

Endogenous System of Response to River Flooding as a Disaster Subculture: A Case Study of Bula, Camarines Sur¹

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People, communities, and institutions prone to disasters develop learned responses to them. For instance, constant exposure and experiences with flooding have given rise to endogenous systems of managing floods. While such systems alleviate suffering in the course of disaster, they do not often adequately address the roots of vulnerability. In some instances, they may even be used legitimation tools for inappropriate and unwarranted responses. For this reason, disaster management systems that develop endogenously would have to be open to innovations and facilitate change.

Introduction

The development and responses to river flooding have been conventionally biased for highly technical and capital intensive structural measures such as dams, embankments, dikes, underground tunnels and the like. In many cases, however, mitigating measures such as these are resisted because of their inappropriateness, the lack of consultation with people in the site of the physical intervention and the perceived negative impacts of these measures on other aspects of community life.

This paper does not argue against the role of technological advancement in the development process. It simply asserts that by itself, technology is not a sufficient response to disaster.

The discussion in this paper is based on field research in 1999-2000 that aimed to discover endogenous

systems of community and local institutional responses in areas vulnerable to flooding. The ultimate objective of the study is to contribute to the eventual formulation of a more appropriate, integrated and disaster-sensitive local development planning system. The municipality of Bula, a flood-prone area in Camarines Sur was selected as the study site. The Bicol River meets another river, the Pawili River, in Bula. Although flood control projects were implemented in the past, the municipality continues to suffer from flooding because of the intersection of the two rivers and Lake Bula in the area.

Although the people in the locality are the first to suffer the consequences of floods in the area, the responsibility of responding to the affected communities have generally

fallen on support groups such as the local governments, the nongovernment organizations (NGOs), the voluntary private groups, the local church and other entities in the area. For this reason, the study involved these stakeholders in various research activities. The researcher visited the community to obtain people's perspectives on disaster, their vulnerability, and the endogenous system of responding to flooding in the area. In-depth interviews of key informants including officials were conducted to gather information and validate findings. Workshops and focus group discussions were also organized to reconstruct, critique, and validate responses to disasters. A total of 178 individuals provided data for the study. This number excludes community respondents and other LGU officials from within and outside Bula who shared valuable information and insights in informal discussions. In this regard, the *pakikipag-usap*² and *pagtatanong-tanong*³ methods of Filipino psychology proved extremely useful in generating data from informal respondents who spontaneously shared their views while riding in a banca or a tricycle, eating in a *turo-turo* restaurant, waiting for a meeting, or just relaxing and having fun.

A DISASTER SUBCULTURE

It is hypothesized that developing countries with extensive experience in disasters have more enhanced abilities to respond to them. The frequent occurrence of disasters in these countries account for the emergence of disaster subcultures involving an

interrelated set of attitudes and practices among groups at various levels that make them better prepared to cope with and respond to new disasters" (Dynes 1992: 19, citing Wenger 1978).

As one of the world's most disaster-prone countries with inadequate resources to invest in disaster reduction programs, it is logical to assume the coexistence of various disaster subcultures in Philippine communities. An exploration of these subcultures—systems of preparing for disasters, mitigating their adverse impacts, managing emergency situations, and rehabilitating communities affected by river flooding would not only yield inputs for community-based disaster management but also demonstrate the operation of Filipino values such as *bayanihan*⁴, *pakikiisa*⁵, *pagdadamay*⁶, *pagmamalasakit*⁷, *pakikiramay*⁸.

FLOOD HAZARD AND PEOPLE'S VULNERABILITY

The effects of flooding on people vary with their vulnerability. While communities that have developed capacities to manage hazards reduce the overall vulnerability of their constituents, some members even of such communities are still more vulnerable than others. In the Philippine context, the poor are the most vulnerable. They do not usually have the means to protect themselves such as having better houses, insurance for their crops, extra food and supplies to store, or a life saver

or banca for evacuation. Moreover, they are the ones more likely to live in dangerous areas such as flood plains and riverbanks.

