

Rebuilding Communities and Lives: The Role of *Damayan* and *Bayanihan* in Disaster Resiliency

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The study explores the roles played by damayan (mutual aid) and bayanihan (cooperation and volunteerism) in the lives of people in five rural communities in Albay Province. It highlights how these indigenous practices serve as social resource in the people's day-to-day survival; as coping mechanisms in times of typhoons and flooding; and, as adaptive strategies in building their resiliency. The study shows that these practices help in developing their own sub-cultures of safety and promoting the emotional well-being of the people. There were limitations in these indigenous practices, requiring external support to sustain the peoples' initiatives for recovery. The study also provides insights and proposals on how local government units and organizations in the disaster field can utilize damayan and bayanihan in disaster risk reduction.

Introduction

The Philippines, due to its geographic location and landscape, is a natural hazard-prone country, experiencing several natural disasters each year. Since it lies along the pathway of tropical cyclones from the Pacific Ocean, an average of 20 tropical cyclones cross the country's area of responsibility each year with the accompanying dangers of high winds, storm surges and floods (CBDM Training and Learning Circle-Philippines, 2009; UNDP and EMB-DENR, 1996). Tropical

cyclones are most common from June to December. Between the months of June and November, an estimated average of three typhoons hit the country every month. Luzon is the most typhoon-prone area while the provinces of Samar, Leyte, Eastern Quezon, and Bataan Islands are the ones that experience the strongest typhoons (World Bank and National Disaster Coordinating Council, 2005).

Poverty lurks in many parts of the country, aggravating the vulnerability of majority of its poor population. Poverty makes poor people most vulnerable during disasters. In urban areas, poor people reside along dangerous creeks, rivers and garbage dumping sites. Their lives are endangered in times of flooding and landslides. In the rural areas, constant typhoons and droughts endanger the livelihoods and food security of farming and fishing households since these are weather and climate-dependent. Likewise, poor diet, limited access to clean water and sanitation as well as to health services undermine poor families' resistance to diseases and malnutrition.

Despite their lack of access to resources and services, poor households in both urban and rural communities have learned to rely on themselves for their everyday survival, as well as during times of crises, extreme events, and disasters. The indigenous support mechanisms like *damayan* (roughly translated as compassion) and *bayanihan* (cooperation and volunteerism) are still widely practiced in situations both of everyday survival and crises.

This paper explores how poor households in five rural communities in Albay Province in the Bicol Region utilize these indigenous forms of social support in their everyday struggle for survival and in developing resiliency before and after extreme events like typhoons and accompanying flooding.

Background and Context of the Study

This paper is part of the Annex Study under the MICRODIS Integrated Project. The MICRODIS Project was a four-year (2006-2010) project that focused on researches on the economic, health and social impacts of extreme events at the

micro level in areas in Europe and Asia. The overall goal was to strengthen preparedness, mitigation and prevention strategies to minimize the impacts of extreme events on communities. The MICRODIS Survey in the Philippines was conducted in Albay and Southern Leyte to determine the social, health and economic impacts of hydrological hazards, particularly typhoons and flooding, on communities. These areas were chosen because they were severely affected by typhoons and flooding in the past years. In Albay, the study was done by the Citizen's Disaster Response Center (CDRC) and Xavier University (XU) in eight barangays in the municipalities of Polangui and Legazpi City.

Albay is composed of 15 municipalities, three cities and 720 barangays. (MICRODIS, n.d.). Since it is located along the typhoon belt, an average of two major strong typhoons hit the province every year. The province has a yearly average of 20 typhoons with wind velocity ranging from 60-180 kph. Its average rainfall is 233 millimeters, with the lowest recorded at 130 millimeters in the months of April, and the highest at 389 millimeters in the months of December. The eastern areas of the province have no dry season, the western areas have heavily distributed rainfall, and the central areas have no pronounced maximum rain period with a dry period from November to January (MICRODIS, n.d.)

