

# CROSS BORDER CRITERIA FOR CLIMATE AND DISASTER RISK INSURANCE SOLUTIONS

## — SOUTHEAST ASIA



## Table of Contents

<b>Executive Summary</b>	3
<b>1. Introduction</b>	6
1.1 Projected Climate Change Landscape in Asia by 2050	6
1.2 Top Challenges Across Socio-Economic Factors in Vietnam, Indonesia, and the Philippines	8
1.3 Inclusive Insurance and Climate and Disaster Risk Insurance Products	9
1.4 Top Challenges Impacting CDRI in VIP	11
<b>2. Regional Overview</b>	13
2.1 Climate Change in Vietnam	14
2.2 Climate Change in Indonesia	16
2.3 Climate Change in Philippines	18
<b>3. Cross Border Criteria</b>	22
1. Human Centredness	27
2. Affordability	30
3. Accessibility	34
4. Awareness and Literacy	38
5. Organizational Support and Structure	41
6. Reinsurance and Risk Pooling	45
7. Key Performance Indicators	49
8. Technology and Innovation	55
<b>Conclusion</b>	59

## Abbreviations

<b>1CISP</b>	1 Cooperative Insurance System of the Philippines Life and General Insurance	<b>KPI</b>	Key Performance Indicators
<b>A2ii</b>	Access to Insurance Initiative	<b>LGU</b>	Local Government Unit
<b>ADB</b>	Asian Development Bank	<b>MI</b>	Microinsurance
<b>ASEAN</b>	Association of Southeast Asian Nations	<b>MSME</b>	Micro, small and medium-sized enterprise
<b>CCUS</b>	Carbon Capture, Utilization, and Storage	<b>MARD</b>	Ministry of Agricultural and Rural Development
<b>CCRIF</b>	Caribbean Catastrophe Risk Insurance Facility	<b>NFNAIPP</b>	Ministry of Finance National Agricultural Insurance Pilot Programme
<b>CDRI</b>	Climate and Disaster Risk Insurance	<b>PCDIP</b>	The Philippine City Disaster Insurance Pool
<b>CRI</b>	Climate Risk Insurance	<b>PCIF</b>	Philippine Catastrophe Insurance Facility
<b>DRI</b>	Disaster Risk Insurance	<b>PCIC</b>	Philippine Crop Insurance Corporation
<b>DRFI</b>	Disaster Risk Financing and Insurance	<b>PDP</b>	Philippine Development Plan
<b>DTI</b>	Department of Trade and Industry	<b>PHP</b>	Philippine Peso
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	<b>PRC</b>	People's Republic of China
<b>FICCO</b>	First Community Cooperative	<b>PSF</b>	People's Survival Fund
<b>FSAI</b>	Financial Services Authority Indonesia	<b>RFPI-Asia</b>	Regulatory Framework Promotion of Pro-Poor Insurance Markets in Asia
<b>IAIS</b>	International Association of Insurance Supervisors	<b>SADRIF</b>	Southeast Asia Disaster Risk Insurance Facility
<b>IC</b>	Insurance Commission, Philippines	<b>SME</b>	Small and Medium Enterprise
<b>USD</b>	United States Dollar	<b>TWG</b>	Technical Working Groups
<b>VIP</b>	Vietnam, Indonesia, Philippines		



## Executive Summary

**The climate crisis underscores how we are operating in a Volatile, Uncertain, Complex and Ambiguous (VUCA) world.**

Providing insurance to the poor and vulnerable has not been an easy feat, making it more challenging is the complexity of creating insurance products for the sector that cover impacts of climate change.

GIZ- RFPI III has been in the forefront of promoting Climate and Disaster Risk Insurance (CDRI) in Vietnam, Indonesia, and the Philippines (VIP) beginning 2019. Capitalizing on the 10+-year experience of the programme advocating for Microinsurance/Inclusive Insurance, there are several success factors that they employ to advance with the objectives of protecting the poor and vulnerable: (1) utilize insurance approaches to meet the poor's pressing needs to protect their lives, homes, and livelihood; (2) foster a participatory approach through involvement of all relevant actors, providing the basis for a meaningful long-term partnership; (3) develop capacities involving stakeholders from the private and public sectors; and (4) ensure sustainability and viability of the business models implemented, with focus on economic and social impacts.

The fourth factor, focused on sustainability and viability, has motivated the programme to create this report that provides key insights on what should the stakeholders keep in mind when creating a CDRI product.

We have determined eight (8) foundational criteria that will provide guidance to those insurance players in the VIP countries on how they can create an effective programme, utilizing the partnerships and technological platforms that are available to them.

The criteria were chosen based on the key lessons learned from various interviews with key stakeholders in Vietnam, Indonesia, and the Philippines to identify common themes and success factors primarily from the three (3) regions. In addition to interviewing regional, case studies were also assessed to understand the top challenges and opportunities faced in the CDRI space.



## Cross Border CDRI Criteria

1

### **Human Centeredness**

- 1.1 Deep understanding of the users' needs, and environments
- 1.2 Tailored insurance solutions that fit the local context

2

### **Affordability**

- 2.1 Users' cash flows in pricing insurance premiums
- 2.2 Subsidies for CDRI are leveraged
- 2.3 Insurance products are bundled
- 2.4 Possibility of mandatory insurance coverage is considered

3

### **Accessibility**

- 3.1 Utilization of cost-effective distribution channels
- 3.2 Employing use of online solutions

4

### **Awareness and Literacy**

- 4.1 Involvement in financial literacy campaigns

5

### **Organizational Support and Structure**

- 5.1 Establishment of an organizational structure that supports CDRI/Inclusive Insurance
- 5.2 Participation in the CDRI ecosystem
- 5.3. Initiatives of the Development Sector and Insurance Associations are supported

6

### **Reinsurance and Risk-Pooling**

- 6.1 Advancing Reinsurance Support
- 6.2 Engagement in risk-pooling mechanisms

7

### **Key Performance Indicators**

- 7.1 Adoption of KPIs related to CDRI
- 7.2 Alignment with National and Global Goals

8

### **Technology and Innovation**

- 8.1 Exponential Technologies are leveraged
- 8.2 Participation in Regulatory Sandboxes



# 1. INTRODUCTION

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## 1. Introduction

Asia is at the frontline of climate change impacts as the region becomes more and more vulnerable compared to other sections of the world. Three types of risks that arise from climate change include the physical effects, the transitional risks from the shift to a low-carbon economy, and the liability risks that account for the losses. Among the three, the most challenging impacts in Asia are the physical risks which include climate-related hazards that potentially endanger lives and infrastructure. This section focuses on the growing climate change effects to Vietnam, Indonesia, and the Philippines (VIP) under Emerging Asia based on the five socioeconomic systems (liveability and workability, food systems, physical assets, infrastructure services, and natural capital) and presents viable solutions to reduce and mitigate the risks.

### 1.1 Projected Climate Change Landscape in Asia by 2050 McKinsey Report

By 2050, about 1 billion people in Asia would be affected by lethal heat waves. The decline in outdoor working hours due to extreme heat and humidity translates to an economic loss of around \$2.8 trillion to \$4.7 trillion Asian Gross Domestic Product (GDP). About \$1.2 trillion of capital structures in Asia are at risk to inland flooding by 2050, accounting to over 75% of the global assets. With the absence of adaptation and mitigation, climate-related physical risks may be undermining the future of Asia's socioeconomic value and exceeding the environmental capacity. The Global Climate Risk Index Report ranked Vietnam and the Philippines with the highest Climate Risk Index Score in Asia. Both countries are ranked in the Top 10 regions most affected in the long-term index and the index of the respective year.

Additionally, by 2050 about 8% to 13% of GDP could be affected by the increasing heat and humidity in the Emerging Asia. Countries in the Emerging Asia, including the VIP, would be more susceptible to large volumes of rain and severe flooding. According to the World Resources Institute, an estimated total of USD 220 Billion of capital stock would be at risk of flooding by 2050. Although drought is not severe in Emerging Asian countries, the agricultural annual 10% probability crop yield increase of the region would drop to one percent by 2050.

Managing the climate change entails developing adaptation and mitigation measures that lead to social and environmental impacts. McKinsey Global Institute (2020) has divided Asia into four "Types of Asia" that encapsulate the different exposures of the regions, namely, Frontier Asia, Emerging Asia, Advanced Asia, and China. Vietnam, Indonesia, and the

Philippines (VIP) belong to the Emerging Asia which, together with Frontier Asia. Philippines (VIP) belong to the Emerging Asia which, together with Frontier Asia as described in the table below.

**Table 1. Types of Asia Classified into Exposures**

Types of Asia	Country	Description
Frontier Asia	Bangladesh, India, and Pakistan	Rapidly urbanizing global traders, with low economic regional integration
Emerging Asia	Vietnam Indonesia, Philippines, Laos, Malaysia, Cambodia, Myanmar, Thailand	Culturally diverse, with high regional integration and a major labour source
Advanced Asia	Australia, Japan, New Zealand, and South Korea	Capital and technology providers in the region
China	China (standalone)	Economic anchor in the region, serving as a connectivity and innovation platform

In the absence of adaptation and mitigation, physical climate change extremes may severely impact VIP and breach the five key socioeconomic thresholds on the region's liveability and workability, food systems, physical assets, infrastructure services, and natural capital.

**Severity of physical risks (low to high) vary across countries within the Emerging Asia region. Physical climate risk ratings for each indicator across VIP are presented below.**

**Table 2. Risk Increase Across Socioeconomic Factors**

Risk Increase across Socioeconomic Factors				
Country	Working & Living Conditions	Physical Assets and Infrastructure	Natural Capital	Food Systems
Vietnam	High Increase	High Increase	High Increase	Slight Increase
Indonesia	High Increase	Moderate Increase	Slight Increase	Slight Increase
Philippines	High Increase	Moderate Increase	Moderate Increase	Slight Increase



Vietnam has the greatest number of high-risk ratings to physical risks including heat waves, riverine flooding, and changing natural landscape due to climate change. Although Indonesia and Philippines are both an archipelago, the capital stocks of these countries have moderate threat to riverine flooding.

Among the eight Emerging Asian countries, Vietnam is expected to be the most severely affected by climate change in the coming decades until the year 2050. A summary of the projected socioeconomic impacts in Emerging Asia is provided below.

## 1.2 Top Challenges Across Socioeconomic Factors in Vietnam, Indonesia, and the Philippines



### Liveability and Workability

About 7% to 12% of working hours would be lost due to heat waves by 2050.



### Natural Capital

By 2050, 35% of mangroves which serve as natural storm barriers in Southeast Asian countries may decline.



### Food Systems

Agricultural annual probability of 10% crop yield increase is expected to have a declining trend, falling to 1% by 2050.



### Physical Assets & Infrastructure

Rising adaptation costs such as building seawalls likely in Jakarta, Indonesia as sea levels rise.

### 1.3 Inclusive Insurance and Climate and Disaster Risk Insurance Products

Inclusive Insurance is a term that is used to define insurance products that are affordable, accessible, and appropriate to the needs of the unserved, underserved, vulnerable, or low-income populations in emerging markets. It is also termed as 'Microinsurance' and comes in many forms, including life cover, funeral, property, health, agriculture and even auto.

Climate and Disaster Risk Insurance (CDRI) is considered a kind of insurance, traditional or microinsurance, that aims to protect individuals, businesses, and countries against the negative impacts of extreme weather events that are becoming more frequent and more severe due to climate change. CDRI can also be interchangeable with climate risk insurance (CRI), disaster risk insurance (DRI) and terms such "extreme-weather insurance", "index-based insurance" or "parametric insurance" as they cover typhoon, flooding, drought, and even volcano eruptions and earthquakes.

CDRI, in this context, is under the umbrella of Microinsurance/Inclusive Insurance, as climate change impacts the MSMEs and poor households the most. Although middle-income segments are also severely impacted by climate disasters, 90% had suffered loss of life or significant damage to assets from floods from the low-income sector, and their recovery took more than three (3) times longer. Moreover, the poor and vulnerable have limited access to insurance, as well as they tend to reside in disaster-prone areas, less resilient houses, and business assets, and do not have extra resources for risk mitigation.

The table in the next page shows the difference between regular insurance and inclusive insurance and CDRI, however, CDRI is classified as inclusive insurance as it targets the poor and vulnerable. Inclusive Insurance ensures that the lower-income population has access to a wide variety of insurance products that can protect their lives, homes, and livelihood.

