



CLIMATE RISK INSURANCE IN THE CARIBBEAN:

20 lessons learned from the Climate Risk Adaptation and Insurance in the Caribbean (CRAIC) project



MESSAGE FROM MCII: ABOUT CRAIC

Phase I of the CRAIC project, implemented between 2011 and 2014, was led by the Munich Climate Insurance Initiative (MCII) and implemented in partnership with CCRIF SPC (formerly The Caribbean Catastrophe Risk Insurance Facility), MicroEnsure, and Munich Re. Funding for the project under the International Climate Initiative (IKI) was supported by the German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU). The CRAIC project was initiated to help target countries in the Caribbean region address some of the challenges posed by climate change and extreme weather events to sustainable development. The key deliverable of Phase I was to develop an index-based insurance product. After ongoing consultations with various key stakeholders including the project partners and CRAIC project advisory group, GK General Insurance Company and EC Global, these efforts materialized into the Livelihood Protection Policy (LPP) to offer protection against strong winds and heavy rainfall.

The concept was implemented in three pilot countries, based on feasibility studies carried out in Jamaica, Grenada and Saint Lucia. The CRAIC project helped to build an institutional framework for climate risk insurance (CRI) that is of great significance to the Caribbean region, because the local stakeholders involved in the first phase, GK General Insurance Company and EC Global, contributed significantly to this framework. In addition, the LPP also complemented the existing regional risk pool, CCRIF SPC. These products supported national partners in the region in developing cohesive national strategies for managing climate change by incorporating risk transfer mechanisms, such as CRI, within such strategies. Phase II of CRAIC took place from September 2017 until April 2020, where the project's partners worked to refine the trigger levels of the LPP and established a partnership with UN Volunteers to raise awareness on disaster risk management and the role of insurance. These lessons learned have been collected from the different stakeholders in Phase II of the project and include the perspectives of local insurers, NGOs, reinsurers, UN Volunteers, modeling agencies and implementers.

MESSAGE FROM CCRIF SPC:

CCRIF has been involved with the CRAIC Project since its beginning in 2014. CCRIF strongly supports the project, which was conceptualized to address climate change, adaptation and vulnerability by promoting weather-index-based insurance at the individual level, specifically for vulnerable groups. CRAIC's focus on microinsurance complements the parametric insurance instruments at the sovereign level which CCRIF provides to 19 Caribbean and three Central American governments.

Our work in the Caribbean allowed the project to leverage our relationships and engage governments of the region so that they could better understand the linkages between microinsurance and sovereign level climate risk insurance, and how both are important in closing the protection gap.

The project consortium learned many lessons along the way, and the CCRIF team is pleased to have been part of the development of this document that captures 20 key lessons we have learned over Phases I and II. These lessons learned will be key in the implementation of Phase III and would allow the project team to build on the best practices from the previous phases as well as focus on taking corrective action in areas that were not as successful, but for which there is now a more in-depth understanding in this relatively new and innovative area of climate risk insurance. Lessons learned have always been central to the project's agenda as they are a means to transfer knowledge and experiences, and to further North-South and South-South cooperation and exchange. These lessons learned will contribute to further success under the project, given that Phase II brought new and exciting possibilities and a general and growing excitement around parametric insurance, which were partly fueled by the 2017 hurricanes Irma and Maria.

MESSAGE FROM THE ILO'S IMPACT INSURANCE FACILITY:

The ILO's Impact Insurance Facility is pleased to work with CRAIC and collaborate with the project's partners to test new approaches to protecting small businesses as well as individual workers and households from natural disasters. Hopefully, the next time the region is struck by a hurricane, the backbone of the region's economy – the small business sector – will be able to benefit from insurance to quickly resume operations, providing valuable services to their communities while keeping workers employed. Individual workers will be able to protect their livelihoods and recover loss of income.

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ABBREVIATIONS

| | |
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| ARC | African Risk Capacity |
| BMU | German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety |
| CARICOM | Caribbean Community |
| CBOs | Community-Based Organizations |
| CCRIF SPC | formerly Caribbean Catastrophe Risk Insurance Facility |
| CRAIC | Climate Risk Adaptation and Insurance in the Caribbean |
| CRI | Climate Risk Insurance |
| CSR | Corporate Social Responsibility strategy |
| DaLA | Damage and Loss Assessments |
| DRM | Disaster Risk Management |
| GDP | Gross Domestic Product |
| GIIF | Global Index Insurance Facility |
| ICI | International Climate Initiative |
| ICRM | Integrated Climate Risk Management |
| ILO | International Labour Organization |
| LPP | Livelihood Protection Policy |
| MCII | Munich Climate Insurance Initiative |
| NAPs | National Adaptation Plans |
| NGO | Non-Governmental Organisation |
| PCRIC | Pacific Catastrophe Risk Insurance Company |
| PDNA | Post Disaster Needs Assessments |
| UN | United Nations |
| WMO | World Meteorological Organization |



NATURAL HAZARDS IN THE CARIBBEAN

Countries in the Caribbean face a range of natural hazards, particularly tropical cyclones, excess rainfall, earthquakes and to a lesser extent volcanic risks. The region also faces secondary risks from flooding, landslides, storm surge and wave impacts, drought, and tsunamis. The most significant natural hazard in the Caribbean is tropical cyclones, largely due to their high frequency and severity in the region as well as their potential to hit many islands with a single storm. Tropical cyclones have had an inordinate impact on the economies of Caribbean countries, many of which depend on tourism and agriculture as their main economic drivers. With respect to hydro-meteorological hazards, climate change is expected to result in an increase in the frequency, intensity, and potential impact of these hazards. The changing climate can be considered to be a global driver of increasing disaster risk, and threatens to undermine many of the critical development gains being made by Caribbean countries.

