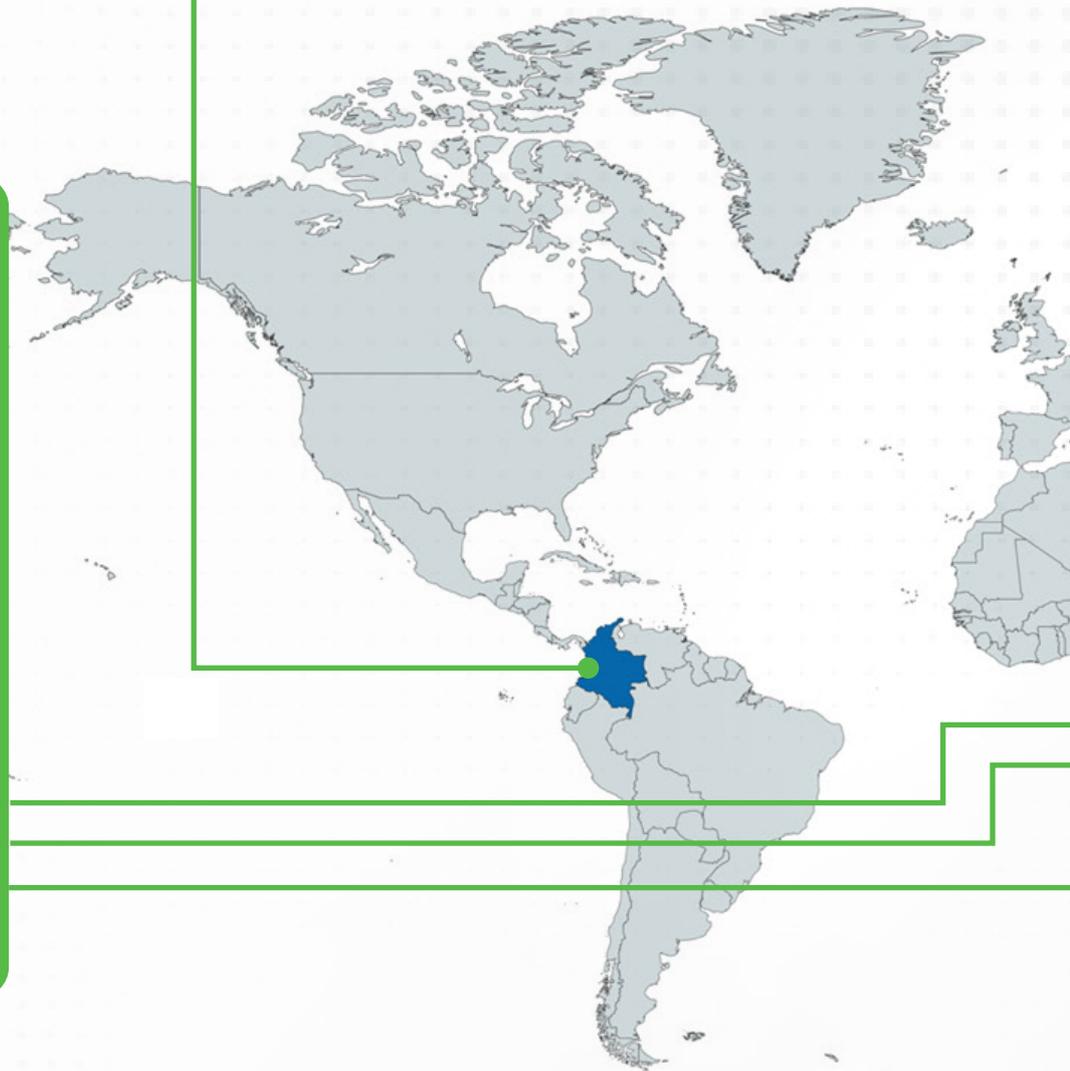
Research, design and development of a rainfall-based landslide parametric product with ERN and Ingeniar Ltda. Product designed and structured for the Municipal Government of Manizales, Colombia, with high vulnerability to landslides as a tool for post-event reconstruction.