90%

of the population unprotected  
against the impacts of climate  
changes in Asia

-Landscape of CDRI Report

**Table 3. Regular Insurance vs. Microinsurance/Inclusive Insurance vs. CDRI**

Type of Insurance	Type of cover	Maximum Premium	Policy Contract	Frequency of Premium Collection	Claims Settlement
<b>Regular Insurance</b>	Life and non-life	No Limitation	Full of complex conditions	Monthly, Quarterly, Semi-Annual, Annual	Generally, 30 - 90 days after submission of complete documents
<b>Microinsurance/ Inclusive Insurance</b>	Life and non-life	Affordable	Simple and easy to understand	Daily, Weekly, Monthly, Quarterly, Semi-Annual, Annual	Should be immediate as the low-income sector usually has limited access to resources
<b>CDRI</b>	Life and non-life, but protects against typhoons, flooding, drought, earthquake, volcanic eruption				

1. **Maximum premium** – One that differentiates inclusive insurance and CDRI from the traditional insurance is on the level of its affordability.
2. **Policy contract** – Since we are targeting the poorer section of the society, the policy contracts that should be drafted for Inclusive Insurance and CDRI should be easy to understand, preferably in local languages, and contain very few exclusions.
3. **Frequency of Premium Collection** – The main difference between regular insurance and inclusive insurance when it comes to frequency of premium collection is that some inclusive insurance products are collected daily or weekly – this is because the low-income sector, at least a portion of them, are daily-income earners (vendors, etc.)
4. **Claims settlement** – For the poor sector because they usually do not have savings or assets, would require claims to be fast and immediate.

Considering that CDRI is in a nascent stage and is covering the bottom of the pyramid, the supervisors and other key government agencies can have a remarkable role in the success of CDRI provision. The following are several ways that the government can support widespread adoption of CDRI:

1. Establishment of policies and industry roadmap that will catalyse the provision and adoption of CDRI;
2. Enablement of innovations that lead to the supply of responsible and appropriate insurance solutions that benefit the segment;
3. Embracing technology that enables value-adding, easily accessible products via increased distribution, while ensuring customer protection;



4. Recognition of subsidies or other financial incentives to the industry, at least for the early stages of operation;
5. Creation of a Monitoring and Evaluation system that will involve the public and private sectors to measure and validate progress of the initiatives.

## 1.4 Top Challenges Impacting CDRI in VIP (based on interviews with Stakeholders):



### High Operational Costs

The high operational costs of B2C and B2B models limit the distribution and capacity development requires to scale CDRI in the region



### High Financial Risk for Insurers

The high financial costs of servicing cat-risks for stakeholder's limit product development and scalability of CDRI in the region



### Lack of Customer Trust

Insurance products are often misunderstood region due to poor awareness, denial of known risk and cultural barriers around insurance



### Lack of Willingness to Pay

CDRI products are considered as an expense vs an investment among the most vulnerable especially since the payment is required in advance

An aerial photograph of a river valley. The river flows through the center, surrounded by terraced fields in various colors like yellow, green, and brown. In the background, there are dark, jagged karst mountains under a cloudy sky. A dark red horizontal band is overlaid on the middle of the image, containing the text '2. REGIONAL OVERVIEW'.

## 2. REGIONAL OVERVIEW



# | VIETNAM





## 2.1 Climate Change in Vietnam

The study conducted by ETHzurich and AXA (2020) for the InsuResilience Solutions Fund of Vietnam reveals that the financial gap to address climate risks is increasing. There are insufficient funds for disaster recovery. The study presents options for climate risk management for decision and policy-making purposes. Adaptation measures against a three-meter surge include the combination of seadykes, gabions, fence, and mangrove. Climate based assessment indicates that the benefit of \$48.8 B supersedes the cost of building the defence wall (\$1.8 B), thus saving more lives and properties for over 31 years. Residual risks are then captured by insurance.

### Top Initiatives on CDRI:

The Government of Vietnam has created an enabling environment for agricultural insurance through Decree 58, which is a policy support for insurers issued in 2018, and Decision 22, an implementation policy released in 2019 that brought about:

1. Enhanced the capacity of the public sector, industry, and farmers on agricultural insurance
2. Raised awareness among farmers on efficient production strategies and risk management
3. Set sample for the collaboration of various public and private sector players.

### Top Challenges in Vietnam for CDRI:



#### Low Adoption

The pilot covered several poor and near-poor farmers but engaged only a few less-poor farmers who also had more risks and high demand for agricultural insurance.



#### Dependence on Subsidy for Agri-insurance

Poor farmers had strong dependence on the subsidy, paying only minimum to no cost at all. With this, they cared less about managing the risks and empowering themselves.



#### Lack of Product Diversity:

The first pilot of agricultural insurance covered less frequent disasters hence farmers did not see the value of availing the insurance product.

### Top Recommendations:

For the insurance companies and other key collaborators for CDRI, the following can be considered in implementing the products:

- Effective implementation of the agri insurance policy and establishment of expanded policy in inclusive insurance;
- Strengthening financial literacy efforts;
- Strengthening monitoring and evaluation, risk management and local or community-level capacity building;
- Understanding and reflecting on the conditions, needs and behaviours of the end users in developing CDRI products.

# | INDONESIA



## 2.2 Climate Change in Indonesia

There are 270.6 million populations in Indonesia with 9.4% of them living below the national poverty line in 2019. Indonesia has a hot and humid climate, with rainfall occurring mostly in low-lying areas and mountainous regions experiencing cooler temperatures. It also experiences drier conditions during El Nino events and wetter conditions during La Nina events.

There were 289 natural disasters annually between 1989 and 2019 on average that directly and indirectly resulting in approximately 8000 deaths each year. Moreover, from 2000 to 2016, losses caused by natural disasters averaged roughly Rp22.8trn (\$1.6bn) annually.

### Top Initiatives on CDRI:

1. A newly implemented state-supported agriculture insurance program in Indonesia was launched that covers 0.6 million hectares and provides 80% premium subsidy to farmers.
2. A private insurer-driven agriculture insurance solution was also started reaching 1,200 farmers.
3. PT Reasuransi MAIPARK, offers an earthquake index insurance solution. It is offered as a portfolio-level cover to financial services providers like MFIs, among others, to cover the loss of portfolio due to earthquakes. The insurance pay-out is triggered by a pre-determined earthquake parameter (magnitude and intensity), which is announced by an independent and established third party like the BMKG—Indonesia's Meteorological, Climatological, and Geophysical Agency, or the United States Geological Survey. The idea is for the MFIs to buy insurance to protect their loan portfolios from potential liquidity crises after earthquake events.

### Top Challenges in Indonesia for CDRI:



#### Reactive Preparedness

Local government authorities rely on the emergency funds of the central government and are found to be more reactive than proactive. There is insufficient preparedness on the ground. Property insurance is a multi-institutional affair as infrastructural assets are owned by several institutions. Using public funding for purchasing insurance is not encouraged as public money is only to be spent for tangible products.



#### Poor Adoption

Communities who are well-adapted to flooding no longer recognize the relevance of taking insurance. This explains the low adoption of insurance by the public. The culture of discouraging people from not anticipating the impacts and thinking in advance of any future perils deviates from the concept of insurance. Community self-help during disaster response and the connection of people to their place affect their perception and uptake on insurance.

### Top Recommendations:

1. The inclusive insurance programs in Indonesia targeting the poorer sector of the society have mostly remained limited to credit-life products and its variants and Agri-insurance for farmers.
2. Utilize big groups, such as cooperatives, in promoting the adoption of CDRI as the number of cooperatives in Indonesia reaches 212,135 units with a total membership of 15% of the total population. Formalizing these insurance solutions and bringing them into the regulatory ambit of the insurance regulator, the OJK, will enable the sector to align a strategic roadmap for CRI.



# | PHILIPPINES





## 2.3 Climate Change in Philippines

The Philippines population in 2020 was around 109 million, and according to 2018 statistics, 16.6% of the population lived below the national poverty line. The Philippines' climate is tropical and maritime -characterized by relatively high temperature, high humidity, and abundant rainfall.

The estimated multi-hazard annual losses are close to US\$ 8 million, which is equivalent to 69% of the country's social expenditure.

Those living in the National Capital Region (70%) were the people most concerned with contracting an illness or getting harmed as an effect of climate change. Aside from health issues, other potential impacts reported by the respondents were loss of income (22%); damage to crops (20%); damage to house and property (19%); and infeasibility of farming and change of livelihoods (18%).

### Top Initiatives on CDRI

1. World Bank Catastrophe Bonds for the Philippines - Annual coverage of USD 206 million for national government assets against earthquakes and severe typhoons, and protection against severe typhoons for 25 Local Government Units (LGUs).
2. The Philippine City Disaster Insurance Pool- PCDIP will offer parametric insurance cover against typhoons and earthquakes in its first phase to cities in the Philippines that will expand to cover floods. The parametric cover will be offered through a risk pooling arrangement.
3. The Philippine state-supported agriculture insurance program provided by Philippine Crop Insurance Corporation covers around 1.4 million of hectares of lands and providing 100% (full) or 55% (partial) of subsidy. The partial (55%) PCIC Premium are for subsistence farmers participating in the PCIC Regular Rice and Corn Insurance Programs for CY 2019 (Board Resolution No. 2019-006) while the 100% premium Subsidy are for the insurance of farms and farm investments of Agrarian Reform Beneficiaries (ARBs), small farmers and fisherfolk not listed under the Registry System for Basic Sector in Agriculture (RSBSA) (Board Resolution No. 2019-008).
4. Some Mutual Benefit Associations, Cooperatives, and Microinsurance-oriented insurers providing typhoon covers.

### Top Challenges in the Philippines for CDRI:



#### Lack of Index Based Insurance

Broadening index-based insurance for agriculture and utilizing parametric insurance for insuring properties.



#### Lack Product Diversity

Need for more CDRI products that cover MSMEs.



#### Lack of Subsidy for CDRI for the Poor

Publicly finance CDRI for the poorest.



#### Limited Private Sector Engagement

Limited participants in insuring the poor from extreme weather events, especially from the commercial insurance space.



#### Lack of Participation in Online Solutions

Non-availability of CDRI products on online insurance marketplaces.

### Top Recommendations:

1. Engage in a multidisciplinary task force with other government agencies organized by several associations and development agencies (GIZ, World Bank, Asian Development Bank).
2. Private insurers to pilot test new agriculture insurance products including index based.
3. Participate in the sandbox approach to experiment innovative CDRI solutions.
4. Help to improve financial and digital literacy of the sectors that need CDRI the most.
5. Take a full proportional approach to risk, e.g., allowing innovative distribution, and technology solutions.

# Global Case

## Case Study: How PULA is Scaling CDRI in Emerging



Pula is a global insurance and financial technology solutions provider to smallholder farmers, supporting them to overcome climate risks and other farming challenges (Pula, 2020). Pula offers index insurance products coupled with farm material products or loan credit. They partner with the public and private sectors, loan providers and other players in the agricultural value chain to help small-scale farmers improve productivity, farming practices and income. The organization leverage on technology to develop community-based solutions and digital marketing strategies to bolster sustainable value among the stakeholders.

Since 2015, the company has served 1.7 million smallholder farmers in Africa and Asia. The cost of microinsurance is bundled with the cost of farming supplies such as seed and fertilizer. Pula uses geospatial data for a weather index insurance for failed germination and a long-term yield index insurance to cover poor harvest (Mayersohn, 2019).

### What Rallied the Success of Pula?



#### Accessibility and Affordability

Farmers are reluctant to invest due to climate risks. Pula has been convincing farmers and various partners such as the governments, seed and fertilizer companies, and loan providers that risks including drought can be averted or mitigated by pairing agricultural investments with insurance.

Data captured from the registration process are tapped by Pula to develop tailored solutions for the farmers. They leverage on the power of big data including satellite imagery to eliminate the need for manual ground-truthing or on the ground appraisal which take longer time and entail dozens of requirements before release of pay-outs. Pula made insurance accessible to the farmers at an affordable price through pooling of risks and by engaging more B2B partners (Mayersohn, 2019).

#### Product Diversification

Pula has continued to evolve as the organization expands its reach and diversify its offerings. The earliest products of Pula focused on the geographical assessments within the area of origin, Africa. The parametric-insurance based products catered to agricultural risks such as extreme drought and germination failure. They bundled the credit and insurance with farming products like fertilizer and seeds. Over time, Pula has realized that these are not the only risks faced by farmers. There is a need to optimize the crop-yield and equip the farmers against other climate-related hazards such as heat waves and flooding. From a one-to-one assessment for loss type of insurance





## Training and Development

Pula empowers the CDRI subscribers, mainly farmers, by understanding their journey, raising awareness on the risks, and educating them on the possible options to protect their future against climate risks. The concept of insurance as well as risk, mitigation and transfers are introduced in a localized manner.