ECONOMIC IMPACTS OF NATURAL HAZARDS

In these small islands and island states, single catastrophes can have a disproportionate effect on the economy, with hurricanes reported to have caused damage ranging from a low of 6 per cent of gross domestic product (GDP) to 200 per cent of national annual GDP, as was the case in Grenada and the Cayman Islands following Hurricane Ivan in 2004.¹ Hurricane Ivan was considered a watershed event in the Caribbean, impacting at least 9 countries and resulting in regional losses totaling over USD 6 billion for the event. The year 2017 was another defining moment for the Caribbean, after suffering the devastation caused by two category 5 hurricanes within 14 days of each other. Damage and losses due to these storms have been estimated at approximately USD130 billion and affected 18 countries, their populations and social and economic infrastructure. These catastrophic events resulted in the Caribbean Community (CARICOM) declaring its ambition to become the first climate resilient zone in the world.

Additionally, a 2017 Moody's report stated that the average annual damage from natural hazards over the period 1980-2015 was 1.5 per cent of GDP in emerging markets versus 0.3 per cent of GDP in developed economies. The average share of affected population over the same period was 3.0 per cent in emerging markets versus 0.4 per cent in developed economies.² The average share of affected population over the same period was 3.0 per cent in emerging markets versus 0.4 per cent in developed economies. In fact, the report further indicated that of the 20 most vulnerable countries globally, more than half are small island states across the Caribbean and Pacific regions—with these 20 countries bearing average losses between 2.1 per cent and 20.1 per cent of their respective GDP every year.

It is important to stress that whilst disasters have significantly impacted countries' economies leading to higher fiscal deficits and debt-to-GDP ratios, they have also impacted populations and key industries such as tourism, agriculture, fisheries and social sectors, including housing, schools and hospitals. A case in point is Dominica, in which damage totaled approximately USD 931 million and losses another USD

¹ <https://www.imf.org/en/News/Articles/2015/09/28/04/54/tr052505>

² https://www.eenews.net/assets/2016/11/30/document_cw_01.pdf

380 million following Hurricane Maria in 2017, amounting to about 225 per cent of their 2016 GDP or USD 1.31 billion in damage and loss. But the damage and loss was far more than economic damage. Over 90 per cent of the population was affected: 15 per cent of the country's housing stock was totally destroyed and 75 per cent partially damaged. Critical infrastructure—roads, bridges, water systems, electricity, telecommunications—was also significantly impacted. The impact on the agriculture and tourism sectors was also significant as these sectors were key to food security, economic activity and providing a livelihood for thousands. Importantly, these disasters also resulted in increasing poverty levels, as these events tend to have a disproportionate impacts on the poorer segments of the population, as well as on older individuals and children.

Left unchecked, the economic impact of disasters can generate large losses that disrupt long-run economic growth and development trajectories. To some extent, natural hazards can be compared to financial crises—both are typically exogenous events that represent covariate shocks across a country and its households. Economic damages from natural hazards can jeopardize the health of national economies at a level comparable to, or greater than, that of financial crises. However, natural hazards also destroy human and physical capital stocks—something that financial crises do not do. This therefore calls for consideration of hazards in development planning as an important priority for governments, businesses, communities and individuals in their pursuit of a sustainable future. It is also critical for the small island and coastal states of the Caribbean region to strengthen their capacity to prepare for and respond to these natural hazards as a means of reducing current and future vulnerabilities.

RESPONDING TO NATURAL HAZARDS IN THE CARIBBEAN

Up until about 10 - 12 years ago, disaster mitigation was touted as the most effective solution for preparations and response to natural hazards, with disaster mitigation focusing on building sea walls, improving building codes, building more resilient structures etc. While disaster mitigation is a necessary component of the disaster preparedness equation below, disaster risk financing and ecosystems management are also critical in how countries prepare to respond to natural hazards. Essentially then, the extent to which a country is prepared to respond to a natural hazard and its vulnerability level is a function of:

Disaster risk mitigation + ecosystem management + disaster risk financing + social protection strategies (including psychological impact of future disasters on our populations) = disaster preparedness.³

In other words, countries can better prepare for natural hazards by incorporating risk mitigation, risk transfer and disaster risk financing into their disaster preparedness strategies through factoring in the potential impact of extreme events on their populations. Whilst countries often view “preparing” as an

3 An equation proposed by CCRIF to its members in terms of the elements that disaster preparedness should incorporate

expensive proposition, with resources allocated to the environment and disaster risk management sectors oftentimes being below optimal, countries need to be mindful that being inadequately prepared is far more costly when faced with a disaster.

CLIMATE RISK INSURANCE IN THE CARIBBEAN

The emergence of disaster risk financing efforts in the Caribbean began after Hurricane Ivan in 2004, when CARICOM Heads of Government approached the World Bank for assistance to design and implement a risk financing mechanism to support member governments and provide quick liquidity in the aftermath of disasters. This marked the beginning of what would become the CCRIF SPC, which was established in 2007 as the first insurance instrument to successfully develop parametric insurance policies backed by both traditional and capital markets—with 16 Caribbean governments as members. In the years since, CCRIF SPC has expanded its membership to include Central America and other Caribbean countries, and its current membership is 19 Caribbean governments and 3 Central American governments.

