ALTERNATIVES TO CLIMATE RISK INSURANCE IN THE PHILIPPINES

ANGKAS & TIKLOS

COMMUNITY SELF-HELP COOPERATION

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COOPERATION AND VOLUNTEERISM TOWARDS COMMUNITY RESILIENCY

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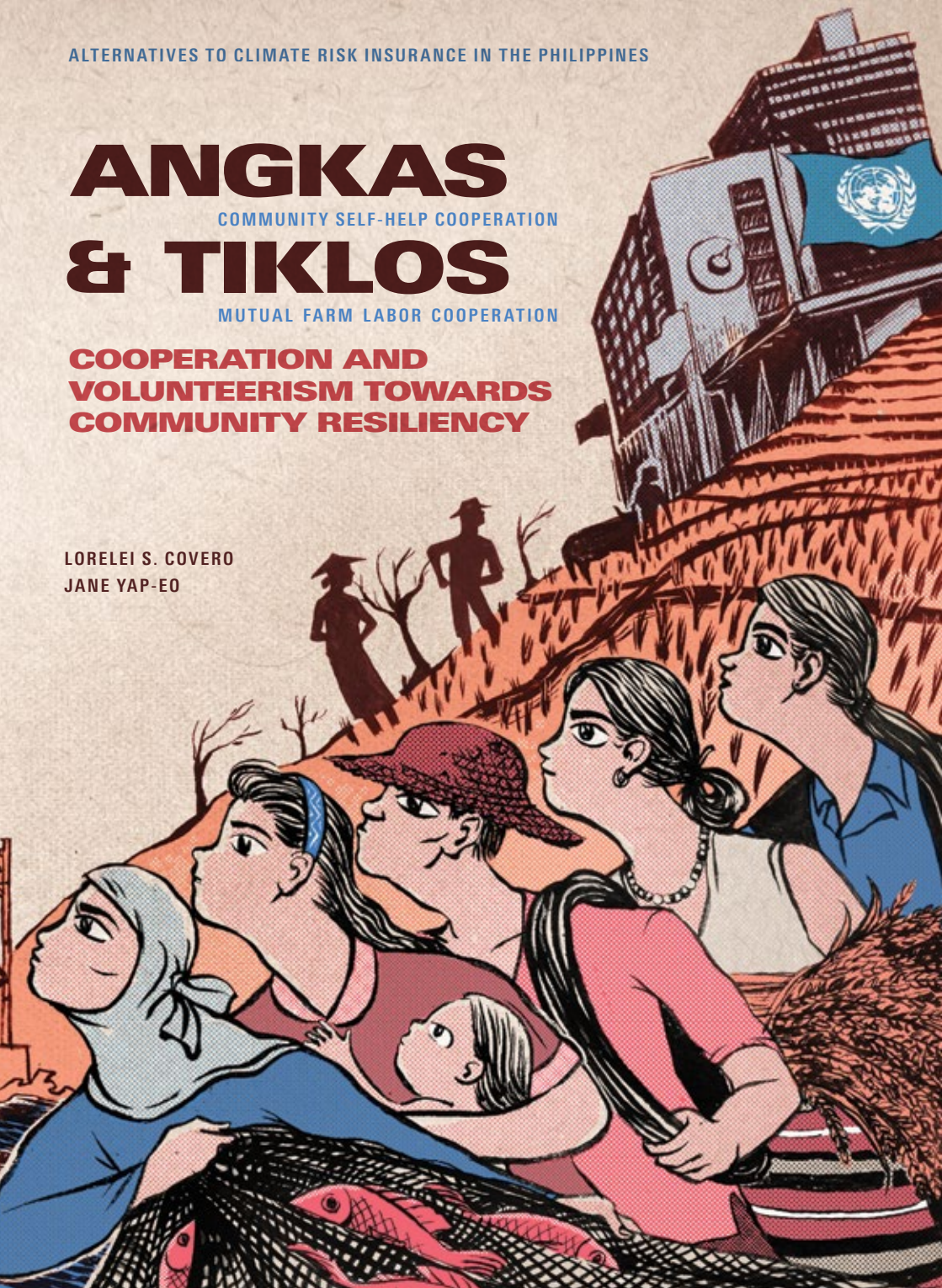

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ROSA LUXEMBURG STIFTUNG
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SUMMARY

Rising global temperatures have caused great alarm not just for international climate groups and experts but also for communities in the Global South who are least responsible, but ironically the most vulnerable to the impacts of climate change. This study provides examples of communities from the Philippines impacted by climate change and disaster which have self-organized to provide quick, pre-emptive responses. Beyond this, the study seeks to showcase how these self-organized community initiatives have transcended emergency action into a sustained undertaking that encompasses livelihood reconstruction, awareness-raising, organizing and mobilizing. These community initiatives, when further improved, can be widely advocated as alternatives to climate risk insurance and other market-based solutions to achieve climate resiliency.

The study also plays an important role in providing a critical perspective on climate risk insurance instruments for loss and damage — the unavoidable impacts of climate change that simply cannot be addressed with traditional adaptation mechanisms. The research poses a critique of existing climate risk insurance instruments in the Philippines with the experiences of five (5) communities in the country with primary data collected through focused group discussions (FGDs) and key informant interviews (KII).

Climate risk insurance is one of the financial instruments being promoted by the United Nations Framework Convention on Climate Change (UNFCCC) and the Warsaw International Mechanism (WIM) on Loss and Damage. The WIM was established to address loss and damage associated with impacts to climate change, and at the forefront of the market-based solutions is climate risk insurance.

The study finds that **InsuResilience**, one of the leading market-based instruments, is inadequate to address loss and damage associated with climate change. By pushing for an insurance system that focuses on post-disaster monetary compensation rather than providing opportunities to communities to develop their own practices of responding to climate change-related weather events, the concept of historical responsibility – the idea that developed nations which had for so long plundered and polluted the environment to accumulate global wealth are accountable for the climate crisis – is effectively diluted. Further, the case studies presented in the research are viable options to replace climate risk insurance instruments towards building climate-resilient communities.

INTRODUCTION

The Intergovernmental Panel on Climate Change (IPCC) has recently reported that preventing global temperature rise beyond the 1.5°C mark requires "rapid, far-reaching and unprecedented changes" in society. Approximately 1.0°C of the total global temperature rise since pre-industrial levels can be easily attributed to human activities. This unprecedented increase in global temperatures has set a ripple effect in motion that will persist for decades to come if no dramatic changes happen in global consumption patterns and carbon emissions.

Despite 25 years' worth of climate change conferences, not enough has been done. While the 2015 Paris Agreement is hailed as one of the most important milestones in climate negotiations in recent decades, it provides the same old market-based solutions that do not directly address the roots of the climate crisis. At the forefront of these solutions being pushed by the Global North is climate risk insurance instruments as part of the Loss and Damage finance under the United Nations Framework Convention on Climate Change (UNFCCC) and the Warsaw International Mechanism (WIM).

In the Philippines, these policies translate into insurance programs administered by national agencies and a milieu of local government programs. In addition, the Philippines recently launched the Open Source Platform for Catastrophe Modeling. The operation, implementation, and results of these programs are necessary to better understand and appreciate the inadequacy of the insurance model as a sustainable pathway towards building climate-resilient communities.

Meanwhile, there are examples of community-initiated disaster risk response and management practices, which are collectively done by community members by relying on their own strengths and available local resources. These initiatives, which have tempered communities

through time, however, are not enough to deal with the devastating losses and damages caused by climate change. But, if these initiatives are given the finance, necessary technology and knowledge transfer, they can be strengthened and further developed to contend climate risk insurance as a solution to loss and damage.