In November 2006, Albay was among those hardest-hit by Typhoon Reming (international name: Dorian) with a recorded rainfall of 466 millimeters, the highest in 40 years. Several communities were buried in rocks and lahar falling from the slopes of Mt. Mayon. In 2007, two super typhoons, Lando (international name: Hagibis) and Mina (international name: Mitag), caused flash floods and landslides affecting 69,465 families (MICRODIS, n.d.). Reming ranks number eight among the costliest typhoons that hit the country with damages amounting to 5.086 billion pesos (Virola, 2009). Other disasters that hit Albay included infestation of major rice areas by rats and bugs in 2009, and the El Niño phenomenon in 2010 that affected the entire Bicol region. Around 5,000 hectares of agricultural lands were damaged by the prolonged dry spell prompting the local government units in the region to declare a state of calamity in their respective areas (TABI Annual Report, 2010).

Research Methodology

The MICRODIS country study was conducted in 2008 and utilized both survey and focus group discussions (FGDs). The research areas were identified through a multi-stage cluster sampling: first stage was the selection of two municipalities (Polangui and Legazpi City); the second stage identified the affected and least affected barangays. Categorization was based on the assessment of the National Disaster Coordination Council (NDCC) and the Mines and Geosciences Bureau of the Department of Environment and Natural Resources. Two affected and two least affected barangays per municipality were chosen. Fifty households in each barangay were chosen, resulting in 400 respondents for the entire study.

An Annex study was undertaken in 2010 to explore issues identified in the country study, particularly the social aspect of community coping mechanisms during typhoons and flooding. The Annex study utilized the data of the country study, particularly on the social impacts of typhoons and flooding in Albay as take off points in exploring the poor rural households' coping mechanisms. It was in the process of conducting the Annex study that the indigenous practices of *bayanihan* and *damayan* surfaced and was further explored in the study, thus becoming the basis of this paper.

Four FGDs were conducted for this study. Participants were drawn from the 400 survey respondents of the MICRODIS country study and were purposively selected based on three criteria: a) they were severely affected by the typhoons and flooding; b) they were residents before and after Super Typhoons Reming, Lando and Mina; and, c) they were willing to be respondents for the study. The FGDs were conducted in five barangays: Balangibang and Kinale in the municipality of Polangui; and Bonga, Matanag and San Francisco in Legazpi City.

Forty-two participants took part in the FGDs – 24 females and 18 males. The age range of the participants was between 19 and 70 years old, with majority

falling within the age range of 40-49 years old. Of the 42 participants, 29 held positions in the barangay councils of their respective communities. Majority of the participants were farmers (36 out of the 42 participants) with one to seven hectares of farm land.

Analytical Framework: Linking *Damayan* and *Bayanihan* with Rural People's Poverty, Vulnerability and Resiliency

Poverty, Vulnerability and Resiliency

Poverty and vulnerability to natural disasters are linked and their effects are mutually reinforcing. Natural disasters contribute to poverty while poverty is the most important determinant of vulnerability. Poor households are the most vulnerable considering their housing locations, type of housing, degree of access to social services, sources of employment, and access to assets and resources. It was noted that the poverty-vulnerability to natural disaster link is often reinforced by “rapid urbanization, environmental degradation and the increasing risk of environmental disasters, whether as a result of direct human impact and /or from climate change” (WB and NDCC, 2005, p. 7).

The 2005 International Red Cross disaster report stated that “the impact of disasters ‘aggravate pre-existing poverty, creating a downward spiral of vulnerability, arresting development’” (Agence France-Press Associated Press, 2006). In conceptualizing both poverty and vulnerability, there is a need to highlight the importance of social protection, by both government and private sectors, as a policy tool for the reduction of vulnerability and poverty (Tandon & Hasan, 2005). The poor have varying levels of poverty in relation to access to basic needs and services which renders them as complex social groups.