Training is provided to agents who serve as the last mile distributor of insurance. Information Education and Campaign (IEC) materials are prepared and communicated in the local language of the farmers, ensuring an inclusive approach to learning. Pula has also established call centres in the country of operation, thus opening the lines of communication between the organization, partners, and insurance subscribers. Training, education, and grievance facilities empower farmers as they grow with the organization. These are the main success factors to Pula's sustainable value chain.



## Evidence Based Product Development

Pula develops multitude of insurance products contextualized based on the geographical location and risks. Their commercial index-based insurance provides an enabling platform for farmers in areas where it is not accessible.

Grounded on evidence-based product development, Pula utilizes historical data combined with other localized information such as rainfall, eco-zone delineation, satellite imagery, average crop yield, among others. Data analysis is anchored on agricultural-ecological, yield sampling, and remote-sensing results. Yield sampling is only conducted when venturing with a live client. As for remote-sensing, Pula taps on external and publicly available data. They develop a database with partners, creating a transparent and digital strategy to insurance.

Pula does not transact directly with the farmers. As a business-to-business company, Pula caters its services to government, development groups, non-government organizations who have the same vision of supporting farmers through a financial risk transfer mechanism. Through their innovative approach to CDRI, the company has gained approval from the underwriting communities.

## Product Focus for Asia

For the Asian market, Pula offers index-based insurance for risks covering the main agricultural crops in the region such as cotton, oil, ginger, potato, and vegetables. Using satellite imagery, the claims of farmers are settled based on a weather condition threshold or climate-risk parameter trigger.

Pula also offers protection to the livestock industry through insurance built on a Normalized Difference Vegetation Index (NDVI), an algorithm of satellite imagery data that quantify green vegetation density. The measurement of vegetation is used to forecast the impacts of drought (NASA, 2000). To serve the market further, disbursement of pay-outs is coursed through a financial technology partnered with the accessible local money transfer facilities.

The CDRI market in Vietnam, Indonesia, and the Philippines have a great opportunity for expansion as these countries lack a competitive product that addresses multiple risks across all crop products.

Vietnam has been pioneering agricultural and livestock insurance since 2011, however, the aquaculture shrimp industry has suffered a large loss. Learning from its lesson, government agencies picked up again in 2019 and pursued various initiatives on crop yield insurance. However, no data have been publicly available to assess the product's performance over the past years.

In Indonesia, pockets of insurance pilots have been released, but no sustainable index-based offering has been established by the government. There are current initiatives in improving the market, but unsure if efforts would still be continued.

Aside from the inevitable risks associated with insurance, the expensive administrative cost discourages insurers and reinsurers to venture into the CDRI industry. Unlike indemnity-based insurance that relies on property damage or loss, index-based insurance provides a cost-efficient means of processing claims. Pay-outs are released when the weather or climate condition threshold such as extreme rainfall volume is exceeded. The satellite imagery map eliminates the need for field appraisal and physical checking for damage verification. Pula offers an advanced option to lower the overhead cost and provide a reliable means of gauging the geographical and climate-related risks.

Establishing a solution like the CDRI insurance entails a collaborative and participatory approach among key stakeholders to ensure a feasible output that crosses out the 'whys' of the beneficiary communities. It starts with a community engagement of the farmers to understand their current situation and partnership with the government or organizations providing regular checking, monitoring, and evaluation.

A photograph of an elderly man wearing a traditional conical hat and a dark blue polo shirt, standing in a field of tall grass. He is looking towards the camera with a slight smile. The background is a soft-focus landscape with trees and hills under a hazy sky. A dark red horizontal band is overlaid on the left side of the image, containing the section header.

### 3. CROSS BORDER CRITERIA

### 3. Cross Border Criteria of the Provision of CDRI

To develop the Cross Border CDRI framework stakeholders in Vietnam, Indonesia, and the Philippines were interviewed to identify themes common to all 3 regions. In addition, to regional experts, Digital Start-ups operating in the CDRI space were interviewed to understand the top challenges impacting the scalability of these solutions. Some of the questions asked included:

1. What are the criteria for creating a CDRI product that can reach MSMEs and poor and vulnerable households?
2. What are their key success factors?
3. What are the best practices when creating a CDRI solution?
4. What are the challenges they face to scalability and sustainability?
5. What regulatory changes are needed for the development of sustainable products?

As an additional step, CDRI regional projects involving 2 multilateral agencies were analysed to showcase the role of each stakeholder, outline area of expertise and recommend areas of improvement.

### CDRI Product Development Factors and Considerations

To implement different CDRI products effectively across VIP, the following factors and variables should be considered:

1. **Relevant Risk:** Identity what climate disaster risks are significant to the stakeholders. This involves conducting research around understanding the nature of the risk; from its frequency, impact, and severity, not only to the area, but also to the people the product is being developed for.
2. **Stakeholders:** Determine all stakeholders and their roles in the overall planning and execution of the product. Getting everyone on board--from the regulators, distribution channels, subject-matter experts, down to the actual beneficiaries--is a crucial step. This does not only provide informed insights that are essential for the project's success but can also be an exhibition of buy-in making the execution more seamless.
3. **Climate Data:** Accessing and analysing climate data through different infrastructure available in the place. This can be done through the presence of different technology in place (i.e., weather station, rainfall gauges, flood station, etc.), and remote sensing (i.e., satellite data).



4. **Data Integrity:** Validating the authenticity of the collected data and synthesizing it. Cross-checking information gathered to the actual data on the ground should always be done as not all data sources are always updated.

CDRI development factors and considerations can be summarized as follows:

**Table 4. CDRI Development Factors and Considerations**

No	Factors and Variables	Description	Key Challenge	Recommendation
1	Relevant Risk	Determine what climate disaster risks are significant to the project.	Lack of understanding of the type of risk that is most relevant to the target customers.	Ensure a customer-centric approach.
				Focus group discussion with farmers or relevant stakeholders.
2	Identify Stakeholders	Identify all stakeholders and their roles in the overall planning and execution of the product.	Lack of expertise from the private sector and the government.	Involve all relevant stakeholders from start to finish.
3	Climate Data	Ensure availability of climate data and analysis infrastructure is in place.	Limited infrastructure and accessibility to common data resources	Leverage advanced technology through international partners/start-ups
				Develop central databases that gather information from different locations and agencies.
4	Data Integrity	Validate the authenticity of the collected data and synthesizing it.	Available data is not always updated and does not match with the actual data in ground.	Different agencies that hold data need to be more transparent and open with data sharing
				Initiate pilot studies on how to acquire different data sets.

It is essential that CDRI products that fit the needs and the environment of the poor and vulnerable are created. Since the industry is in a very nascent stage, we are still in the midst of discovering what works and what doesn't work. However, there are a good number of use cases involving the cooperative insurance and mutual benefit association sectors (1CISP and Pioneer), technology company (Pula), reinsurance company (Maipark), and insurance/reinsurance pools among others that enable us to provide perspective on what standards to set when providing CDRI products and services.

To be able to reach these segments, insurance companies should be able to consider several criteria that will make their products and services appropriate. However, since CDRI is in a nascent stage, the private sector cannot do it alone. The criteria also necessitate the active engagement of the government sector and development agencies.

The following are criteria that can be referenced by stakeholders in creating a CDRI product:

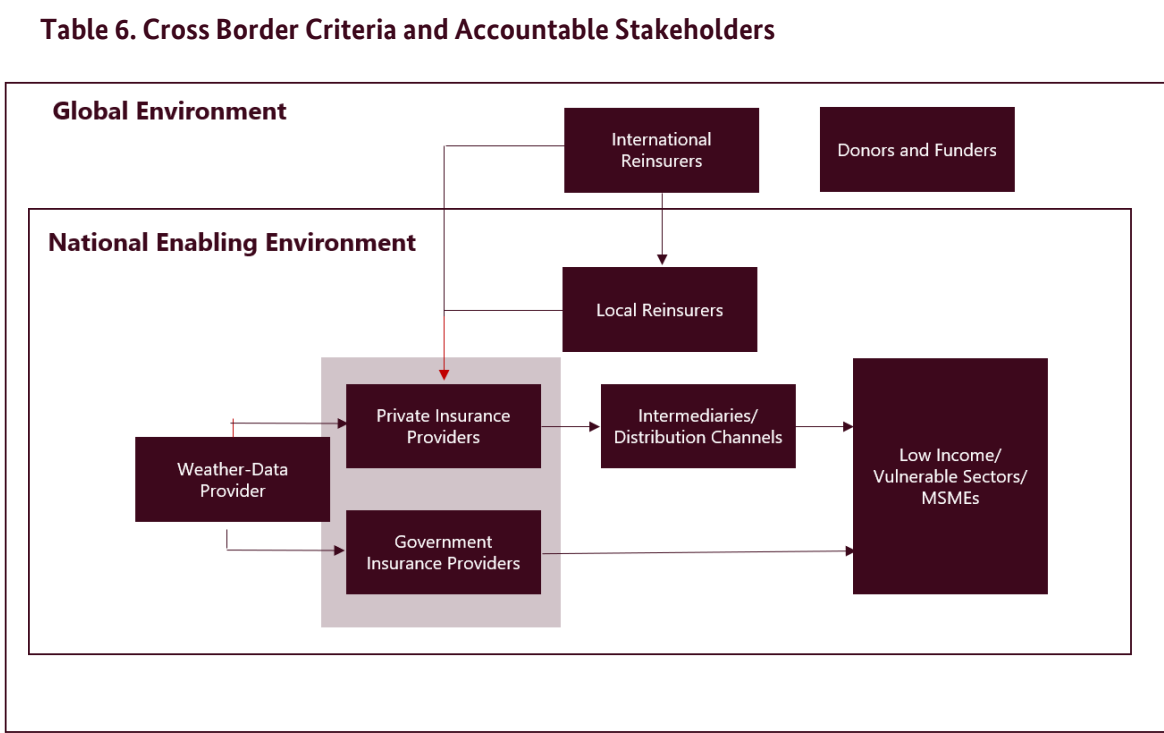
**Table 5. CDRI Stakeholder Value Chain**

Criteria	Key Areas of Focus	Stakeholders
1. Human Centeredness	1.1 Deep understanding of the users' needs, and environments	Private Sector and Development Agencies
	1.2 Tailored insurance solutions that fit the local context	
2. Affordability	2.1 Users' cash flows in pricing insurance premiums	Private Sector
	2.2 Subsidies for CDRI are leveraged	Private Sector and Government Sector
	2.3 Insurance products are bundled	Private Sector
	2.4 Possibility of mandatory insurance coverage is considered	Private Sector and Government Sector
3. Accessibility	3.1 Utilization of cost-effective distribution channels	Private Sector
	3.2 Employing use of online solutions	
4. Awareness and Literacy	4.1 Involvement in financial literacy campaigns	Private Sector, Government Sector, and Development Agencies
5. Organizational Support and Structure	5.1 Establishment of an organizational structure that supports CDRI/Inclusive Insurance	Private Sector, Government Sector, and Development Agencies
	5.2 Participation in the CDRI ecosystem	
	5.3. Initiatives of the Development Sector and Insurance Associations are supported	
6.Reinsurance and Risk-Pooling	6.1 Advancing Reinsurance Support	Private Sector, Government Sector, and Development Agencies
	6.2 Engagement in risk-pooling mechanisms	Private Sector, Government Sector, and Development Agencies
7. Key Performance Indicators	7.1 Adoption of KPIs related to CDRI	Private Sector, Government Sector, and Development Agencies
	7.2 Alignment with National and Global Goals	
8. Technology and Innovation	8.1 Exponential Technologies are leveraged	Private Sector, Government Sector, and Development Agencies
	8.2 Participation in Regulatory Sandboxes	

The main providers of CDRI products are usually private insurance companies and government insurance companies, the latter provides mainly agricultural insurance to farmers. Private insurance companies utilize intermediaries (agents, brokers, and other distribution channels) to reach clients from the low income and vulnerable sectors and MSMEs.

Local and international reinsurers are important part of the value chain as the serve as “insurance” provider to insurers. As CDRI is considered high-risk, reinsurers handle risks that are too large for insurance companies to handle on their own and make it possible for insurers to obtain more business than they would otherwise be able to. Donors and Funders work with all other stakeholders, bring them together to create roadmaps and support strategies and actions towards better social protection.