EXPLORING ALTERNATIVES THROUGH THE LENS OF MOST VULNERABLE COMMUNITIES

The study operates on a framework of exploring alternatives to market-based solutions to climate change inspired by the experiences of communities that have effectively adapted to the worsening impacts of climate change. The importance of this study relies on its underlying impetus to support community efforts at identifying lessons, triumphs, gaps and challenges that they can use to further improve and sustain these practices. By promoting these findings widely, it will help to educate other communities that are also vulnerable to climate change to learn about alternatives to climate risk insurance. Furthermore, the study can serve as an important resource material for CSOs engaged in climate justice policy advocacy and campaigning.

Specifically, the study aims to achieve the following objectives:

1. To identify the processes that enabled these two alternatives to come into practice, as well as the dynamics and participation, and influences of other involved forces;
2. To identify and analyze the weaknesses, strengths, and limitations of these practices; and if necessary, to come up with corresponding recommendations; and,
3. To identify and analyze the socio-economic, cultural, and political effects of these practices to the communities, and why these are viable alternatives to the climate risk insurance instrument being promoted as Loss & Damage Finance under the UNFCCC and the WIM.

A CRITICAL REVIEW OF CLIMATE RISK INSURANCE INSTRUMENTS

There is an abundance of published reports and studies on the WIM implementation at various levels but majority of these studies focus on

the supposed effectiveness of existing insurance methods, programs, strategies and capacity-building initiatives related to loss and damage and climate risk insurance instruments. While most of these reports and studies acknowledge that community based-initiatives and practices are effective mechanisms to address "loss and damage," there is very little available related literature that focus on the question of how and why these initiatives are viable alternatives to existing climate risk insurance instruments.

This is, in fact, one of the lessons cited in the summary report of the Executive Committee of the Warsaw International Mechanisms for loss and damage. The report acknowledged the limiting circumstances of the most vulnerable communities in acquiring financial instruments. However, there is no certainty that the financial instrument will directly address the situation of the communities because it will undergo the circumstances stated above like competing priorities, unequal distribution of resources and power imbalances, and preconditions required by financial instruments.

In addition to existing barriers posed by bureaucratic processes that hinder effective access of vulnerable communities to financial insurance instruments, these market-based solutions lack the necessary insight that encapsulates the concrete experiences of communities ravaged by climate-related disasters. In the June 2016 research titled "A people-centered perspective on climate change, environmental stress, and livelihood resilience in Bangladesh", authors Sonja Ayeb-Karlsson, Keevs van der Geest, Istiakh Ahmed, Saleemul Huq, and Koko Warner describes how existing adaptation measures are bound to fail:

> The findings show how environmental stress, shocks, and disturbances affect people's livelihood resilience and why adaptation measures can be unsuccessful. Floods, riverbank erosion, and droughts cause damage to agricultural lands, crops, houses, and properties. People manage to adapt by modifying their agricultural practices, switching to alternative livelihoods, or using migration as an adaptive strategy. In the coastal study sites, cyclones are a severe hazard. The study reveals that when a cyclone approaches, people sometimes

> choose not to evacuate: they put their lives at risk to protect their livelihoods and properties. **Future policy and adaptation planning must use lessons learned from people currently facing environmental stress and shocks.** (Ayeb-Karlsson, et al., 2016; emphasis added)

The findings show that the impact of disasters have rendered the people's source of livelihood inoperable. The study further stresses that livelihood is an integral component of survival without which people are sometimes forced to adapt by leaving their homes behind if other modes of adaptation such as changes in agricultural practices and search for alternative livelihoods fail.

The insight offered by Ayeb-Karlsson, et al. (2016) poses a compelling argument to rethink how climate risk insurance should be implemented. With a clear focus on the experiences of people facing environmental disasters, other adaptation mechanisms outside of climate risk insurance should be explored.

A research article by Goodlet Owusu Ansah and Lawrencia Pokuah Siaw (2017) supports this argument by emphasizing the importance of acquiring a thorough understanding of indigenous cultures and knowledge systems to avoid ill-equipped adaptation measures that more often than not become unsuccessful at the level of implementation.

The 2017 research also puts special attention on the value of livelihood as the centerpiece of any effective climate adaptation technique. The study further states that:

> there has been growing awareness that scientific knowledge alone is inadequate for solving the climate crisis which has led to growing recognition of local, indigenous, traditional knowledge as an important source of climate knowledge and adaptation strategies...
>
> ...Instead, policy makers are relying on International financial institutions (IFIs) and donors to transmute farming by introducing large-scale industrial agriculture practices as key

> to adaptation. Paradoxically, this method of production relies on hybrid seeds, synthetic fertilizers and machinery run with large carbon inputs, further jeopardizing the climatic stability on which all types of agriculture rely. (Ansah & Siaw, 2017)

In addition to the concrete insight lacking in climate insurance instruments, Ansah and Siaw's study provides another dimension into looking at how alternative climate adaptation practices should be implemented. This study underscores the value of livelihood and indigenous knowledge systems in adaptation planning and policy-making.

In an analytical paper written by Thomas Hirsch, Sabine Minninger, and Nicola Wiebe (2017), the authors emphasize the inability of existing climate risk insurance instruments to compensate for loss and damage at par with the standards of historical responsibility. The paper states that:

> ...[Climate risk] insurance must form part of a broad resiliency strategy that complements – without seeking to replace – social protection systems and humanitarian aid. In the case of climate risk insurance, there is a need for the state to provide safeguards, as well as for insurance supervision and independent monitoring to guarantee that insurance remains aligned with public needs.

In a manner of speaking, Hirsch et al.'s (2017) paper complements the developing narrative on the limitations and challenges of existing climate insurance instruments. The following sections of this research will expound on the point stressed by Hirsch et al. specifically mentioning the responsibility of the state to provide safeguards without using climate insurance systems as a means to excuse itself from its duty to protect its own people from the impacts of climate-related disasters.

GOING TO THE GROUND, LISTENING TO THE PEOPLE

The study is largely descriptive in design and makes use of case studies and takes a systematic review on the processes, the organization/

institution, and community dynamics of the initiative being observed. As the main objective is to document practices that can be replicated, and be used as materials for policy advocacy, it was deemed necessary to capture the processes and dynamics involved in such initiatives.

Ground interviews were conducted through Focus Group Discussions (FGDs, of about seven to 15 persons) and Key Informant Interviews (KII). The process involved in the actual conduct of the study started with the formulation of the instrument used in data gathering, which was presented with provincial partners in a series of coordination, and physical consultation, web browsing and data gathering in the communities thru FGD and KII.

Focused Group Discussion (FGD) facilitated the representation of the different sectors in the community such as women, youth, elders, farmers/peasants, and government employees such as teachers, midwife, and clerks. This was done to gather the perceptions and attitudes of community members of the study areas.

Key Informant Interviews (KII) provided data on highly specific topics based on the expertise and knowledge of the key informant such as data on the local government program and activities on loss and damage and risk insurance, organizational details, key information about the community and its history, etc. Alongside FGD and KII in the study sites is desk research that facilitates to avail additional data and related literature to support the research narrative. Two key reports from the Cordillera Disaster Response and Development Services, Inc. and Leyte Center for Development, Inc. also served as important foundations to build on the case study findings.

FOCUSING ON COMMUNITY EXPERIENCES AND PRACTICES

The study areas are in five (5) barangays in the Philippines. These are Barangays Maling, Balantoy and Balbalan Proper, municipality of Balbalan, province of Kalinga, Cordillera Administrative Region; Barangay Canhandugan, municipality of Jaro, province of Leyte, Eastern Visayas; and Barangay Tagalag municipality of Marabut, province of Samar in Western Visayas region.

These case studies are focused on the experiences and practices in responding to disaster and climate change impacts. As it applies

to these community initiatives: the study will analyze the limits of instruments implemented by the Philippine government to respond to the impacts of climate change; as well as the limits of promoted instruments on Loss and Damage under the UNFCCC, particularly climate risk insurance.

