

Achievements in ACP Countries by

GLOBAL
INDEX
INSURANCE
FACILITY

Phase 1 (2010–2015)





Today, Global Index Insurance Facility's work has directly impacted over 5 million people who have benefited from increased access to new index insurance products.

Acknowledgement of Collaboration with Donors

According to a recent report published by the United Nations Office for Disaster Risk Reduction, natural disasters have cost the global economy \$2.5 trillion since 2000 and have adversely affected millions of people. The Food and Agriculture Organization estimates that 1 in 8 people on the planet go hungry every day. As climate change threatens the productivity and reliability of agriculture, it is critical that we recognize the risks and take action to mitigate the developmental challenges of agricultural and food security.

As discussions of agriculture, climate change and related risk-management tools intensify, the role of the Finance and Markets Global Practice—one of the 19 Global Practices of the World Bank Group—has become more important and relevant than ever. Not only do we support our clients and shareholders to develop financial systems that are deep, diversified, inclusive, efficient and stable, we also support innovative financial solutions that help combat and mitigate risks associated with climate change.

The particular role of insurance is very important for the work of the Finance and Markets Global Practice because it helps us work toward achieving the World Bank Group's twin goals of ending extreme poverty and promoting shared prosperity. First, it builds deep and diversified financial markets, of which the insurance sector is a major component. Second, it is an effective way to protect the most vulnerable and to promote inclusiveness. As we know from experience, climate change and natural disasters affect the poorest most heavily and, as a result, disaster risk insurance and agricultural insurance have become significant tools to protect the livelihoods of the poor.

On this front, index insurance is one of many instruments that we have in our toolkit that help farmers and micro-entrepreneurs gain better access to finance and manage financial losses arising from more frequent and more severe weather events due to climate change. With the combination of financial, knowledge and advisory services, we are proud to support the development and growth of local markets that enable access to finance and build index-insurance markets through the Global Index Insurance Facility (GIIF). Not only has the program helped more than 1.3 million farmers and micro-entrepreneurs in the Sub-Saharan Africa, Latin America and the Caribbean, and the Asia-Pacific regions gain valuable access to credit and finance, and thus be able to repay their loans after a weather shock, its work has also supported additional development objectives of the World Bank Group, such as empowering women farmers to make financial decisions in Sri Lanka and enabling better financial guarantees at the regional level in the CFA franc zone (the CIMA region). The program has also generated a great deal of enthusiasm and willingness to contribute within the institution, among our donors, and among international and regional development partners like ILO, GIZ/BMZ, USAID, IADB, BOAD, to name just a few.

On behalf of the World Bank Group, and of the GIIF Program in particular, I would like to extend my gratitude to the GIIF's donors including the ACP Secretariat/the EU, the Government of the Netherlands and the Government of Japan. Without this support, GIIF's work of building farmers' financial resilience worldwide, and of providing them with a means to access finance and credit, would not have been possible. We highly value your trust, and we are committed to working closely with you to ensure that you receive full visibility and recognition for your support.

Gloria Grandolini
Senior Director for Finance and Markets Global Practice
World Bank Group

Executive Summary

This report was prepared for the donors of the Global Index Insurance Facility (GIIF) Program, mainly, the African, Caribbean and Pacific (ACP) Group of States/the European Union, the Netherlands Ministry of Foreign Affairs, and the Japan Ministry of Finance to keep them updated on the program's achievements and on the progress of project implementation. These achievements and lessons learned are the result of joint efforts, hard work and commitment with our implementing partners on the ground. We are grateful to all of these partners, and the enclosed report aims to clearly highlight their role and details of their projects.

Prepared collaboratively by the GIIF team across the globe, this report also offers a snapshot of past and future activities, including GIIF's roles in capacity-building, outreach and communications efforts. The team gratefully acknowledges our partners and stakeholders for their valuable contribution of data and information.

As an example of the synergies between the public and private sectors, the GIIF Program has been working to deliver access to finance to the most vulnerable since 2009 by supporting the development and growth of local markets for agricultural and parametric insurance in developing countries, mainly in the Sub-Saharan Africa, Latin America and the Caribbean, and Asia-Pacific regions. Because the world is experiencing increasing risks associated with climate change and natural disasters, it is our priority to work to mitigate these risks before they move individuals back into the poverty cycle and endanger their economic and social survival. Against this backdrop, we look forward to continued collaboration with our donors, and we remain committed to provide access to finance to our clients in the years to come.

Fatou Assah
GIIF Program Manager
Finance & Markets, Global Practice
World Bank Group

Table of Acronyms

| | |
|------------------|---|
| ACP | The African, Caribbean, and Pacific Group of States |
| AKI | Association of Kenyan Insurers |
| AMAB | Assurance Mutuelle Agricole du Benin |
| ANACIM | Agence Nationale de l'Aviation Civile et de la Météorologie (National Agency for Civil Aviation and Meteorology of Senegal) |
| ASAL | Arid and Semi-Arid land |
| ASPRODEB | Association Sénégalaise pour la Promotion du Développement par la Base (Senegalese Association for Development Promotion at the base) |
| CARD | Center for Agriculture and Rural Development Inc. (The Philippines) |
| CCRIF | Caribbean Catastrophe Risk Insurance Facility |
| CFA | Communauté Financière Africaine (Financial Community of Africa) |
| CIMA | Conférence Interafricaine des Marchés d'Assurances |
| CIRAD | Centre de Coopération Internationale en Recherche Agronomique pour le Développement |
| CNAAS | Compagnie Nationale d'Assurance Agricole du Sénégal (National Agricultural Insurance Company of Senegal) |
| CoP | Community of Practice |
| COPROCUMA | La Coopérative des Producteurs et Cultivateurs du Mali |
| CPMI | CARD Pioneer Microinsurance (The Philippines) |
| EU | European Union |
| ENSO | El Niño Southern Oscillation |
| EQII | Earthquake Index Insurance |
| FANAF | Fédération des Sociétés d'Assurances de Droit National Africaines |
| FECECAM | La Faïtière des Caisses d'Epargne et de Crédit Agricole Mutuel du Bénin |
| GIIF | Global Index Insurance Facility |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation) |
| HTI | Hurricane Trajectory Index |
| IAM | Instituto do Algodão de Moçambique (Cotton Institute of Mozambique) |
| IBLI | Index Based Livestock Insurance |
| ICP | Insurance Core Principles |
| IFC | International Finance Corporation |
| ILO | International Labour Organization |
| ILRI | International Livestock Research Institute |
| IRA | Insurance Regulatory Authority |
| ISRA | Institut Sénégalais de Recherches Agricoles (Senegalese Institution of Agricultural Research) |
| MFI | Microfinance Institution |
| MI | Microinsurance |
| MiCRO | Microinsurance Catastrophe Risk Organization |
| MoU | Memorandum of Understanding |
| NAIC | Nigerian Agricultural Insurance Corporation |

Table of Acronyms

| | |
|--------------|--|
| NDVI | Normalized Difference Vegetative Indexes |
| NGO | Non-Governmental Organization |
| PG | PlaNet Guarantee |
| PNG | Papua New Guinea |
| PPP | Public-Private Partnership |
| RTWG | Risk Transfer Working Group |
| SACCO | Savings and Credit Cooperatives |
| SICL | Sanasa Insurance Company Ltd. |
| TSU | Technical Support Unit |
| UN | United Nations |
| WB | World Bank |
| WBG | World Bank Group |
| WRMF | The Weather Risk Management Facility |
| ZNFU | Zambia National Farmers Union |

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Introduction

According to a recent UN Office for Disaster Risk Reduction report, natural disasters have cost the global economy \$2.5 trillion since 2000 and affected millions of people. The Food and Agriculture Organization of the United Nations estimates that 870 million people go hungry every day. As climate change risks increase, affecting the productivity and reliability of agriculture, some experts suggest that another 100 million to 200 million people could be at risk of hunger by 2050.

The Global Index Insurance Facility (GIIF) was created in 2009 to respond to the dire global problems, which are being exacerbated by climate change.

As a multi-donor trust fund financed by the ACP Secretariat/European Union, Japan and the Netherlands, and managed by the World Bank Group's Finance and Markets Global Practice, GIIF works to support the development and growth of local markets for indexed/catastrophic insurance in developing countries, primarily in Sub-Saharan Africa, Latin America and the Caribbean, and Asia Pacific, as an instrument to provide access to financial services for smallholder farmers. GIIF's objective is to expand the use of index insurance as a risk management tool in agriculture production, food security, and disaster risk reduction, because it helps farmers and households reduce their risks and protect their assets and livelihoods.



Climate change is one of the biggest risks facing the world today. If not tackled early, the consequences can adversely affect agricultural productivity, increase the incidence of diseases, and lead to water and food security problems, as well as economic instability.

GIIF Strategy

GIIF's strategy is to build sustainable index insurance markets and promote innovative insurance solutions as a means to provide access to financial services. This strategy necessitates a multi-pronged approach which includes:

1) Financial Education: Public education and media promotion on index insurance for farmers, small businesses, MFIs, banks, distributors, and other clients as index insurance markets are still new and not well understood;

2) Capacity Building and Subsidies: Grants to research institutions, brokers, and NGOs to support training of local insurers and financial institutions on the design and distribution of index insurance policies, products, and claims process as well as to conduct feasibility studies;

3) Technical Advice on Products and Pricing: Advisory services from GIIF technical specialists and partners to design and develop appropriate index insurance products that meet and stimulate demand for insurance;

4) Public Policy Dialogue and Regulatory Environment Facilitation: Support the strengthening of legal, regulatory, and supervisory systems related to index insurance at both national and regional levels and the establishment of the pre-conditions necessary to launch and regulate agricultural index-based insurance products, with proper fiscal incentives and regulatory tools. It is essential to employ the correct mechanism during each stage of the development of the insurance market, creating the right incentives that increase demand for insurance while at the same time addressing market failures.