ENDOGENOUS SYSTEM OF RESPONSE

An endogenous system of disaster response approximates the disaster subculture posed by Wenger (as cited by Dynes 1992:19) In this paper, the endogenous system covers the whole range of disaster management activities of people and institutions within the affected space, from prevention, mitigation, preparedness, emergency response during the disaster, and rehabilitation and development. While the activities and norms surrounding them may not be purely indigenous, they may nevertheless be part of an endogenous system because practices that may have come from outside the community fuse with indigenous practices and adapt to the particular setting of the community.

Endogenous systems can be effective tools to minimize, if not to prevent the adverse impact of flood hazards. As flood hazards escalate into disasters, the initial responses are expected to come from within communities and local institutions since they are the ones directly affected. The endogenous responses of both the community and the local institutions are followed by exogenous responses only after some time. Based on experiences with previous disasters in the country, there is always a time gap between disaster impact and

response from the outside (Luna 1997; Conaco, Hernandez, Racillo, and Sycip 1993). The initial responses are instinctive and are geared towards survival and salvaging whatever can be salvaged. They also include the organized efforts of people learned through several experiences with flooding.

Both community and the institutional responses are supposed to be complementary. However, there is usually a gap between the two that makes the local disaster management process more problematic. Theoretically, it is best if the community's endogenous system is integrated into the planning of institutional responses. It is even better for the community to be involved in these processes. After all, planning and action would have to be at the community level for them to have the greatest potential impact in disaster mitigation.

Local communities are those social units where there is the greatest potential for impact....as a collectivity has greater resources to respond to the social disruption than do individuals, groups and organizations....local communities are likely to become involved in responding to disasters prior to the involvement of social units in the larger society or international system....In addition, the local community is a generic form of social organization in every society, since it has a territorial base and is organized to "solve" certain problems for that population (Dynes 1992: 16).

Among the endogenous systems developed by communities are coping mechanisms that help individuals and families through difficult periods. At the institutional level, they include the family, the extended family, religious organizations and clans...formal organizations such as villages and local government" (Cuny 1983: 80). At the person level, coping mechanisms include various means of taking stock of the situation (e.g. religion) and transcending the traumatic experience.

A comparative study of coping mechanisms in two Third World countries by Holand and Vorasdale (1986) reveal how people and communities respond to disasters. They found out that:

- Traditional "open" peasant communities wait for government aid whereas "closed" ones initiate the recovery process;
- Familial ties, reciprocity, supernatural beliefs, and certain customs aided the villagers to satisfactorily cope with the physical and psychological effects of the disaster;
- Emergency preparedness can be improved in these areas by enhancing the indigenous coping mechanisms already present within the impacted population – through the use of large graphic illustrations and posters which depict simple emergency preparedness measures;
- Another way of enhancing awareness of indigenous coping mechanisms is to train

development and disaster workers to be aware of such concepts...so that they can be more sensitive when helping villagers;

- It is important to take a systems approach (economic, environmental and sociocultural) in understanding the effects of marginality in creating a context for disaster and the importance of traditional mechanisms when accessed and activated in bringing about recovery (cited by Elangovan 1992: 55).

In the Philippines, research has shown various elements, processes, issues, problems, and effects of community responses to disaster. The following are some of the significant findings in the literature.

A survey among 16 villages on how the people's organizations (POs), NGOs and government agencies respond to natural and human-induced calamities, specifically typhoon and internal refugees, found out that the victims had the "capacity of mounting a certain level of response". However, these were often inadequate because of their failure to take preventive and mitigating measures. NGOs and other grassroots organizations can facilitate in mobilizing a variety of resources and structures to meet the people's emergency needs. But there were problems of coordination among them and "lack of integration of the necessary processes, resources, skills, attitude, and disaster awareness at the community level" (CPD 1989:78-80).