CLIMATE RISK INSURANCE AT THE GLOBAL AND NATIONAL SETTING

THE INSURESILIENCE GLOBAL PARTNERSHIP

Climate risk insurance, as a global policy framework, was first conceptualized at the 19th Conference of Parties (COP19) of the UNFCCC in Warsaw, Poland in 2013. Under the WIM, climate risk insurance arose as a mechanism proposed to address the issue of "loss and damage" which is managed by an Executive Committee. Under the leadership of Fiji in 2017, much was expected from the committee. This mode of implementation was however identified as a weak link in efforts to implement the outcomes of the COP23 in Bonn after the Committee came up with a five-year plan that lacked significant progress in its implementation (Corsi, 2018).

One of the components that were forwarded by WIM as a package to address Loss and Damage was the **InsuResilience Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions**.

Officially launched at COP23 in Bonn in November 2017, this insurance package brings together G20[1] countries in partnership with V20[2] nations including civil society, international organizations, private sector and the academe.

1 G20 countries include Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the European Union.

2 V20 refers to a group of countries most vulnerable to the impacts of climate change. It includes the following nations: Afghanistan, Bangladesh, Barbados, Bhutan, Costa Rica, Ethiopia, Ghana, Kenya, Kiribati, Madagascar, Maldives, Nepal, Philippines, Rwanda, Sta Lucia, Tanzania, Timor-Leste, Tuvalu, Vanuatu, and Vietnam.

The InsuResilience model is patterned after the G7 Climate Risk Insurance Initiative launched at the Elmau Biodiversity Summit in 2015 which in principle, aimed to make climate risk insurance more accessible to up to 400 million poor and vulnerable people by 2020. These two initiatives were merged at the 2017 Bonn climate summit which aimed to address a wider spectrum of challenges and reach a wider set of actors.

CLIMATE RISK INSURANCE IN THE PHILIPPINES: A BRIEF REVIEW

At the national level, these global policies translate into various laws and programs implemented by a number of government agencies. The Philippine government, as a signatory to a myriad UN climate agreements, has passed numerous laws and policies as follows:

- **Climate Change Act of 2009 (RA 9279)** – this Act created the Climate Change Commission – a body that coordinates, monitors, recommends, and assesses government programs and plans on climate change. It is also tasked with the management of the People's Survival Fund.
- **People's Survival Fund (RA 10174)** – is the leading climate finance program of the government. It attempts to address the lack of climate finance provisions in the Climate Change Act by allocating an annual minimum budget of P1 billion (16.8 million euros) for projects proposed by local government units (LGUs).
- **National Climate Change Action Plan and Local Climate Change Action Plan (NCCAP & LCCAP)** – These plans that are to be implemented at the national to community levels, were drafted in coordination with LGUs and the Climate Change Commission. Projects implemented under the NCCAP and LCCAP must be aligned with the seven strategic priorities namely food security, water sufficiency, environmental and ecological stability, human security, sustainable energy, climate-smart industries and services, and knowledge and capacity development.
- **Nationally Determined Contributions (NDCs)** – The Philippine government committed to a) 70% conditional emissions reduction

target depending on the availability of financial support, technology and capacity-building; b) climate risk assessment and monitoring, climate and disaster-resilient ecosystems, water, health, agriculture, economic growth; and c) mechanism and risk insurance for loss and damage.

- **Parametric Catastrophe Risk Insurance Program (PCRIP)** – launched in July 2017, this program, under the Government Service Insurance System (GSIS) pools in financial grants from both the World Bank and the UK Department for International Development (UKDID). As a government insurance agency, this risk insurance program only covers losses of national government offices and 25 provinces.[3] The provinces were selected based on their risk of exposure to extreme weather events and other natural calamities as per the guidance of catastrophe modeling by AIR Worldwide.[4] The funding for this program is allocated through the National Disaster Risk Reduction and Management Fund amounting to P1 billion (16.8 million euros) in 2017. Implementing guidelines are drafted and finalized by a technical working group composed of representatives from various government agencies.
- **Open Source Platform for Catastrophe Modeling Project** – A project in partnership with Oasis Loss Modeling Framework (Oasis LFM)[5]. For this two-year pilot project, the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) awarded funding to Oasis LFM for an international collaboration to improve climate and catastrophe risk resilience in the Philippines and Bangladesh by improving long-term access to catastrophe risk-modeling.

3 The provinces under the coverage include Albay, Aurora, Batanes, Cagayan, Camarines Norte, Camarines Sur, Catanduanes, Cebu, Devao del Sur, Davao Oriental, Dinagat Islands, Eastern Samar, Ilocos Norte, Ilocos Sur, Isabela, Laguna, Leyte, Northern Samar, Pampanga, Quezon, Rizal, Sorsogon, Surigao del Norte, Surigao del Sur and Zambales.

4 AIR Worldwide is a risk modeling and data analytics company based in the US.

5 Oasis LFM – a non-profit organization founded in 2012 to promote catastrophe risk modeling. It is collectively owned by close to 40 of the world's top insurers, reinsurers, brokers, and financial institutions.

"ANGKAS" (COMMUNITY SELF-HELP COOPERATION): THE CASES OF BARANGAY MALING, BALANTOY AND BALBALAN PROPER

The case studies focus on three (3) barangays[1]: Maling, Balantoy and Balbalan Proper, in the municipality of Balbalan, province of Kalinga, in the northern part of Luzon in the Philippines.

The municipality of Balbalan is a 3rd class municipality with a total population of 12,195 people (2015 census). It is a rugged tableland with a total land area of 51,900 hectares. It has six prominent mountain peaks and two rivers, Saltan and Mabaca.

The climate prevailing in this area is characterized by a short dry season (January-May) and a pronounced wet season (May-December). A total of 5,432.35 hectares are devoted to agriculture, of which 15.49% are rice fields, 4.26% are for orchards, and the remaining 80.25% are devoted to diversified crops.

Of the total rice lands, 882 hectares are irrigated through communal irrigation systems built through people's initiatives, while approximately 20 hectares are non-irrigated. Agricultural produce are rice, coffee, root crops, vegetables, legumes and fruits particularly gayunan or orange; all mainly for household consumption except for coffee.

The primary livelihood is farming, with rice as the main crop. Secondary sources of income are small-scale mining, employment from odd jobs (mostly outside the community) and animal husbandry. Though they are subsistence farmers, they still experience three to

1 A "barangay" refers to the smallest administrative division in the Philippines

four lean months that are marked by rice shortage. Lean months may even extend up to six months when typhoons and pests hit the farms.

In the early 1960s, villagers in Barangay Maling experienced colder climates due to an abundance of trees of various species. Today, a relatively cold to warm climate is being felt. Community members have observed changes in the weather pattern for the past three years: rains come as early as January instead of June; continuous rains mark the usual dry months (April-May); and they have also experienced warmer temperatures, when the sun is painful to bare skin.

The study areas are neighboring barangays sharing the same socio-economic, cultural and political backgrounds, though they belong to different ethno-linguistic tribes: Balbalan Proper are peopled by the Gubang tribe, Barangay Maling by Dao-angan and Barangay Balantoy by Salegseg.

Generally, mainstream politics has caused misunderstanding and factionalism among community leaders. However, the presence of people's organizations preserving unity, cooperation and true community development guided by the principles of self-reliance, equality and self-determination, make disaster risk reduction and climate change-related initiatives more realistic and attainable.

The politics in these Indigenous Peoples Communities (IPC) is a mix of the Philippine government's political system and the observance of the indigenous socio-political system.

Traditionally, tribal elders lead the community affairs politically, economically and culturally. However, at present, indigenous people's political representation is limited to the Indigenous Peoples Mandatory Representative (IPMR) who sits as a member of the Barangay Council, and the tribal elders' membership in the Barangay Lupon (a committee of respected community members that settles disputes in the barangay court).

Despite the disintegration of the traditional indigenous political system generally considered to be better than the current state of politics, the three study areas significantly maintained their respect for elders and observance of the bodong, a traditional peace pact providing security of life and property. The study areas have never engaged in tribal war, and conflicts in the past were all settled peacefully.