Strategy Highlight

GIIF has been providing legal and regulatory assistance to Kenya's Insurance Regulatory Authority (IRA) so as to address overly restrictive regulations that are considered constraints to the development of microinsurance and index insurance markets. GIIF also participated in the drafting of the new Insurance Act. The new insurance law (bill 2015) was completed and is currently before the Kenyan Parliament. Following the completion of the Insurance Act, GIIF supported the authority in the development of a new legal and regulatory framework for microinsurance (MI) and index based insurance (II). Both MI and II regulations were drafted and are awaiting gazettelement by the Minister.

31

Countries with GIIF Projects
including policy and regulatory work

1.3m

Number of farmers, pastoralists, and
microentrepreneurs benefited from GIIF

What Is Index Insurance?

Index insurance is a relatively new but innovative approach to insurance provision that pays out benefits on the basis of a predetermined index (e.g., rainfall level) for loss of assets and investments, primarily working capital, resulting from weather and catastrophic events, without requiring the traditional services of insurance claims assessors. Before the start of the insurance period a statistical index is developed which measures deviations from normal for parameters such as:

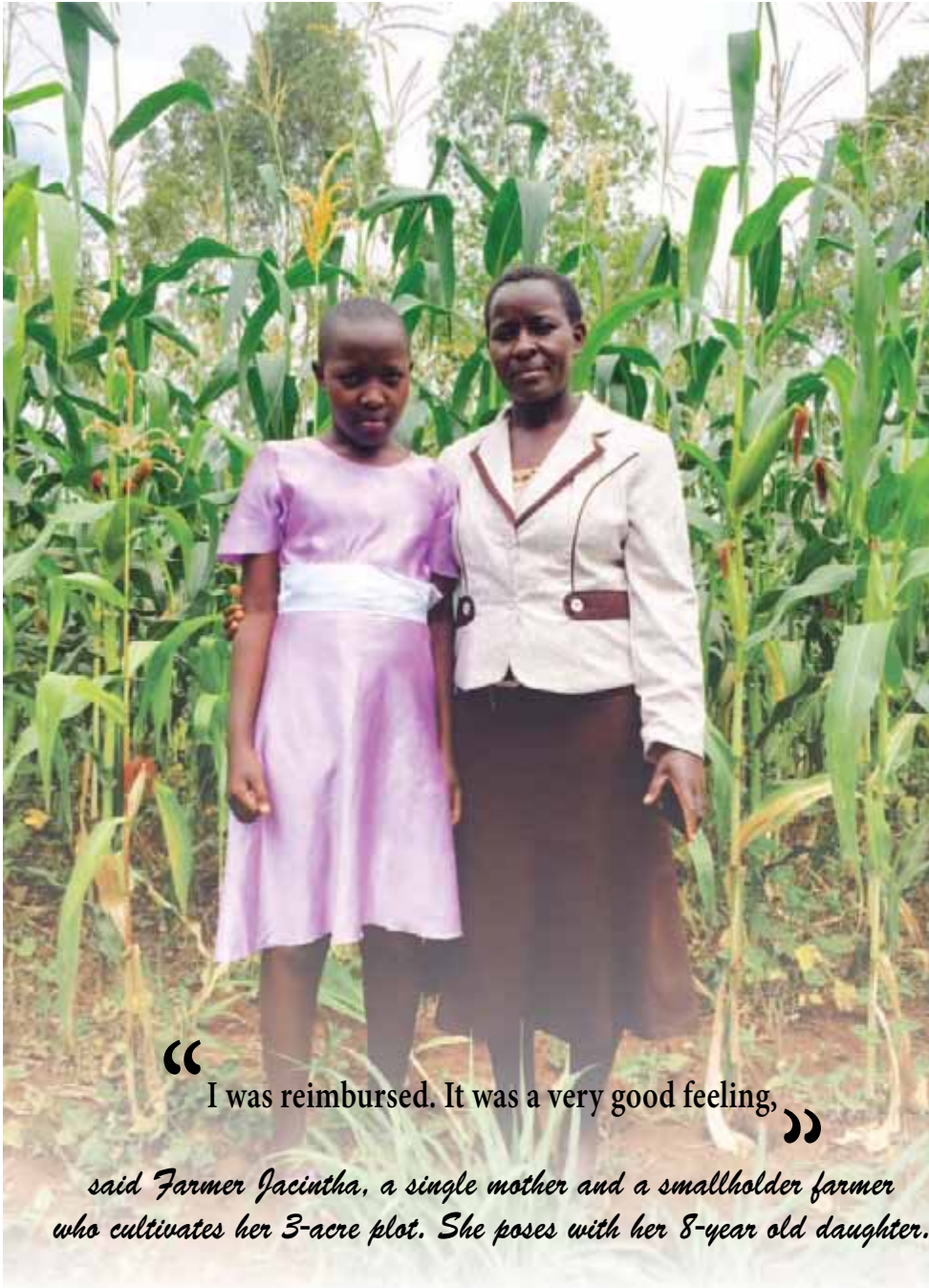
- * Rainfall
- * Temperature
- * Earthquake magnitude
- * Wind speed
- * Crop yield
- * Livestock mortality rates

Index insurance can cover risks experienced at various levels:

- * Micro-level index insurance covers individuals and has been implemented in countries like Kenya and Haiti.
- * Meso-level index insurance covers “risk aggregators” such as banks, microfinance institutions, agribusinesses or national export companies and has been promoted in countries like the Dominican Republic with the National Federation of Cocoa Growers.
- * Macro-level index insurance covers contingent liabilities that the Government might face in case of a disaster or a weather-related event, and has been promoted in countries like Uruguay to protect the Federal and/or Provincial budgets in years of catastrophe.

\$148m
Total Insurance Portfolio (cumulative)

“
Insurance is important for development because uninsured losses lock vulnerable populations in a vicious cycle of destitution. As it provides access to finance for the vulnerable, insurance is an important element to poverty alleviation. Index insurance can help stabilize income for small businesses and farmers when crops are adversely affected by weather, thereby improving livelihoods, assets, and long-term risk management for the world’s 2.5 billion smallholder farmers. Unfortunately, agriculture insurance and disaster insurance are either unavailable or prohibitively expensive in many developing countries.”



“ I was reimbursed. It was a very good feeling, ”

said Farmer Jacintha, a single mother and a smallholder farmer who cultivates her 3-acre plot. She poses with her 8-year old daughter.



Country Profiles

GIIF has had operations in 31 countries worldwide, mostly in Sub-Saharan Africa, Latin America and the Caribbean, and Asia Pacific. 25 of which are members of the ACP Group

East and Southern Africa



Microinsurance coverage in Africa has grown tremendously over the past several years. As of 2011, microinsurance products are estimated to cover over 44 million people (lives and properties) in 39 African countries—just over 4% of the continent’s population. The market remains dominated by life coverage in Southern and East Africa while rising in West Africa due to growth in Nigeria and Ghana and to the great number of people covered by health insurance.

In East and Southern Africa, GIIF has funded the private sector implementing “broker” partners to build index insurance markets in five countries: Kenya, Rwanda, Tanzania, Zambia, and Mozambique; and has worked on regulatory issues with governments and regulatory authorities of Kenya and Uganda.

Kenya, Rwanda, Tanzania

In Kenya, Rwanda, and Tanzania, where more than 96% of agricultural land is rain-fed and vulnerable to drought and erratic rain, mitigating weather-related risks for smallholder farmers is an important tool for unlocking credit. At the moment, GIIF has an active project in these countries with **ACRE Africa** (formerly the Kilimo Salama project of the Syngenta Foundation

for Sustainable Agriculture)—the largest private sector index-based insurance program in Kenya and Africa.



ACRE Africa

Project Profile

Insurers: UAP Insurance (Kenya), APA Insurance (Kenya), SORAS Insurance (Rwanda), UAP Insurance Tanzania Ltd (Tanzania)

Reinsurers: Swiss Re, Africa Re

Delivery Channels: Seed distribution linked to a mobile network operator’s location service, agribusinesses with out-growers or contracted farmers, lending institutions and savings and credit cooperatives (SACCOs) providing input loans, and medium scale professional farmers

Products: Weather station- and satellite-based weather index, area yield index, hybrid weather index and MPCl, and dairy livestock insurance

Insured Crops/Livestock: Maize, beans, wheat, sorghum, coffee, potatoes, and dairy cows

Insured Perils: Drought, excess rain and storms, and risks associated with pregnancy losses for calving cows

GIIF Grant Period: 2011–2012 and 2013–2016

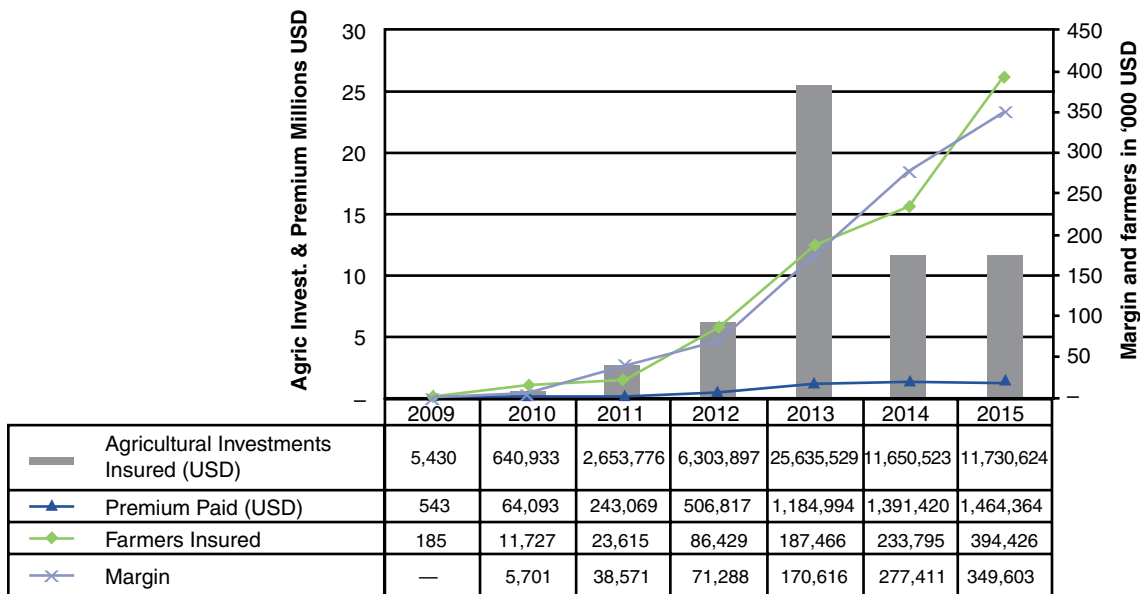
The current project has the following objectives:

- ✱ To expand access to index insurance in at least three East African countries;
- ✱ To expand insurance offerings by developing additional products, in particular remote sensing and satellite-based products;
- ✱ To distribute products to farmer aggregators such as agri-finance providers, agribusinesses, and farmer cooperatives as well as individual farmers;
- ✱ To investigate index insurance viability and affordability in Tanzania through a feasibility study. The findings will serve as a roadmap for ACRE’s entry into Tanzania’s agricultural insurance sector.

ACRE provided insurance products to 394,426 farmers in 2015, resulting in significant business growth. They also increased the capacity of local markets to provide index insurance by providing trainings to more than 60 industry stakeholder organizations.

ACRE's innovative Replanting Guarantee provides coverage against the failure of rains during the critical germination period for maize. When the rains fail after an insured farmer has planted, the insurance provides a payout so that the he or she can repurchase and replant the seed in the same season.

Overall Performance 2009–2015



One of the unique elements of the project is the usage of mobile technologies to provide insurance services to smallholder farmers. Farmers can “try out insurance” by insuring as little as one bag of seed. Insuring one acre of maize against drought costs a farmer \approx 37 USD, or 10% of harvest value. Any payout is transferred to the farmer’s mobile phone wallet at the end of the season.

Result Story: The Success of ACRE's "Kilimo Salama" Product in Kenya

"Kilimo Salama" means safe farming in Swahili

In 2015, ACRE Africa provided insurance products for 394,426 farmers in Kenya, Rwanda and Tanzania, insuring a value of \$11.7 million. The key to success has been offering a holistic solution to mitigate weather risks, not just insurance. ACRE's understanding of agricultural risk enables them to develop customized insurance products using mobile technology, bundled with agricultural advisory services, weather data, local access to quality inputs, and input credit. Their products have allowed credit institutions to enter agricultural lending by mitigating weather-related repayment risk.

ACRE's team of specialists models crop risks, develops crop indices, manages climate data, develops insurance products, educates farmers, and creates distribution channels for the insurance. A major success factor for ACRE has been this knowledge hub of experts located in Nairobi, Kenya.

Nevertheless, the success is not without any challenges. The differing insurance regulatory environment in each country presents a challenge for setting up index insurance markets. Laws and regulations on the role of agricultural insurance service providers and allowable fee percentages vary by country. New partnerships need to be set up in each country, including government institutions, farmer aggregators, and insurance companies who carry part of the risk.

The greatest barrier to expansion is access to reliable long-term data on which to base agricultural insurance

indices. For index insurance to be affordable and accurate, 10–20 years of historical rainfall or yield data is required. Collecting, verifying, and analyzing this data is the most time-consuming process in product development. Where such data is not available, ACRE is investing in cutting edge satellite data and testing analysis techniques to generate the most accurate proxy for the farmer experience.



Kilimo Salama won a 2012 Financial Times/ IFC Sustainable Finance Award in the "Technology in Sustainable Finance" category.

The winners were announced at the Sustainable Finance Awards Dinner in London on June 14, 2012. The FT/IFC Sustainable Finance Awards are the major global awards for environmentally and socially responsible banking and investment.

In addition to the Kilimo Salama project, GIFF has multiple separate activities in Kenya and Rwanda

Kenya

International Livestock Research Institute (ILRI)

Livestock insurance is critical in drought-prone countries like Kenya. In 2011, Kenya suffered one of the worst droughts in its history which killed up to 30% of the country's livestock in some of the arid and semi-arid lands (ASALs) in Northern Kenya. The Government of Kenya (2000) indicates that 60% of Kenya's livestock are found in the pastoralist land, valued at approximately \$6 billion, with an annual milk value of between \$67–\$107 million.

Project Profile

Partners: APA Insurance (insurer); Africa Re, Swiss Re (reinsurer); community leaders (delivery channel)

Products: Livestock index insurance (camels, cattle, goats, and sheep)

Insured Perils: Drought

GIIF Grant Period: October 2010–June 2013

GIIF worked with the International Livestock Research Institute (ILRI) in Kenya from October 2010 to June 2013 to assist a project with premium subsidy for the initial uptake of the Index-based livestock insurance (IBLI) products. The target clients were individual pastoralists, both large and small scale. Since the pastoral livestock depends on the pastures as the only source of food, an index-based livestock insurance that monitors the forage availability through satellites and relates this to livestock deaths was picked as the best option. The support from GIFF was aimed to enable to maintain the contract at a reasonable price so that farmers in the Marsabit region can afford insurance.

The project provided the best practices in satellite-based livestock insurance. At project close in June 2013, more than 3,600 contracts had been sold. Since project close, the Government of Kenya has based its large scale livestock insurance program on the IBLI product developed by ILRI.

Insurance Regulatory Authority (IRA) of Kenya

While GIFF has promoted private sector approaches in Kenya and helped thousands of farmers get access to index insurance, the development of index-insurance

is still facing several legal and regulatory constraints. For this reason, the Insurance Regulatory Authority (IRA) of Kenya requested financial, technical, and human resources assistance from GIFF for a legal and regulatory review as well as assistance in drafting a new legal and regulatory framework for microinsurance and index-insurance. IRA expressed an urgent need in its technical capacity and in the promotion of consumer awareness and insurance understanding.

GIIF has been providing legal and regulatory assistance to IRA so as to address overly restrictive regulations that are considered constraints to the development of microinsurance and index insurance markets. GIFF also participated in the drafting of the new Insurance Act. The new insurance law (bill 2015) was completed and is currently before the Kenyan Parliament. Following the completion of the Insurance Act, GIFF supported the authority in the development of a new legal and regulatory framework for microinsurance (MI) and index based insurance (II). Both MI and II regulations were drafted and are awaiting gazettelement by the Minister.

Currently, the GIFF WBG team is discussing possible partnerships with Strathmore University and the University of Nairobi in the area of a multi-parameter index insurance research project and a training course on actuarial techniques for insurance industry professionals in Africa.



ILRI representatives play a game to illustrate insurance products to Maasai herders in Kenya. In 2011, Kenya suffered one of the worst droughts in its history which killed up to 30% of the country's livestock in some areas of Northern Kenya.

Mozambique

In Mozambique, agriculture accounts for approximately 32% of GDP and involves over 81% of the population. Yet, only a fraction of Mozambique's potentially arable land is currently under cultivation. This lack of arable land usage is in large part due to risk aversion on the part of farmers and financial institutions since natural hazards such as droughts and floods regularly affect agricultural production.

Up until recently, no market for agriculture insurance products existed for smallholder farmers in Mozambique leaving poor farmers in the country highly exposed to natural perils. This hinders their access to third-party capital, discourages the use of new farming techniques/technologies and overall hampers the ability of smallholders to exit poverty. As a direct result of an IFC GIIF Local Capacity Building grant awarded to the firm in 2011, Guy Carpenter & Co. LLC—in conjunction with the Asia Risk Centre Inc., Hollard Mozambique, and EMOSE—designed, developed, and deployed two agriculture weather index insurance pilots in Mozambique in late 2012. The index-based insurance products covered maize farmers in the district of Chimoio and cotton production in the districts of Lalaua and Monapo.



Project Profile

Partners: Hollard Mozambique, EMOSE (insurers); Swiss Re (reinsurers); Cotton Institute of Mozambique, AgDevCo (delivery channels)

Products: Weather index insurance

Insured Crops/Livestock: Maize, cotton

Insured Perils: Drought, temperature

GIIF Grant Period: February 2011–June 2013

The index insurance product was distinguished by several unique features, including its use of a

“portfolio pricing” model where the sum insured in a given region forms the basis for risk calculation. Compared to the alternative where each individual area is priced separately, this method can result in lower premium costs.

The index insurance scheme was supported by close public-private collaboration which is critical when setting up new markets. Two agribusiness firms, Olam and SANAM, distributed the product to their cotton farmers. Two insurance companies, Hollard and EMOSE, underwrote the policies, and the Cotton Institute of Mozambique (IAM) coordinated this successful public-private partnership. In 2013, index insurance products covered 43,000 farmers in Mozambique.

Uganda

With the amendment of the Insurance Act in 2011, the IRA of Uganda has been in charge of the regulation of microinsurance. One of the main products considered under this business is a microinsurance product for farmers which would enhance their access to credit.

Following the review of the Ugandan Insurance Act, it has been found that the Insurance Act did not include any provisions that permit microinsurance and index-based insurance specifically. In cooperation with GIZ, the World Bank team engaged in the development of a wider framework for MI, and has completed a comprehensive review of the old insurance act's compliance with the ICP and presented it to the IRA. This has led to a request from the IRA to draft a completely new Insurance Act with specific provisions on agricultural insurance. As a final step, a new insurance act was drafted permitting index insurance regulations to be issued. This provision will allow the marketing and distribution of suitable products for crop and livestock insurance.