CCRIF SPC has demonstrated that disaster and climate risk insurance can effectively provide a level of financial protection for countries vulnerable to tropical cyclones, earthquakes and excess rainfall. Since its inception in 2007, CCRIF SPC has made 45 payouts totaling USD 163 million to 14 of its 22 member governments. CCRIF SPC's work and its parametric insurance cover are really about supporting governments to help their populations—communities, businesses, and key sectors such as education and agriculture. A rough assessment shows that over 2.5 million people in the Caribbean and Central America have benefitted from CCRIF's payouts after a hazard event.⁴

Use of payouts over the years has included providing food, shelter, and medicine to affected people; stabilizing drinking water plants; providing building materials for people to repair their homes; repairing critical infrastructure such as roads and bridges as a means of enabling movement and access in and out of communities; payment of government salaries for critical first responders to facilitate the injured being cared for; and support for the agriculture sector among others. CCRIF SPC cooperates at the sovereign level and its products are designed for governments. Four years after the establishment of CCRIF SPC, the Climate Risk Adaptation and Insurance in the Caribbean (CRAIC) project was launched in 2011 to focus on providing similar climate risk insurance products as CCRIF SPC, but focusing on the micro- and meso-levels.



CLOSING THE PROTECTION GAP

Although insurance can play a critical role in helping individuals and a society recover from extreme natural hazards, 70 per cent of catastrophic losses around the world were uninsured in 2017.⁵ Developing countries face a particularly grand challenge as the protection gap is larger in their countries than in developed countries. At the same time, these countries have fewer resources with which to respond to the naturally-induced disasters. In fact, in developed countries, insurance and capital markets are widely used to hedge the immediate adverse impacts of natural hazards. According to MunichRe, more than 40 per cent of the direct losses from natural hazards are insured in developed countries. At the same time, MunichRe estimates that less than 10 per cent of losses are covered by insurance in middle-income countries and less than 5 per cent are covered in low-income countries. Many individuals in these affected areas do not possess any form of insurance and often are unable to qualify for traditional indemnity insurance, such as property or crop insurance. Both CCRIF SPC and CRAIC are contributing to the overall objective of the G7 Climate Risk Insurance Initiative and the InsuResilience Global Partnership which aim to have 500 million poor and vulnerable people in developing countries benefiting from direct or indirect insurance by 2025. Parametric microinsurance products therefore provide a unique opportunity to help close the protection gap among the most vulnerable.

ABOUT THE CLIMATE RISK ADAPTATION AND INSURANCE IN THE CARIBBEAN PROJECT

The CRAIC project is implemented by the Munich Climate Insurance Initiative (MCII) together with its partners, CCRIF SPC, the International Labour Organisation's (ILO's) Impact Insurance Facility, DHI, and MunichRe. The CRAIC project was conceptualized to address climate change, adaptation, and vulnerability by promoting parametric insurance at the individual level as a disaster risk management instrument in the Caribbean. In order to reach this population, CRAIC developed a microinsurance product called the Livelihood Protection Policy (LPP). The CRAIC project is being implemented in five Caribbean countries: Belize, Grenada, Jamaica, Saint Lucia and Trinidad and Tobago. CRAIC is funded under the International Climate Initiative (IKI), which is supported by the German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU).

A BRIEF ON THE LIVELIHOOD PROTECTION POLICY

Parametric (or index-based) insurance products are insurance contracts that make payments based on the intensity of an event (for example, hurricane wind speed, earthquake intensity, volume of rainfall) and the amount of loss calculated in a pre-agreed model caused by these events. Therefore payouts can be made very quickly after a hazard event. This is different from traditional insurance settlements that require an on-the-ground assessment of individual losses after an event before a payment can be made.

Weather-indexed microinsurance refers to policies typically designed for individuals which pay out after pre-determined triggers, such as excess rainfall or high wind speed, have been met. These payouts are free to be used for repairing damage to physical assets or to help individuals compensate for losses in livelihood.

The LPP is a parametric microinsurance product and an example of an ex-ante disaster risk financing tool. The LPP has been designed to help protect the livelihoods of vulnerable individuals such as smallholder farmers, tourism workers, fishers, market vendors and day laborers by providing quick cash payouts following extreme weather events (specifically, extreme winds and excess rainfall). These payouts are intended to provide some level of stability to clients' financial situation after severe storms, allowing them to avoid adopting adverse coping strategies that could lead them deeper into poverty while awaiting for help from external sources. The LPP is not only for individuals, but also community groups such as credit unions and farmers cooperatives who can purchase policies on behalf of their members. Governments are also being encouraged to incorporate the LPP as part of their social protection policy and strategy, so that they can quickly send a payout to those most in need via an existing cash transfer after an extreme event hits.

Similar to other parametric insurance products, the LPP is an insurance contract that makes payments based on the intensity of an event based on pre-agreed trigger values. Therefore payouts can be made very quickly after a natural hazard strikes. This is different from traditional indemnity insurance settlements that require an on-the-ground assessment of individual losses after an event before a payment can be made. The key features of traditional insurance are the onus of proof on the insured party to validate a loss, the power for the insurer to dispute a claim amount and the administrative burden involved in making a claim.

Payouts to policyholders under the LPP are disbursed between three and 14 days after an event. Since the LPP was launched in 2014, policyholders (mainly smallholder farmers) in Jamaica and Saint Lucia have received payouts allowing them to get back on their feet and realize concrete earnings from their



work as soon as possible after an event. For example, following Hurricane Matthew in 2016, individuals in Saint Lucia received payouts totaling USD 102,000 on their Livelihood Protection Policies.⁶ The LPP is innovative and represents a first step in proactive planning for climate adaptation and is an effective mechanism to close the protection gap.