A study was also done on the dynamics of the total help system

during the disaster impact and rehabilitation phase in Ormoc City where more than 4000 people died due to a flash flood in 1991. The study looked at the experiences and insights of fieldworkers. Being victims themselves, the disaster workers were not able to respond immediately to the needs of the community. They also had to attend to their own personal problems. There were strong indications in this study that disaster victims would like to be involved in the process of helping. Thus, they were frustrated and angered by the inability of some outside NGOs workers to involve the victims, and the tendency of these workers to be too aggressive and pushy. At the other extreme were victims who thought differently believing government and other agencies should take care of them since they already suffered tremendous losses. Another significant insight was the realization that "Filipino values and virtues are good fallback positions and are often best demonstrated during times of crises" (Conaco, Hernandez, Racillo, and Sycip 1993: 337-348).

A study on disaster management during the Ormoc disaster "confirmed that victims living in riverside areas had the characteristics commonly associated with the poorer class, i.e. low income, low educational background, limited options in terms of employment and a place to live and low priority given to disaster management" (DPB 1994: 19). However, as in the Conaco et al. study, survivors in the sample were willing to participate in disaster management activities.

The way communities respond to disaster is also influenced by exogenous factors that introduce or apply new technologies and approaches to disaster management. For example, in the field of community development (CD), the principles of participation, empowerment and people-centered development, as well as the processes of community analysis, community education and conscientization, community organization and mobilization, and participatory planning have been integrated into community-based disaster management processes. Unlike in the past where the responses to disaster were associated with relief bags that only engendered a dole-out mentality and dependency, there have been several efforts, especially among NGOs to break away from these practices. The CD approach maintains that relief operations only play a significant role at a particular stage of disaster management. At the end of the day, it remains an emergency response; the paramount goals are still to rehabilitate and develop self-propelling communities (Luna 1998).

One of the popular approaches applied by NGOs involved in disaster management today is the Citizenry-Based Development Disaster Response (CBDO-DR). Developed in 1984 by the Citizens' Disaster Response Center Foundation, Inc., the approach is seen as an alternative approach in the Philippines.

The CBDO-DR nurtures partnership with grassroots organizations that carry out disaster management function as well as other sectoral and

local issues in the community. These grassroots partners are called Grassroots Disaster Response Machineries (GDRM) whose organizational expression ranges from a committee of an existing people's organization, to a full-blown community organization, or even a network of POs and NGOs engaged in disaster response. In an exploratory study of one NGO and five GDRMs in Camarines Sur and Albay, a strong development orientation was observed. "TABI (Tabang Sa Biktima sa Bikol) considers its disaster response work as part of the people's movement to change social and economic relations and structures which marginalize and restrict the development of Bicolanos" (Victoria 1998: 72-73). The same study identified the tasks and functions of the GDRMs as:

- Giving warning/calls for preparedness;
- Surveying damages immediately after a disaster;
- Coordinating with the barangay council for the emergency activities, relief, rehabilitation and disaster preparedness;
- Working with TABI for relief, rehabilitation, and disaster preparedness;
- Ensuring the smooth conduct of the relief delivery operation;
- Assisting beneficiaries; and
- Conducting mass education on disaster preparedness and disaster-related issues (Victoria 1998: 82).

These functions cover the pre-, during, and post-disaster activities. Thus far, the GDRMs have been successful in "harnessing the initiatives and participation of women, formation and strengthening of community organizations; participation of the victims themselves/vulnerable groups in the various phases of disaster response and community development efforts; mobilization of the support of the less vulnerable groups; inter-barangay coordination; and more assertion of rights" (Victoria 1998: 108-109).

FLOODING EPISODES: ENDOGENOUSLY SIGNIFICANT, EXOGENOUSLY UNKNOWN

Flooding in the municipality of Bula is a taken-for-granted reality because of its perennial occurrence. However, in the flood of 1995 is remembered for being one big flood. It was never publicized and other parts of the nation were unaware of it. Although it was not as severe as the Ormoc flash flood, or as devastating as the lahar flood in Central Luzon, the 1995 flood in Bula is was nevertheless damaging to the affected municipalities. The old Bula residents claim that the floods of 1994, 1995 and 1996 were bad compared to what they experienced in their youth. Of these three episodes, the 1995 flood was the worst and the most unforgettable.