Zambia

From 2013–2014, GIIF provided a capacity building grant to MicroEnsure LLC for the launch of an index insurance business line in Zambia. MicroEnsure and the local insurers Mayfair Insurance Company Zambia Limited and Focus General Insurance Limited demonstrated the effective use of a new distribution strategy to deliver sustainable premium volumes by working with select aggregators (NWK Agri-services, Zambia National Farmers Union (ZNFU), and Pioneer Seed) with a clear business purpose for offering insurance. For example, ZNFU and Mayfair offered

insurance to farmers participating in its Lima Credit Scheme in order to reduce ZNFU's loan exposure among maize farmers and to increase ZNFU's member outreach. In the final year of the project, MicroEnsure, Mayfair, and Focus provided insurance coverage for 6,000 maize and cotton farmers.

In 2016, GIFF provided grants to both Mayfair and Focus for the scale up of their index insurance offering. Expansion in 2016 has been impressive

to date, with 58,900 maize and cotton farmers insured for the 2015/16 season. The insurers have also showed further innovation in distribution. For example, Mayfair worked with ZNFU to successfully introduce an index product bundled with the Government of Zambia's new e-Voucher based fertilizer subsidy program. The product insures the value of the input voucher provided by the government.



There are several challenges associated with building sustainable and scalable insurance markets in developing countries. These include uneven population distribution, poor infrastructure and a lack of reliable data and distribution channels.

West Africa



The microinsurance market remains limited in Western Africa with only 4.4 million people covered (life and properties). While agriculture represents a large portion of the GNP and employment in West African countries, crop insurance remains under-developed compared to its Central and East African counterparts. In 2012, a new legal framework dedicated to microinsurance, with a specific provision on index insurance, has been adopted by the insurance regional body (CIMA) of the 14 Francophone African countries (Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Cote d'Ivoire, Gabon, Guinea Bissau, Equatorial Guinea, Mali, Niger, Senegal, and Togo). The new framework should be conducive to developing index crop insurance in the region. Nevertheless, the Sahelian region is one area of the world with the highest variability of rainfalls, which makes crop insurance necessary but difficult. Donors and local institutions in West Africa are keen to developing index crop insurance. The CNAAS, AMAB, Allianz, and PlaNet Guarantee (PG) are pioneers in the development and distribution of index crop insurance in this region.

Benin, Burkina Faso, Mali, Senegal

GIIF, in partnership with **PlaNet Guarantee**, initiated the project called “Assurance Récolte Sahel” in the West African countries of Benin, Burkina Faso, Cote d'Ivoire, Mali, and Senegal in February 2011. As part of this program, the WBG has entrusted PlaNet Guarantee with the implementation of a regional strategy to develop agricultural index insurance in West Africa. The project was designed to address the key components of the value chain for crop insurance, such as conducting feasibility studies,

designing indexes, and disseminating information on crop insurance. The project's aim was to also establish an index insurance hub to provide underwriting and claims management services.

PlaNet Guarantee provided satellite based weather index insurance and area yield index insurance products for maize and cotton farmers. MFIs were the main distribution partners.

Benin

Benin is a small country with a population estimated at just under 10 million in 2011, and the national economy relies on the agriculture sector, in particular on cotton. Indeed, the agriculture sector accounts for about 32% of GDP and is the source of livelihood for nearly 70% of the country's workforce. As part of its Growth and Poverty Reduction Strategy (2011–2015), Benin has identified agricultural diversification and improved agricultural productivity as two key priorities.

Benin Pilot—AMAB (Assurance Mutuelle Agricole du Benin)

On the public sector side, GIIF has worked on creating an enabling legal and regulatory environment with AMAB, which requested support from the GIIF WB team to design and implement index based insurance as well as to provide AMAB with capacity building. The pilot drew from the prior experience in Senegal, following a 2012 feasibility study by an international consultant, CIRAD. Under this project, regular cropping season activities are conducted and to date more than 3,000 farmers have been insured. The team conducted a review mission in November 2015 and is completing an assessment report, whose findings are to be disseminated among policymakers and to help build synergies with other WBG initiatives.

The World Bank has been assisting Benin with capacity development and enabling environment. In 2012, the existing regulatory instruments were revised to include micro and agriculture index insurance, followed by a national workshop organized by the Benin regulatory authority. Five awareness and training workshops were also subsequently provided to producers, microfinance institutions, and AMAB staff on product features, product management and sales techniques, and on claims management process.



PlaNNet Guarantee

On the private sector side, GIIF worked with PlaNNet Guarantee under the “Assurance Récolte Sahel” project.

Project Profile

Partners: AMAB (insurer), Swiss Re (reinsurer), MFIs (delivery channels)

Products: Satellite-based weather index insurance

Insured Crops/Livestock: Maize, cotton

Insured Perils: Drought

Implementation Period: February 2012–December 2014

The distribution process of index products for two types of maize commenced in June 2013. PlaNNet Guarantee provided satellite based weather index insurance and area yield index insurance for maize and cotton farmers in Benin, and MFIs were the main distribution partners, in particular FECECAM, the largest MFI in Benin with a large network of branches throughout the country.

Burkina Faso

Project Profile

Partners: Allianz (insurer); Swiss Re, Africa Re, Cica Re, Hannover Re (reinsurer); MFIs, banks, and NGOs (delivery channels)

Products: Satellite-based weather index insurance, area yield index insurance

Insured Crops/Livestock: Maize, cotton

Insured Perils: Drought, decreased yield

Implementation Period: February 2011–December 2014

PlaNNet Guarantee activities in Burkina Faso started in 2010 and the first products were sold in 2011. MFIs and Banks were the main distribution partners. Such as a variety of distribution channels was the key to the project’s success.

Developing a product for cotton was important as it is a more profitable crop (average hectares cultivated

are greater among cotton growers). In 2014, 7,500 Sofitex (state cotton company) contract farmers that received input loans from Ecobank through their farmer cooperatives were insured with a satellite index (maize) and area yield index (cotton). A 2011 PlaNNet study found that index-based crop insurance in Burkia Faso “has a positive impact on the amount of credit given, the fertilizer purchased, the volume of production and the added value.” Insured farmers received 1.4 times the amount of credit of non-insured farmers. The amount of credit insured farmers received once they had insurance was 170% more than they received without insurance.

Mali

Project Profile

Partners: Allianz (insurer); Swiss Re, Africa Re, Cica Re (reinsurer); MFI and cooperatives (delivery channels)

Products: Satellite-based weather index insurance

Insured Crops/Livestock: Maize, cotton

Insured Perils: Drought, excess rain

Implementation Period: February 2011–December 2014

PlaNNet Guarantee first sold products in Mali in 2011. The project provided satellite based weather index insurance for cotton/maize farmers in the country, while farmer cooperatives were the main distribution partners.

PlaNNet Guarantee’s index insurance work has increased the availability of input loans for smallholder farmers in Mali. PlaNNet Guarantee has worked closely with its main distribution partner, a union of cotton producers who also produce maize for consumption, despite facing significant challenges obtaining financing for lending to its members due to political instability in the region. For the 2014 season, PlaNNet Guarantee advised and supported the union to access financing for the season, and the union successfully secured a large loan for the purchase of inputs, with the insurance coverage acting as a guarantee.

Successes and Current Status of PlaNNet Guarantee Projects in West Africa

The project has successfully insured 52,228 farmers, exceeding its initial target of 40,000, and

launched 14 new insurance products. The GIIF-PG team was a first mover for index insurance in West Africa and over a total of four sales seasons between 2011 and 2014. During the project period, 10 new index insurance products were designed and 12 workshops, training events, and seminars on index based insurance carried out across project countries.

In addition, PlaNet Guarantee was instrumental in obtaining financing from Bank of Africa Mali for its distribution partner “La Coopérative des Producteurs et Cultivateurs du Mali” (COPROCUMA). The financing allowed COPROCUMA to increase their loans to small farmers by 20%. The project has also developed a demonstration effect in the local and regional market for index insurance: evidence is the acceptance of risk by a second international reinsurer (Hannover Re), and interest in developing index insurance products from another regional insurer (Activa). As a result of their work and collaboration with multiple stakeholders in West Africa today, 11 insurers and reinsurers added PlaNet Guarantee’s products to their portfolios; 5 insurers (Allianz Mali, Allianz Benin, Allianz Burkina, L’Assurance Mutuelle Agricole du Benin, and la Compagnie Nationale d’Assurance Agricole du Sénégal) now underwrite PG’s products; and 6 reinsurers (Swiss Re, Africa Re, Cica Re, NCA Re, Sen Re, Hannover Re) provide international risk transfer capacity. This experience shows that increasing interest in index products among insurers and reinsurers, which is critical in index insurance markets, is being developed in this region.

Following the success of this program, the GIIF IFC team has submitted a draft proposal for a second term of partnership with PlaNet Guarantee covering Benin, Burkina Faso, Côte d’Ivoire, Mali, and Sénégal until end-2018.

Senegal

Senegal Pilot—CNAAS (Compagnie Nationale d’Assurance Agricole du Sénégal)

Weather variability is a key limiting constraint to investments and modernization of agriculture in Senegal as drought-prone Sahel is characterized by irregular rainfall and relatively poor soils. Created in 2008 as a public-private partnership, the National Agricultural Insurance Company of Senegal (CNAAS) is in charge of underwriting crop and livestock insurance.

At the request of the Ministry of Finance of Senegal, a feasibility study was completed in 2009



to assess the potential of index insurance. This study recommended the development of weather-based index insurance for commercial farmers, and suggested a pilot for groundnut farmers in two departments—Nioro and Kaffrine.