The illustration below shows a simple stakeholder’s value chain of the CDRI environment:



## 1. Human-Centeredness

### 1.1 Deep understanding of the users' needs, and environment

Human-centred design means believing that the people who face existing problems, such as poverty, gender equality, and clean water, holds the key to the solutions. This involves deep understanding about the people they want to serve and ideate on innovative solutions that are tailor-fitted to the actual needs of the target market.

Development agencies, who want to provide insurance products for the poor, tend to also co-design products with insurance companies, without implementing knowing more about their target market. However, this past years, human-centred design (HCD) is seen as a critical element in providing insurance products for small business and the poor.

### Top (3) high level phases when implementing HCD include (IDEO)



Inspiration



Ideation



Implementation

### Inspiration

This phase involves familiarizing with the design challenge and preparing a team with cross-functional experiences.

This is called the inspiration phase because it provides the team the direction on how to approach the problem.

#### Key questions to ask:

1. How do I get started with this CDRI program?
2. How do I conduct interviews, focused-group discussions, and immersions?
3. How do I focus on people's needs?
4. What are other tools I can use to understand people's needs?

This phase also involves learning more about the target market through group interviews, individual interviews, observations of the target market, immersions, etc. Through these, we will be able to understand our clients' external environments and internal motivations, their needs, personas, and their user journey.



### **Top 3 best practices to accelerate the Inspiration phase for CDRI:**

1. Build a cross-functional team with experiences in Technology, Capacity Development, Underwiring, Regulations, Data Privacy, Partnership development etc.
2. Frame the design challenge in a multi-stakeholder meeting
3. Create a project plan and secure buy-in of each stakeholder with timelines

## **Ideation**

This phase involves synthesising what you have learned from the Inspiration phase to identify the key client pain points/challenges and opportunities to resolve these. These will provide solutions that are need-based and will involve a lot of iterating and refining until its ready for implementation.

### **Key question to ask:**

1. What tools do I use to ensure I could make sense of what I've learned during the Inspiration phase?
2. How do I turn these insights into an effective CDRI product and service design?
3. How do I make CDRI prototype?
4. How do I know my idea is working?

### **Best practices to accelerate the Inspiration phase for CDRI:**

1. Gather your learnings (preferably in one platform like [Miro](#) Board)
2. Share inspiring stories and vote on your top (5) priorities,
3. Identify themes and patterns, use frameworks (customer journey map), brainstorm, bundle ideas
4. Create business model canvas to help with your go-to-market strategy
5. Secure feedback from stakeholders to test and refine the solution.

## **Implementation**

This phase is when the idea is launched and brought to the market.

### **Key questions to ask:**

1. How do I plan for what is next?
2. How do I implement the concept and ensure I have the resources and capacities to do so?
3. How do I assess if the impact of my solution/s?

### Best practices to accelerate the Inspiration phase for CDRI:

1. Apply methodologies like live prototyping
2. Establish timelines and accountabilities
3. Define key performance indicators (KPIs)
4. Assess project/product sustainability
5. Launch the pilot
6. Continuing iterating

### 1.2 Product is a tailor-made solution that fits the local context

Understanding customer need is one thing, but a good overview of the risks (and quantifying it is also a good step to ensure that we create a value adding and impactful CDRI product). Sometimes, the adaptation and mitigation strategies go beyond the person's awareness.

In Vietnam, Indonesia, and the Philippines, it has been recorded that the disaster risks that have been causing major economic losses are storms and typhoons, followed by floods.

#### Top Disasters Impacting VIP Countries (GIZ Report)



Vietnam

Storms and typhoons were responsible for 58.3% of all losses followed by floods (35.5%) and droughts (6.2 %). Vietnam's geography leaves it vulnerable to several calamities. The coastline is impacted by numerous tropical storms and typhoons, the north is prone to landslides and flash flooding, and flat Mekong Delta in the south is among the most vulnerable regions in the world to rising sea levels.



Indonesia

Storms and typhoons were responsible for 58.3% of all losses followed by floods (35.5%) and droughts (6.2 %). Rising seas are projected to submerge 2,000 of the country's smaller islands by 2050, and 5.9 million people annually are estimated to be affected by coastal flooding by 2100. Being located on the Pacific Ring of Fire (an area with a high degree of tectonic activity), Indonesia has to cope with the constant risk of volcanic eruptions, earthquakes, floods and tsunamis.



Philippines

Storms and typhoons have been responsible for 58.3% of all losses followed by floods (17.3%) and earthquakes (2.2 %). The Philippines is hit by an average of 20 typhoons every year causing use huge amounts of damage, while the storm surges they create flood coastal areas

### Key questions to ask:

- What is the level of vulnerability and climate and disaster risk of a country?
- What is the short-term capacity of a country to cope with hazardous events?
- How high is the remaining residual risk?
- Which long-term preventive strategies exist in a country to tackle future disaster risk?
- What is the country's readiness to accommodate insurance and other risk transfer solutions?

These questions not only answer the vulnerabilities that exist in each country, but also assesses the current approaches and strategies in mitigation, adaptation, and resilience, resulting to a better assessment of the gap or residual risks, the amount of risk that remains after controls are accounted for, and then integrate it in designing and pricing the insurance product.

## 2. Affordability

### 2.1 Pricing has considered cash flows of users

In the book *The Fortune at the Bottom of the Pyramid* by C. K. Prahalad, the author talks about enhancing the poor's capacity to consume by providing unit packages small and affordable.

When targeting the low-income sector, it is a prerogative to look into the levels of income and expenses. Moreover, the frequency of their cash inflows and outflows is important, too.

Indonesia, and the Philippines, based on regulatory policies, have set maximum premiums for their inclusive insurance products (that may include CDRI products) to ensure that the policy remains affordable and fitting to what the poor and vulnerable can pay for.

For Indonesia, the maximum contribution for 3 months coverage is around 3.5 dollars (or IDR 50,000) while for the Philippines, it amounts to 7.5% (or around \$0.82 / Php 40 day) of the current daily minimum wage rate in Metro Manila. It is good to note, however, that many Microinsurance providers have chosen to price their policies much lower than the set maximum amounts.

### Quick Tips

- Some jurisdictions have created provisions on the maximum amount of premium for their inclusive insurance products;
- However, a lot of insurers who target the poor have adopted much lower premium prices than what was set.
- Familiarize yourself with the cash inflows and outflows of the target customers to see how much can they allocate for insurance.



**The following shows how frequent the premiums are collected:**

Vietnam	Indonesia	Philippines
No legal framework	Not indicated	Daily, Weekly, Monthly, Quarterly, Semi-Annual, Annual

Above pricing and frequency of payment can be the basis on how much a CDRI can cost and would still be considered affordable. It is important, however, to consider that more reliable information can be gathered while doing interviews and focused group discussions with the clients (see the section on Human-centered Design).

## **2.2 Subsidies are made available or leveraged**

When pricing a CDRI product, various elements are considered such as the expected loss cost (claims that are expected to pay within the policy term), the expenses related to providing the CDRI product (marketing, distribution, other administrative costs, etc.), uncertainty charge (especially that we are dealing with climate change that brings about uncertainty) and profit/mark-up.

Because of the additional costs of uncertainty, necessary expenditures to ensure effective distribution and administration of the product, as well as the reality that climate risks are generally high in Vietnam, Indonesia, and the Philippines, smart premium subsidies tend to be essential in these developing countries. State-supported Agri-insurance programs have shown alleviation of the impacts of crop failures or natural disasters.

In the Philippines, the Philippine Crop Insurance Corporation provide 100% full or 55% partial premium subsidy to around 1.69 million farmers. In Indonesia, the state led by the Ministry of Agriculture provides an 80% premium subsidy to 1 million farmers.

In a purely market-based approach, private insurers in the Philippines attempted to provide Agri-insurance to farmers but has resulted to a premium rate that amounts to 10% of the total benefit, making it unattractive and unaffordable to farmers.

To create smart premium subsidies, the following are recommended:

1. Provide awareness programs that explain and quantify the risks, the subsidy, and the pay-off in case of loss. This will enable the insured to understand the value of insurance.
2. Establish data collection systems and studies related to weather, loss patterns, and behaviour in managing their risks enabling more reasonable pricing.

3. Adopt an approach that provides need-based premium pricing, prioritizing the poorest and the most vulnerable.
4. Utilize technology (e.g., index-based insurance) to minimize distribution and administration-related expenses.

### **2.3 Product Bundling**

Product Bundling has been an effective marketing strategy for insurers as it provides greater client value. Product Bundling offers a combination of insurance products or coverage that translates to convenience and cost savings.

A bundle may consist of:

1. Two or more life insurance products underwritten by the same or separate providers
2. Two or more non-life insurance products underwritten by the same or separate providers.
3. A combination of life and non-life insurance products underwritten by composite/separate providers.

Bundling can also refer to insurance product/s combined with other financial and non-financial services. Examples of this are insurance products bundled with savings and loan products, and agricultural inputs or other farming-related services

When bundling insurance products, we should check if the regulation allows bundling of CDRI products with other insurance/financial products. This is an important issue to settle especially if there are two or more providers that are involved in providing the product. The regulation should provide guidance on who will serve as lead insurer and administrator of the product, one that will be responsible for claims management and processing, as well as disputes.

### **2.4 Possibility of mandatory insurance coverage is considered**

A common reality that the poor and vulnerable in Vietnam, Indonesia, and the Philippines is their exposure to climate risk. One strategy that can be implemented by providers such as cooperative insurers is creating mandatory CDRI products. Going back to the case study of 1CISP, with FICCO requiring their 300,000+ members to avail of the Home Protect insurance product, premium remains affordable (\$5), and the portfolio is proving to be sustainable.



## Case Study: Product Bundling

1CISP in the Philippines is licensed as a life and non-life insurance provider. It is operating nationwide with, insuring mostly the underprivileged and farmers of the country. The company is regulated by two Government Agencies: The Insurance Commission (IC) and the Cooperative Development Authority (CDA). As of 2018, the company has 2,782 primary cooperative members and provides approximately 1,000,000 policies annually.

One of the problems faced by members of the cooperative sector was the lack of financial assistance in times of fire loss and calamities like earthquake and typhoon. Most of them cannot acquire a standard fire insurance because for them it is too expensive. Many of Filipinos who are in the marginalized sector does not have risk management such an insurance product that will respond in times of unexpected accident or calamity.

First Community Cooperative (FICCO), one of the cooperative members of 1CISP had requested a product that provides those coverages, thus, the latter designed Home Protect, a microinsurance product, that helps the members of cooperatives to mitigate their risk in times of unforeseen events like fire, earthquake, hurricane, typhoon, and flood. Because the Philippines is one of the riskiest (in terms of climate and disaster), the **insurance benefit/calamity assistance** in case of Earthquake, Typhoon, Flood & Hurricane, is kept at \$40 to \$100.

To make it more attractive (as well as more affordable), it is bundled with other insurances that cover fire (\$400-1000), rental subsidy in case of fire (\$100), inside home premises third party liabilities (\$50 to \$200), and financial assistance due to accidental death (\$500), and bereavement assistance at \$100.

The product is currently priced at \$5 to \$10.

In 2017, the portfolio faced high levels of claims ratio at 104%+ due to the typhoon Vinta. However, since the Philippines have had a less disaster-prone year from 2018 to 2020 in areas where 1CISP are active, claims ration in 2018, 2019, and 2020 were at 38.07%, 20.43%, and 5.93%.



### 3. Accessibility

#### 3.1 Use of cost-effective distribution channels

As mentioned in the section regarding affordability, scale is an important element to sustain CDRI and it is often achieved in the most efficient way when insurers partner with distribution channels that have a captured market. Examples of the five models that exist for inclusive insurance are:

##### 1. The “Partner-Agent” model

In this model, a regulated insurance company underwrites and offers a microinsurance product, while provision or delivery of the product is done by the agent or the distribution channel using their existing infrastructure and capitalizing on their captured market. Examples of these are Microfinance institutions (MFIs), retailers (including supermarkets, appliances stores, clothing retailers, agricultural input retailers and credit retail chains), utility and telecommunications companies, and third-party bill payment providers. In some cases, affinity groups are also used as channels (religious institutions, etc.).

Due to lower premiums, providers can lessen their distribution, marketing, administration cost by transferring these roles to the agent.

##### 2. Mutual cooperatives, and other community-based models

One of the more effective ways to ensure the low-income sector is through the mutual, cooperative, and other community-based models. The insurer is owned by the members who are usually also the insured. Depending on the jurisdictions, the insurers can be regulated or not.