In recent years, conflict among these barangays emerged as a result of the application of the Local Government Code (LGC) and the weakening role of tribal elders. One cause of dispute is territorial boundaries.

The tribes recognize bogis, the territorial right to utilize resources. The scope of the bogis is determined by the bodong (peace pact). But when the LGC was implemented, the government conducted cadastral and political mapping which set new political boundaries that were not aligned with the traditional bogis. This is compounded by the fact that the annual barangay fund or the Internal Revenue Allotment (IRA) under the LGC, is based on population and land area of the barangay.

At present, the barangay officials and tribal elders are conducting consultations to settle disputes on the boundaries. Elders and peace pact holders are insisting that the original boundaries must be honoured.

The study areas preserved their traditional practices which promote unity and cooperation, not only in times of crisis and important community events, but also in their daily lives.

THE PRACTICE OF ANGKAS AND PANGO

"Angkas" is a form of free labor cooperation that involves the whole community, wherein each household provides at least one representative to the communal activity.

In the past, the call for angkas used to come from the community elders, but now barangay officials may also call for angkas for a community project or if a family needs help with labor. The types of labor that are done through angkas are construction and maintenance of irrigation and water systems, house construction, clearing of pathways, and hauling of relief goods and construction materials for community projects.

"Pango," also called "Ab-abuyog" or "Innabuyog," is another form of cooperation where community members collectively work together through exchange of labor. It is mostly practiced for agricultural activities like harvesting, planting and expansion of new rice fields.

Residents form pango groups to work under fixed schedules

until the defined goal is accomplished. They work within a certain agricultural cycle to ensure synchronization of planting and harvesting to prevent crops from being damaged. The owner of the farm being tended to by the group will provide the food for volunteers.

The practice of **angkas** and **pango** enable the communities in the study areas to produce food, repair and build community infrastructure, immediately respond and recover from the impacts of disasters, and subsequently adapt to climate change. They have maintained good community relations through the leadership of the elders, active participation of the whole community and joint leadership of the barangay officials and organizational leaders.

THE IMPORTANT ROLE OF PEOPLE'S ORGANIZATIONS IN THE PRACTICE OF ANGKAS

In all the study areas, people's organizations crystallized the power of cooperation and volunteerism in communities.

In Barangay Maling, the community formed a barangay-wide organization called "Maling Pappango Community Organization" (MCPO) in June 2009. It envisioned a self-determining and self-reliant community with a high regard for indigenous knowledge systems, the environment and human rights.

At the core of its program is the protection, nurture, and good practice of local resources management, by incorporating indigenous knowledge systems to respond to climate change impacts and attain food security for the community. (See Table 1)

In Barangay Balantoy, there is also a barangay-wide organization called the Balantoy Farmers Association for Development (BFAD) which was organized in 2004. At the time, there was a need to come together to solve the problem of water and irrigation systems in the community. Beyond these, BFAD's overarching goal is to promote cooperation and unity in finding collective solutions to community problems and improve the community's quality of life through food sufficiency.

Learning from the experience of MCPO in Maling, the people of Balbalan Proper also organized in August 2016 the Sadsadan-Dao Innabuyog Organization (SADINO). They used the term Innabuyog to

reflect the spirit of helping one another. Among the priority activities of the organization was rice field expansion to improve food production and other community development initiatives such as education, health and sanitation, and environmental protection.

All of these organizations were formed with the assistance of the Cordillera Disaster Response and Development Services, Inc. (CorDisRDS), a non-government organization (NGO) working with indigenous peoples (IPs) in the Cordillera Region; as well as the Timpuyog ti Mannalon iti Kalinga (TMK), a province-wide farmers' organization. CorDisRDS is instrumental in supporting the organizations through capacity building initiatives and material support.

ANGKAS AS PRACTICED IN RICE AND PALAY (UNHUSKED RICE) COOPERATIVES

Barangay Maling used to be a rice subsisting community up to the early 1980s. However, recent harvest has become insufficient due to inadequate irrigation, limited arable land, low yield (due to pests, new plant diseases), soil degradation and change in weather patterns. Some 65% of the total households suffer rice shortages on an average of three months.

Another problem the community faces is the transportation of rice supply during rainy season when roads are closed due to landslides. When landslides occur, villages in these remote mountainous areas are isolated, making the transport of goods difficult. The prices of food and hauling services also soar during these times. These problems are true for all study areas of Maling, Balantoy and Balbalan proper. On the initiative of its people's organizations, with the women sector on the lead, they strove to resolve the rice shortage through angkas.

In 2010, the MCPO endeavored to improve its existing palay cooperative to respond to the problem of rice shortage. The Women's Committee managed the operations, as culturally, women take care of the seeds and manage the rice supply of the household.

The yearly net income derived from the cooperative is used for: 1) the sustainability of the cooperative, 2) skills training program, 3) organizational development fund and 4) community development projects.

Table 1. (MCPO) Main Program/Practice

PROGRAM/ PRACTICE	PURPOSE	WHEN OBSERVED
Water management	To preserve water sources, sustain the flow of water for domestic and irrigation uses	Year –round
Angkas/ pappango to repair/ maintain irrigation system	To sustain the flow of water and remove obstructions	Every cropping period and when there is damage along the irrigation canal
Organic farming and biodiverse ecological agriculture	To sustain soil fertility using organic materials and less capital	Every cropping period
Management of designated hunting grounds; Banning of traps that may catch young animals	To avoid accidents for hunters and to protect young wild animals	Year-round
Management of river fishing: Prohibition of electric fishing devices and promotion of traditional fishing gear such as nets	Preserve water quality and protect young fish species	Year-round (common during summer)

	STATUS	RELEVANT GOVERNMENT PROGRAM & POLICIES
	Strictly observed, from safeguarding against forest fires and prohibition of any upland farming activities	Barangay & municipal ordinances designating watershed areas
	Very much observed	
	65% of the households are observing the practice	Training on sustainable agriculture in early 2000; Department of Agriculture (DA) distributed shredders
	Banning of traps is strictly implemented. Hunting is done in the deepest parts of the forest only, and is strictly restricted in nearby hunting grounds	Barangay ordinance prohibiting the use of "bito" or trap.
	Strictly implemented among community members. Emerging problem: River and creek siltation due to small-scale mining operations in a nearby community. Complaint to the local government already filed but conflict of interest hindered immediate action by the local government executive.*	Barangay and municipal ordinances on illegal fishing activities

* Most members of the community strictly follow the rules and regulations. However, the problem now is river and creek siltation due to the small-scale operations in Gaang, among others. Gaang is a sub-village of barangay Talalang in the same municipality. Siltation has caused fish kills. This situation has also contributed to the increase in fish rearing in ponds along rice fields, a solution formed by the community members themselves amid apparent government neglect.

Men from Maling constructing one of the six distribution box of the irrigation system through angkas (Barangay Maling)

Today, the palay (unhusked rice) cooperative is a success as evidenced by a significant increase of stock. It is a cooperative policy that for every five bundles of palay borrowed, two bundles are added as payment when the borrowed palay are returned after harvest.

This policy has increased palay stocks, which in turn increased the number of possible benefactors of the cooperative. The cooperative has shifted from accepting rice as payment to palay for two main reasons: palay is easier to store than rice, and palay is a more sustainable mode of payment than cash.

In Balantoy and Balbalan Proper, there were also palay cooperatives, which operated and succeeded in the same way as Maling, with women assuming leadership positions under the guidance of their respective people's organizations. What is also common among the three areas is the use of angkas in all aspects of the cooperative, including construction of warehouses and hauling of supplies.