It was All Saint's Day when typhoon Rosing struck. Unexpectedly, by 2 November 1995, floodwaters rose to a height of 7-20 feet. Although the rise occurred at different times

because of the varying elevations of the areas, 11 barangays were submerged and the whole poblacion comprised of three barangays was under water. Floodwater above the provincial road was three-feet high while the residential areas were four to ten feet under water. Floodwater reached 12-20 feet in other rural barangays. As people recalled, "Everywhere you saw water. It was like the sea. There was no land transportation and Bula was isolated. Only boats were used for transport. It was a very difficult situation".

The flood lasted for weeks and even months in some areas. In the poblacion, the road was flooded for two weeks. In Barangays San Jose, San Miguel, and Ombao Polpog, the water remained until January 1996 or almost two and a half months. The people did not celebrate Christmas that year. "Wala kaming makain. Walang hanapbuhay. Huminto lahat. Ang mga bata lang ang masaya dahil walang pasok at naglalaro sa tubig. [We had nothing to eat. We had no livelihood. Everything stopped. Only the children were happy because they had no classes and they played in the floodwater]" For the people of Bula, the 1995 flood was different because the water rose very fast to higher levels than before; it also took a long time to subside, resulting in bigger damages.

One municipal worker, a lady and a graduate of an exclusive college for girls in Naga City kept on shaking her head as she narrated her story. She was 18 years old and a college student at the time:

Nagising kami ng umagang iyon na basa ang tinutulugan namin. Naivacuate ng tatay ko yong kapatid kong maysakit. Pero noong ako na, masyado nang mataas ang tubig at hindi na namin kayang umalis. Sa bubong kami tumira ng tatlong araw. Ang hirap.....ang hirap-hirap talaga. Ang lamig-lamig sa gabi, tapos ang init-init ng bubong kapag tanghali. Hindi ka makaapak sa init kaya naglalagi kami sa puno ng mangga. Pinilit kong umalis dahil hindi ko na kaya. Lumubog yong bangkang sinasakyan ko. Buti na lang sinundan ako ni Tatay at naisalba niya ako.

We woke up that morning wet in our bed. My father evacuated my sick brother, but when it was my turn, the floodwater was already very high. We were not able to leave. We stayed in the rooftop for three days. It was very difficult. It was very cold in the evening and very hot at noontime. You can not step on the roof so we stayed in the mango tree. I tried to leave because I could no longer bear it, but the banca I was riding capsized. It was good that my father followed and saved me.

There were very few lives lost, only five, a feat that people attributed to their resilience and familiarity with flooding events in their community. But the damages as summarized in a special report were enormous, amounting to P115.78 million. There were 3,626 housing units partially damaged and 1,107 totally destroyed.

Despite these damages, the 1995 flood in Bula did not receive wide attention. One barangay captain said that she heard a radio report for the province mentioning the names of all the municipalities affected by flood. Sad to say, she never heard Bula mentioned. She went to the radio station to inform the province that Bula was highly devastated also. Apparently, the report overlooked Bula because the poblacion is not along the national highway.

The researcher's interaction with the people of Bula reveals that they were very much aware of the causes of flooding. There was general acceptance that their municipality was prone to flooding. "Basin kasi itong Bula. Parang palanggana na sinasahod ang tubig na nanggagaling mula sa Albay at sa Camarines Sur. Tapos, bagyuhin pa ang Bicol." [Bula is like a basin that holds the floodwater coming from the provinces of Albay and Camarines Sur. The Bicol region is also very prone to typhoon.] Interestingly, the people understood in layman's terms the natural explanation for the occurrence of flood in their area.

The physical or topographical attributes of Bula, the climate and the social forces all contribute to flooding in the municipality. Four types of flooding have been identified in Bula.

1. Run-off Flood without River Overflow – Almost all barangays in the lowland areas experience flooding right after heavy rainfall. Because of the volume of rainwater and the limited capacity of the drainage system, or the lack of it, the rate of input is much

faster than the rate of drainage, causing the run-off to accumulate while seeking its own level. This happens when the rivers are not yet full and therefore can still accommodate the run-off. The people refer to this as "dumaraan lang na baha" [passing floodwater]. This kind of flood subsides after one to three hours.