Moreover, the poor are not a homogeneous lot. Although levels of income and consumption are important factors in determining who the poor people are,

there are however, other elements to be considered. For instance, a household which has better access to health, education and other public services than another household, even if both of them are at same income level, cannot be considered to be equally poor (Kozel & Parker, n.d.). Lesser access to resources and services also increases a household's vulnerability for it deprives them of basic needs. Holling (in Downing & Franklin, n.d., p.1) stated that "vulnerability comes from a loss of resilience".

Like poverty, resiliency as a concept has various meanings, requiring further theoretical exchanges. Moreover, there is an urgent need to develop indicators to measure resiliency (Peacock et al., 2008).

In the context of the disaster discourse, the concept of resilience was applied to social systems related to natural hazards, defining it as "the capacity of a system, or part of a system, to absorb and recover from hazardous events" (Timmerman, 1981 cited in Peacock et al. 2008, p. 5). This concept of resiliency as a system's capacity to withstand and recover from hazards could theoretically be strengthened with the help of other members of a system; "the essence of *social resilience* is not merely fostering independence, but rather the *interdependence* that is known in the Philippines as '*kapwa*' (Sapirstein, 2006, p. 61). Further, *pagkataong Pilipino* (Filipino personhood) highlights a dynamic relationship between *loob* or inner self with *labas* or others represented through *kapwa* (shared inner self) and *pakikipagkapwa* or the holistic interaction with those treated as fellow human beings (Aguiling-Dalisay, Yacat & Navarro, 2004). Filipinos interact with their *kapwa* through *pakikipagkapwa* which, in terms of interaction levels, "refers to 'humanness at its highest level'" (Santiago, 1976 in Enriquez, 1994, p. 45). In "connecting... *pagkataong-Pilipino* with Filipino volunteerism, we may argue that the helping behavior of a Filipino volunteer is an act of *pakikipagkapwa* that cannot be divorced from the context of *istrukturang panlipunan* (socio-political units)" (Aguiling-Dalisay et al., 2004, p. 31). People in disaster-stricken communities then utilize *bayanihan* and *damayan* as forms of *pakikipagkapwa* in relating with their *kapwa*.

Bayanihan and Damayan

The term *bayanihan* refers to any communal voluntary effort to achieve a common goal. *Bayanihan* “connotes heroic assistance (from *bayani* meaning hero)... [and] is a peerless communitarian practice that ignores social ranking and structures, leadership roles, and authority relationships” (Ofiana, 2002 cited in Aguilin-Dalisay et.al, 2004, p. 34). It is a common practice in Philippine communities wherein community members help their neighbors move to a new place, repair homes, or build communal infrastructures. A disaster management plan for Real, Infanta and General Nakar in Quezon called REINA Project is said to be “consistent with the bayanihan spirit, a community-led and indigenous practice” (ADB, CIDA, EC, NCRFW, UNICEF, UNIFEM & UNFPA, 2008, p. 109).

On the other hand, the practice of *damayan* shows the community’s solidarity through compassion. Aguilin-Dalisay et.al. (2004) stated that “*damayan* implies assistance to others in times of crisis or grief” (p.34); they also cited Ileto (1979) who “referred to the root word *damay* as empathy and participation” (p. 34). It is a practice that lessens another person’s grief through being there for them. A common example is *pakikiramay* (consoling), observed during a time of death in the family whereby friends and neighbors express sympathy for one’s loss and often give money to defray burial costs. Other examples include offering solace or advice during times of grief or misfortunes. An example of *damayan* by women in disaster situations is taking care of people “who are in shock from the loss of family, friends, neighbor, propert[ies], and livelihoods”) ADB et al., 2008, p. 109).

Further, Luna (1999, p. 5) stated that “[Disasters] can instill selfless giving among the people and move them to volunteerism” *Bayanihan* may then arise in times of disaster as an informal organizing of people aiming to surpass the challenges brought about by disasters (Luna, 1997 cited in Luna, 1999, p. 11) In practice, disaster victims have learned to organize themselves as survivors and partners in development. Communities vulnerable to flooding have developed local

endogenous response systems. The locality of such systems connotes not only spatial dimensions but the underlying social dynamics as well (Luna, 2003).