LESSONS LEARNED FROM THE CRAIC PROJECT: 2011 – 2018

Given that CRAIC was one of the first projects of its kind in the region, it was designed as a project focused on learning and continuous improvement. The CRAIC project consortium aimed to capture the lessons learned during implementation, build on best practices, and—when required—take corrective action along the way. The lessons learned by the CRAIC implementers are applicable to other small island and coastal states that have an interest in developing and implementing similar microinsurance schemes to support vulnerable populations. This publication of lessons learned is intended to encourage a culture of learning and knowledge sharing on climate and disaster risk insurance, vulnerability, and closing the protection gap.

The lessons learned under the CRAIC project are structured under four themes:

1. **Managing Expectations**
2. **Product Design**
3. **Market Development**
4. **Engagement for Sustainability**

THEME 1: Managing Expectations

When the CRAIC project first introduced the LPP to the Caribbean, there was significant interest in an insurance product that could indemnify low-income individuals after extreme weather events. However, although many CARICOM governments had been purchasing parametric coverage from CCRIF SPC for several years, the average citizen and (in many cases) the private sector were not familiar with parametric insurance. Other observations related to the LPP in the early years revealed that there was a limited understanding among both local insurers and the target population of how the index was calculated, the data sources used to build the model and how payouts were triggered. In addition, there was a lack of willingness to pay for the insurance premium after years when there was no payout. Without a comprehensive understanding of the policy conditions underpinning an insurance product, it becomes difficult to manage expectations especially when a policy does not trigger and therefore no payout is due. It is a well-established industry and regulatory standard that the clear communication of insurance benefits and claims conditions is critical for both consumer protection and satisfaction. The lessons learned related to managing expectations are presented below.

Lesson Learned #1

Education on parametric insurance is needed among the target population

Lesson Learned #2

Basis risk must be understood by government, insurers, distribution channels, and the target population for parametric insurance to be accepted

Lesson Learned #3

Policyholders must understand the elements and benefits of the actual policy and be provided with guidance when purchasing the product

Lessons Learned #4

Insurers and implementers must clearly communicate the benefits and limitations of parametric insurance



Managing Expectations

LESSON #1

EDUCATION ON PARAMETRIC INSURANCE is needed among the target population

When most people think about insurance for natural hazards, they think about traditional property insurance. Property insurance is a type of indemnity insurance, which means that the insurance payout corresponds to the amount of loss that a policy holder has experienced. This common knowledge on indemnity insurance can make parametric insurance difficult to understand. People expect a loss adjuster to check the amount of damage after an event. Receiving an automatic payment regardless of the damage is still a new concept that can seem too good to be true. Likewise, the idea that a policy holder may not receive a payout even when they have experienced losses can be met with a lot of resistance at first.

There are many core concepts related to parametric insurance that must be clearly explained to the target population if they are to develop trust in the products. **Policy holders must understand that a payout amount is determined by the parametric model, and is correlated with the severity of the event.** They must also be aware that there may not be a payout after an extreme weather event if a trigger is not met. Clients should know that even if there is a payout, it will not be equal to the amount of actual losses they have experienced. Additionally, policyholders must be aware that a loss adjuster will not come to their house, business or farm to inspect the damage, but in the case of the LPP, a payout will automatically be sent to their bank account within 14 days if their policy is triggered. Since CRAIC caters to low-income and vulnerable people, it is also important that educational products and tools are designed to be compatible with the educational levels of the potential policyholders.

Managing Expectations

LESSON #2

BASIS RISK

must be understood by government, insurers, distribution channels, and the target population for parametric insurance to be accepted

Another important area that must be understood by policyholders is the concept of basis risk, which is an inherent characteristic of parametric insurance. According to the Global Index Insurance Facility (GIIF)'s Index Insurance Forum, basis risk arises in parametric insurance “when the index measurements do not match an insured’s actual losses”.⁷ There are two forms of basis risk: in the first case, the policyholder does not receive a payout, or receives a payout that does not cover the amount of damage they have incurred; the second form occurs when an insurance policy is triggered even though the policyholder has not experienced any damage or receives a payout larger than the amount of damage they have incurred. Both forms of basis risk present a risk to insurers. In the first case, insurers run the risk of damaging their reputation when policyholders have suffered from an extreme weather event but the rainfall and wind speed were not high or sustained enough to trigger. In the second case the insurance may pay out more often or a larger amount than what is actually required by policy holders to recover from the event. The differences between payouts and experienced losses can lead to mistrust in the quality of the products, the validity of the parametric models and the insurance industry. Policyholders should understand that the design of the LPP seeks to minimize its level of basis risk, but that basis risk is still an inherent component of parametric insurance products.

Managing Expectations

LESSON #3

Policyholders must understand the elements and benefits of the actual policy and be provided with GUIDANCE WHEN PURCHASING the product

Once individuals have decided to purchase a policy, they must understand exactly what it is that they are buying and what level of coverage they need for their specific circumstances. Guidance must be provided on premium pricing versus maximum payouts and potential policy options, how much coverage to purchase, etc. They must also be made aware of where they can purchase the policy, how they can receive payouts, and how they can renew their contract and make premium payments. If this information is too hard to find or too confusing, it could demotivate individuals from purchasing the insurance product.

Parametric insurance policies could increase access to loans from financial institutions if the lending institution has the options of using the insurance as a form of collateral. If a lending institution decides to use the insurance as a form of collateral, this must be clearly communicated to the policy holder.