2. Lake Overflow – Lake Bula rises and sometimes overflows when it rains. However, the people consider floods resulting from this as not dangerous because water rises very slowly. The areas affected are the rice fields surrounding the lake. Because this flooding happens every time there is heavy rain, the fields are usually flooded more than once a year. The height of the flood ranges from leg to waist deep, depending on the amount of rain and the location of the field relative to the lake.

3. Basin Flooding without River Overflow – The lowest portion of the basin is found in the rice fields in Barangay San Miguel, Sagrada and Ombao-Polpog. In these areas, the flood can be as high as breast deep even if the two rivers, Pawili and Bicol, are not overflowing. The floodwater comes from upper areas in the north that drains into the basin through simple gravity. Since the rivers do not overflow, the basin is still able to accommodate the flood from the field. However, the floodwater does not drain easily because of infrastructure projects such as the irrigation regulation control, bridge

construction and the absence of an effective drainage system. The flood in these areas usually takes from one day to one week to subside.

4. River Overflow – Two days and two nights of continuous heavy rains can cause both the Pawili and Bicol rivers to flood all the barangays in the basin. According to those who have witnessed this, the Pawili River current flows downstream very fast. When the water flows back, then it means that the Bicol River downstream is already full. The current then flows backward and sideward instead of draining downstream, spreading into nearby communities. Even if the rain stops, rivers continue to flow strongly and, in fact, become heavier due to the run-off coming from the upper provinces of Camarines Sur and Albay.

PEOPLE'S LOCAL KNOWLEDGE AND INNER WILL

Bula is vulnerable to perennial flooding, which, as the 1995 flooding shows, occasionally reaches disastrous proportions. However, the lack of national awareness of the municipality's situation increases the vulnerability of its people. As the 1995 flood experience reveals, external support was not provided immediately, prolonging the suffering of affected communities. Needed resources were not allocated and people felt unduly neglected. The principle of the "invulnerable helping the vulnerable"

did not take place. The people felt that they were left on their own when the disaster struck. Even local government officials felt this way, saying that the focus had been the city of Naga, even if the degree of flooding was worst in their municipality.

The vulnerability of people in Bula differed on the basis of age, sex, physical attribute, and economic status. There was more mention of children, the elderly, women and those with disabilities whose lives were put in danger more than the men, the adults, and those without physical disabilities. For example, a girl jumped out from the window when she saw the floodwater coming into her house, unmindful of the fact that the water outside was higher. A boy accidentally slipped from his mother's arms while evacuating from a breast-deep flood. A grandmother who could not walk had to wait for her children so she could be brought to safer ground. The women and children were also more vulnerable to social harassment as mothers ended up in conflict with each other over petty quarrels among their children. Women and children were also the most affected by the health and sanitation situation.

Access to resources and decision-making processes are factors that affect levels of vulnerability. Lower income groups and the poor have very limited access to land, occupation, income and services and are, therefore, most vulnerable. The location of their homes aggravate their situation.

Four levels of vulnerability are apparent in the study:

Level I: The most vulnerable group with less inner capacity and very limited support system from the community. They are the poor who live in depressed rural communities with very inadequate facilities and resources.

Level II: The 'vulnerable group with less inner capacity but greater support system within the community. They are the poor who live in urban barangays which are more accessible and have more facilities and resources.

Level III: The less vulnerable group with inner capacity but less support system within the community. They are the higher income families who have more resources but similarly suffer from flooding in rural communities.

Level IV: The least vulnerable group with inner capacity and greater support system within the community. In addition to their family resources, they also live in the poblacion that is very accessible and provided with greater facilities and amenities.

Those who belong to the less or the least vulnerable groups are endowed with greater resources and have greater capacity and options to respond to disasters, enabling them to provide a support mechanism to the vulnerable and the most vulnerable groups.