As a follow-up to these recommendations, the CNAAS requested in 2011 financial and technical assistance from the World Bank in order to pilot-test index insurance for groundnut farmers. The objective of the pilot was 1) to test the operational and technical procedures of the weather index based crop insurance program with a potential for scaling up and 2) to educate farmers, intermediaries, the regulators, and members of the Government’s Ministries.

The pilot project has achieved the following:

- * Weather infrastructure (automatic and manual weather stations) was set up and weather data was collected by the meteorological agency (ANACIM) and analyzed by research institutions (CIRAD/ISRA);
- * A weather index insurance product was designed to protect groundnut farmers against drought in collaboration with farmers’ association (ASPRODEB) and Swiss Re;
- * The policy dialogue with the Government led to its commitment to provide a 50% premium subsidy to policy holders for selected crops and livestock, including the ones under the GIIF pilot.

Additionally, The GIIF team has participated in many activities via various dialogue channels such as:

- * The “Climate Change Strategic Discussions” held in Dakar in November 2015;
- * The Risk Transfer Working Group (RTWG) held in July to discuss its objectives, and topics to address such as geographical coordination, access to data, distribution, reinsurance, etc.;

- * The Weather Risk Management Facility (WRMF) that organized a workshop on remote sensing and its application for index insurance.

The next phase of the pilot is to put in place steps for CNAAS to take the lead in the project implementation process by designing index products and training coops and MFIs. To date, the project has insured close to 10,000 farmers in Senegal.

Nigeria

The Nigerian Agricultural Insurance Corporation (NAIC) has requested technical assistance from the World Bank in order to develop index-based crop insurance products to complement its traditional indemnity-based loss of investment cost policy. To respond, the GIIF WB conducted a feasibility study for the introduction of index insurance products as well as a review and uplifting of the current regulatory and supervisory framework.

Key achievements included:

- * A pre-feasibility study was completed for 5 Nigerian states (Kano, Kaduna, Lagos, Enugu and Cross River) for rain-fed maize and rice but concluded that the main risks faced by agricultural production in these states (pest and

diseases, fire, and flood) were not subject of being indexed;

- * The study recommended investigating possible applications of remote sensing for the development of NDVI products at meso- and macro-level in the northern arid and semi-arid areas of the country;
- * A study tour and training to India was organized in September 2012 for a NAIC representative.

The GIIF team continues to work with the knowledge partnership, ILO's Impact Insurance Facility, to offer technical training to local stakeholders in the country.

Francophone Africa: Legal and Regulatory Work with CIMA

Apart from the support at the individual country level, the GIIF WB teams also operate at the regional level through our cooperation with CIMA (Conférence Interafricaine des Marchés d'Assurances), which is the regional body of the insurance industry for 14 countries in Francophone Africa. The member countries are Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Cote d'Ivoire, Gabon, Guinea, Equatorial Guinea, Mali, Niger, Senegal, and Togo.



GIIF helped support improvements in the regulatory frameworks of a large number of countries, including the 14 countries in West and Central Africa through the Conférence Interafricaine des Marchés d'Assurances (CIMA).

In 2011, at the request of CIMA and FANAF, a regional study on microinsurance was conducted with the technical assistance and financial support from the World Bank. This report showed that a new regional framework was required for microinsurance and agricultural index-based insurance, which had been absent, in the CIMA zone. Key achievements under this project included:

- * The assistance to CIMA in the drafting of the required amendments of the current regulation to allow for the promotion of microinsurance and the commercialization of agricultural index based insurance products;
- * The adoption of the revised document of the CIMA code, CIMA Book 7, in April 2012 which permitted the practice of microinsurance operations, including index insurance in the CIMA zone;
- * The ratification of the new regulation by the 14 Finance Ministers of the CFA Franc zone, which in June 2012 made the CIMA Book 7 an integral component of the CIMA Code. A moratorium of one year was set for all insurance companies to conform to the new regulation by June 2013;
- * Two pilot countries were selected to conduct full scale implementations of the regulation in the CIMA zone. (See details under Benin and Senegal);
- * A first self-help technical support has been provided on CIMA Book 7 in April 2013 in Libreville (Gabon) by the International Insurance Institute of Yaoundé (Cameroon) to train executive staff of all national insurance regulatory authorities of the CIMA insurance market on the topic: “License and Control of MI Companies.”



The Caribbean



Haiti

52% of the population in Haiti lives in rural areas. However, Haitian agriculture historically remained unprofitable, and financial credit to agriculture represents less than 1% of the total loan portfolio of banks. As a consequence, 60% of the food consumed in Haiti is imported. Agricultural production is severely affected by natural catastrophes such as excessive rain, hurricane strength winds, and droughts.

Capacity Building

The Government of Haiti has insurance from the Caribbean Catastrophe Risk Insurance Facility (CCRIF), but would like to explore the possibility of financial risk transfer mechanisms to protect the agriculture sector against the damage caused by tropical storms, to expand the agriculture credit market, and to make agriculture insurance available to smallholder farmers. Key achievements in capacity building include:

- ✱ The WBG GIIIF Team produced a report on strategies for weather risk financing in Haiti, including an overall analysis of the country framework for the management of weather risk in the agricultural sector, as well as possible strategies to improve such management in the short and medium term. The report was followed by trainings on the technical issues related to weather and hydrological data and on the financial aspects of index-based and macro-level insurance;

- ✱ The WBG GIIIF Team produced a gridded weather database that calibrates historic satellite data with historic weather station data to provide a complete history of rainfall and temperature data for the last 30 years in both parts of the Hispaniola Island (Haiti and Dominican Republic). This will support feasibility studies, product design, and pricing.

The WBG GIIIF Team is working closely with the WB team to implement new strengthened insurance regulation and supervision.

Jamaica

Jamaica faces a variety of natural hazards and, on a combined hazard basis, is among the most vulnerable countries in the world. It lies in the center of the Atlantic hurricane belt, on a complex area of the northern Caribbean Plate margin, and is subject to tropical rainfall and resulting erosion. Agriculture in Jamaica is vulnerable to various risks from extreme winds, to extreme rain, to droughts. A large part of the agricultural sector, including integrated supply chains as well as small farmers, is absorbing these climate risks, with neither publicly nor privately risk transfer mechanisms or (re)insurance.

In 2011, the Ministry of Agriculture and Fisheries requested technical assistance from WB to assess the feasibility of public private index insurance partnerships for critical crops to strengthen its natural disaster assistance program for small farmers located throughout Jamaica. It asked as well for a feasibility study for wind speed index insurance for the coffee sector.

A feasibility study about a catastrophe windstorm index insurance program for coffee growers has recommended a pilot project be implemented in the Blue Mountain region. Historic crop loss data from various weather events has been collected from the local extension offices of the Rural Agriculture Development Authority as input for the production of a database that was a stepping stone toward an agriculture specific index insurance to be provided by the CCRIF.



Dominican Republic

The path of Tropical Storm Isaac in September 2012 caused the destruction of plantain fields in the southern region of the Dominican Republic. This situation forced the national authorities to provide in kind assistance (i.e., planting materials, fertilizers, cleaning labor, and land preparation) to the most affected farmers. Although some insurers provide agriculture insurance, the Ministry of Agriculture did not have a pre-defined budget to tackle the negative effects caused by events in the agricultural sector while it faced significant contingent liabilities.

In 2012, the Ministry of Agriculture of the Dominican Republic requested assistance from the World Bank to assess the feasibility of macro- and meso-level index based insurance, as follows:

- * *At macro-level:* The WB GIIF Team conducted a feasibility study for macro-level agriculture index-based insurance on the Hurricane Trajectory Index (HTI) and on the El Niño Southern Oscillation (ENSO) indicator. The study verified that HTI insurance is possible, and provided product design suggestions and pricing. For the ENSO insurance, the historic weather data is not sufficient to establish suitable correlation with agriculture losses in the country;
- * *At meso-level:* The WB GIIF Team assessed the feasibility of an area yield index insurance for the national federation of cocoa growers based on historic production data, proved that it can

work, and designed and priced a product. It did indicate, however, that risk mitigating measures (to protect against rats, birds and other pests for example) might have a more favorable cost-benefit ratio.

In both cases, the team also provided recommendations for the organizational implementation of possible index insurance as well as produced a gridded weather database that calibrates historic satellite data with historic weather station data to provide a complete history of rainfall and temperature data for the last 30 years in both parts of the Hispaniola Island.

The WBG GIIF team has continued engagement in the Dominican Republic, launching a new project this year, supporting the creation, structuring, and management of the index insurance ecosystem necessary for long-term sustainability, via a public-private programmatic approach.

Activities include (i) development of agroclimatic data information systems and their management by the public sector; (ii) clarification and application of public policy on agricultural insurance; (iii) delivery of advisory services to develop portfolio index insurance products with public and private insurance companies for banks, MFIs, and farmer aggregators; and (iv) awareness raising and knowledge dissemination on applications for index insurance.

To date, workshops and trainings on index insurance have been delivered to key public and private stakeholders in the sector—insurance companies, farmers associations, climate data managers, banks and MFIs, and financial institutions. Currently, the team is in discussions with a local insurance company to provide one-on-one advisory services to develop an index insurance product. To date, product development has included data management, the development of a software application to automatically update the data grid, risk mapping of the ag-portfolios of five financial institutions, and field verification of the risk mapping, as well as preliminary modeling of a potential product.



Pacific



Papua New Guinea

Papua New Guinea (PNG) is a lower middle income country located in the Asian-Pacific region. Agriculture is the predominant source of livelihood in the country, with the agricultural sector accounting for 67% of the total labor force in 2010. PNG has a very high exposure to earthquakes, tsunamis and volcanoes as well as being affected by climatic perils including tropical cyclones and the influence of the El Niño Southern Oscillation (ENSO) cycle which brings with it extremes of drought and excess rain and flooding.