Mahila Housing Trust Climate Risk Insurance Pilot

Research and development of an urban excess heat parametric product for Mahila Housing Trust's affiliated credit cooperatives in Gujarat, India, to provide financial protection for their women members. Developing and implementing complementary solutions, including climate risk and climate insurance education and training.

One Acre Fund Weather Protection Programme Scale

Research and evaluation of agriculture product pilot with One Acre Fund, developing improved product to capture drought and excess soil moisture during key crop seasons. Farmer crowdsourcing for risk assessment and index validation, supported by University of Columbia. Scaling products roll out to provide protection for One Acre Fund's operations in Tanzania, Malawi and Rwanda covering 1 million smallholder farmers.

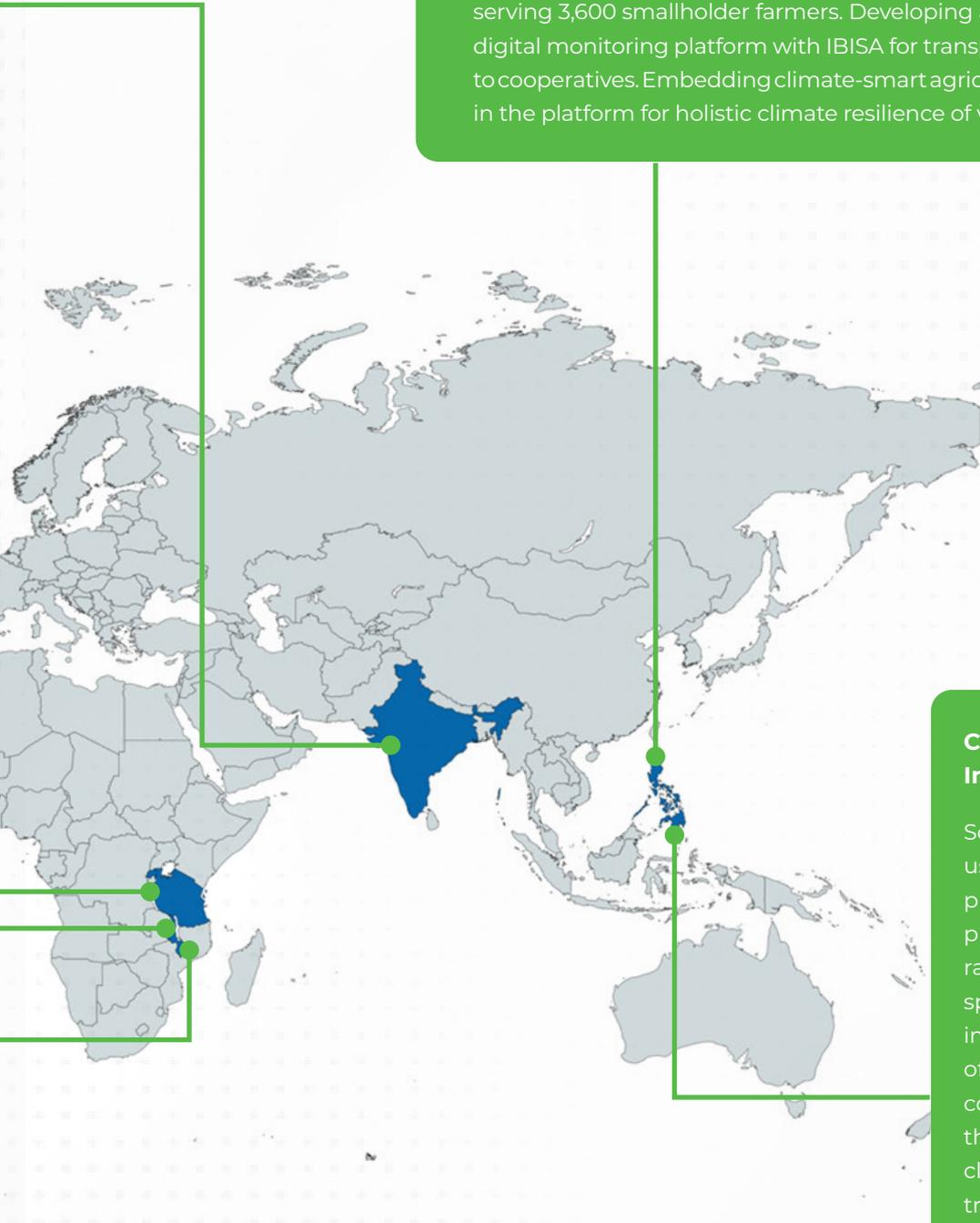


Development of a Global Forecast Tropical Cyclone Product

Research and development of a forecast tropical cyclone parametric product for anticipation action and pre-event resilience building for global partners and clients anywhere in the world.