Managing Expectations

LESSON #4

Insurers and implementers must clearly communicate the BENEFITS AND LIMITATIONS of parametric insurance

It also is important to ensure that policyholders understand insurance is not a silver bullet and disaster risk reduction measures must be incorporated to reduce their exposure, build resilience and thereby reduce the likelihood of incurring a large amount of losses after a natural hazard. **Policy holders should understand that risk transfer—of which insurance is only one tool—is only one part of an effective disaster risk management (DRM) strategy.**

Through education and training programming, implementers should work with policyholders to build awareness on the usefulness of parametric insurance and how it could be used alongside other measures to minimize their overall exposure to natural hazards. While insurers may not have much vested interest in building the capacity of policyholders in DRM, CRAIC has learned that NGOs, community groups, and government agencies are willing and can play an important role in incorporating information on risk transfer and insurance into their DRM training and other capacity building and awareness raising sessions to ensure that the target population understands the benefits and limitations of insurance.

THEME 2: Product Design

CRAIC designed the LPP initially to cover extreme rainfall and winds with standardized and limited payouts occurring at four different trigger levels. This simplified approach allowed insurers to be able to quickly and easily explain the product to potential clients. While the product was designed with the vulnerable population in mind, the product can be made available to anyone willing to purchase it, recognizing that all income groups in the Caribbean islands can be negatively affected by extreme weather events. This approach led to many valuable lessons on product design.

Lesson Learned #5

Continuously improving the parametric models that underpin policies to enhance product performance

Lesson Learned #6

Developing new products for different target groups

Lesson Learned #7

Adopt a segmented approach that involves product variety

Lessons Learned #8

Social protection: aligning microinsurance schemes with national social protection policies and strategies

Lessons Learned #9

Government can play a vital role in raising awareness of and educating on parametric insurance

Lessons Learned #10

Consider the use of multiple distribution channels for improving access to the products and receiving payouts

Lessons Learned #11

It is important for insurers to understand the target population: using customer-centric design to meet needs

Lessons Learned #12

Selling group policies is important to increase access to insurance and enhance sales



Product Design

LESSON #5

**Continuously
improving the
parametric models
that underpin policies
to ENHANCE
PRODUCT
PERFORMANCE**

One of the challenges that has impacted parametric insurance products is insufficient reliable and accurate historical data for different perils such as wind, rain, or drought. Long term, high quality historical data is a key requirement to developing parametric products that can be reasonably priced and have a low amount of basis risk. However, the data is often scattered across sources of varying quality and accuracy, and oftentimes the data may be difficult to assess. Moreover, the validation of parametric models require using historical records that often do not exist. If an insurer does not have enough data to create a high quality model, they may add a malus as an extra premium (basically loading the premium) to the product to compensate for uncertainty. This malus is then passed on to the buyer of the product through a higher price.

To improve the accuracy of parametric models, insurers can regularly incorporate new and improved (e.g. higher resolution images or more granular) data into risk models and product updates. For example, using data with higher resolution would allow for products to be more accurately paid out and lower the amount of basis risk. Parametric models also need to take into account the future predicted trends of these losses in light of climate change. Governments can also help by systematically collecting weather data as well as damage records that may come from Damage and Loss Assessments (DaLA) or Post Disaster Needs Assessments (PDNA). Weather data should be in accordance with the World Meteorological Organization (WMO)'s standards, as this would make the data comparable to other sources and allow for greater analysis.

Product Design

LESSON #6

Developing new products for DIFFERENT TARGET GROUPS

In order to meet the needs of different target populations, it may be prudent to tweak products. For example, a product designed for farmers may not be applicable to fisherfolk who are often affected by waves that can prevent them from going out to sea. The LPP paid out according to wind speed and rainfall levels, and the fact that it did not have an additional trigger for waves may have made it an unattractive option for some fisherfolk. In other words, **insurers should recognize that different vulnerable groups may have varying needs and their livelihoods could be affected by varying perils.** Products can be differentiated by hazard, price, trigger levels, value added features, premium frequency and payout amounts. Similarly, the needs of men and women may differ, and implementers should incorporate gender considerations into the product design, recognizing that women are often more impacted by extreme weather events. Designing products to meet the needs of different target markets could result in closing the protection gap even at a faster rate as one would ensure that there is higher levels of access.

Insurers can also work to minimize the impact of basis risk of different groups by augmenting policies with ground-truth mechanisms and secondary triggers, such as having specific individuals check the damages in an area after an event or using additional data sources, and by continually improving the data sets in the risk models. Moreover, it is important to investigate how hybrid insurance products, which combine components of both parametric and indemnity insurance products can be used to mitigate basis risk. For example, if a large groups of farmers have all been affected by an event, but the trigger level was not met, the insurer could conduct an audit to determine if the amount of damage warrants a payout.

Product Design

LESSON #7

Adopt a SEGMENTED APPROACH that involves product variety

The more perils that are included in a parametric insurance product, the more expensive it will be. Similarly, the lower the triggers, the more often it will pay out and thus the more expensive it will be. Parametric products are priced according to these different risks. For example, if an insurer decides to the lower wind speed, or to lower the amount of rain fall needed to trigger a payout, the product will become more expensive.

Parametric microinsurance hence needs to be correctly priced and meet the needs of the client and the insurer if it is to be commercially viable. Depending on an individual's risk profile, they may want a product that triggers at lower wind speed levels, as they are still affected by low wind speeds. It is thus important to understand different target groups' risk profiles in order to make sure that products meet their needs.