Identifying that agriculture has and will continue to be the backbone of the PNG economy by providing food, income, and employment to the vast majority of the rural population, the Government of PNG requested technical assistance from the World Bank for an agricultural insurance pre-feasibility study in order to assess the viability of market-based agricultural insurance in PNG. The study has concluded that:

- * The potential to develop crop and livestock insurance products and programs is currently fairly restricted in PNG by a number of factors including the lack of an agricultural insurance culture and functioning market, the

lack of demand especially by small mainly subsistence farmers, and the lack of crop production, crop damage and weather data on which basis to design and rate such programs;

- * However, the study has identified a series of potential traditional indemnity-based and/or parametric or index-based crop insurance products for the cash crop/plantation export crops and food crop sectors that might be developed. These products include individual

grower (micro-level) insurance products and macro-level products that are designed to insure the Government of PNG against catastrophe climatic events;

- * Potential next steps include the implementation of a full feasibility study for agricultural insurance, the design and implementation of crop insurance pilots, the creation of an Agricultural Insurance Committee, and the creation of a Technical Support Unit (TSU).



Non-ACP Countries

Apart from ACP countries, GIIIF currently has projects in Asian and Latin America that have gained momentum.



Bangladesh



IFC, with the support of GIIIF, is working with its partner Green Delta Insurance Ltd. to develop insurance products to address perils such as droughts, excess rain, and cyclones in Bangladesh. The project has been providing technical support to Green Delta for weather data analytics, risk rating, pricing, product design, and engaging with distribution channels since 2015. Ninety-six focus group discussions were conducted by the project, resulting in a rich database of farming practices and experiences to be used for developing suitable insurance products for farmers. Additionally, the project has been providing capacity building for Green Delta in product pricing and administration.

As of December 2015, Green Delta Insurance Company signed a MoU with PRAN Foods Ltd. to develop an index insurance for its Cassava farmers. While working to expand products with other crops and additional aggregators in 2016, the project is also working closely with the country's regulatory body to support the development of PPPs on agricultural insurance. By the end of the project, GIIIF expects to cover approximately 75,000 farmers in the country.

Indonesia



More than 12 million Indonesians live and work in earthquake-prone zones, with economic exposure reaching an estimated \$79 billion. GIIIF has been working with PT Reasuransi Maipark (national reinsurer of all special risks) to design and retail an index insurance product that protects the lending portfolios of banks from liquidity crises in the aftermath of an earthquake—this is relevant particularly for rural banks/MFIs to be able to continue lending to communities when funds are needed most. The project is also reaching out to commercial banks, regional banks, and microfinance institutions, particularly those with a significant client base in Indonesia's earthquake-prone regions to collect data and conduct market education of the new product. The product is expected to be launched in 2016.

Advisory services to PT Reasuransi Maipark includes:

- ✱ Technical support in the design and development of an earthquake index insurance (EQII) product;
- ✱ Building the capacity of PT. Asuransi MAIPARK and financial institutions in Indonesia to price, administer, and distribute the EQII product.

The Philippines



The Philippines is highly dependent on the agribusiness sector, which provides employment for over one-third of its 40 million workforce. Despite its significance, one of the factors impeding productivity is weak investment in the sector due to risks from natural calamities such as typhoons. The Philippines ranks as the 3rd most disaster prone country in the world, experiencing an average of 20 typhoons a year—with Haiyan (local name Yolanda) being the most powerful typhoon in the world's recent history.

The IFC supported by GIIF and Canada has been working since 2014 with CPMI and CARD (CARD Pioneer Microinsurance Inc. and the Center for Agriculture and Rural Development Inc.) to create an index-based portfolio insurance product (to insure agri-loan portfolio of CARD Inc.), and provide advisory services for an indemnity insurance product (insuring losses suffered by CARD agri-borrowers)—as well as build their capacity to administer the insurance products. These products are expected to be launched this year (2016), with an ultimate goal of insuring 200,000 farmers by project end.

Sri Lanka

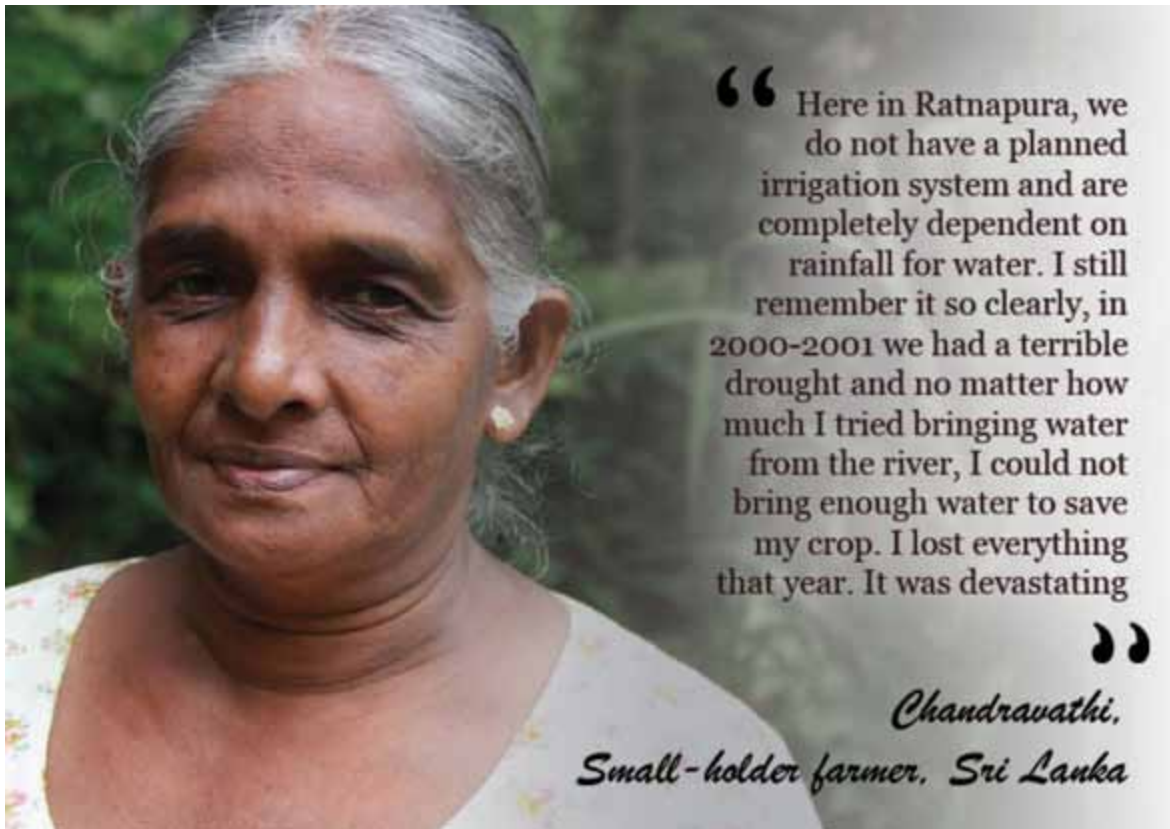


Historically, agriculture has always been a key economic activity in Sri Lanka, employing over 30% of the labor force. While the agro-industrial sector is

the fastest growing industrial category, agricultural productivity is low by global standards and insurance coverage among small businesses is estimated to be less than 1–2%, and is almost nonexistent for smallholder farmers. From 2011 to 2014, GIIF supported its partner, Sanasa Insurance Company Ltd. (SICL), to design simple, flexible, and affordable weather index insurance products for paddy and tea farmers, which were launched in 2012.

Apart from product development, GIIF assisted SICL in developing its institutional capacity and agents while raising awareness of over 50,000 farmers on the index insurance product/s and its benefits.

Discussions are currently on-going for expansion of projects in Sri Lanka, Indonesia, Philippines, India, and possibly in Malaysia, Thailand, and Vietnam. There is also strong support from the donors to continue working on index insurance projects. The increased interest in this field and awareness within the industry are promising signs towards the development of this market in Asia.



“ Here in Ratnapura, we do not have a planned irrigation system and are completely dependent on rainfall for water. I still remember it so clearly, in 2000-2001 we had a terrible drought and no matter how much I tried bringing water from the river, I could not bring enough water to save my crop. I lost everything that year. It was devastating

”
*Chandravathi,
Small-holder farmer, Sri Lanka*

In Latin America, GIF has conducted index-insurance feasibility studies and developed data tools in Argentina and Uruguay.



Argentina

Argentina's agriculture sector is very vulnerable to weather risks. For instance, cotton in the Chaco Province—the most important cotton producing area in Argentina—is very exposed to drought, excess rainfall, and pests. Similarly, cattle-rearing in southwest Buenos Aires Province is very exposed to droughts which impact severely on pasture production.

To address the problem, the Government of Argentina requested the World Bank conduct a feasibility study for the development of a suitable index-based agricultural insurance product to protect cotton producers located in Chaco Province against weather variability and other hazards causing losses in their cotton crop. It also requested the World Bank conduct a feasibility study for the development of a suitable Normalized Difference Vegetative Indexes (NDVI) index-based insurance for Livestock Producers in southwest Buenos Aires

The feasibility study reports, completed in 2012, concluded that retail insurance (e.g., individual farmer) is not advisable due to substantial basis risk and the time-consuming and resource-consuming need to set up appropriate distribution structures that reach individuals. Instead, macro-level insurance with government subsidies and support is recommended, along with the strengthening of the existing public protection mechanisms, because costs will be more predictable and their impact will be more effective.

Uruguay

In Uruguay, cattle production is a key economic activity that contributes to nearly 50% of the value of exports. However, beef cattle production is heavily exposed to the effects of weather events. On several occasions, droughts have resulted in livestock loss



and reduction in productivity and fertility of surviving cows.