Development of a Global Inland Flood Product

Research and development of an innovative parametric flood product, using advanced hazard maps and satellite settlement to capture rainfall-based and river flood events anywhere in the world.



CLIMBS Weather Protect Insurance Pilot

Piloting a first-of-its-kind tropical cyclone wind speed intensity parametric product in the Philippines. Working with CLIMBS Life and Non-Life General Insurance to implement GP's product for 5 farmer credit cooperatives, serving 3,600 smallholder farmers. Developing a bespoke policy and index digital monitoring platform with IBISA for transparency and accountability to cooperatives. Embedding climate-smart agriculture advice and guidance in the platform for holistic climate resilience of vulnerable farmers.

CLIMBS Weather Protect Insurance Scale

Scaling the WPI product using learnings from the pilot rollout. Providing protection from excessive rainfall as well as wind speed from tropical cyclone, improving accessibility of the IBISA platform for cooperatives, and enhancing the sales, marketing and climate-smart agriculture training. Scaling the product to reach 107 cooperatives serving 63,000 farmers in 42 provinces of the Philippines.

Development of GP's Environment, Social and Monitoring System

Research and development of a comprehensive ESMS to manage GP's approach to sustainability, with procedures, reporting requirements, and policy.

Case Study: Mahila Housing Trust Climate Risk Insurance



Identifying a Critical Need

80% of India's workforce is in the informal sector, with poor women making up 90-92% of this figure. Many use their house as a workplace and warehouse. Housing/ habitat (surroundings) are not only a form of social security but a means for economic productivity.

Climate risks such as heatwaves are mediated through the housing and habitat, but can also cause direct impact on the infrastructure, and impact the income of these workers as they cannot leave their homes during an extreme heat event. Without climate resilience and risk mitigation measures in place, the continued frequency and intensity of these events will only serve to exacerbate existing daily challenges.

Mahila Housing SEWA Trust (MHT) has been working since 1994 to enable access to basic services like water-sanitation, energy and housing to urban poor households, acting as a hybrid organization combining technical, social and research skills.

Implementing an Innovative Solution

MHT and Global Parametrics partnered with the support of TAF funding to implement the Climate Risk Insurance programme for two of their affiliated women-led credit cooperatives serving 27,000 women in three cities in Gujarat State, India.

The project has taken a holistic and person-centred approach, with MHT conducting ground-level climate hazard risk assessment that fed into GP's design and development of an excess urban heat product encompassing the aspects of heat events most directly correlating to impaired health and income. With local partner, Fields of View, MHT designed climate risk and insurance training games and communication materials for their cooperatives and members, to raise awareness in the community of CDRFI solutions where uptake of insurance is historically low. To support mitigation of heat impacts, MHT also implement complementary solutions such as cool roofing by painting women's roofs white.

The risk transfer for credit cooperatives based on the developed heat index is expected in 2023, and credit cooperatives will then pass down any payout benefits to their members. Following proof of concept, the aim is to rollout the product at scale for MHT's broader network of credit cooperatives, as well as other microfinance institutions across India.



Above: MHT and Fields of View conduct training of climate risk education game with leaders from women-led credit cooperatives, Ahmedabad, India.



Above: MHT conduct focus group discussions on socio-economic impacts of heatwaves with members of women-led credit cooperatives, Surat, India.



Above: MHT conduct focus group discussions on socio-economic impacts of heatwaves with members of women-led credit cooperatives, Ahmedabad, India.