According to Hilhorts, “It has been estimated that no more than 10 percent of survival in emergencies can be attributed to external sources of relief aid” (Marianti, 2007, p. 23). Marianti (2007) noted that people are becoming aware that comprehensive disaster management systems should not be the sole concern of the government. Instead, it should be reinforced by the participation of local people as well as tapping local capacities, including local knowledge and expertise, resources and social capital, among others. It has been manifested in many situations, where local people organized committees to respond to emergency situations, resulting out of their awareness that in order for them and their communities to survive, they have to rely on themselves. Moreover, similar studies (Bankoff, 2003; Blaikie et al., 1994) observed that people, particularly those residing in disaster-prone areas, tend to develop ‘extensive knowledge and practices’ on ways of coping with disasters (Marianti, 2007, p. 23).

One can say that a community’s vulnerability and resiliency correspond to the magnitude of damage a disaster can inflict. As these communities experience disasters as part of their lives, they develop endogenous response systems to cope (Luna, 2003). Communities may utilize *bayanihan* and *damayan* as a form of *pakikipagkapwa*, and as a means of improving their resiliency against disasters but the lasting effects of such actions may ultimately be limited by their initial capacity aggravated by their poverty.

Findings of the Study

The Role of Damayan and Bayanihan in the Daily Lives of People in the Five Rural Communities

Damayan and *Bayanihan* are indigenous mechanisms of support commonly used in the day-to-day interactions of people in the five communities under study. These practices serve as social resource among residents in these

communities, although such practices are also commonly observed in other rural communities in the country.

According to the FGD participants, *damayan* is manifested in the day-to-day interactions among neighbors in their respective communities. The most common manifestations of this practice include: asking rice or viand from a neighbor when one does not have enough of these during meals; asking fruits or vegetables from a neighbor's garden; requesting a neighbor to look after one's children while one is on errands; sharing food with other neighbors when one has extra food or has prepared special food even on ordinary days (e.g. pancit). The respondents also noted that these practices are also common in their communities in situations of calamity and personal crisis. They said that it is common among neighbors to extend financial and emotional support to those who experience misfortunes. When there is death in the family or when a fire destroys one's house and properties, neighbors are source of comfort during bereavement and grief. Aside from providing emotional support, neighbors mobilize themselves to solicit materials and financial resources to ensure that the dead will have a decent burial or the house of the fire victim will be rebuilt.

Bayanihan is also widely practiced in the communities. This is practiced on occasions that need additional human power such as building a neighbor's house; in communal farm work when a neighbor has no money to hire labor; when building canals, temporary bridges and dirt roads; in cleaning creeks; and, filling potholes with gravel. It is also practiced during special occasions like weddings, baptisms, birthdays, and funerals when neighbors render free labor and time to take on work related to the particular occasion. The respondents noted that since many of them cannot afford to hire people to assist them in farm work, especially during land preparation, planting and weeding, it is common practice in the five communities to exchange labor whereby three to four neighbors agree to work collectively on each farm on a rotation basis.

The participants explained that these practices are kept alive in their communities because of the daily and close interactions among neighbors. Some

participants also noted that the closely-knit structure of the communities where people are related to each other either by blood, law or familiarity, is also a contributing factor. In addition, some opined that their similar economic conditions foster cohesiveness. In a FGD in San Francisco, a female respondent remarked, “*sino-sino pa ba ang magtutulungan kung di kami ring magkakapitbahay* (We have no one to turn to but ourselves).”

Damayan and Bayanihan as Coping Mechanisms During and After Typhoon and Flooding Events

Aside from being social resources in the daily lives of the participants, *damayan* and *bayanihan* also play significant roles in times of typhoons and flooding. They serve as coping mechanisms during emergency situations.

The five communities are all prone to a particular hazard. Barangays. Bonga and Matanag in Legazpi City, which lie at the sides of Mt. Mayon, are prone to flooding and lahar flows; Barangay San Francisco, a sloping community in Legazpi City, is prone to landslides; and Barangays Kinale and Balangibang in Polangui are prone to flooding, even with moderate but continuous rainfall which causes the water to overflow from the Bicol River Basin.