A new rice field built after the completion of the irrigation system, this new rice field was done through pango (Barangay Maling)

UTILIZING ANGKAS TO BUILD AND IMPROVE COMMUNAL IRRIGATION AND DRINKING WATER SYSTEMS

The Congot irrigation project is one of the main irrigation projects which services the widest developed rice fields and potential expansion in Maling. As planned by the MCPO, the Congot irrigation was considered the priority irrigation of the six irrigation systems that are being used by the farmers. The 38 family beneficiaries belong to poor peasants who rely on farming for a living. Six of the families are residents of the neighboring barangays Sitio Komon and Balbalan Proper.

The irrigation is around 1,500 meters (on survey) along the main canal line aside from the distribution canals. However, the old earth canal cannot deliver the volume of water required because of seepages and high evaporation due to hot temperatures. The technical condition of the irrigation, however, needs to be addressed to increase the volume of water reaching the rice fields.

MCPO and community members collaborated with CorDisRDS on the study and preparation of technical designs for the irrigation, utilizing their familiarity and indigenous knowledge. Construction and other laborious activities were done through angkas, while MCPO provided local materials and traditional knowledge. Through this, the community felt an ownership of the project, which mobilized the youth, men, women and elders.

The community now uses the improved irrigation system. It has a potential to irrigate 3.5 hectares of rice field expansion. Now, 60% of the irrigable area yields two harvests per year, which has greatly added to the food security of the community.

A similar irrigation system that used angkas was done in Balantoy in 2012, which was in line with BFAD's program of achieving food sufficiency. The Saleng Communal Irrigation System benefitted 78 families, most of them non-members of BFAD. With the help of the Center for Development Programs in the Cordillera (CDPC), an NGO working on sustainable development, the community contributed locally sourced materials and labor to the endeavor.

In interviews, BFAD officers and direct beneficiaries said that the irrigation system has contributed much to the attainment of rice sufficiency, as it expanded irrigated fields and increased cropping from one to two cropping annually. The additional harvest filled the gap months when residents would experience rice shortage.

Meanwhile in Balbalan Proper, the supply of clean drinking water had been a perennial problem of the community. There were several waterworks projects initiated by the government, but none succeeded due to graft and corruption and a lack of proper maintenance. This motivated the local people's organization SADINO, to build a system for safe drinking water. CorDisRDS and TMK provided material and technical support, while the community and the beneficiaries provided the community's contribution of shared labor through angkas as well as other locally available materials.

In the project's mid-term assessment (October 2018), it was noted that 65% of work that was completed for a total of 135 workdays were done through angkas. The monetary value of this rendered free labor is around PhP 30,000.00 (500 euros), while the value of local

Table 2: (MCPO) Rice field extension report (Aug 2010-Feb 2011)

GROUPS	ACCOMPLISHMENTS			
	Rice field expansion		Preparation of location for a house to be built (panad)	Other uses
	FINISHED	ON-GOING		
2 groups of females	3 sites completed	4 sites	1 site	Preparation of garden plots
3rd group of males	1 site completed	3 sites		Rehabilitation and cleaning of irrigation canal
4th group of males	1 site completed	1 site		Clearing of road slides
5th group of males	2 sites completed	2 sites	1 site	
6th group of males	3 sites completed	1 site		

materials provided by the community is PhP 22,000.00 (365 euros)—a significant amount of money for the community.

The women of Balbalan also participated in the angkas by hauling materials and clearing pathways as well as fulfilling the culturally-expected role of preparing food for the laborers.

UTILIZING PANGO FOR THE EXPANSION OF RICE FIELDS

In order to attain food security, the community leaders believed that rice fields expansion would be crucial.

In 2011, MCPO asked the assistance of CorDisRDS in acquiring a set of farming tools which they could use to expand their agricultural lands, repair damaged fields and daily farming activities. MCPO formed six labor exchange groups or pango. The group had its own program on how to do pango or labor-exchange: all members must deliver equal days of work in each other's farm, and use only the farm tools assigned to them.

In the first six months of implementation, the beneficiaries of the project (81 families) actively participated in the pango. They completed expansion of ten sites, while expansion for 11 sites are ongoing. (See Table 2).

INDIGENOUS COMMUNITY RESPONSE TO DISASTERS AND CLIMATE CHANGE IMPACTS

The people of Barangay Maling have maintained their indigenous natural resources management practices. They call this practice "Lapat."

The lapat system safeguards all forests and forest products, waters resources, rice lands, community sacred grounds, and biodiversity of the community.

Under the lapat, the community through MCPO, formulated a program on disaster management and adaptation to climate change impacts. The program focuses on preparedness, adaptation, and mitigation in their own capacity, by relying on local resources and knowledge.

Some of the policies under the Lapat system are:

1. Hunting grounds are designated and managed by the community. The use of destructive tools and harmful ways of hunting are strictly prohibited, including the use of traps, improvised land mines and poison as these pose risks to humans, the environment and young animals.
2. In river fishing, the use of electric fishing devices, poisonous plants and chemicals are prohibited as these have proven to be indiscriminate forms of fishing, aside from being health and environmental hazards. The use of traditional fishing gear such as nets and catching devices are encouraged.
3. Community members are allowed to cut trees and harness lumber only for the construction of family houses and strictly not for commercial use. For every tree that is cut, another one should be planted as replacement.
4. Forests, bodies of water and sacred grounds are communal to the community.

5. The sale of rice lands and residential lots to people from outside of the community is forbidden. This is to ensure that the land and properties of the community will remain intact and that the next caretakers of these lands share in the community's values.

THE EXCLUSIONARY ASPECTS OF INSURANCE

Despite existing crop insurance instruments in the Philippines that are principally being managed by the Department of Agriculture (DA), the study areas (Maling, Balantoy, and Balbalan Proper) reported no significant experience in benefiting from these crop insurance systems. Crop insurance serves as compensation for loss and damage to crop yield associated with disaster and climate change impacts.

Government programs on Disaster Risk Reduction (DRR) and Climate Change Adaptation and Mitigation (CCAM) include integrated pest and disease management, sloping agricultural land technology and crop protection program. However, farmers claim that pest management programs promote the use of chemicals, and that the crop protection program is limited to rice and corn.

Requirements for crop insurance — such as the size of an agricultural area, proof of inputs expenses, proof of ownership and certifications from government agencies — are difficult for farmers to fulfil.

Particularly for upland farmers, farm eligibility requirements such as effective irrigation and drainage and accessibility to regular means of transportation, practically exclude them from qualifying for crop insurance.

For instance, a subsistence farmer usually cultivates a very limited area, averaging half a hectare, and is located in separate spots in the community — which may pose a problem to the farmer's eligibility because government crop insurance coverage is calculated per hectare.

In the Philippines, all local government units (LGUs) from the province, city, and municipality are mandated to formulate its Comprehensive Land Use Plans (CLUPs). The plan will be used to guide the LGUs to manage development of the communities while also considering the impact of disasters and climate change. A Provincial

Environment Code had been passed in 2011 but its implementation is yet to be cascaded to the municipal and barangay levels.

GENDER ROLE AND PARTICIPATION

Culturally, the women in the study areas are tasked with household chores & concerns (caring for the children, tending animals, maintaining health), tending palay, and seed propagation. This culture was carried over in the organization but expanded to include other tasks and responsibilities.

In community affairs, unlike before, women are now involved in the discussions and decision-making process. They are also able to join mainstream politics. In times of disasters, women lead first aid teams to treat community members who suffered wounds and other health issues. They also monitor disaster damages by leading ocular visits and documentation. They are in charge of writing reports which would then be submitted to outside organizations for possible action.

EFFICIENCY AND EFFECTIVENESS OF THE COMMUNITY INITIATIVES

The organizations' and communities' cooperation for self-sufficiency, livelihood, practices on disaster-risk reduction and climate change adaptation are inherent and traditional. These are rooted in their concept of life in an ili (village) which embodies the principles of caring for the environment, concern to kailyan (fellow villagers), and collective action. These concepts are the foundation of their initiatives in preparing, preventing, mitigating and responding to disasters and the effects brought about by climate change.This is the reason why the implementation of these initiatives are not costly because they are ingrained in the daily
lives of the communities.