Case Study: Development of a Global Forecast Tropical Cyclone Product



Global
Parametrics



Identifying a Critical Need

Households, communities and organisations alike can often struggle to protect themselves from the immediate impact of rapid onset events such as tropical cyclones. Vulnerability to such events, and so their ultimate impact, is only exacerbated in areas with high levels of poverty and a lack of resources for effectively managing the risk.

Anticipatory Action/ Forecast-based Finance (AA/ FbF) systematically links early warnings (forecasts) to actions designed to protect households and their assets ahead of a disaster. Acting before a disaster is crucial – it can safeguard lives and livelihoods, build resilience to future shocks and ease pressure on strained humanitarian resources.

Providing liquidity pre-event allows stakeholders the autonomy to effectively protect and prepare themselves, ultimately reducing the event impact. AA/ FbF is also a cheaper way to provide support than through humanitarian aid mechanisms. The Red Cross estimates that for each dollar spent on disaster preparedness, an average of four dollars is saved on disaster response and recovery – preparedness reduces costs.

Resilience to these events is crucial, but specific challenges include: a lack of scalable and reliable methods to predict the local impacts of rapid onset disasters, lack of cost-effective and timely methods to understand risk, and a lack of suitable financing mechanisms to offset the impacts from event occurrence.

Implementing an Innovative Solution

Global Parametrics, through key partnerships with Oxfam, Plan International and other local partners as part of the B-READY programme in the Philippines, has created a solid evidence base for a probabilistic forecast-based index for tropical cyclone.

The B-ready programme utilised GP's forecast tropical cyclone wind index to notify local partners in the Philippines of an anticipated tropical cyclone, enabling them to make cash transfers to vulnerable individuals with pre-paid cards to fund anticipatory resilience measures. This index has been recognised by the Salcedo Legislative Council as the basis for pre-emptive disaster response and has gained broad national and international interest.

Taking these learnings, and understanding the market need, Global Parametrics received grant funding from the TAF to develop a quality, reliable forecast tropical cyclone parametric insurance product and structure with global application. Through research and synthesis of global datasets, the team designed a market-ready product and structure for a forecast tropical cyclone cat-in-box that can be priced for any geography in the world. Market scoping determined application through distinct risk transfer frameworks for distribution across public, humanitarian, and commercial sectors, with rollout expected in 2023.

Partnership Successes in 2022



Global
Parametrics



Alongside our work through the NDF and TAF, in 2022 Global Parametrics continued to engage in other partnerships focussed on delivering impact and climate resilience for vulnerable communities.

Index-Based Flood Insurance in Nepal

Since 2021, we have participated in the ISF-funded 'Index-Based Flood Insurance' project. Implementation of the IBFI project is led by Practical Action, Sikhar Insurance company and Stonestep, with funding from InsuResilience Solutions Fund (ISF) and Zurich Flood Resilience Alliance (ZFRA) through Z Zurich Foundation.

In 2022, the project piloted a new flood-based insurance product for smallholder farmers through local farmer cooperatives in flood-prone areas of the Karnali region, Nepal. The riverine communities located downstream of the large Karnali River host the majority of the poor, marginalized, and indigenous population, who are particularly exposed and vulnerable to floods. Despite the immense risk to loss of life and property, only limited investments have been made in disaster risk reduction.

As part of the project, we were involved in the design of an index and continue to collaborate with partners on the opportunities for scaling to support more vulnerable communities. The pilot risk transfer in 2022 protected smallholder farmers through 11 cooperatives and paid out more than \$28,000 to nearly 1000 smallholder farmers following excessive flooding events, demonstrating its value and broad market need.

Strengthening Urban Preparedness through Pre-emptive Action in the Philippines

In August 2022, our Impact and ESG Manager Wendy Smith joined long-term partners, Oxfam Philippines, to demonstrate the use of the Global Flood Awareness System (GLOFAS) to 52 officials and community leaders from flood prone villages in the cities of Kidapawan and Cotabato.

During the session, city disaster risk reduction management officials and village leaders learned how to use the GLOFAS system to monitor potential flooding in their area. The training contributed to the EU ECHO-funded 'Strengthening Urban Preparedness through Pre-emptive Action' (SUPPA).

Global Parametrics Impact and ESG Manager, Wendy Smith, demonstrates the use of the GLOFAS system as part of SUPPA project, Cotabato, Philippines.