The participants narrated instances through which the spirit of *damayan* and *bayanihan* helped them in coping with emergency situations in the midst of typhoons and flooding:

- In Barangays Bonga and Matanag, residents, through the leadership of local officials, organized teams composed of men to assist in the evacuation of residents. When it is time to evacuate, the teams assist the women, children and the elderly members of their communities to the evacuation centers while other teams patrol the community to ensure that livestock and valuables are not stolen. With the teams patrolling and guarding the community, residents are assured that their houses are safe from burglars and eventually are persuaded to evacuate.

- In Barangays Kinale and Balangibang, the residents serve as the first line of defense, especially when external support is not yet available. As roads become inaccessible, relief and emergency support may not be able to pass through. With no one to turn to for help, the residents rely on each other for economic and emotional support.
- In Barangay San Francisco, after every typhoon event, the men, armed with hoes and picks, survey the community for possible landslides to save lives and help those whose houses are damaged by landslides.

Likewise, *damayan* is at work in emergency situations as experienced by the respondents. The compassion and efforts to help offered by neighbors brought comfort and enabled them to feel at ease. As recounted by participants, from Barangays Kinale and Balangibang, a mixed feeling of fear, distress and anxiety enveloped them upon seeing the flood. The flood rushed in, filled up the first floor of two-storey houses in a very short time, and submerged the one-storey houses in their communities. For those whose houses were submerged, it was very comforting to see other families offering their houses, food, and dry clothes, as well as medicines to those who caught colds and coughs. Men made makeshift rafts out of banana trunks to transport neighbors to safer grounds and to salvage personal belongings.

The participants from the three communities in Legazpi experienced the same feelings. The neighbors provided emotional support by offering comforting words, “*makakaraos din tayo, may awa ang diyos*” (we can survive this situation through the help of God) or “*kaya natin ito*” (we can survive). They also offered prayers, and showed their sympathy by touching the hands or shoulders of those affected. These gave them inner strength to cope with the situation despite anxiety, fear and emotional distress.

All participants, except those from Barangay San Francisco, experienced staying in evacuation centers. Those from Barangays Kinale and Balangibang stayed in evacuation centers for a couple of days and returned to their houses as

flood water subsided. But, those from Bonga and Matanag stayed in evacuation centers for almost three months. They said that if they had a choice, they would not stay in the evacuation centers. They experienced discomfort due to congested living quarters, lack of privacy, poor ventilation and sanitation, and limited facilities like water, toilets and cooking facilities. Even then, they saw the benefits of staying in evacuation centers because of access to emergency and relief aid. –

At the evacuation centers, the spirit of *damayan* strongly manifested in the daily interactions of residents. It contributed in strengthening their will to triumph over their grief, fears and emotional distress. Participants from Bonga and Matanag noted that women and men tapped the usual *umpukan* (rough translation of “group talk”) to express their feelings and experiences, unloading their emotional burden, anxiety and grief. For the men, the occasional drinking sessions at night became venues to release their feelings about the situation and plans for the future. Similarly, the women’s afternoon chats became spaces for talking about their experiences, to unload their feelings, to shed tears, as well as to collectively reaffirm their faith in God. For the bereaved families who lost their loved ones, other community members encouraged them to talk it out through comforting words. Faith in God, unity and support of one another were considered by participants as very important. The *damayan* spirit contributed in developing their individual and collective strengths.

With the unpredictability of external support, the families learned to rely on each other. Families, relatives, friends, and neighbors were the primary sources of emotional and material support during emergency and at the early stage of recovery. They noted that relief and emergency aid might or might not come to their communities, especially when the devastation affected several areas in the province. Thus, they did not rely on the support coming from the local government and rationalized that the budget for disaster response were limited. They even suggested that the most affected should be prioritized. Such awareness helped minimize conflicts during distribution of emergency support. They also expressed appreciation for the efforts of the Local Government Units (LGUs) and humanitarian organizations in extending emergency and relief aid. Some

respondents wished that organizations should not only focus on relief provision but also support them in rebuilding their damaged farms and livelihoods for their economic well-being.