In the Philippines, the Insurance Commission, Cooperative Development Authority, and the Securities Exchange Commission issued a policy requiring all entities offering informal insurance-like activities to formalize their business through the following options: 1) establish an insurance entity duly licensed by the IC, 2) partner with a licensed commercial insurance companies that will provide insurance coverage to its members, 3) join a Cooperative Insurance Society (CIS) or Mi-MBA.

In Indonesia and Vietnam, on the other hand, credit unions who provide insurance coverage in for its members are not required to convert as a formal insurance provider.



#### Quick

Analyse the market and identify organized groups that may need insurance coverage – examples of these are associations, cooperatives, and foundations.



### Case Study: Pioneer Insurance

Since 2007, Pioneer Insurance, a composite insurance company, has led the insurance industry in the Philippines to provide coverage to the most vulnerable Filipinos. Through their partnership with the Centre for Agricultural and Rural Development (CARD), Pioneer has secured 66.89% market share in the country. CARD Mutual Benefit Association (CARD MBA) offers life insurance, retirement funds, loan redemption fund and other life insurance programs to its 5.2 Million members and a regulated insurer. It exclusively underwrites life insurance coverage to its members. CARD Pioneer Microinsurance Inc. (CPMI), through Pioneer, offers non-life microinsurance products such as Sagip Plan, Kabuklod Plan, and Crop Insurance.

Pioneer partnered with CARD to design a microinsurance product which provided calamity coverages for the members of the latter. In 2015, they created Sagip Plan priced at 1700 Php/\$34 with a fire coverage of 30,000 Php/\$600, earthquake coverage of 1000 Php/\$20 and Typhoon/Flood coverage of 5000 Php/\$100. It also provides burial (Php15,000/\$100) and personal accident coverages (Php130,000/\$2,600). In 2018, it was able to reach 280k policies issued and 550k insured lives.

### 3.2 Ensure the availability and use of online solutions

A report by Facebook and Bain and Company noted that as economies and internet penetration across Southeast Asia grow, the number of those shopping online has grown from just 22% of the population (90 million) in 2015 to 58% (250 million) in 2018, and are further expected to grow to 310 million by 2025.

Due to the pandemic, the forecast has accelerated that the move to online transactions for many essential goods. Limited mobility due to safety precautions has resulted in at least 44% of digital consumers across Southeast Asia spending more on online shopping for groceries. This trend is expected to continue as 80% conveyed that 80% will continue buying online even after the pandemic.

The pandemic's long-term impact can be beneficial to the insurance industry. Although it initially results in lowering of demand and increasing claims,



#### Quick

Online insurance marketplaces can be a good platform to distribute CDRI products because it can be accessed by people from different areas, this results to a more diversified risk portfolio!

## 56%

Indonesian customers stated it was easier to apply for Insurance Online vs Offline Channels

people's awareness of the health and mortality risks will increase adoption of insurance products. According to Olyver Wyman's article entitled, "Covid-19 Considerations for Insurers in Asia", during the six months after the SARS outbreak in China, total health insurance premiums more than doubled. The pandemic can have a similar effect.

Moreover, the pandemic pushed insurers to rethink the way they do business. The insurance industry had to quickly adapt from the traditional way to developing their distribution app and/or partnering with online marketplaces.

Digital Trends in Insurance:

KPMG provides the Six Pillars of Customer Experience - a result of ten years of primary research across 3,000 brands in 26 countries - these are:



**Resolution:** responding to needs and finding solutions



**Expectations:** setting, managing, and meeting expectations



**Time and Effort:** making it easy for customers to access information and get essentials



**Personalization:** understanding the customer's circumstances



**Empathy:** showing that you care, choosing the right emotional response.

The two Pillars that are most important to specifically address in these uncertain times are Integrity and Empathy.

These digital channels should be able to provide these during these challenging times.

**Globally, EY shows COVID-19 pandemic changed customer needs:**

**8%** approximate increase seen in life insurance applications by consumers under age 45 in 2020

Although insurance customers' main concerns centre on protection from job loss and disease, this shows an opportunity for insurance awareness and for insurers to rethink their product design and the communication channels, in short: transform the business to be more agile, digital, and customer-centric.

- **40%** of digital transformation programs that are focused on customer experience, insurers in Europe and the Asia-Pacific region.
- **69%** of customers who prefer buying automotive policies online
- **58%** of customers who would likely purchase life policies online.
- **61%** of customers who would likely purchase health policies online.



There are insurance company-owned apps in the market that can make communication between a company and its clients faster, smoother, and more effective and provide better client support. Through these apps, clients can manage their policies, pay premiums, and file claims. The client can also purchase additional insurance coverage. However, although all insurance companies have websites, not a lot allows shopping online and if there are sites that have this capability, the products are limited to car insurance, travel insurance, health and accident insurance. Another option for insurance companies is to partner with insurance marketplaces.

The following are the marketplaces that exist in the three (3) countries:

**Table 7. Online Marketplaces in the VIP Countries**

Name	Location	Website	Insurance Products
Mister Prakan	Vietnam	<a href="https://misterprakan.com/vn/en/main">https://misterprakan.com/vn/en/main</a>	Health and Travel
GoCompare	Vietnam	<a href="https://www.gocompare.com/travel-insurance/destinations/vietnam/">https://www.gocompare.com/travel-insurance/destinations/vietnam/</a>	Motor, Property, Travel, Pet, Business
Inso	Vietnam	<a href="https://inso.vn/">https://inso.vn/</a>	Car, Travel, Home, Health, Civil liability
Opes	Vietnam	<a href="https://opes.com.vn/">https://opes.com.vn/</a>	Motor, Flight Delay
Papaya	Vietnam	<a href="https://www.papaya.asia/">https://www.papaya.asia/</a>	Health
Cermati	Indonesia	<a href="https://www.cermati.com/">https://www.cermati.com/</a>	Health, Travel, Mobile
Lifepal	Indonesia	<a href="https://lifepal.co.id/">https://lifepal.co.id/</a>	Car, Health, Life Insurance
RajaPremi	Indonesia	<a href="https://www.rajapremi.com/">https://www.rajapremi.com/</a>	Car, Motor, Property, Personal Accident, Health
Halo Money	Indonesia	<a href="https://www.rajapremi.com/">https://www.rajapremi.com/</a>	Motor
Kwik Insure	Philippines	<a href="https://kwik.insure/">https://kwik.insure/</a>	Health, Life, Motor Car, Accident
Maria Health	Philippines	<a href="https://mariahealth.ph/">https://mariahealth.ph/</a>	Health
Imoney	Philippines	<a href="https://www.imoney.ph/">https://www.imoney.ph/</a>	Health, travel
Ecomparemo	Philippines	<a href="https://www.ecomparemo.com/">https://www.ecomparemo.com/</a>	Car, Health, Travel
Moneymax	Philippines	<a href="https://www.moneymax.ph/">https://www.moneymax.ph/</a>	Car
IChooseph	Philippines	<a href="https://ichoose.ph/home">https://ichoose.ph/home</a>	Car, Motor, Home, Travel

## 4. Awareness and Literacy

Financial decisions should be embedded in everyday life, as well as in our long-term plans. Financial literacy covers the basic understanding of an individual and market's financial concept and issues, and the effective tools to address them. By having financial literacy, people would become more aware of the financial risks, particularly the physical risks from climate change, and how they can be managed through financial strategies. With this, financial education supports raising insurance awareness.

The financial initiative on catastrophe insurance can be made sustainable through financial literacy, teaching people, families, low-income households, and communities the value of saving, investing, and insuring themselves and their properties for any future disasters. With financial literacy, rural communities can be more familiar about the risks and financial options which prevent them from social and financial shocks caused by disasters in the future. Consumer protection is also a key component of financial literacy, safeguarding the insurance subscribers from fraud.

The financial literacy and awareness campaign framework discussed in this section is based on the implementation of MEFIN - Financial Literacy Campaign Kit (FLiCK) developed by MEFIN and its partners and stakeholders (GIZ, 2018). Lessons from its successful launch and implementation in the Philippines and other Asian countries are incorporated as well.

The CDRI financial literacy and awareness campaign should reflect the following objectives:

- Inclusive insurance that covers property and social protection.
- Bridging financial knowledge and climate risk gaps.
- Promotion of financial literacy based on foundations:
  1. Target stakeholders
  2. Key messages
  3. Communication strategies

### 1. Target stakeholders

Financial literacy and awareness campaign is expected to cut across the three layers of stakeholder engagement:

- **Macro level** includes the government and policymakers.
- **Meso level** covers the private sector, insurance intermediaries, support institutions, donors, and development partners.
- **Micro level** involves the client and subscribers who shall also serve as the key advocates of the CDRI.

Campaigns should be designed based on the target, outcomes, with the knowledge tailored fit for their role and purpose in the system.

## **2. Key Messaging**

The key message for CDRI subscribers and stakeholders is to secure the protection of families and properties from future climate-related risks and disasters through affordable financing options and products. With this vision in mind, the key message may be conveyed using the recommended themes based on MEFIN's Financial Literacy Campaign (GIZ, 2018):

- a. **Building a regulatory and enabling environment for CDRI:**
  - Existing regulations, guidelines, and frameworks to which the structure and rollout of CDRI is anchored on.
  - Applied innovations and available inclusive and affordable financial products.
  - Incentives associated with the microinsurance products and services.
- b. **Highlighting the roles of insurance providers**
  - Exploring untapped and unserved but potentially viable markets for CDRI.
  - Product variety that includes both life and non-life coverage.
  - Establishing public trust and confidence on microinsurance through training, education and development.
- c. **Determining the appropriate risk protection**
  - Multiple climate-disaster related risks from which the subscribers may be exposed to (e.g., flooding, drought, heat wave)
  - Building resilience through household and community-level sustainable risk management and disaster preparedness.
  - Readiness and reliability of insurance to secure the future of low-income households from the identified risks and provide immediate relief when needed.
- d. **Roles, rights and responsibilities of subscribers or clients**
  - Main advocates of the value and significance of CDRI, providing evidence that having insurance is good and is accessible to the low-income sectors.
  - Clear understanding of clients' and subscribers' rights for redress and consumer protection.
  - Awareness of the roles and responsibilities of the insurance providers.
  - Participation in continuous growth and financial literacy programs and initiatives of the government and CDI providers.

To determine the needed level of engagement, insurers must first understand their audience or subscribers and key stakeholders. A perception survey is recommended to determine the reception and level of awareness of the potential market for insurance. This may include not



only their demographic profile, but more so, the general population's knowledge, understanding, attitude, and behaviour towards insurance and risk management (GIZ, 2018).

It is important that local policies and frameworks are in place to institutionalize financial literacy.

### 3. Communication Tools, Approach and Strategies

The basic and predominant approach to financial education includes the following:

- i. **General Awareness Campaign.** This campaign is a targeted approach to the market served by CDRI. It aims to provide an overview of CDRI, multiple climate-related risks, products and services offered, the rights of clients including consumer protection, available grievance mechanism, and how to discern true offers from fake ones.
- ii. **Intermediaries as Communication Conduit.** Insurance providers and intermediaries (brokers and agents) can work hand in hand in getting the message across to the client, subscribers, and consumers. Brokers and agents serve as the providers' front on the ground, educating the clients and providing clarity to the product options and value.

Providers may explore various strategies in developing an effective financial literacy and raising awareness campaigns, especially to the most vulnerable. The tool and approach must always complement the capacity of the client or target market, allowing optimum reach and accessibility. These strategies include:

- i. **Use of mass media.** A wide array of media platforms can be used to connect with the client which ranges from print, radio, television, web, mobile phones, and social media. The communication materials be translated to the local language for the clients to fully grasp and understand the key messages. The literacy level, accessibility to communication and information technology (ICT), and demography of the market or clients should also be considered in choosing the main communication channels to be used. In rural and remote areas, the most accessible tools include radio, roadshows or caravan, and community advocates. Merchandise and tangible products such as posters and shirts might help in the recall and may fuel interests.
- ii. **Promotion.** Sharing of experience through testimonials in popular media platforms can also raise awareness, provide relative evidence, and foster a sense of assurance to potential market. Organizing events, insurance awareness celebrations, and anniversaries may also support the CDRI awareness campaign. Using mobile phones and applications to disseminate information may provide more reach as we tap on the power of technology.