It is important to note that higher prices may make the product unaffordable for the lowest income groups and the vulnerable. This knowledge has allowed CRAIC to focus on developing two new product varieties:

- **Government-sponsored** or subsidized policies for specific targets groups that are low-income, highly exposed, or vulnerable to extreme weather events or those who work in critical sectors such as agricultural, could be beneficial. Governments could do this by paying for part of the insurance premium, eliminating value-added taxes on insurance or leveraging existing cooperative groups to distribute group policies.
- **Bundling insurance** with non-insurance products, such as credit, may increase client value. Such products can protect financial institutions from extreme weather events by allowing insurance payouts to go towards paying back the policy holder's loan. This extra security for the financial institution can also allow them to lend to individuals whose income is affected by climate risks, increasing the supply of credit. Alternatively, parametric products could be bundled with other forms of insurance, such as life insurance, in creasing the value of or the product for policy holders.

Product Design

LESSON #8

SOCIAL PROTECTION: aligning microinsurance schemes with national social protection policies and strategies

Market-based approaches struggle to reach the poor due to several reasons. The first is that it can be difficult to reach lower income groups that are located in remote areas, as high time and travel costs are required to reach them. Moreover, the lower income groups might be in need of financial literacy in order to understand the types of banking and insurance instruments they are presented with. Additionally, if some individuals do not actively use a bank account, they may experience difficulties purchasing insurance, regularly paying premium and receiving payouts because parametric insurance products often require these bank accounts in order to have the insurer transfer the payout.

Governments should consider how insurance can be leveraged to enhance the social protection systems in responding to natural hazards and extreme weather risks. Incorporating parametric insurance into a social protection scheme could allow governments to provide support more quickly after an event, preventing the aftermath of the event from worsening. This strategy could also help families from falling into a poverty trap and can reduce vulnerability.

Further, by linking micro insurance with social protection, governments can also reduce the financial burden of disaster response, and prevent themselves from having to reallocate budgets moving resources away from other development priorities.

Product Design

LESSON #9

GOVERNMENT can play a vital role in raising awareness of and educating on parametric insurance

Governments have a large role to play in increasing awareness on the products through their work with different target groups through ministries working on agricultural, fisheries, and social development. For example, many governments in the Caribbean have agricultural extension officers in place, who work closely with farmers in areas ranging from educating on new climate-resilient farming techniques to finding new markets for their produce and helping them create linkages with other sectors such as tourism. Agricultural extension officers are excellent partners to bring the message of CRI to the farmers as they hold a high level of trust.

The government's support could lead to lower insurance pricing, as the insurer will not be required to increase the cost of the insurance premium to cover high marketing and outreach costs. Local governments can also support insurers by providing information on how groups in their town and parish are affected by natural hazards. They could also provide the platform, through community and outreach events, for insurers to present and raise awareness on insurance and the role it can play in helping people quickly recover from extreme weather events. For example, insurers in Saint Lucia presented a short skit on the LPP during one of the town's community events, allowing the audience to learn about insurance in an entertaining and engaging way.

Lastly, at the policy level, ministerial champions and regulators are instrumental for a new insurance product. Without the support of insurance regulators, the development and rolling out of new products can take considerably more time.

Product Design

LESSON #10

CONSIDER THE USE OF MULTIPLE DISTRIBUTION CHANNELS for improving access to the products and receiving payouts

Microinsurance often targets people who have not been covered by insurance before or who operate outside of the financial system. These individuals may also not have access to banking systems and digital technologies such as online banking. The CRAIC project has realized the importance of using multiple distribution channels to reach more people, including people in rural areas who may not have much access to financial institutions. The CRAIC project also learned the importance of insurers leveraging commonly-accessed distribution channels that reach the target population to enhance sales.

For example, by using credit unions and banks as distribution channels, financial inclusion and local agency networks increase access to insurance along with other services. However, the product must be designed to also add value for the distributor. For a bank to sell insurance policies as part of their services, they will need to be compensated for the margin, extra training, and education that will be required. Without appropriate compensation, financial institutions may not put much effort or resources into the sale of CRI products.

Product Design

LESSON #11

It is important for insurers to understand the target population: USING CUSTOMER-CENTRIC DESIGN to meet needs

During the design phase, it is essential for insurers to consider how potential policyholders will purchase and pay for the insurance policy. **Aligning premium payment dates with the policyholders' income streams is one way to improve affordability and enhance uptake.** For example, many farmers earn most of their income during the harvest season. It would therefore be prudent for insurers to investigate if they could facilitate the collection of premiums during this time period when farmers have the liquidity to pay for such an insurance. Other target groups such as fishermen or tourism workers will have different times when they have more funds at hand, which is why insurers should investigate when the different groups are most willing and able to pay. Alternatively, allowing premiums to be paid on a monthly or even weekly basis rather than requiring an annual lump sum also makes the product more accessible for those working in sectors with more volatile income streams.

Product Design

LESSON #12

Selling GROUP POLICIES is important to increase access to insurance and enhance sales

Cooperatives, businesses, associations and organizations can act as an aggregator for group policies on behalf of their members. Under the CRAIC project, many of these organizations have shown interest in group policies. **A group policy is a viable way to increase access to insurance and enhance sales.** It can be sold to the group (the insured), preventing the insurer from having to register each member (the beneficiary) individually. A group policy therefore has lower administrative costs than individual policies, which can make coverage cheaper overall for each contributing member of the group.

If group and individual sales are to be offered alongside each other in a country, a discount could be applied to the group premium to create an incentive for group leaders to consider purchasing a group policy on behalf of their members. Individual sales may not be viable for all insurers, so covering multiple individuals through a single group insurance contract may be a key to success in terms of increasing scale.

THEME 3: Market Development

In addition to the actual design of a product, CRAIC needed to develop the market for these types of insurance solutions. Most insurers in the target countries were accustomed to working with higher income clients and had limited experience targeting lower income groups. New approaches for marketing, selling and distributing to these individuals thus needed to be developed.