After the disaster, rebuilding their lives became the preoccupation of the residents. They were required to leave the evacuation centers and relief aid ceased to arrive. Back in their communities, their primary concern was how to recover from the effects of the typhoon and flooding. Participants noted that the recovery stage was the most difficult part. With damaged farms and no income, the participants noted their immediate need was for cash for basic consumption, repair of houses, and reconditioning the farm, especially those buried in lahar. Many sought loans from relatives, friends, and neighbors, while some resorted to informal moneylenders.

At this early stage of recovery, *damayan* and *bayanihan* were tapped as social resource. Damaged houses were built through the *bayanihan* system; community infrastructures like school buildings, churches, wooden bridges and dirt roads were repaired through the collective labor of the men; farms were reconditioned through the rotation-based communal work; and, loans of neighbors were written off or rescheduled for deferred payment. As a *sari-sari* store owner from Barangay Matanag remarked, “*namatayan na nga ng anak, sisingilin mo pa*” (it is unkind of me to ask for repayment of loans while the family grieves over the loss of a child).

Damayan and Bayanihan as Adaptive Resource in Rebuilding their Lives and Physical Communities

The residents of the five communities considered typhoons and flooding as part of their daily lives. They learned to develop adaptive strategies on how to cope with these situations and developed their own sub-cultures of safety.

- In the five communities, people have developed knowledge on what actions to take in times of disasters – what to do, what to prepare, what to

bring and where to go. This was complemented by the disaster education awareness provided by the local barangay councils in the respective communities.

- In Barangays Kinale and Balangibang where an entire day of moderate rainfall already causes the nearby Bicol River Basin to swell, the people have become accustomed to recurring flooding, and have developed mitigation measures. During rainy seasons, residents are alerted to monitor and gauge the intensity and duration of the rain as basis for evacuation. During dry seasons, the Barangay Councils lead in mobilizing the people - men and women, young and old, through the *bayanihan* system, to collectively clean the creeks and stack sandbags at the back of houses, especially those located near creeks and rivers.
- In Barangay San Francisco which is prone to landslides, the residents collectively reinforce sloping areas with stone walling to prevent erosion during the typhoon seasons.
- Similarly, in Barangays Bonga and Matanag, that are prone to lahar flows from Mt. Mayon during typhoon seasons, the residents collectively stack sand bags near riverbanks in anticipation of the possible lahar flows. They also plant trees along riverbanks as buffer for lahar and dig trenches to direct the course of the lahar flows. Aware of the ill effects of cutting down trees, both women and men formed volunteer teams to guard and patrol the foot of Mt. Mayon against charcoal makers to deter the latter from cutting trees. In some occasions, the people participate in the tree planting initiatives of local barangay councils towards reforesting the foot of Mt. Mayon. Each time there is news of a coming typhoon, the *purok* (zone) system becomes an effective mechanism for early warning system. The Barangay Council and the BDCC mobilize the *purok* leaders to serve as conduits of information about the situation. The *purok* leader leads in the evacuation of her/his *purok* members to safer grounds.

In addition, residents in the five communities developed particular sub-cultures of safety in response to typhoons and flooding. In Barangays Kinale and Balangibang, for instance, residents stacked plastic containers and styrofoam materials to serve as floaters in the event of flooding. In Barangays Bonga and Matanag, the residents keep emergency packs in preparation for an eventual evacuation during rainy seasons. Each pack contains clothes, blankets, mats, some canned goods, rice and noodles, water, flashlight, pots, matches and important documents wrapped in plastic.

In Barangay San Francisco, residents fastened their houses to the ground or to big trees with wires or ropes, and reinforced their roofs in preparation for the typhoon seasons. They also boiled drinking water during rainy seasons and during the onset of drought.