In 2011, the Government of Uruguay requested the World Bank conduct a feasibility study for the development of a suitable index-based agricultural insurance product to protect cattle producers located throughout Uruguay against severe drought and other climate-related losses in their pasture and natural grazing. The feasibility study concluded that remote sensing NDVI is a suitable option for pasture index-based insurance purposes. It also recommended the implementation of a macro-level NDVI pasture index coverage that would protect the Federal and/

or Provincial budgets in years of catastrophe (mainly drought) induced losses in the livestock sector.

The World Bank also supported the development of a historical NDVI database and digitized pasture maps at a spatial resolution of 2,500 Ha for all natural and sown pasture and grazing areas of Uruguay. An Excel-based NDVI contract design and actuarial rating tool was developed to enable the local insurers and other key stakeholders in the government and in the livestock industry to estimate the pure rates and technical premium rates corresponding to a series of contract design options and parameters.



Although it cannot alter the course and risk of climate trends, the insurance industry can play a potentially significant role in mitigating some of the effects of climate change on the most vulnerable populations of the world.



Partnerships



GIIF partners can be divided into three categories: implementing partners, technical partners, and knowledge partners.

Implementing Partners

GIIF partners with some of the most impactful and innovative agricultural insurance partners to implement its programs across all its markets. The GIIF Program funds and provides technical assistance to these implementing partners comprised of an intermediary “broker/agent,” who develop index insurance products, and regional insurance companies. The index insurance products are often bundled with loans or credit and distributed mostly through portfolio-level aggregators such as agribusinesses, banks and microfinance institutions, and cooperatives. On the private sector side, GIIF’s global portfolio includes implementing partners such as ACRE Africa, CARD-Pioneer Microinsurance Inc., Guy Carpenter, PT Reasuransi Maipark, MiCRO, MicroEnsure, PlaNet Guarantee, Sanasa Insurance, and Green Delta Insurance Company, among others.

On the public sector side, the GIIF Team works closely with governments at the regional and national

level on policy issues to create an enabling legal and regulatory environment for index insurance. The Program works closely with CNAAS (Compagnie Nationale d’Assurance Agricole du Sénégal), AMAB (Assurance Mutuelle Agricole du Benin), CIMA General Secretariat (Conférence Interafricaine des Marchés d’Assurances), Kenya Insurance Regulatory Authority and meteorological departments, Ministries and relevant public sector bodies in GIIF operational countries.

The GIIF Program organizes an annual event to bring all its implementing partners together to share their experiences, lessons learned and implementation challenges. These events provide a good opportunity to these partners to network, share resources to better develop their products and receive additional technical training from the Program on select issues.

Insurers

GIIF’s partners in each region work with various insurance companies to develop index insurance products. For instance, local insurance partners have received training from GIIF technical partners on the design of index insurance products, policies and on managing claims processes. Some of the insurance companies within GIIF’s portfolio

include UAP Insurance, SORAS, Focus Insurance, Mayfair, Alternative Insurance Company (AIC), PT Reasuransi Maipark, Sanasa Insurance, Green Delta in Bangladesh, Allianz Mali and Burkina Faso, and CARD-Pioneer Microinsurance Inc., among others.

Reinsurers



GIIF projects are supported with reinsurance by key regional and international players including: Swiss Reinsurance Company, Africa Reinsurance Company, Cica Reinsurance Company, and Microinsurance Catastrophe Risk Organization (MiCRO). Due to the co-variant nature of catastrophic risks insured under the GIIF program, transferring most of the assumed risk to international markets is imperative. Besides underwriting the risk, reinsurers significantly contribute to knowledge transfer on product structuring, pricing and data analysis. For instance, Swiss Re Corporate Solution has worked with GIIF and its implementing partners for approximately four years and this technical partnership has been crucial to developing viable index insurance products, structuring appropriate pricing and building effective risk transfer markets. During this time, they provided technical assistance in scoping and awareness raising work through market identification; they conducted desk research and feasibility studies; they worked on index insurance product development in collaboration with selected local stakeholders; and they tried to build local capacity development through offering training events, developing training material, and contributing to GIIF's knowledge management depository in the form of product case study development.

Reinsurance is an effective mechanism of ensuring that a country's economic losses triggered by a disaster are shared with other insurance companies owned and domiciled outside the affected economy. The inflow of foreign currency at such a time is of paramount importance to a country's recovery phase. Considering that GIIF aims to develop technically sound insurance products, effective distribution channels, strong local insurers and accessible regional and international risk transfer markets, collaborating with reinsurance companies is an important component of the program and its operating model.

Enabling the Environment

Under its regulatory, policy and legal component, GIIF works closely with governments at the regional and national level on policy issues to create an enabling legal and regulatory environment for index insurance. The GIIF teams also carry out feasibility studies and index insurance pilots to test the feasibility of index insurance markets. Some of the public sector stakeholders are the Ministries of Agriculture, Ministries of Finance, insurance regulators, meteorologist agencies, NGOs, and associations.

Through these partnerships with public stakeholders, GIIF aims at achieving:

1. Promoting the vital linkage between finance and poverty alleviation through public policy dialogues around index insurance regulations and enabling environments;
2. Encouraging policy makers to provide appropriate fiscal support to the agricultural industry such as premium subsidies;
3. Creating sustainable public-private partnerships for actions, knowledge sharing, and data management.

Technical Partners

Some implementing partners may have little or no reinsurance and actuarial modeling experience. They may also have little or no experience developing agriculture (index) insurance and reinsurance policy wordings. To fill this knowledge gap, GIIF technical partners such as Swiss Re Corporate Solutions, assist GIIF implementing partners in building the technical capacity—product design, underwriting and pricing; and also provide technical support in developing insurance and reinsurance contract documentation. They also help explain reinsurance technical issues to the insurance regulators.

GIIF technical partners also include other specialist organizations such as research institutes, data providers and (weather/agrometeorological) data modelling, and meteorological agencies. Limited ground weather data and infrastructure motivates GIIF and implementing partners to seek collaborations with agencies specialized in remote sensing and technical specialists with special skills in satellite data processing and product design. Most of the GIIF

implementing partners are using a mix of ground-based weather stations and satellite images. Ground weather station data can be used directly to trigger payouts or for verification of localized micro climates. The use of satellite data is imperative given the low weather station density and significant micro-climatic patterns in most developing countries, and most weather stations in developing countries do not have the required extensive historical weather data needed for actuarial analysis to design insurance products.

In Africa, for example, which covers a fifth of the world's total land area, the density of the continent's ground weather stations is much lower than the minimum recommended by the World Meteorological Organization.¹ In addition, the weather station infrastructure has also been deteriorating over the last decade with an estimated one in four weather stations not working properly. Efforts are being made by GIIF partners and governments to improve ground observations but satellite data is critical to the need for temporal and spatial coverage of weather information.

There are many types of satellite-derived products available, each with their own location-specific advantages and disadvantages. In order to create robust and accurate index insurance products, it is critical that these partners have reliable ways to measure or estimate crop growth and loss due to weather over large areas. This is not possible using only rain gauges and crop-yield data, but can be accomplished with expansive agrometeorological remote sensing datasets. However, it is important to use the best information from multiple sources to get the most reliable and accurate account of ground conditions. Hybrid index products are proving the best designs and rely on a combination of weather stations, area yield data and satellite data.

GIIF and implementing partners work with a variety of satellite technology and contract design specialists who work with weather and catastrophic data from Meteosat, NASA and JAXA to design index insurance products. Most satellite sensors measure rainfall and vegetation but there are also research attempts to examine evapo-transpiration, temperatures and

soil moisture. Technical partners working with GIIF implementing partners include:

- * Asia Risk Centre
- * CaribRM
- * CIRAD
- * Danish Hydraulic Institute (DHI)
- * Earth Environment Monitoring BV (EARS)
- * GeoSY Limited
- * International Research Institute for Climate and Society (IRI), Columbia University
- * Skymet Weather Services Private Limited

Through these technical partners, innovative weather and catastrophic data solutions—combining ground data through weather stations and satellite technology—are being tested. High quality data is important but just as important are high quality climate services and trained specialists to connect the weather data to practical applications on the ground.

Knowledge Partners



GIIF collaborates with the ILO's Impact Insurance Facility to strengthen its knowledge and dissemination related activities. The collaboration aims at improving the delivery of index insurance to farmers and their families as well as businesses, through the extraction, dissemination and promotion of lessons mainly from GIIF implementing partners and to strengthen microinsurance markets in countries that have a strong index insurance potential. This knowledge partnership offers knowledge sharing and technical training to local stakeholders by focusing on global knowledge management and communications functions; the communication among practitioners through the Index Insurance Community of Practice (CoP); the development of publications, emerging insights, webinars open to public and CoP members; and stakeholder trainings in select country locations for market development.