Lesson Learned #13

Local NGOs and Community-Based Organizations (CBOs) have an important role to play in lowering the cost of insurance

Lesson Learned #14

Creating competition in the market: creating success without picking winners

Lesson Learned #15

Incorporating the use of technology and digital solutions to facilitate sales and distribution of products and payouts

Lessons Learned #16

The importance of communication as a tool to build trust in insurance cannot be underscored:

Lessons Learned #17

Local insurers need to align climate risk microinsurance to their overall business strategy



Market Development

LESSON #13

Local NGOs AND COMMUNITY-BASED ORGANIZATIONS (CBOS) have an important role to play in lowering the cost of insurance

Implementers should seek to strengthen general insurance awareness and capacity through training and technical assistance. For some individuals, parametric insurance is the first form of insurance they have ever purchased. There is hence often the need for people to receive some form of financial education to better make decision on savings, loans, insurance and overall risk diversification. **Without this education component, potential clients could misunderstand how parametric insurance can most effectively be used to complement their other risk management strategies.**

Under the CRAIC project, it became clear that policyholders often had confidence in and worked closely together with local NGOs and CBOs. These organizations often work together with communities to train them on disaster risk reduction and management. By integrating information on disaster risk financing and parametric insurance into their DRM training, NGOs and CBOs can help raise general awareness of insurance solutions and how they can contribute to accelerating recovery efforts after extreme events. Moreover, by explaining to the local population how parametric insurance differs from traditional forms of insurance, community members can better evaluate if parameter insurance is an appropriate solution for them.

By having local NGOs and CBOs introduce these topics, insurers will not have to spend as much time conducting their own educational and training sessions, reducing their marketing and advertising costs. This, in turn, will be reflected in the pricing of the insurance product. When marketing and advertising costs can be lowered, the product offering can become cheaper.

Market Development

LESSON #14

Creating COMPETITION IN THE MARKET: creating success without picking winners

Introducing competition among insurers and distribution channels can provide the impetus for insurance companies to advertise, educate and sensitize at a greater scale to increase their market share and motivate innovations in product offerings and outreach techniques. Moreover, insurers can differentiate themselves by specializing in certain types of products and solutions that are most suitable for a specific subset of the overall target group. Different insurers could also increase the availability of insurance in several regions and communities through their varied distribution channels. **Creating competition could also benefit the industry by catalyzing competitive pricing.** Regional risk diversification could also be enhanced if multiple insurers enter this line of business.

For example, some insurers may have a strong customer base that works in the tourism industry or is located in one region. The insurer can consider what perils most affect the livelihoods of these tourism workers and develop a product that would protect them against these risks. Other insurers that work closely with the agricultural sector can investigate which types of products and/or add-ons would be most beneficial to farmers or fishers. By creating specialized products, insurers can differentiate themselves from their competitors and target the market segments they see as more aligned to their overall business strategy.

Market Development

LESSON #15

Incorporating the use of TECHNOLOGY AND DIGITAL SOLUTIONS to facilitate sales and distribution of products and payouts

Digital technologies can play a role in customer acquisition as well as the sales and distributions of policies and payouts.

Parametric insurance often has a high technical price, as the likelihood of an extreme weather event occurring is quite high in some regions. **Thus, insurers must strive to keep**

additional sales costs as low as possible in order to maintain the affordability of the product.

Digitalized insurance solutions continue to advance and develop so that access to digital financial services increases. For example, in some countries insurance can be sold through web or phone application, which helps reduce sales costs. Similarly, if payouts can be made directly to policy holders' phones or bank accounts, the payout times will be reduced, allowing families to access and use the funds right when they need them.

It should be noted that exclusively using digital solutions has the potential to exclude certain target populations, such as the elderly or lower income groups who may not regularly use these technologies or have access to internet services.

Insurers should investigate which groups could be targeted, and determine how sales agents could better use digital solutions when making their first sales while developing alternative methods for other groups. Renewals and keeping in touch with the customers through demand-oriented service messages could also be done both digitally and in person. Regulators play a key role in creating an enabling environment for digital access to finance.

Market Development

LESSON #16

The importance of COMMUNICATION AS A TOOL to build trust in insurance cannot be underscored

One of the reasons individuals may choose not to purchase an insurance product is because of their lack of trust in insurance, which can stem from a lack of understanding and knowledge on how insurance works or from negative stories they have heard about insurance agencies from their families and friends.

It is very important for the insurer to utilize communication tools to continuously engage potential clients. Under the CRAIC Project, emphasis was placed on a range of communication activities to bring about awareness of the project and the product among the target populations. The CRAIC project employed UN volunteers to engage communities and also published a range of publications, videos in indigenous languages, as well as disseminated press releases when there were success stories to be told. **Hearing about the experiences of their neighbors and community members can help raise awareness of the parametric insurance products and build trust in insurance.** Insurers can advertise these payout stories through written brochures, radio interviews, and other social media channels. Through this dissemination of experiences, individuals will have an improved understanding of how the product works and when it pays out, increasing their trust in the product and the insurance agency.

Market Development

LESSON #17

Local insurers need to align climate risk microinsurance to their overall BUSINESS STRATEGY

Microinsurance should not be seen by local insurers, reinsurers and distribution partners as part of their corporate social responsibility (CSR) strategy. If insurers see parametric and microinsurance only as a part of CSR, they may discontinue the product when business challenges arise. Rather, **insurers should align microinsurance products to their core business strategy, viewing it as an opportunity to engage with new clients who can potentially purchase other products that they may have on offer, creating a win-win situation.** By aligning microinsurance to their overall business strategy, insurers may be more willing to invest their time and resources into product development and roll out, increasing their dedication to the success of the product. Their commitment to each step of the product development and sales will be instrumental in ensuring that it can satisfy customer needs.