However, despite the role of *damayan* and *bayanihan* in building the participants' coping and adaptive capacities and resiliency, these practices have limitations, too. The cumulative damages due to recurring typhoons and flooding can be too much, and these indigenous social resources may prove to be inadequate in addressing the situation. Long-term institutional support is needed to sustain the gains contributed by community initiatives to ensure full recovery.

According to the respondents, the "return to normalcy" period was the most difficult part of their lives. With damaged livelihoods, no source of income, and no more relief aid available during the few weeks after the return to "normal life", they faced food insecurity. Material support from neighbors was also limited. Families were left to fend for themselves. Those whose farms were deeply buried in lahar sought employment while younger women and men looked for work as domestic helpers in neighboring communities. Many high school students stopped schooling to limit household expenses. A 19-year old participant from Barangay Bonga recounted that she and her sister quit school for a year to work as housemaids and returned to school as soon as the productivity of their farm was restored. A female participant from Matanag revealed her emotional ordeal when she had to leave her three-month old baby and sick husband to the care of her old mother as she worked as a domestic helper in Manila.

Conclusion and Recommendations

As gleaned from the study, the indigenous practices of *damayan* and *bayanihan* played significant roles in the lives of the participants – in everyday survival, during typhoons and flooding, and in the early part of recovery from disasters. Both *damayan* and *bayanihan* served as coping mechanisms, as social resources and as adaptive strategies. They served as symbols of hope and as mechanisms of support in these poor rural communities. The practices contributed in fostering the participants' capacities, though limited, in developing internal resiliency, both at the individual and collective levels, in the early part of recovery and as mitigation measures.

However, despite the significant contribution of *damayan* and *bayanihan* in building the participants' resiliency, these indigenous practices have limitations, too. They are not enough, as any gain resulting from collective effort is easily eroded by the cumulative damages of recurring typhoons and flooding. Institutional support is needed to complement the peoples' efforts and to strengthen local capacities. External support is needed in the long-term recovery process.

Even then, the participants' repeated experiences of typhoons and flooding enabled them to develop local knowledge as well as coping and adaptive strategies in living with typhoons and flooding. Such a knowledge system is an important element that could be tapped for disaster risk reduction and management programs.

Given these conclusions, this study poses the following recommendations:

First, these indigenous practices can be tapped by local government units (LGUs) in mobilizing community people for disaster risk reduction and management. The spirit of volunteerism exemplified in *damayan* and *bayanihan* practices can be mechanisms to organize disaster preparedness structures in communities e.g., quick emergency response teams, disaster preparedness units, etc. In communities where these practices are no longer manifested, the LGUs can create programs to revive or enliven these practices for disaster prevention and mitigation.

Second, there is a need to strengthen the economic capacities of families to enhance their resiliency. Production and livelihood loans and skills training on alternative livelihoods towards creating multiple livelihoods are some concrete steps towards building secure livelihoods for farming households.

Third, since farming is weather/climate dependent, there is a need to encourage the farming households to cultivate disaster-resistant crops and vegetables to ensure food security in times of extreme events. This will enable them to have multiple livelihoods, either farm-based or not.

Fourth, as farming households are most vulnerable to natural hazards and the least capable to recover, there is a need to extend social protection to them that is attuned to their needs and work conditions. At the same time, support should not only be concentrated in emergencies but should also extend to the recovery period.

Fifth, local knowledge on various mitigation and adaptive strategies could be a source of information in designing disaster programs. For instance, the *purok* system that was utilized by residents as early warning mechanism can be explored as a mechanism for relief distribution. This will enable community members to have control over the decision-making and distribution of relief support.

Finally, the spirit of volunteerism fostered by the practices of *damayan* and *bayanihan* can be used as springboard for organizing people and establishing permanent people-based structures in communities. Through the formation of strong organizations, the resiliency of the poor can be strengthened. The formation of strong organizations like people's cooperatives or community-based livelihood organizations can be a strategy in developing sustainable livelihoods. Developing sustainable livelihoods can help strengthen the people's capacity and resilience to disasters.

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