- iii. **Training and workshops.** Capacity building is crucial in creating an enabling environment for stakeholders. Attending seminars, conferences, training, and workshops as they expand their knowledge on CDRI as well as being adept with the existing and new policies. Events and seminars also serve as venues for celebrating success stories and sharing experiences on CDRI.
- iv. **Institutionalization of financial literacy.** Including financial literacy as part of the education curricula help to raise interest and spread understanding on CDRI including the risks that we are facing on climate change. Based on a study conducted by Dalkilic and Kirkbesoglu (2015), financial literacy and awareness should be included not only in financial courses, but also in social science courses. Integration of financial literacy with social sciences provides an understanding of human behaviour, acceptance, and response to CDRI.
- v. **Employee Seminars.** Offer financial literacy as one of the training and seminar modules for employees. Encourage companies to develop special seminars for their employees, with the support from government agencies. This would expand their knowledge on potential risks and available CDRI products to address them.
- vi. **Networks and linkages.** Partner with support institutions that offer financial literacy campaigns, innovation, and technological platforms such as website development and virtual events. Networks and linkages can even be tapped for mentoring and monitoring and evaluation.
- vii. **Financial literacy advocacy.** Community-based and individual financial literacy and awareness can localize the market penetration of CDRI. Advocates and insurance champions of CDRI should be identified and trained as they emulate the vision of the providers.

## 5. Organizational Support and Structure

### a. Establishment of an organizational structure that supports inclusive insurance

CDRI and any other kinds of inclusive insurance, especially from the standpoint of commercial insurers, may involve, at least in the beginning, high cost, lower revenues, and marginal profits. Moreover, it services a sector that has very different level of resources and needs from the middle and high-income clients that insurers usually serve.

Recommendation to private sector players as follows:

#### Creation of a separate business unit dedicated to CDRI or Inclusive Insurance

A few insurance companies in the Philippines and Indonesia have created a separate division dedicated on creating insurance products and services for the poorer section. Pioneer Insurance (Philippines) and ACA Indonesia, for example, have created Microinsurance

business units that are accountable to the whole organization in terms of reaching their KPIs, including profitability, sustainability, and ensuring client satisfaction.

A separate business unit should do or should have the following:

1. Establish a **vision** that is oriented to the serving the poor. To establish your vision, ask: What is the impact I want to see in the lives of my clients? When do I want to see that impact? How many clients should we reach in five (5) years?

It is important to ensure that the vision is understood and shared by members of the organization, broad enough to include a diverse variety of local perspectives, and inspiring and uplifting to everyone involved in your effort

2. Create **strategies** that have a balance of social responsibility and alignment to the institutions' over-all strategy.

These strategies are normally grouped into a couple of perspectives, for example, financial, customer, internal process, and learning and growth (Balanced Scorecard)

3. **Support from the top management** as like any other start-ups, the early years of the business unit, high levels costs and low revenues are expected. Moreover, the top management should be supportive of the required changes in structure and policies to service the poor better.

The **culture** and **competencies** of staff are also critical as the shared belief will support the vision, strategies, and competencies will support the unit's performance and agility.

Capacity development trainings and mentorship should be part of the main activities of the business unit, ensuring that the staff are enabled to perform their tasks, as well as obtain their individual key performance indicators (KPIs).

4. The business units' **processes** should also support the vision and strategy of the unit. For example, if the unit wants to make use of online marketplaces to distribute CDRI to reduce cost, the unit must ensure that they utilize Management Information Systems (MIS) and Application Programming Interface (API) that ensures that the unit's system easily transfer information to the partners' systems.
5. **Creating champions** in the organization, from both the top and middle management are critical as these would take accountability of the business units' success, as well as influence others with the vision of CDRI.

A strategic planning session before the establishment of the unit will be an essential part of the process when creating a business unit

## 5.2 Participation in the CDRI ecosystem

Creating an inclusive CDRI entails the involvement of various sectors. Implementation requires a clear delineation of roles and responsibilities and organization support across levels of stakeholder engagement – macro, meso, and micro.

**Table 8. Macro, Meso, Micro Stakeholders**

	Macro Level	Meso Level	Micro Level
Stakeholders	Legislators, Government Regulatory Agencies, National Agencies, Local Government Units	Insurance Providers, Intermediaries, Support Institutions, Donors, and Development Partners	Existing and Potential Clients, Customers and Subscribers
Roles and Responsibilities	<ul style="list-style-type: none"><li>• Develop policies, regulatory frameworks, and development linkages.</li><li>• Pursue strategies and sets the roadmap towards national resilience and social development</li></ul>	<ul style="list-style-type: none"><li>• Provide development, resources, and financial support.</li><li>• Develop and offer reliable and inclusive CDRI products and services to targeted market.</li></ul>	<ul style="list-style-type: none"><li>• Understand the risks and protect individuals and families by availing CDRI products and services.</li><li>• Serve as advocates of resilience.</li><li>• Know and protect their rights as consumers.</li></ul>

A structure towards inclusive operation can be formulated if the linkage among the key stakeholders is established, with the interests and influence clearly defined.

Institutional arrangements across all levels of engagement strengthens the interconnectedness of actions, decisions, and roadmap in implementing inclusive CDRI products and services. Policies also support establishing coordination between the public and private sector, ensuring the priority initiatives, objectives, and financing options are communicated to the clients.

The inter-agency coordination mechanism pillar in the Philippines provides an overview of institutionalizing the actions on the development and implementation of insurance and financing products. The framework can be used in orchestrating an inclusive system for CDRI.



## Inter-agency coordination mechanism of inclusive insurance

1. Establish coordination between the insurance regulatory and government agencies in creating social protection schemes against climate risks and other related disasters.
2. Articulate policies and strategies that define an inclusive insurance.
3. Conduct dialogues and discussions between key stakeholders including the private and public sectors, as well as the associations that champion the cause.

The Philippines facilitated this inclusive pillar through the development of “Microinsurance Policy Frameworks and Regulations through Multi-stakeholders’ Technical Working Groups (TWGs)”. In 2009, the Philippines wanted to expand the market of microinsurance. They convened the financial regulators, insurance intermediaries, industry representatives and key stakeholders in forming a TWG. The dialogue resulted in the release of a comprehensive Regulatory Framework for Microinsurance in 2010 which establishes an enabling environment for microinsurance providers. This approach has resulted in about 48.22m Filipinos securing microinsurance coverage in 2020 (Insurance Commission (IC) Report). A similar approach at a regional level will accelerate the development of scalable CDRI solutions across VIP.

### 5.3. Initiatives of the Development Sector and Insurance Associations are supported

In establishing the CDRI, various support institutions can be tapped to provide technical, technological, or financial assistance in advancing financial literacy.

For informal insurance providers, much of the assistance can be obtained from donors and development partners. Both government and private organizations may connect with donors and development partners to build capacity, aid in regulatory and policy formulation, product development, and education on financial literacy. Often, government and informal providers seek support from development partners in mainstream the operations and making CDRI more inclusive. Development partners also bring to the table innovations, best industry practices, repository of solutions, and tools on financial literacy (GIZ and MEFIN Network, 2020). Multilateral development banks and United Nations arms serve as linkages between governments and private sectors across the globe. They provide the needed support in the form of financial, technical expertise, policy-making guide, and capacity development. Multilateral and development institutions also have a wide network and resources that can be a leverage for CDRI organizations wanting to have a targeted approach to market reach and investments on climate adaptation and risk reduction.

As the partnership evolves, all parties learn from the engagement including the government counterparts, consulting companies, and researchers. Multilateral development banks and UN agencies have innovated their approaches to climate adaptation and risk management. They partner with governments to have long-term development direction, deriving value from every program. The network widens as they engage with civil society and private sectors in building new alliances. CDRI providers can then leverage on these alliances which

include the participation of developing countries. Developing and least developing countries benefit from the convergence of approach, platform, financing, and bilateral agendas. All of these contribute to the country's overall implementation of climate change adaptation, mitigation, and disaster risk reduction, offering strategies including financial options.

CDRI providers' partnership with international and development organizations, as well as the public sector, help navigate the vision of inclusive CDRI by outlining policies and welcoming investment opportunities. The collaboration also improves the early adoption stages of the CDRI product development, fostering understanding and preparedness for the full implementation. The collaboration with the development groups lay the ground for the optimum use of resources including financial support.

The country engagement strategies of the development sector and insurance associations ensures that the objectives of the CDRI are well-targeted to the vulnerable and aligned with the government's development plan. This would then, in return, develop investment opportunities on systemic resilience including the formulation of CDRI products (ADB, 2020).

## **6. Reinsurance and Risk Pooling**

### **6.1 Strong Reinsurance Support**

Reinsurance is defined as when insurance or reinsurance companies share risk by purchasing insurance policies from other insurers to limit their total loss in case of disaster or in other words, "insurance of insurance companies". It allows insurance companies to manage their risk portfolio and maintain business sustainability in case the worst happens.

Its role in economic resilience is, without a doubt, becoming more and more important considering the existence of catastrophic and pandemic events. It further diversifies the risks internationally, facilitating recovery after losses have been incurred and help to secure the livelihood of individuals and businesses, safeguarding continued work on large-scale projects, thereby, making a sustained contribution to economic growth.

However, two challenges were noted during interviews with insurance companies when it comes to reinsurance:

Lack of reinsurance support for riskier product portfolios; and  
Lack of risk management capacity, no access to risk and vulnerability platforms.

Due to climate change, reinsurance premiums are seen increasing and more volatile these past years. When these increases happen, insurers need to increase their premium charges, one that the poor would not be able to accommodate. Other ways that insurers can offset the cost are to write fewer risks and purchase lower cover, or add more capital, but these are not effective ways to do so. After a major loss, prices tend to go up, and to be able to absorb this volatility, donor-capitalized pools should be available (see section 6.2).

The impact of climate change also results in ambiguous future catastrophe risks, thus, necessitating more advanced and more sophisticated risk modelling measures that insurance companies usually do not have. The good news is that reinsurance companies usually have a team that specializes in catastrophe modelling.

Mr. Allan Santos, President/CEO at National Reinsurance Corporation of the Philippines (Nat Re), states “Ensuring affordable insurance premiums and inclusive access to insurance cover, particularly for catastrophe risks, requires industry collaboration to ensure the most efficient way to manage exposures to maximize portfolio diversification to reduce reinsurance costs, ensure a proper balance between inclusiveness/affordability and sustainability/adequacy.”

One of the most critical lessons learned during the deadliest typhoon that happened in 2013, Typhoon Haiyan, was that there is a need to improve reinsurance support for calamity risks. Because of this, the Philippines issued Circular 2015-54 which aimed to “provide better risk protection to more low-income Filipinos, microinsurance providers need ready access to co-insurers and reinsurers that can accept microinsurance risk beyond their prudential capacity.” The circular provided guidelines on the transfer of risks among local and foreign insurance entities to promote reinsurance coverage of microinsurance products and services. The Circular 2015-54 states that a provider can transfer a portion of its risk to a domestic insurance company, to a cooperative insurance society, or to a reinsurance company if they are licensed by the Commission. It also states that a mutual benefit association is not permitted to accept any insurance risk that has been underwritten by another microinsurance provider. Non-life microinsurance risk can only be ceded to a non-life insurance company or a reinsurance company except for accident, health, and disability risk which can also be ceded to a life insurance company. To support the industry and ensuring that payments are made immediately, the reinsured portions of all microinsurance claims are payable by the reinsurer to the ceding company within ten (10) calendar days upon submission of complete documentary requirements. Notwithstanding the existence of this policy, based on the interviews with insurance companies in recent years, affordable reinsurance schemes still pose a challenge for insurers. To be able to solve this, the Philippines developed the Philippine Catastrophe Insurance Facility (PCIF) which will be discussed further in section 6.2.

The National Reinsurance Corporation of the Philippines (Nat Re) also led the development of the Oasis Loss Modelling Framework, an open-source platform for developing, deploying, and executing catastrophe models. The system uses a full simulation engine and makes no restrictions on the modelling approach. Models are packaged in a standard format and the components can be from any source, such as model vendors, academic, and research groups. Oasis also aims to connect international reinsurance capacity with in-country demand. Additionally, the tool will provide a system for users to update and sustain the models in the long term beyond the lifetime of the project. Oasis aims to provide catastrophe modelling accessible and affordable for the insurance industry.

In Indonesia, the state-owned reinsurance company (PT Reasuransi Indonesia Utama or Indonesia Re) and the reinsurer that is a subsidiary of a state-owned insurance company (PT

Reasuransi Nasional Indonesia or Nasional Re) collected 30%-35% of all reinsurance premium ceded by Indonesian cedants in 2018, which is considered a significant share. Private reinsurers have also been inactive engagement in the risk management of the country.