¹ World Meteorological Organization. (2006). Africa's Acute Vulnerability to Climate Change Underlined in New Report [Press release]. Retrieved from https://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/20061105_africas_acute_vulnerability_press_release.pdf

More specifically, the collaboration has the below activities:

1. Managing knowledge in index insurance:

- * Building and sustaining a Community of Index Insurance Practitioners
 - Virtual meetings and webinars where members share their experience, followed by online discussions
 - Annual peer exchange visits among members where they are immersed in the context and operations of a host organization.
 - Online spaces where members can share insights, updates and relevant documents, as well as have online discussions like the Index Insurance Forum platform and the GIIF LinkedIn Group
 - Annual knowledge sharing meetings where good practices and challenges are discussed
- * Packaging lessons learned in index insurance practice:
 - Customization and roll out of action research and lessons extraction tools among GIIF implementing partners

- Production of thematic briefs, emerging insights and training modules that convert lessons into actionable tools

* Disseminating and sharing lessons and knowledge to the broader insurance community:

- Online dissemination of knowledge products
- Conducting public webinars to disseminate lessons learned
- Organizing knowledge sharing activities

2. Strengthening markets for effective index insurance

- * Training practitioners on foundational skills in insurance
- * Building an insurance culture among consumers
- * Promoting a client-centric insurance





Outreach and Communications

Beyond its direct involvement with above-mentioned partners, GIIF also leverages partnerships and collaborates additional knowledge stakeholders to build the industry beyond projects. Below is a summary of some of the main activities developed throughout the years:

- * Annual GIIF implementing partner workshop: To reflect the Program's global presence and considering projects' sales seasons and proximity to main international conferences, to date these workshops took place in Kenya (2011), Senegal (2012), India (2013), Berlin (2014) and Paris (2015).
- * Active participation to present the Program in the following major events:
 - * the ACP Open Day event (2012, 2013, 2014);
 - * the European Development Days (2012);
 - * the European Parliament event on *The Role of Insurance Companies in the Adaptation to Climate Change* (2013);
 - * the Responsible Finance Forum in Berlin on *Consumer Protection in Emerging Insurance Markets* with BMZ and the Federal Financial Supervisory Authority (BaFin) (2013);
 - * the International Microinsurance Conferences in Tanzania (2012), Indonesia (2013), Mexico (2014), Morocco (2015);
 - * the MasterCard Foundation workshop in Kenya (2013);
 - * the Africa Insurance and Reinsurance Conference (AIRC) in Kenya on *Developing Sustainable Index Insurance Markets in Africa* (2014);
 - * the 39th Session of the ACP-EU Council of Ministers Meeting in Kenya (2014);
 - * the NYC Climate Week event in collaboration with the International Research Institute for Climate and Society on *Building Innovative, Sustainable Index Insurance Markets for Weather Risks in Developing Countries* (2014);
 - * the Agricultural Insurance Conference in Berlin in cooperation with GIZ/BMZ (2014);
 - * the EU Delegations training session on *Trade and Private Sector Development* (2014);
- * the High Level Symposium on *Private Sector Development Support in ACP Countries* (2014);
- * the ACP meeting in Cotonou on *Durabilité, innovations et assurance indicielle: les défis pour l'exploitation cotonnière africaine* (2015);
- * the Climate Change—Food Security Conference *Linking Climate Change to Food Security* in Singapore (2015);
- * the USAID and Global Action Network (GAN) meeting in London (2015);
- * the study tour/workshop titled “Journées de formation sur l'assurance et la réassurance des risques agricoles” organized by the “Société Centrale de Réassurance” (SCR) of Morocco (2015);
- * the Peer Exchange Forum with ILO hosted by Sanasa Insurance in Sri Lanka (2015);
- * the Ag-Insurance Conference in Ukraine in cooperation with the International Institute of Agricultural Risk Management (Watts & Associates Inc.) on “Planning PPPs for agri-insurance from the western Balkans to Central Asia” (2015);
- * a Microinsurance/Life Stories exhibition on *The Present and Future of Inclusive Insurance* in cooperation with GIZ and Allianz (2015);
- * the G4AWeek Programme in the Hague (2015).



Annual ACP Open Day Event, Brussels. Representation of the GIIF Program during the Agricultural Capacity Building Programs session.

- * The GIIF Program was highlighted at the G20 Mexico 2012, Agriculture Vice Ministers/Deputies Meeting. One of the report's recommendations is to support the efforts of relevant initiatives, such as GIIF, to provide smallholders with innovative and effective market-based risk management options, including weather index insurance.
- * To date, GIIF has developed project country profiles, knowledge briefs, results stories, implementing partner profiles, interviews with practitioners and projects videos that are all posted on the K-Platform.
- * MoUs to strengthen collaboration with industry partners; AXA Corporate Solutions, Swiss Re Corporate Solutions, Grameen Credit Agricole and the Geneva Association were signed. These partnerships reflect GIIF's commitment to broaden private sector involvement in index insurance through strategic alliances that leverage technical expertise, local market knowledge and capacity development tools of key private sector organizations.
- * In September 2015, GIIF organized a Global Index Insurance Conference in Paris in collaboration with its above-mentioned KM collaborators. The global conference attracted 303 participants together with 1,280 followers on live-streaming. The 1.5 day Global Conference was then followed by a 1-day specific research event organized by Pacifica and Airbus. The research event, led by academic experts to discuss economic challenges and technical perspectives in scaling up of agriculture insurance, brought together research on data management and design of index insurance products.



Global Index Insurance Conference, September 2015, Paris. The session on Distribution Channels for Index Insurance.

Knowledge Platforms

www.indexinsuranceforum.org

GIIF scaffolds operational support with a strong knowledge program. On January 20, 2015, www.indexinsuranceforum.org was launched to become the world's only platform dedicated to generating and sharing insight and innovation on index insurance.

Managed by the Global Index Insurance Facility (GIIF), this platform features knowledge products, research, and discussions on key issues related to the development of innovative index insurance solutions. Users will find resources ranging from news media, key publications, to emerging insights on index insurance produced by GIIF and its partners. This website also houses information about GIIF and its current projects around the world.

The platform is supported by GIIF's generous donor partners including the European Union/the ACP Group, the Government of the Netherlands, and the Government of Japan.

Facilitating Dialogue on Index Insurance between the Public and Private Sector

In June 2016, over 60 participants gathered at the College of Insurance in Nairobi to discuss best practices and share their knowledge and expertise on index insurance, particularly livestock insurance and agriculture insurance. The discussions were quite timely, as the Government of Kenya recently allocated US\$6 million for crop and livestock insurance for smallholder producers for next year, as one of the 'key government flagship projects to drive the transformative agenda'. This is a five-fold increase in budget from the previous years with strong allocations toward data systems and premium subsidies.

The training offered an opportunity to bring the government and private sector players together to discuss future plans and to learn from each other. This knowledge-sharing event, "Operationalizing Index Insurance in Kenya" was attended by representatives from over a dozen insurance companies in Kenya, Zambia, and South Africa as well as government entities including the Insurance Regulatory Authority, the State Department of Agriculture, and the State Department of Livestock. "The training has given participants the valuable opportunity to learn more about NDVI (Normalized Difference Vegetation Index), area yield products, and other innovations in the field of index insurance," said Mr. Vincent Gitanji from the State Department of Livestock.

Topics covered during the three-day workshop included "Insurance Regulation in Kenya," presented by Joseph Owuor, Insurance Supervision Officer; "Understanding Data on Area Yield," presented by James Sinah from World Bank Group; "Understanding NDVI and Livestock Index Insurance and the Role of the Verification Agent," presented by Andrew Mude, Project Leader, ILRI; "Meso-Level Distribution in Index Insurance," presented by the International Labour Organization; and "Pricing and Reinsurance," presented by Sharon Onyango from ACRE Africa.

This was Kenya's first training event on index insurance that brought together the public and private sectors and international stakeholders. The highlight of the training was a fireside chat with Richard Githinji, State Department of Livestock Insurance and Richard Githagia, State Department of Agriculture who spoke about Kenya's future plans and direction in the sphere of agriculture and livestock insurance, which

complemented Joseph Owuor's presentation on Insurance Regulation in Kenya.

On the final day of the training, a field visit was organized in partnership with Global Index Insurance Facility (GIIF) grantee ACRE Africa. Participants were taken to Makuyu and Thika Town to interact with farmers who benefit from ACRE's seed replacement program. Maize farmers who received a payout and those who did not both spoke about their experience with the product.

Jacinta, a smallholder farmer who plants maize, spoke about her experience receiving a payout through ACRE Africa's SEED replacement program, "One afternoon around 1 PM while I was relaxing after a hard morning, I got a text message saying I had received 867 shillings (approximately \$9)—the cost of two bags of seeds. I had bought 10 bags of seeds for my three acre farm and all but two bags had germinated and I was reimbursed. It was a very good feeling."

The training, especially the field visit, was very well received by the participants. "The training could not have come at a more opportune time, agriculture index insurance is picking up in Kenya and all stakeholders need to understand the salient concepts to play their part well," says Jacinta Ngwiki, Assistant Director of Agriculture, Government of Kenya.

Requests for similar training programs have been made by the governments of Rwanda, Cameroon, and South Africa.



Farmer Joseph shares how index insurance helps protect his crops

Global Index Insurance Forum LinkedIn Group

GIIF also owns a LinkedIn Group—**Global Index Insurance Forum**—which is a social media platform designed to facilitate conversations around index insurance and related products in agricultural finance. The social media platform promotes the dissemination of good practice guidance to private and public sector entities, donors, and regional networks to improve the effectiveness of the agricultural insurance industry. Members are invited to share industry news, articles, and interesting developments to their peers.

YouTube Channel

GIIF has a YouTube channel as a unique social media platform that houses and shares video products pertaining to GIIF's activities. Currently with 21 videos, viewers can also find conference-related videos and interviews of WBG officials and featured partners from both the private and public sector at <https://www.youtube.com/channel/UCLiWNdzWMUg9OHXmeBgzd5A>



On GIIF YouTube: Interview with Gloria Grandolini, F&M GP Senior Director, World Bank Group.

GIIF Newsletter

The GIIF Newsletter is a quarterly publication that aims to capture the key developments, issues, and discussions from across the microinsurance and index insurance industry. The publication is circulated to GIIF's subscriber mailing list and is also subsequently made available on the GIIF website and its dedicated knowledge management portal. The GIIF Newsletter brings together thought leaders, technical specialists, and industry practitioners from across GIIF's operating markets and is a strategic tool for GIIF and its partners to share opinions and ongoing project updates.

For subscription, please visit www.indexinsuranceforum.org



GIIF Newsletter—June 2016.



“As soon as I heard about the product, I knew that this was a good product. I have suffered severe harvest losses in the past, and this seemed like a smart idea to help me prepare for future uncertainty.”

Chandrasiri Vanasunder, Sri Lanka



Global Index Insurance Facility

For more information: www.indexinsuranceforum.org

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