It is the responsibility of implementers to communicate expected associated staff, marketing, and sales costs clearly to business partners. Expectations must be realistic, however, noting that this market segment is nascent and will take several years to mature.

THEME 4: Engagement for Sustainability

The CRAIC project brought together partners from the private sector, public sector and academia to implement its project activities. Having a diverse group of stakeholders is key to a successful project implementation and achieving project outcomes, as each stakeholder has a key role to play. Governments provide the enabling environment in which innovation can take place through their regulations. They are also key in institutionalizing new approaches and in reaching specific groups through their networks. Academia, particularly universities located in the region, assist by carrying out research and collecting the data that is needed for model development and product design. Researchers that have already conducted research on vulnerability in the region offer particularly useful insights into the target populations. Lastly, the private sector is key to developing innovative insurance solutions, using their experiences to create tailored products to meet local demand.

Lesson Learned #18

Integration of insurance: promoting Integrated Climate Risk Management (ICRM)

Lesson Learned #19

Sustainability: integrating microinsurance into country and regional institutions

Lesson Learned #20

Engagement with governments: embedding insurance into National Adaptation Plans (NAPs)



Market Development

LESSON #18

Integration of insurance: promoting INTEGRATED CLIMATE RISK MANAGEMENT (ICRM)

Most governments have detailed DRM plans explaining the actions the government and its citizens should take in the prevention, preparedness, response, and recovery phases. What is often less emphasized is the role of risk retention and risk transfer. It is nonetheless vitally important for governments to educate their citizens on the financial tools that could help them better manage their own risks.

Depending on the risk profile of certain groups and their vulnerabilities to certain hazards, governments should explain how different financial tools could benefit them. While loans might seem like an attractive option after an extreme event strikes, individuals should understand the challenges associated with taking out additional credit, as their productivity levels after the event will likely be lower, making it difficult to pay back the loan. Alternatively, if they pay for parametric insurance when they have cash on hand, this can result in them quickly receiving a payout after the event. Lastly, depending on how severely one's income sources will be impacted by different perils, relying on savings could also be an option. **By integrating risk retention and risk transfer into their overall DRM approach, governments and individuals can ensure that they are making the best financial decision for their specific situation.**

Market Development

LESSON #19

SUSTAINABILITY: **integrating** **microinsurance into** **country and regional** **institutions**

The aim of the LPP is to increase resilience to naturally-induced catastrophes in the Caribbean region. Likewise, regional risk pools such as CCRIF SPC, the African Risk Capacity (ARC) and the Pacific Catastrophe Risk Insurance Company (PCRIC) have worked to provide governments with support after extreme events using parametric insurance products. By integrating the programme and insurance solutions into government institutions or regional risk pools, implementers can:

- 1) Learn from the experience of the risk pools
- 2) Investigate how models can be leveraged for the macro and micro level
- 3) Use the similar risk models to avoid discrepancies on the micro and macro level
- 4) Create more transparency in how the product works

Implementers seeking to create sustainable parametric microinsurance schemes and products should consider how they can be integrated into country and regional institutions. Implementers may also want to reach out to regional risk pools to see how microinsurance can be integrated into their offering to governments. This approach can better serve the target populations and contribute to closing the climate risk protection gap.⁸

Market Development

LESSON #20

ENGAGEMENT WITH GOVERNMENTS: embedding insurance into National Adaptation Plans (NAPs)

Few of the current country DRM and National Adaptation Plans (NAPs) include a comprehensive disaster risk financing plan outlining the instruments they plan to employ in different scenarios. However, **it has been well-noted that disasters have devastating financial impacts on countries' economies and can derail their development efforts, setting them back a number of years.**

For this reason, it is vital for countries to include a disaster risk financing strategy as part of their overall NAPs and development plans. Countries that are highly vulnerable to extreme weather events know the types of effects a hurricane or earthquake can have on their society after having experienced such events themselves, or witnessed them striking their neighbors. These plans should address not only what instruments the government would pursue when they have to quickly respond after a disaster, but should also include a strategy on how they can best aid different segments of the population, including through the promotion of market-based insurance solutions for those who can afford them. For those people with a limited amount of savings or whose livelihood is greatly affected by certain natural hazards, the government can consider how to best provide immediate support. Governments should investigate how parametric insurance can be used to target these highly vulnerable groups so that they receive financial aid quickly after an event and expedite the rebuilding and recovery process.

CONCLUSION

The CRAIC project is entering a new phase in 2020, where the project team will be applying the lessons learned through new and strategic practices. The CRAIC project will be working on managing expectations by working closely together with governments to provide trainings and set up an education plan for potential beneficiaries so they understand what parametric insurance is, how it works and how it can help them better manage risks. The CRAIC project will also work on the product design by working together with modelers to design differentiated products for different groups. It will also work on market development by creating partnerships with local organizations who can help provide education. Lastly, the CRAIC project is excited to have CCRIF SPC take on a more leading role in the project, bringing their extensive experience in parametric insurance, education on insurance and regional development to the project countries.



About MCII

The Munich Climate Insurance Initiative was initiated as a charitable organisation by representatives of insurers, research institutes and NGOs in April 2005 in response to the growing realization that insurance solutions can play a role in adaptation to climate change, as suggested in the UN Framework Convention on Climate Change and the Kyoto Protocol. This initiative is hosted at the United Nations University Institute for Environment and Human Security (UNU-EHS). As a leading think tank on climate change and insurance, MCII is focused on developing solutions for the risks posed by climate change for the poorest and most vulnerable people in developing countries.

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