In 2020, Willis Re launched a flood probabilistic model that is based on 42,000 events covering major river catchments in Indonesia and a 37 year-record of global rainfall observations and local rain data. On the other hand, in November 2019, the Government of Indonesia signed an umbrella contract with a consortium of 56 insurers and reinsurers to protect state assets against natural disasters and other major risks, Swiss Re, being the lead reinsurer. It is important to note though that this covers state assets against natural disasters and other major risks.

Moreover, with support from the Government of Indonesia, the non-life insurance industry has created Maipark, a specialized reinsurer to provide reinsurance for earthquake risk. Maipark has developed into the centre of know-how when it comes to earthquake risk modelling and is now beginning to play the role of other perils, such as floods. Insurers and reinsurers are also required to quantify their exposure to catastrophe events and ensure that they have sufficient capital, provisions, and reinsurance coverage to absorb the losses for a given return period (1-in-250) which would likely encourage the use of catastrophe modelling approaches.

## **6.2 Risk-pooling mechanisms**

Section 7.1 stated that climate change ensues volatility and that results in increasing reinsurance premiums. One of the solutions that are highly recommended is to have donor- capitalized pools. A disaster insurance pool is defined by the Asian Development Bank as “a structure under which participating entities collectively buy insurance through a single platform. The pool essentially operates as an insurance company acting for the benefit of the insured (countries, cities, companies, etc.). Pools can include insurers pooling their disaster risks and therefore benefit from efficiencies.

There are sovereign-risk pools programs, such as Caribbean Catastrophe Risk Insurance Facility (CCRIF) and African Risk Capacity (ARC) that have made use of parametric insurance, one that ‘pays out when modelled losses reach certain predetermined triggers, as opposed to traditional indemnity insurance that pays out based on actual losses’ (Martinez-Diaz, Sidner, and McClamrock 2019). A newly launched pool, the Southeast Asia Disaster Risk Insurance Facility (SEADRIF), is also in the verge of creating a program for the ASEAN countries plus the People's Republic of China (PRC), Japan, and Korea.

### **Caribbean Catastrophe Risk Insurance Facility (CCRIF)**

Officially established in 2007, CCRIF offers members in the Caribbean and Central America insurance cover for hurricane, earthquake, and excess rainfall. CCRIF is also pilot testing a new sovereign level parametric product for fisheries, and it plans to pilot test a new parametric drought product in the 2019–20 season. It includes Caribbean and Central



American governments, has currently has 23 member countries, and it aims to quickly provide short-term liquidity when a policy is triggered.

### **African Risk Capacity (ARC)**

Between CCRIF and ARC, the latter has a pro-poor mandate. The African Risk Capacity (ARC) is a Specialized Agency of the African Union that was established in 2014 which aims to help African governments improve their capacities to better plan, prepare, and respond to extreme weather events and natural disasters. ARC provides the governments insurance covers agents droughts, floods and tropical cyclones. Currently, it has three (3) loyal buyers (Burkina Faso, Gambia, Senegal).

### **Southeast Asia Disaster Risk Insurance Facility (SEADRIF)**

The Association of Southeast Asian Nations (ASEAN) has also launched Southeast Asia Disaster Risk Insurance Facility (SEADRIF), a regional platform to provide ASEAN countries with financial solutions and technical advice to increase their financial resilience to climate and disaster risks. SEADRIF was established in July 2019 and the first product that it designed was a catastrophe risk pool that involves Lao PDR and Myanmar provided by SEADRIF Insurance Company, a licensed direct general insurer in Singapore. It utilizes parametric catastrophe risk insurance solutions to provide quick liquidity in the aftermath of disasters such as severe floods.

These risks pools are good benchmarks for country-level pools that are being established in the VIP countries.

### **The Philippine City Disaster Insurance Pool (PCDIP)**

The PCDIP aims to provide rapid access to early recovery financing for cities in the Philippines that typically face particularly high disaster risk, reflecting the concentration of people, assets, infrastructure, and economic activities in urban areas. It was designed by the Philippine Department of Finance and the Asian Development Bank, with support from private market catastrophe risk experts Risk Management Solutions (RMS), experts from the Earthquake and Megacities Initiative, economists from Vivid Economics and insurance or reinsurance brokers from Willis Towers Watson.

Once implemented, PCDIP will offer parametric insurance cover against typhoons and earthquakes in its first phase. It is also expected to offer flood cover once existing data and modelling challenges have been addressed Parametric indices will be calculated individually for each city, based on spectral acceleration, a measure of ground motion, for earthquake covers and on three-second peak wind gusts, a measure of wind speed, for typhoons.

### **Philippine Catastrophe Insurance Facility (PCIF)**

One of the most promising programmes in one of the VIP countries, the Philippines is the PCIF whose objective is to address the catastrophe insurance gap. Specifically, it aims to:

- Create a more risk-appropriate rating environment that would ensure sustainable disaster premium rates.
- Increase the catastrophe resilience of the Philippine insurance industry and its capacity to retain catastrophe risks.
- Provide the public with more inclusive access to catastrophe insurance protection.

It may be quite surprising but the annual expected losses from natural catastrophe perils is estimated to be at USD 1.1B while the Philippine insurance industry's net worth of around USD 1.5B in 2018. This shows that without proper facilitation, one year of extreme events can wipe out 73% of the value of the industry.

Because of the apparent need to share and diversify the risk, the National Reinsurance Corporation of the Philippines (Nat Re), the Insurance Commission (IC), and the Philippine Insurers and Reinsurers' Association (PIRA) are pushing for this initiative and have signed a memorandum of understanding (MOU), committing to collaborate on the implementation of this facility. This involves the participation of the non-life insurers to redirect the catastrophe risks to the facility that shares the pooled risks among them, resulting to more effective management of catastrophe risks.

PCIF, however, is envisioned to increase natural catastrophe premiums of an estimated 30% to 50% of current market rates via the use of technically proven rates, this will impact the affordability of insurance products in the market. But this is deemed necessary as the current rates have been one of the lowest in the region. Since the Philippines is a highly competitive market, insurance charge rates for property insurance coverage that are at (or near) the regulated minimum. This results in high claims ratios for the catastrophe-related products.

However, the enhanced ability to develop and offer catastrophe insurance solutions is aimed to be converted into a marked increase in insurance penetration. And with economies of scale, the premium prices can decrease over time. Moreover, this facility, like the sovereign ones, can transition to include risk modelling and best practices knowledge sharing in its core services.

## **7. Key Performance**

### **7.1 Monitoring and Evaluation of KPIs are adapted by insurers**

Although CDRI for the poor and vulnerable, as well as MSMEs, is a relatively new initiative, it is imperative that monitoring and evaluation is part of the provision process specially that this is seen as an in-demand yet risky portfolio. This is consistent with the International Association of Insurance Supervisors (IAIS)'s Issues Paper on Climate Change Risks to the Insurance Sector that states that "sector-level information requests and data gathering activities present another important channel for supervisors to deepen understanding of how climate factors may affect firms". Measuring the success of CDRI requires a results-

based monitoring and evaluation framework to track progress and to demonstrate the impact and outcomes of a disaster insurance project.

Best practices that can be adapted includes the Philippine Insurance Commission's Microinsurance Performance standards that was established to assess how an insurer efficiently and effectively delivers microinsurance products and get insights about the portfolio's viability, growth, and development.

The recommendation for this is to create a sub-assessment of the performance of CDRI products, separate to that of the other Inclusive Insurance/Microinsurance Products. The following set of performance standards can be used by the insurance providers:

**Table 9. KPIs for Microinsurance or CDRI**

Category	KPI to be calculated	Defining the KPI and its interpretation
Outreach	Policies Growth	Measure of growth/decrease of policies outreach for each product and also at the portfolio level
	Lives covered growth	Measure of growth/decrease of lives covered for each product and at the portfolio level
	Policies in force growth	Measure of growth/decrease of policies in force for each product and also at the portfolio level
Client value	Claims Settlement ratio	Measure of proportion of all the claims settled by the microinsurance provider
		A high claims settlement ratio is a good indicator of customer value
	Claims rejection ratio	Measure of proportion of all claims rejected by the microinsurance provider
		Lower the claims rejection ratio better the client value and also a good indicator of client awareness on how to make and receive a claim
	On time claims settlement ratio	Measure of how many claims were paid within a period of 10 days
		Higher this proportion the better the client value
Financial Performance	Underwriting cost ratio	Measure of how many claims were paid after a period of 10 days
		lower this proportion the better the client value in terms of on time claims being made and a higher proportion displays lower client value
	Operating cost ratio	Measure of efficiency of how much it costs the microinsurance provider to deliver its microinsurance business
		A low Underwriting Costs Ratio indicates that acquisition of the microinsurance business is efficient, making more of the premium available for investment and to fund benefits, profits, and other expenses.
	Claims Ratio	Measure of proportion of all claims rejected by the microinsurance provider
		Lower the claims rejection ratio better the client value and also a good indicator of client awareness on how to make and receive a claim
		The Claims Ratio shows the proportion of microinsurance premiums or contributions that are paid out in the form of benefits and services within a particular period

The data points that should be collected for each category includes:

Table 10. KPIs Data for Collection

Category	Defining the data point to be collected
<b>Outreach</b>	<p>Total number of policies sold for the product in the reporting period</p> <p>Total number of lives covered for the product in the reporting period</p> <p>Total number of policies active on the reporting date</p> <p>Total number of policies that were renewed from last year/last reporting period</p>
<b>Financial Performance</b>	<p>Total Premium Underwritten by the CDRI service provider</p> <p>It is calculated as Net Premium Income – increase in Unearned Premium Reserve</p> <p><b>Underwriting Costs</b> are expenses directly related to the underwriting of the CDRI business: such as commissions and other selling expenses, transactional taxes (excluding income tax), and other transactional and incremental expenses related to selling and underwriting.</p> <p><b>Operating Costs</b> are expenses directly related to operations of the CDRI business including depreciation, tax implications etc. Taken from the financial statements of the period.</p> <p>Total Claims paid by the CDRI provider for the period – taken from the financial statement</p>
<b>Client value</b>	<p>Total number of claims received and admitted for the reporting period</p> <p>Total number of claims paid for the reporting period</p> <p>Total number of claims rejected for the reporting period</p> <p>Total number of claims paid within 10 days of admitting the claim for the reporting period</p> <p>Total number of claims paid within 30 days of admitting the claim for the reporting period</p> <p>Total number of claims paid after 30 days of admitting the claim for the reporting period</p> <p>Total number of policies renewed from last year</p>

These KPIs, although originally for Microinsurance, can be utilized to assess the progress of the CDRI portfolio.



## 7.1 Alignment with National and Global Goals

As a private insurance company, participating in the provision of CDRI to the poor and vulnerable, it is extremely important to know that this effort contributes to global goals.

The United Nations define the SDGs as a call for action by all countries – poor, rich, and middle-income – to promote prosperity while protecting the planet. Set targets are in place and particularly, CDRI contributes to the following SDGs:



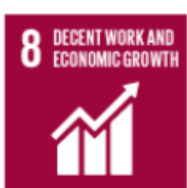
### SDG 1: No Poverty

**TARGET 1.3** Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

**INDICATOR 1.3.1** Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, new-borns, work-injury victims and the poor and the vulnerable

**TARGET 1.5** By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social, and environmental shocks and disasters

**INDICATOR 1.5.2** Direct economic loss attributed to disasters in relation to global gross domestic product (GDP)



### SDG 8: Sustainable Economic Growth

**TARGET 8.10** Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance, and financial services for all

**INDICATOR 8.10.2** Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider



### SDG 9: Industry, Innovation, and

**TARGET 9.3** Increase the access of small-scale industrial and other enterprises, in developing countries, to financial services, including affordable credit, and their integration into value chains and markets

**INDICATOR 9.3.2** Proportion of small-scale industries with a loan or line of credit



### SDG 11: Sustainable Cities and Communities

**TARGET 11.b** By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

**INDICATOR 11.b.2** Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies



### SDG 13 Climate Adaptation Measures

**TARGET 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

**INDICATOR 13.1.3** Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies

Insurance companies, considering their contribution to risk management, should be prime movers in achieving the Sustainable Development Goals.