Interestingly, even the most vulnerable population is able to rise to the occasion when the disaster struck. Key informants narrated stories of

courage and determination that reflect the people's inner strength and capacity. For instance, a mother bravely threaded a breast-deep flood to save her children. When one of them accidentally slipped from her arms, she plunged back into the water and grabbed the boy's hair.

There were also instances during the fieldwork when the researcher's attention was caught by an interviewee's local knowledge. For example, while an outsider might consider a rubber tire as a safety floater during a flood, the farmers said that they do not use tires because they puncture too easily once hit by bamboo, sharp wire or other objects. Instead, the Bula residents use banana rafts. Another farmer said that these rafts are fenced with bamboo poles to prevent animals from falling into the floodwater. The banana rafts virtually serve as floating pens for chicken, ducks or pigs. As the floodwater rises, the floating pen also rises with the animals on it.

THE ENDOGENOUS RESPONSE AS A WAY TO MOVE FORWARD

Communities vulnerable to flooding have developed an endogenous response system that enables them to adapt to disaster events. Such adaptation does not mean that people would avoid losses but that communities have developed mechanisms for responding to those losses, enabling them to move on once the disaster event is over. A local and endogenous response system connotes not just the spatial dimension

of the activities but also the social dynamics underlying it. For purposes of the discussion, these responses are categorized into those elicited before, during, and after disaster events.

Pre-disaster responses

The residents of Bula have shown their capacity in the past to resist an exogenous project that they deemed contributory to flooding in their communities—the national government's Bicol River Flood Control and Irrigation Project (BRFCIP). The project aimed to construct dykes along the river and lake banks to control flooding and store water for irrigation. Since the project entailed dredging and enlarging the river and lake area, the people believed that its implementation would increase their vulnerability. They claimed that they would be dislocated by the destruction of their economic and social base. After all, they used the land to be submerged for planting crops during the dry season and as a fishing ground during the rainy months. Accordingly, their displacement would also destroy their endogenous response to floods which is anchored in neighborliness. By resisting the project through petition, mass mobilization and advocacy, they successfully prevented its implementation.

To reduce their vulnerability, a number of families redesigned and reconstructed their houses to make them more resistant to flooding. Both the lower income and the upper-income families have their own way of improving and reconstructing their houses, depending on the resource

available. Among the lower-income group, the most common improvements include the installation of a platform near the ceiling where they can place their belonging. They now use hollow blocks for walls instead of light materials such as sawali, bamboo and nipa. Those who could not afford a concrete housing strengthened their houses by tightening the support system at the base.

Among the upper-income group, the improvements include the construction of a mezzanine or a second floor. One family fenced-in the house to redirect the floodwater but this proved effective only when the river was not yet overflowing. Those who can afford construct new houses that are bigger, higher and sturdier. As one approaches the poblacion of Bula, one notices a housing construction boom. The new design and the construction of the houses itself is not only preparing the people for flooding, but is giving the municipality a facelift. Even some of the mausoleums in the cemetery have now a second floor.

Another preparedness mechanism employed by the community is the procurement of tools, equipment, and other instruments that can be used in the event of a disaster. The barangay council and some families have purchased boats that can be used for rescue, evacuation and transportation during a flood. In Barangay Ombao-Polpog, the boat is also used for their religious procession on the river. The municipality also allotted an amount for the purchase of a boat and

handsaw. Unlike in other barangays where development funds are spent on beautification projects, the Bula communities focused on reducing their vulnerability to flooding.

Community preparedness through the organization and mobilization of the people was also evident. Both government and nongovernment organizations have mechanisms for preparing the people for disaster. The barangay tanod trained by the Department of Local Government in rescue operations. On the other hand, there are Disaster Management Committees trained by an NGO in the various phases of disaster management. They have counter disaster plans and socioeconomic activities that increase their capacities.

Emergency response during disaster

There are community-based systems of warning and rescue operations. While the mass media is an important source of information on typhoons, the people rely more on an endogenous warning system that is more personal and direct. Their experiences with previous typhoons and floods and their observation of the behavior of the river form the basis of their predictions about flooding. Warnings made by community leaders through house-to-house calls were effective, especially when people saw their neighbors and relatives moving out towards the evacuation centers. The bandwagon has played an important role in mass evacuation in Bula.