The establishment of palay cooperatives, labour-exchange, collective labour, sharing of food, cash and material donations to a community member in need are inherent characteristics of indigenous peoples' communities. These practices are strengthened and further organized by community-led people's organizations.

"TIKLOS" (MUTUAL FARM LABOR COOPERATION): THE CASE OF BARANGAYS CANHANDUGAN AND TAGALAG

The study is focused on two barangays from the Eastern Visayas region of the Philippines: Barangay Tagalag in Marabut muncipality, Western Samar province, and Barangay Canhandugan in Jaro municipality, Leyte province.

Barangay Canhandugan is located in the 3rd class municipality of Jaro which has a population of 43,199 (2015 Census). It is located at the foot of Mount Alto, Leyte's highest peak, and divided by the Mainit River. Canhandugan is the largest barangay in Jaro, Leyte with 2,051 population distributed in more than 600 households.

Unemployment in the community is high, especially among the youth. Coconut farming used to be the main source of income in the community but after Typhoon Haiyan (local name: Yolanda) happened in 2013, it was no longer a viable source of income. Since then, households sought livelihood as paid labor in rehabilitation construction, and as contractual agricultural workers (rice, banana and vegetable farming).

The community is at medium risk to landslide incidents induced by rainfall; at high risk to strong winds due to typhoons.

Despite claims by some barangay officials that their communities are organized and prepared, the communities lack a Disaster Risk Reduction Management plan or any committee structure to manage disaster risk, according to Minet Aguinsada of Leyte Center for Development Inc. (LCDE), a non-government organization for sustainable development based in Jaro, Leyte.

Barangay Tagalag is an upstream barangay in Marabut municipality, Western Samar with a total land area of 910 hectares. The total population is about 1,065, with 250 families. Most of the barangay infrastructures and facilities were built through donations from various sources. The LGU has a health program such as monthly immunization and regular check-ups. Only an elementary school is available in the community for children's education.

Tagalag is one of the poorest barangays in the municipality of Marabut. The main source of livelihood is fishing and farming; secondary is carpentry and construction work. But after losing their primary livelihood to Typhoon Haiyan, many shifted to find contractual work in construction. Cash from the government's stop-gap measure for extreme poverty called "Pantawid Gutom[1]" (4Ps) provides minimal financial support and insufficient for school expenses for children. Family beneficiaries use most of the CCT (Conditional Cash Transfer) endowments to purchase food.

The community is flood prone due to its proximity to a river. It is high risk to strong winds and typhoons, as it faces the Pacific Ocean.

TIKLOS IN PRACTICE

In Barangay Tagalag, community members have noted that compared to ten years ago, weather conditions have drastically changed. They are worried that crops may not able to survive the changing weather patterns. Pest attacks and diseases have worsened and the cropping season has shifted.

Manuel Lledo, a resident of Barangay Tagalag, said that the weather is now difficult to predict. He worries that drought, typhoons and other disasters will destroy his farm. Farmers have said that the cost of production is now very high, and they worry that disaster will strike anytime and destroy crops.

Most community members affirm that the practice of tiklos has been a big help to them as it saves them cash through labor-exchange in farming and fishing. The practice of tiklos or mutual exchange of farm labor is very much alive in both communities especially during

1 4Ps is a conditional cash transfer program administered by the government through its Department of Social Welfare and Development (DSWD)

Disaster Preparedness Training in Barangay Canhandugan, Jaro, Leyte.

and after typhoons or other disasters. This kind of labor cooperation has lessened food production expenses and avoided members from becoming victims of usury. It has also sped up the implementation of community and organizational activities. To strengthen and sustain the practice, community organizations included this practice in their policy.

Tiklos is very helpful among members especially to small farmers in the community. To make tiklos easier to manage within the members, the association divided the members into different small groups for tiklos. The agreed policy of work rotation is being applied in every group.

TIKLOS AND THE VITAL ROLE OF PEOPLE'S ORGANIZATIONS

The people's organizations in the two barangays were formed through tiklos. It started with a small group of ten farmers and expanded over the years to include more members.

In Barangay Canhandugan, 27 farmers have formed themselves into an organization called United Farmers Association of Canhandugan (UFAC). Another organization, the Tag-Alag Farmers and Fisherfolks

Extracted foliar fertilizers and pesticides by TAFFA in Barangay Tagalag, Marabut, Samar, October 9, 2018.

Association (TAFFA), composed of 23 members, is based in Barangay Tagalag. The two farmers organizations both envision a food-secure and peaceful community. Their main objective is to address short and long-term economic issues like farm gate price, livelihood, usury, and lack of farm implements. Programs common to the two organizations are food security and community resiliency to climate change.

An increase in income for the farmers would translate to greater capacity to mitigate the effects of calamities as they can stock up food and seeds for the next planting season, and have enough money to evacuate to other towns when needed.

Furthermore, community members shared that being in a strong organization has brought them much-needed external support from non-government organizations (NGOs), both international and local, that prioritize working with grassroots organizations.

COMMUNITY INITIATIVES AND PRACTICES IN THE SPIRIT OF TIKLOS

"Paluwagan" (community savings and loaning) in Barangay Canhandugan

The community established a savings association, with more than 30 members. In this community savings called "Paluwagan," each

TAFFA's communal vegetable garden in Barangay Tagalag, Marabut, Samar, October 9, 2018.

member has a schedule to use the fund with 2% interest per week. The earnings from the interest are shared among members, based on each member's contribution. The maximum contribution is P250 (4.15 euros) per week.

In addition to the members' weekly contribution, they also contribute P5 (0.08 euros) per week for the Emergency Fund, which is intended for disaster preparedness like food stock, medical assistance, and other urgent needs of the members.

Almost all residents who are of legal age are members of the savings association. This project is meant to augment the livelihood of the community members and sustain their daily food consumption, education, and other needs.

Organic farming and communal gardens in Barangay Tagalag

Organic farming had already been practiced by the community for decades, but due to widespread use of agro-chemical inputs like pesticides, the practice became uncommon.

Many traditional or indigenous seed varieties have been lost and replaced by High Yielding Varieties (HYVs), which are fully dependent on chemical inputs. In an effort to go back to traditional farming techniques, the municipal government of Marabut initiated capacity building efforts on organic farming. This was put into practice and

sustained by the members of the organization in their communal garden managed by TAFFA.

Even non-members of TAFFA were encouraged to practice organic farming. These farming techniques were inherent in the traditions of the community, and are now being progressively developed by the new generation of farmers. Organic farming has helped farmers lower the cost of production while increasing yield. It avoids the use of synthetic fertilizers and pesticides, which are costly and hazardous to the environment and human health.

TAFFA members plant crops, which are appropriate to the soil and weather condition. Mixed cropping is widely practiced to maintain and protect the loss of traditional crop varieties, which are more resilient to climate change such as root crops like cassava, sweet potato, and taro. These are farmed in communal and individual farms, especially during famine and lean months.

The community maintains communal gardens which help in strengthening the unity among members and the organization. It provides a source of income and serves as a demonstration farm for organic farming techniques, which are then applied to individual farms.

Backyard gardening is also practiced to maximize arable lands in the community and to make use of biodegradable wastes as organic fertilizers. The women members of TAFFA are managing this project.

Tiklos as practiced in "Bintulan" (fish cage) and Rice Cooperatives in Barangay Tagalag

The "Bintulan" (fish cage) cooperative was established with the assistance of the Leyte Center for Development Inc. (LCDE) a non-government organization advocating for sustainable development. TAFFA and community members were provided with fish cages. As a result, fish are sold at a cheaper price within the community. Members get their profit share from the centralized and collectively managed bintulan right after the fishes are sold—as a response to the urgent need for cash of the community members.