For insurance regulators and development programmes, they also provide importance monitoring the following indicators related to CDRI

In addition to aligning with global and national goal, the following KPI's to assess Market and Institutional Development are recommended:

MARKET DEVELOPMENT	INSTITUTIONAL DEVELOPMENT
<ol style="list-style-type: none"> <li>1. Insurers engaged in providing CDRI</li> <li>2. Licensed Intermediaries that distribute CDRI products</li> <li>3. Number of Products Approved</li> <li>4. Amount of CDRI Coverage (life and non-life)</li> <li>5. Insurance Coverage (industry-wide) / Number of Lives Covered</li> <li>6. Net Premium written (in millions)</li> </ol>	<ol style="list-style-type: none"> <li>1. Diversity of Business Model</li> <li>2. Supporting services and platform</li> <li>3. Engagement of other Government Agencies</li> <li>4. Net Premium written (in millions)</li> </ol>

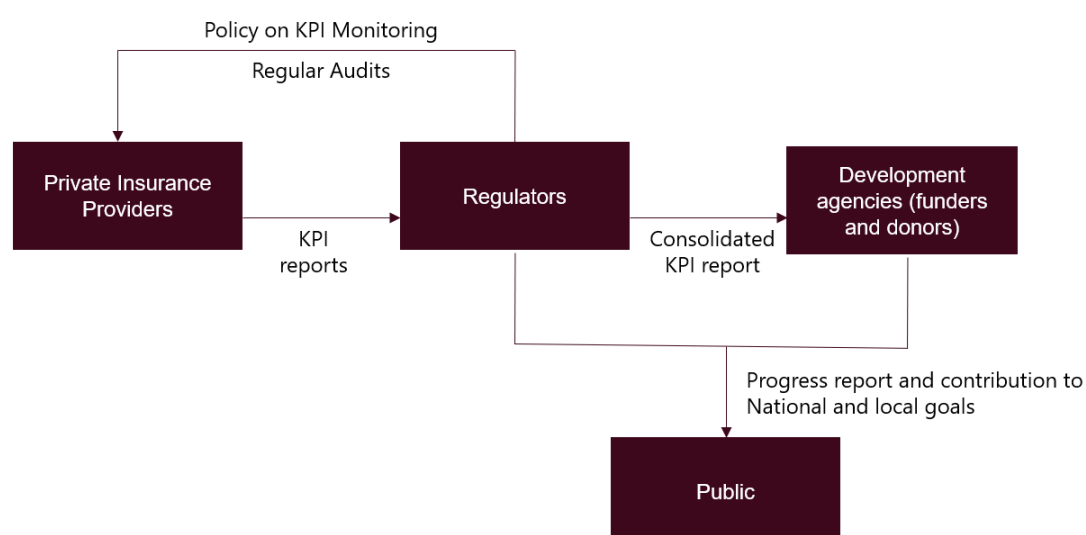
For Private insurance companies, monitoring the progress of their CDRI products and services could contribute to the achievement of sectoral and sustainable goals.

The illustration below shows that private insurance companies submit their KPIs to the regulator and the regulator consolidates the reports from different companies and then share these with development agencies.

Normally, regulators must create policies to have the reporting requirement in place.

Once the reports are aggregated, processed, and analysed, it would be helpful to ensure the public is aware of how the insurance industry is contributing to poverty alleviation and shared prosperity.

**Table 11. Flow of KPI Reports**



## 8. Technology and Innovation

### 8.1 Exponential Technologies are leveraged

Digital technologies can be utilized in delivering insurance affordably and cost-effectively to a wide range of customers. Sharing economy platforms can be leveraged to increase distribution, data analytics can be used to develop segment specific products and services. Learning Management Systems (LMS) can be utilized for awareness raising and capacity development. Blockchain-powered systems can significantly reduce transaction costs in countries. Technology can enable scaling CDRI in the following ways:



**Improve Customer Journey**



**Build Capacity**



**Raise Awareness**



**Assess Risk and Vulnerability**

1. **Sharing Economy:** The sharing or gig economy apps such as Grab Taxi, Go-Jek and Uber, apartment sharing services such as Airbnb and Peer-to-Peer (P2P) lending platforms such as Prosper, SoFi and Lending Club have gained tremendous traction in recent years. By making it easier to access services on-demand, collaborative consumption platforms increase efficiency unlock new business opportunities and cause massive shifts in labour markets. For example, Gcash, a mobile wallet is now a lifestyle app, offering not only insurance but also loans, savings, investments, and online shopping.

#### 2. Blockchain Technology

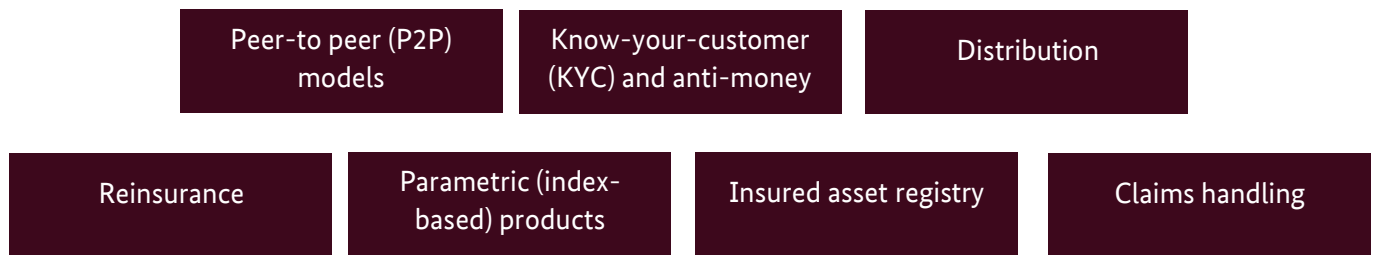
*Blockchain is defined as* “a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network and it’s going to impact how insurance is delivered.

Blockchain technology is bringing about significant efficiency gains, cost savings, transparency, faster pay-outs, and fraud mitigation while allowing for data to be shared in real-time between various parties in a trusted and traceable manner.

Etherisc is a blockchain-based company that has been exploring providing CDRI (hurricane insurance and agriculture insurance) to farmers and the low-income sector. Their hurricane insurance is designed for low-income individuals and small business owners. Instant pay-outs are triggered by wind speed registered by weather stations within 30-mile radius from the client’s permanent location.



## Used cases of Blockchain in Insurance



3. **Big Data and Data Analytics:** Insurance companies have relied on quantitative data for risk-modelling; however, data analytics goes beyond this and allows insurers to become client-centric, reduce and prevent fraud, appropriately price premiums, include better risk/financial management, develop innovative business models thus maximizing overall performance, and even stirring employee collaboration. Big Data and Analytics can help with pricing strategies, promotional content, and claims processing.
4. **Artificial Intelligence:** AI and machine learning allow insurers to leverage new and unstructured sets of data. AI is currently being to spot out hidden correlations to granularly segment customers including risks in a more efficient way. For example, Zhong An, the first online-only insurer in China, is using machine learning to customize pricing on products for online retailers based on purchase history to gauge individual risk around returns and warranties.

## How to adopt these new digital technologies?

1. **Educate and capacitate new technologies and trends:** These initiatives are no longer an exclusive responsibility of the IT team, but also top management, board members, and customer-experience teams. Deep understanding about the mentioned technologies can enable the insurance company to get ahead during this digital era.
2. **Establish a digital strategy:** The senior management team should develop long-term strategic plan will require a multiyear transformation that touches operations, talent, and technology. This may also mean nurturing partnerships and collaborations with another start-up company or a tech company that could provide the needed boost for improving operations, talent, and technology.

3. **Execute, start with a pilot:** Since regulators are concerned about the impacts of technologies to customers, explore starting with a pilot stage/sandbox to ensure that its impact is in a controlled environment.

## 8.2 Participation in Regulatory Sandboxes

With the limitations imposed by COVID19 pandemic, the insurance industry was pushed to adopt ways to reach customers digitally. Insurtech can bring about numerous benefits including more affordable premiums, more options at one's fingertips, and faster and more reliable claims management. However, regulators are conscientious of customer protection, ensuring insurance programs deliver what is promised. To guarantee a balance between welfare, interest, and protection of interests of customers and technological innovation, Regulatory Sandbox is an option to innovate as the lead time to launch and scale reduces substantially, giving room for further improvements without heavy upfront investments.

A regulatory sandbox is a framework set up by a financial/insurance sector to allow small scale, live testing of innovations by private firms in a controlled environment (operating under a special exemption, allowance, or other limited, time-bound exception) under the regulator's supervision. This is to evaluate and monitor its feasibility to be launched full-scale and to determine if the regulatory environment is conducive for these innovations to thrive. Moreover, it also assesses the impact to customer protection.

### Top Advantages of Regulatory Sandboxing for CDRI



#### ALIGNMENT WITH AUTHORITIES

**CDRI development requires policy development and regulatory support to scale.** Sandboxes enable easy dialogue with different regulators and agencies that exist in the Financial Services and the Insurance Sector.



#### PROJECT ACCELERATION

**CDRI development requires oversight from several partners and agencies.** A controlled testing environment reduces bureaucratic burden and provide legal authority to those entities that intend to operate in the market but are unaware of local regulations.



#### GLOBAL AND REGIONAL COLLABORATION

**CDRI development requires innovation, technical skills, and funding.** Sandboxes help start-ups and established companies improve their approach by expanding their capabilities and innovation strategies, responding to specific cases by launching new products effectively and efficiently.

In the VIP countries, Indonesia and the Philippines have the following regulatory sandboxes.

**Indonesia:** OJK Regulation No.13/POJK.02/2018 – “**Digital Financial Innovation in the Financial Services Sector**” is an umbrella regulation for fintech, and it states that fintech companies that are not yet regulated by other authorities must apply to OJK to go through the regulatory sandbox process and get registered. Those who can apply for this sandbox includes regulated financial services institutions (e.g., banks, securities companies, insurance companies, pension funds, finance companies), unregulated companies looking to provide financial services that are or are likely to be regulated by the Financial Services Authority (Otoritas Jasa Keuangan) (OJK), and unregulated companies looking to operate financial technology in the payment system services that are or are likely to be regulated by Bank Indonesia (BI).

**Philippines:** Insurance Commission Circular Letter 2020-73 Guidelines on the Adoption of a Regulatory Sandbox Framework for Insurance Technology (Insurtech) Innovations – is a regulation specifically dedicated to insurance sector. It is open to companies registered with Commission or other financial technology (FinTech, and Insurtech (Insurtech) companies, technology providers, and any other companies; presently unregistered start-ups with the intent to get registered in case of successful testing to scale out to a larger market.

Since innovative solutions mean new products, services, and business models, the underlying assumption is that existing laws are not sufficient to address them. The sandbox approach will enable the regulatory knowledge to develop in parallel to the changing needs of the market. The regulators may facilitate and allow these companies to implement their business model with relative ease, but subject to certain limitations (e.g. area of service, number of customers, or period).

Since CDRI is a new product, especially those that will make use of new technology (eg. example, Blockchain, Big Data, AI), participating in a Sandbox approach can be a good first step. One solution to build cross boundary collaboration is through partnerships with multilaterals such as ADB, which is focusing on collaborating and bringing in innovation through hackathons, crowdsourcing, and partnerships. ADB’s sandboxes are being launched primarily in the asset management, infrastructure, advice, wholesale, payments, lending, insurance, and credit sectors. FinTechs are the prime beneficiary of sandboxes as they get a fully integrated and well-regulated playfield to develop, test, and demonstrate their innovative solutions and products. ADB has established a **layered governance structure** for detailed and agile governance of sandboxes. It has established a methodology with evaluation and approval gates at every stage. A typical timeline for a sandbox experiment is 6–9 months.

## ADB's Sandbox Technology



Big Data



Robotic Process  
Automation



Blockchain



Artificial  
Intelligence



Fintech for Financial  
and Risk Services

## Conclusion



### Quick questions to ask yourself

-

- Am I human-centred and have listened to my customer?
- Is my premium affordable for the poor?
- Are my products easily accessible through traditional and digital channels?
- Am I putting efforts to financially educate my target clients?
- Is my organizational structure built and designed to serve the poor?
- Do I employ sufficient de-risking measures?
- Have I defined my KPIs and continuously monitoring them?
- Am I utilizing exponential technologies in insurance?

CDRI is in a nascent stage, and numerous factors can contribute to its success. The eight criteria suggested are foundational as it stems from the principles of inclusive insurance but also expansive as it considers the need for technological development. Starting with answering these basic questions should provide a level of assessment of the insurer's readiness to go ahead with the provision of CDRI. When serving the poor, there should be an inclination towards risk-taking and accommodation of complexities that come from serving this sector. To serve the poor, there should be bias towards action.





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