When the flood struck in 1995, there were limited places where people

could evacuate. There were very few houses with a second floor that could accommodate other people. The schools and the chapels were also flooded. The evacuation centers used were also right in the center of the flooded community. Nevertheless, the *bayanihan* spirit was alive and well in Bula. Upper income groups in the municipality opened their houses to their neighbors for temporary shelter and shared their boats for transporting goods and people.

Post-disaster response

The post disaster response was the weakest point in the disaster management system. After a brief period of relief distribution, the people were left on their own.

The amount of losses suffered by families in the wake of the disaster depended on their socioeconomic status. In absolute term, the higher-income families had greater losses since they had more property destroyed, or opportunities lost. But in a real and moral sense, the poor were the ones who lost more—their cooking utensils, bedding and literally the shirts on their back. The higher-income families were able to recover at a faster rate than the poor because they had more resources, opportunities, and means of recovering. On the other hand, the poor found it very difficult to recover. It took years for some of them to do so. Some have not even able to repair their houses at the time of the study in 2003.

Despite the losses, people did not feel the need to account for them.

Although the government estimated the damages inflicted on infrastructure and agriculture, the people themselves did not exert any effort to cost the impact of the disaster on whatever assets they possessed. Doing so would not only have made them sad but dwelling on their losses would have prolonged their agony. They simply moved on psychologically.

The role of kinship in rehabilitation was very significant. For those whose houses were totally destroyed, families temporarily lived with their relatives. Some lent them money so that they could rebuild their house or buy new household utensils. There was no mention of people receiving assistance from the government for rehabilitation purposes.

In the absence of effective means for the rehabilitation of agriculture, farmers had no other recourse but to borrow again from private lenders who charged them high interest rates. In effect, they had to pay two sets of loans for one cropping season. Worse, there were situations when the new seeds planted had not yet matured but were destroyed by another typhoon or flood. In this regard, farmers would simply say that the situation was beyond their control.

It is interesting to note that psycho-social intervention was never mentioned as a rehabilitation measure by any of the staff or people in the community.

Institutional response

The respondents of the study agree that the responses of local institutions

such as the local government units (LGUs) and NGOs were inadequate. The endogenous system of the community has not been integrated into institutional processes of disaster management.

The relief distribution was not commensurate to the material needs of the flood victims. For a flood that lasted more than two months in some communities and that destroyed the crops and other sources of livelihood, the relief consisted of three kilos of rice, three cans of sardines and packages of noodles. It might have satisfied hunger for a day or two; in effect, the families were left on their own to source food and income.

What is notable is that the demand for relief goods did not come only from the poor. Those from higher income groups also felt bad when they did not receive relief goods. The importance of the relief pack was more than just a few days food. The respondents also saw it as symbolic of “pakikiramay, pakikiisa, pakikidalamhati”. It was akin to giving a condolence card to a middle-income family who might not need the money but the sympathy.

The interviews reveal an interesting dimension of relief operations. While it is imperative for disaster victims to receive adequate relief goods, the act of distributing such goods is double-edged. While it can foster dependency and apathy, it can also be used as an expression of concern that could ease the healing process for victims. They would feel that other people cared about them. Moreover, they did not have to suffer the added burden of worrying about

where their next meal would come from.

On the part of LGUs, key informants expressed the difficulty of re-channeling their services to disaster victims when they themselves were victims of the same disaster. Nevertheless, many of them heroically attend to their duties. The staff of the Health Office went to the communities and provided chlorinated water and health and medical services. The Department of Social Welfare and Development led in the distribution of the relief. The Integrated National Police led in the rescue and in the security function. Despite their heroism, however, the staff interviewed were one in saying that the resources of the municipality were not enough for a disaster of that magnitude. For instance, transportation facilities were inadequate. The municipality did not have any boat to reach far-flung communities.