In the spirit of tiklos, members take turns in fishing on a weekly basis. This is to give everybody an opportunity to earn an income. Every work rotation is composed of four persons. Daily income of the

Fish cage (Bintulan) cooperative owned by Tagalag Farmers and Fisher folk Association, located in the deep waters between Samar and Leyte Islands.

organization through the bintulan is divided among the fish catchers of the day, while a portion goes to the central fund of the organization.

The rice cooperative was established before Typhoon Haiyan and is still in operation. This cooperative is very helpful in the community especially during the lean months. Rice is sold cheaper in the cooperative than the commercial rice sold in privately-owned stores.

GOVERNMENT PROGRAM ON DISASTER AND CLIMATE CHANGE

Typhoon Haiyan, the most powerful typhoon ever to hit the Philippines, caused massive destruction and displacement. Official government data reported that a total of 3.42 million families were affected all over the Philippines, while P95.48 billion (15.96 million euros) in damages were recorded. Some 36,050 casualties (dead, injured, missing) were also reported, including 6,300 deaths (NDRRMC, Final Report on Effects of Typhoon Haiyan, November 2013).

The towns of Marabut and Jaro were hard hit by typhoon Yolanda in 2013. The local government units in both towns implemented the usual formation of the Barangay Disaster Risk Reduction Management Council (BDRRMC) but a few barangay officials shared that most of the time, this council is only there "on paper" and not really functional.

DISASTER RISK REDUCTION IN BARANGAY CANHANDUGAN AFTER TYPHOON HAIYAN

Community members reported that after Typhoon Haiyan in 2013, members became more easily mobilized and active in disaster preparedness and resiliency activities like trainings, relief operations, and monitoring of disaster-related damages and losses. Members have also been active in rescue operations.

The interview results revealed that acquiring new knowledge on disaster preparedness has changed the way community members respond to disasters. For instance, people have become more vigilant and alert to storm warnings – allowing them to prepare ahead of the expected arrival of the typhoon in the area. Prior to this, families relied on announcements from local government officials to prepare for a typhoon. Disaster preparedness, in the past, was an individual family's effort instead of a community-coordinated response. Now, warning announcements from the LGU Disaster Management Office about storm signals are repeated over the community using megaphones.

Having learned the bitter lessons from Typhoon Haiyan, the community members were challenged to help themselves to be strong and build resiliency from disasters and the impacts of climate change.

They organized themselves under a community-wide organization in cooperation with the municipal local government unit with the assistance of LCDE. Together with LCDE, the community members in cooperation with barangay officials started their program on Disaster Risk Reduction (DRR) with components of capacity building and tree planting (of traditional varieties). Results of the capacity building program on DRR are as follows:

Members of the Barangay Disaster Risk Reduction and Management Committee (BDRRMC) shared that attitude towards handling disasters have changed. This is a result of having developed knowledge on vulnerabilities and hazard zones, including how to make a community hazard map for flood-prone areas. They also now know how to prepare before a calamity strikes, including preparing emergency readiness packs.

- Community members now have enhanced knowledge and confidence through simulations of the early warning system and evacuation routes drills.
- The BDRRMC officials said that before they had to force people to evacuate, but now this is not the case, as there is constant monitoring and information relaying among the community members. People have been observed to be more vigilant, according to the Municipal Disaster Risk Reduction Management Office (MDRRMO) who observed a community drill. The BDRRMC said that they plan to conduct community drills on a regular basis.
- The community through their organization had developed and adopted a Community Based Disaster Risk Reduction Management plan (CBDRRM). This was done in coordination with the MDRRMO of the municipality of Jaro.
- According to Ms. Roberta Aguirre, MDRRM Officer of Jaro, Leyte, the capacities of the barangay officials and the community have been enhanced through the involvement of the communities in the development of the plans. Aside from a government tree-planting project, these communities, including Canhandugan community, are the first to have a tree-growing project. The community's involvement ensures that trees, which are crucial in preventing soil erosion in disaster-stricken areas, grow sustainably.

REFLECTIONS ON COMMUNITY INITIATIVES AND PRACTICES

The disadvantage of the community savings is that it is a small, limited fund because of the low maximum share per member. Members of the savings association sometimes opt to apply for calamity loans from rural banks instead of the savings associations because of the higher payout amount.

The strength of community savings association, however, lies in its potential to provide emergency funding in times of disasters or great need. Early recovery efforts in any type of disaster entails a multitude of needs that varies for every family or community member. By ensuring a certain funding allocation for each member for early recovery, community members can tailor their budget to their most

pressing needs instead of relying on generic relief goods being distributed by the government or humanitarian organizations.

This system of community savings can be further improved through the support of the national government, global policy-making bodies and other stakeholders in terms of increasing capital share contributions and thereby increasing the funds allocated for emergency response and early recovery. When communities have cash that is quickly and easily disbursed, recovery to disasters becomes more efficient and responsive to the needs of the community.

Like any other risk insurance, these community initiatives done under the spirit of tiklos, cannot fully insure the loss and damages incurred by the people in every disaster but they provide early relief, foster strong community cooperation and unity among community members, while gradually building community resiliency and strengthening climate adaptation practices grounded on traditional knowledge.

These initiatives serve as social, cultural and economic preparation for the community as they take initiative and leadership to face disasters and adapt to climate change.

ANALYSIS, CONCLUSION AND RECOMMENDATIONS

A CRITIQUE OF CLIMATE RISK INSURANCE

Climate risk insurance, at its core, is a market-based response to climate change. In a span of only a few years since its conception amid a growing slew of extreme weather events that coincidentally increased the market demand for climate risk insurance, this loss and damage instrument has become a booming industry.

In many ways, this basic analysis of climate risk insurance reflects what Naomi Klein (2007) calls 'disaster capitalism' as she criticized the current capitalist world economy for profiteering from the very crisis it created. By burning fossil fuels and producing excessive carbon byproducts in the process, advanced industrialized economies gradually precipitated the advent of climate change. As a response to the urgent issues arising from the climate crisis, capitalism immediately sees this as an opportunity to make more profit.

Also implicit in this emerging narrative is that efforts to address climate change have been re-engineered to serve the purpose of capitalist economic growth and expansion. The 2006 Stern Review describes this phenomenon in great detail as he contends that:

> Action on climate change will also create significant business opportunities as new markets are created in low-carbon energy technologies and other low-carbon goods and services. These markets could grow to be worth hundreds of billions of dollars each year, and employment in these sectors will expand accordingly. (Stern et al., 2006; Summary of Conclusions, viii)

Aligned with Stern's prediction of how capitalist economy will adapt to the emerging impacts of climate change, various forms of commoditized solutions to the climate crisis have emerged including InsuResilience as an inherently capitalist attempt to first and foremost, gain profit from the crisis of its own making. It conveniently disguises itself behind the concept of 'responsibility to act' while undermining historical responsibility of developed nations who had perpetuated the unabated plunder of the planet.

Historical responsibility was inevitably sidelined the moment member states agreed to transfer the responsibility for resource governance from state to the private sector. The UNFCCC has created the environment for this, with negotiations going nowhere for decades, most importantly on the responsibility for climate finance. It has also facilitated the creation of InsuResilience from the Climate Risk Insurance initiative of the G7[1]: the biggest capitalist countries that will profit the most out of climate insurance (also including countries historically and principally responsible for the climate crisis). By representing the interests of corporate elites, the governance of monetary flows concerning climate risk insurance becomes a business venture rather than a social responsibility that states from the Global North should be morally obliged to fulfill.

Climate risk insurance, like any other insurance instrument, works by collecting fees from a certain target market to serve as a pooled fund which it releases to benefit only a few individuals/entities that 'qualify' for coverage based on a strict set of standards. In this case, countries vulnerable to climate change serve as a solid consumer base for climate risk insurers.