We are incredibly proud of the way our colleagues, clients and partners came together in 2022 to create meaningful impact – an important step in laying firm foundations to build global climate resilience. The work we have done this year will allow us to increase the scale, depth and reach of the impact we have in 2023 and beyond, together; there is still much more to be done.



Legal Notices and Disclaimers

This annual impact report is provided by Global Parametrics Limited (GPL), a company incorporated in England and Wales for informative purposes only and does not constitute an offer, invitation or inducement to subscribe for shares or any other participation in GPL or in any other member of the GP Group of Companies or in NDF (UK) LP or in NDF Deutschland GmbH & Co. KG (together the Natural Disaster Fund).

Neither this annual impact report nor any part of it nor any information provided in connection herewith (the Materials) shall constitute, nor shall be read as constituting, an offer, invitation or inducement to buy or sell or subscribe for any investment or otherwise to engage in investment activity of any nature. Further, the Materials do not constitute financial or investment advice of any nature and, in receiving the Materials, each recipient acknowledges that neither GPL nor any of its affiliates is acting as a financial advisor in connection with the matters constituted by, and contemplated by, the Materials.

GPL is an appointed representative of Mirabella Advisers LLP, which is authorised and regulated by the Financial Conduct Authority.

Mirabella Financial Services LLP, a firm authorised and regulated by the Financial Conduct Authority, acts as the Manager to the Natural Disaster Fund and has seconded the investment team at Global Parametrics Limited to manage the Natural Disaster Fund. Any references made in this document to GPL (or to any other member of the GP Group of Companies) being the "Manager" or "Advisor" of the Natural Disaster Fund should be interpreted as Mirabella Financial Services LLP acting as the Manager to the Natural Disaster Fund and having seconded to it the portfolio management team at GPL to manage the Natural Disaster Fund.

The Natural Disaster Fund is currently two separate managed accounts rather than a collective investment scheme or alternative investment fund. By marketing the Natural Disaster Fund to potential investors, the Natural Disaster Fund may be in the process of being established as an unregulated collective investment scheme (UCIS). The promotion of a UCIS either within the UK or from the UK is severely restricted by statute. Consequently, the

Materials are only made available to professional clients and eligible counterparties as defined by the FCA and also to persons of a kind to whom the Natural Disaster Fund may lawfully be promoted by an authorised person by virtue of Section 238(5) of the Financial Services and Markets Act 2000, the Financial Services and Markets Act 2000 (Exemption) Order 2001 and COBS 4.12.4R. Past performance is not indicative of future results. The value of any investment in the Natural Disaster Fund may go down as well as up, and an investor may not receive upon redemption the full amount of its original investment.

Without prejudice to the generality of the above, any financial projections and other information set out in the Materials are based upon a range of assumptions and expectations (including, without limitation, as to results of operations, revenue, financial condition, liquidity, prospects, growth, strategies, products and the markets in which GPL and any other member of the GP Group of Companies operates) which GPL considers, in its absolute discretion, to be fair and reasonable at the date upon which they were prepared and do not constitute (or give rise to), and shall not be read as constituting (or giving rise to), any representation, warranty, guarantee or commitment as to the future performance of GPL or of any other member of the GP Group of Companies or of the Natural Disaster Fund as to the achievement or reasonableness of any returns, projections, estimates, valuations or prospects contained in any of the Materials or in any other written or oral information of the future performance of GPL or of any other member of the GP Group of Companies or of the Natural Disaster Fund. There are a wide range of factors that could affect the future performance of GPL or of any other member of the GP Group of Companies or of the Natural Disaster Fund many of which are beyond the control of GPL's management. The actual financial performance of GPL and of any other member of the GP Group of Companies and of the Natural Disaster Fund could differ materially from the financial projections and other information set out in the Materials or in any other written or oral information.

For the avoidance of doubt, no securities issued by Global Parametrics are, or will be, registered under the 1933 US Securities Act.



Global
Parametrics



1 Lime Street, London, EC3M 7HA



+44(0)20 3950-3544



info@globalparametrics.com



www.globalparametrics.com