Similarly, planning for disaster management was very inadequate. Based on the researchers' assessment of the disaster plan, it seemed that the plan was done just to meet the minimum requirements of the law where each municipality must have a counter disaster plan. It merely listed activities without any assessment of the hazards; specification of strategies for disaster prevention, mitigation and preparedness; and an outline of the means of implementing the plan. Similarly, the comprehensive plan of the municipality showed little concern for flooding in the municipality. While it recognized that the municipality was

prone to flooding, there was no outright statement on how to prepare communities to manage flooding.

As noted previously, the people of Bula have their own way of responding to flooding. However, they do not have access to the institutional processes for disaster management in the LGU, which hardly exist. It is ironic that the municipality does not have the necessary preparations for floods. The local plans were not attuned to this perennial hazard. Of the five barangays covered, only Barangay San Joe and Barangay Fabrica had disaster preparedness plans drawn up with the assistance from an NGO based in Naga City.

As expected, the disaster mitigation measures that require structural development were also beyond the capacity of the LGU. Due to limited financial resources for structural development, the LGU has to rely on external assistance, either from the DPWH or from the Office of the Governor. This is the reason why all the Sangguniang Pambayan could do was to pass resolutions requesting the national agencies to allocate budget for their structural projects. Some NGO and community leaders expressed concern about the ability of government to plan and undertake large scale and capital-intensive projects like the Bicol River Basin Flood Control and Irrigation Project and their inability to underwrite small-scale structural projects to mitigate the adverse impact of flooding.

CONCLUSION

As a consequence of continuing interaction with the environment, people and communities have learned to adapt to situations that put them in danger. However, there are times when the environment has changed considerably that the learned behavior for managing hazards is no longer good enough. The people in the perennially flooded communities of Bula are used to flooding. But it is evident in their case that when the 1995 floods came, they were not prepared to mitigate its impact..

It is heartening that endogenous responses in true *bayanihan* spirit were observed by Bula residents at the height of their suffering. However, such responses can be seen as reinforcing a subculture for reactive and ameliorative behavior to disaster events. In the long run, relying on these responses might distract from addressing the underlying causes of people's vulnerability.

What is needed is a more progressive endogenous response that addresses the roots of vulnerability – the inequitable distribution of resources, the apologetic and conformist consciousness, the unresponsive institutions with lopsided programs and policies, and the oppressive relationships in the communities that leave the vulnerable at the mercy of those who are in power.

Small municipalities and local governments that are very vulnerable to disaster are in the same situation as their people when they are matched

against other areas that are much more endowed with natural and human-decided resources. Just imagine a poor municipality having an annual budget that is smaller than that of the annual budget of a barangay in 'rich' Metro Manila. How can such a municipality respond effectively when the resources are so disproportionately allocated? Money is not all that matters. Their capacity to respond is limited by existing institutional and structural arrangements that require some modifications. Unfortunately for the municipalities, the power to decide on these modifications is not in their hands but in the hands of the legislative and national administration.

The endogenous system of response by both the communities and institutions are not a closed system that excludes the possibility of assimilation and innovations from the outside. For example, as a result of this research, a Disaster Response Sectoral Plan was developed for the the municipal comprehensive plan of Bula. It is time now for the LGU to seriously consider the integration and implementation of the sectoral plan, the basic part of which is the institutionalization of disaster management planning by enhancing the LGU's capacity to respond.

The integration of the community's endogenous system of response to disaster with development concerns is another factor to consider in the planning process. This can be facilitated if the working relationship between the communities and nongovernmental organizations specializing in disaster management

are strengthened. At this time, there are already linkages among NGOs and individuals who can be mobilized as partners in this endeavor. What is

needed is to open up existing systems of managing disasters to this partnership.

NOTES

- 1 The research from which this paper was based was supported by the Office of the Vice-Chancellor of Research and Development, University of the Philippines, Diliman.
- 2 Casual conversation.
- 3 Informal way of asking questions.
- 4 Voluntarily providing help and support to a person in need in the community.
- 5 Being united with as one in support to a person.
- 6 Acting together in mutual support.
- 7 Expressing one's concern and providing help to prevent an untoward event.
- 8 Expressing one's concern and providing help during and after an untoward event.

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