THE STATE OF PHILIPPINE CLIMATE RISK INSURANCE INSTRUMENTS

In the Philippine context, the inadequacy of this instrument as a measure to combat the impacts of climate change becomes more apparent. The Philippine government created various policies and programs to respond to the climate crisis and disaster impacts. All of

1 G7 or Group of seven countries: Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

these are included in the Nationally Determined Contributions (NDCs) of the state as party to the UNFCCC. However, almost all are under the auspices of the World Bank and other international financial institutions. As such, these are tied with conditionality. Implementation is coursed through corporations.

As per existing government-managed climate insurance instruments, widespread corruption becomes a major hindrance to effective service delivery.

Existing laws on climate change will be "progressive" if its principles are founded on the thrust to assert historical debt of the Global North, but the resulting programs and policies that try to interpret these principles are lacking significant coverage in providing access to the most vulnerable populations in the country.

For instance, the Philippines' People's Survival Fund, one of the leading sources of climate finance locally, receives a very limited budget that hinders it to push for significant improvements in climate adaptation and mitigation measures. There is a also the problem of corruption in the implementation of the fund. Corruption practices are one of the primary reasons why climate adaptation strategies often become unsuccessful. This is perfectly encapsulated in an analytical passage of Vania Montalvo from Transparency Mexico. She says:

> Climate change and corruption share many symptoms. They hit the poorest first and worst. They are caused by powerful individuals or entities seeking short-term gain. In the long term, they put livelihoods at risk and threaten entire economies. They thrive on the flaws of national governments…
> (As quoted in www.transparency.org)

On the other hand, the Government Service Insurance System (GSIS), which handles the Parametric Catastrophe Risk Insurance Program (PCRIP) conveniently limits its coverage to government structures and agencies hit by natural disasters. In addition to its highly limited coverage, the PCRIP can also be characterized as bureaucratic as it needs to go through various line agencies and local government units. An application for climate risk insurance programs in the country

can take an average of 15 days to one month before finishing, which is too long for any disaster-stricken family to wait.

Another method being employed by the Philippine state as a means to combat climate change is the Philippine Crop Insurance Corporation (PCIC) through the direct leadership of the Department of Agriculture. The PCIC was created as a response to the devastating impacts of climate-related damage to crops. The problem with this insurance scheme is that at the onset, eligibility requirements, practically exclude small, subsistence farmers as it includes factors beyond their control such as: the presence of effective irrigation and drainage systems, accessibility to regular means of transportation, and generally stable peace and order conditions. The documents required are also daunting especially for individual farmers, as it involves, for example, Farm Plan and Budget which will entail further supporting documents. In the end, even if a farmer is perfectly qualified to avail of the crop insurance coverage, disbursements from the PCIC can often take months or even more than a year before it reaches farmer beneficiaries.

For instance, using the experience of Barangay Maling, the government's crop insurance service does not function. The well-entrenched culture of corruption among national and local politicians prevents the disbursement of funds to actual farmer beneficiaries. In some cases, crop insurance disbursements are provided months or years after disaster strikes which defeats the purpose of adaptation strategies altogether. What replaced these defunct instruments and kept the community together are cooperatives that allowed minimal resources to finance rapid recovery in times of disaster.

ANGKAS AND TIKLOS AS VIABLE CLIMATE ADAPTATION STRATEGIES AND COMPREHENSIVE ALTERNATIVES TO CLIMATE RISK INSURANCE

Overall, the traditional and indigenous practices shown in the case studies provide a compelling argument to rethink climate risk insurance instruments as the answer to effective climate resiliency strategy. The financing needs of communities do not necessarily require enormous funding from the private sector (as such an approach creates conditionality and private sector interests often conflict with public interest).

However, it should be noted that this should not be used as an excuse for developed countries to skirt their responsibility of supporting the initiatives of countries from the Global South to adapt to climate change. Instead, these case studies prove that the appropriate approach to building resilient communities lies in supporting local initiatives rather than pushing for market-based and profit-oriented solutions to the climate crisis.

The case studies selected in this research validates the following points:

1. Cooperation and volunteerism at the community level have proven to be key components in making angkas and tiklos successful as climate adaptation strategies.
2. Intertwined with these two components are traditional, indigenous knowledge systems that allowed these adaptive strategies to thrive. For instance, without reviving the indigenous concept of angkas or community-based cooperation, agricultural systems would have been laid to waste by consecutive typhoons and landslides that struck the study areas. Collective/community labor, which is present in all of the case studies is key to preserving the communities' sources of livelihood. In cases where such is not possible, sharing in the community responsibilities enabled them to prolong their subsistence through proper food stocking and other disaster preparedness initiatives.
3. "Cooperatization," which in many ways is an elevated form of community-based cooperation, presents a viable alternative to climate risk insurance. By allocating a certain amount of pooled funds for emergency funding and providing regular income for cooperative members, the system allows members to rapidly recover and collectively prepare for disasters.

   The role of women, not just in their culturally-defined roles in society, is also integral in the overall success of these community strategies. Women comprise half of their communities. Mobilizing them was a decisive factor to the success of these strategies. Thus, their participation, initiative and leadership became essential components integrated into these strategies.

LEARNING FROM ANGKAS AND TIKLOS: WAYS FORWARD

Support community-based initiatives of the Global South to climate adaptation – In line with the principle of Common But Differentiated Responsibility (CBDR), initiatives to address climate change at the community level should be fully supported. The responsibility to support these initiatives is not limited to developed countries as states are also responsible for developing community capacities in responding to climate change. With the full support of developed countries, state subsidy from local governments with the help of other stakeholders, these small-scale community initiatives can be promoted and replicated at many levels thereby fostering resiliency instead of mere risk insurance.

- **Aligning national mapping systems to traditional community boundaries** – Cadastral and political boundaries set by the national government should respect indigenous mapping systems such as that of the bogis which is essential in the context of resource-sharing especially during disasters and other climate-related catastrophes. Aligning national mapping systems with traditional tribal boundaries also helps strengthen unity and cooperation among adjacent communities as shown in the case of Maling.
- **Promotion of the Lapat Indigenous System of resource management** – The lapat system, as explained in the case study, is a sustainable resource management policy deeply rooted in indigenous knowledge systems. It operates under the principles of social justice, environmental conservation and human rights, which makes it a valuable tool in assessing and improving resource management policies and programs implemented at the national level. The lapat system is a tool that can be replicated at all levels of governance towards building a more sustainable pathway to respond to the impacts of disasters and climate change.
- **Community cooperatives as alternatives to climate risk insurance** – Community-based cooperatives, as shown in the results of this study, play an important role in climate adaptation. While it is often disregarded in mainstream policy-making, cultivating these community-based financial initiatives allows for a

more focused approach to climate adaptation and disaster recovery and response. As opposed to private-sector led climate insurance instruments, cooperatives only make use of minimal premiums from its members. Combined with the concept of "paluwagan (community savings association)," this financing scheme ensures that all members benefit from the finance dividends produced by the system while also allocating a certain percentage of premiums and dividends as emergency fund for immediate disaster response and recovery. Global and national climate policy frameworks should start recognizing and supporting these localized systems of financing as key components in ensuring people's equitable share to the benefits of their labor and cooperation. Instead of transferring control of climate finance to the private sector and international financial institutions, climate negotiations should start rethinking their global approach and begin supporting local financing initiatives that directly benefit its constituency.

- **Source of livelihood is integral to climate adaptation strategies** – As noted by Ayebb-Karlsson, et al. (2016), preserving the community's source of livelihood is a central issue in the successful implementation of any climate adaptation program. As shown in the case studies, developing the community's capacity to improve their source of livelihood and protect it from the harsh impacts of climate change allow them to maintain a constant source of income even in cases where they incur significant loss and damage due to climate disasters and slow onset events. For instance, the construction of the Congot and Saleng irrigation systems in Barangays Maling and Balantoy, allowed community members to expand their rice fields and adapt to changing climate patterns. Climate adaptation strategies implemented at the community level should consider this in order to formulate a comprehensive plan towards building climate-resilient communities, and avoid the rise of climate refugees in the future.

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