Community Disaster Management Plan

Barangay Tando, Nueva Valencia
Province of Guimaras
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1. Introduction

Barangay Tando is one of the barangays of the municipality of Nueva Valencia, Province of Guimaras. It is a coastal barangay at the southern tip of the island-province and is located 22 kilometers from the provincial capital in San Miguel, Jordan. The core of the community or the sitio proper sits on an area which was once a separate island but was later connected to the mainland through wave action that created a land bridge at the nearest point.

The barangay is composed of 182 households and a total population of 910 (LSS-PPDO 2006). A recent survey revealed that males (460) slightly outnumber the females (450) while the population aged 17 and below totals 355 and those 18 and above are 555. As such, the community has a significant young and female population.

The total land area of approximately 357 hectares is planted mostly with coconut, fruit trees and forest tree species spread over a hilly and rocky landscape. The most dominant feature of the area is aquaculture activities composed of fishponds producing milkfish, mudcrabs and shrimps. The sitio proper serves as the community service center wherein facilities and infrastructure are located; barangay hall, school building, multipurpose center (plaza) and chapels. The concentration of facilities is primarily due to the fact that the area is the only part of the barangay that is relatively flat.

Major source of income is fishing consisting mainly of small non-motorized fishing boats operating within municipal waters. Agriculture is limited to a small area where upland rice production is the source of income by several households. These households are also part time fishers considering the limited income derived from farming. About 3 beach areas in the barangay were planned to be developed into resorts. Although some initiatives were already done to develop facilities such as cottages and huts, the lack of considerable investments limits its recognition as a major tourism destination in Guimaras.

Owing to its location at the southern tip of Guimaras, the community is exposed to the Sulu Sea and hazards emanating from the south such as typhoons, storm surges and tsunamis. It is also highly susceptible to man-made hazards such as oil spills and other marine water pollution The peculiar configuration of the barangay with its concentration of households and service facilities located at the semi-island area which protrudes from the mainland further contributes to its vulnerability to hazards (see map in annex). A clear indication that the community is particularly susceptible to adverse influences from the marine environment is the fact that the recent oil spill in Guimaras has significantly affected Barangay Tando. The spill crippled the fishing sector and rendered the residents highly dependent on external support for their daily needs. Evacuation of residents living within the coastal zone was also undertaken due to deterioration of air and water quality.

Aquaculture production is also highly susceptible to weather disturbances considering that fishponds can easily be affected by typhoons and contaminated sea water.

2. Hazard and Vulnerability Assessments and Factors Determining the Community's Coping Capacity

I. Hazard and vulnerability assessment

Typhoons, and storm surges/severe winds – severe weather disturbances will have significant impacts on the community. In the event of a strong typhoon, strong winds and waves will adversely affect households at the sitio proper owing to its precarious location at the coastal zone. In the absence of adequate forewarning concerning approaching typhoons, the speed of onset will be a major factor to consider if evacuation needs to be done. In the past, typhoons usually last 24 hours or more, hence relief assistance should consider the span of time required for the situation to stabilize. Aside from houses and public facilities that will be at risk, the aquaculture industry will likewise be adversely affected as fishponds can be devastated by storm surges. Considering that the Philippines experiences an average of 20 typhoons per year 5 of which can be destructive (PAGASA), this hazard is highly probable to affect the community especially the southwest monsoons that directly strikes the southern part of Guimaras. Another factor that needs to be considered is the fact that the only land access to the area from the mainland is through a small strip of land resembling a land bridge. In case this access is impaired, blocked or rendered unpassable by strong typhoons, rain or storm surges, the community will be isolated and evacuation or relief operations will be greatly constrained.

Tsunami – in the event of a tsunami, all residential and public facilities at the sitio proper will be wiped out. This is due to the fact that the built-up area is within the low elevation part of the barangay which is just approximately 2.5 meters above sea level (Guimaras GIS data). Based on PHIVOLCS data, the areas most vulnerable to tsunami are the coastal areas facing the Philippine Sea, Pacific Ocean, South China Sea, Celebes Sea, Sulu Sea and Mindanao Sea. The southern part of Guimaras being exposed to the Sulu Sea makes it vulnerable to tsunami. In addition, the Negros Trench which is located south of Guimaras further increases the probability of tsunami occurrence. Owing to the location of Tando, tsunami warning is a major factor to consider. In the event of a tsunami, the impact will be catastrophic for Barangay Tando.

Oil/chemical spills- considering that the southern part of Guimaras is an existing navigational route of both domestic and international shipping, compounded by the absence of appropriate legislations at present regulating the routes of tankers and vessels transporting hazardous cargo, this hazard is highly probable. As experienced in the recent oil spill, Barangay Tando is among the worst hit communities in Guimaras. Once a hazardous substance is spilled within the Panay Gulf, the southern part of the island will be affected especially if it happens during the months of June to September wherein wind direction is towards north. Contamination of coastal waters will consequently result to loss of aquaculture production considering that polluted sea water will be detrimental to fishpond operations.

II. Socio-economic factors affecting vulnerability

Majority of the households in Tando are marginal fishers and are mostly poor. The recently conducted Living Standards Survey (LSS) by the provincial government revealed that barangay Tando is among the "disparity barangays" in Guimaras which means that it is deficient in terms of certain socio-economic indicators used to determine

the living standards of residents. Same survey also revealed that in terms of education majority of the residents have only completed elementary and high school and only a small percentage have attained college education. In terms of sources of income, aside from fishing, majority of the households belong to the low income group of occupations such as charcoal making, laborers, carpenters, housemaids and backyard hog raising. Fifty eight percent of the population belongs to the 17 years and below group with females totaling 166 and males 179. Those 18 years and above totals 555 with males outnumbering the females 281 to 274. Considering this social class of the residents, they may find it difficult to secure financial resources and technical skills to recover after disaster (K. Vatsa).

Owing to the community's dependence on fishing, disruption of fishing activities will have adverse multiplier effects on other related occupations such as fish vendors, jeepney drivers and sari-sari store owners. The low level of education of majority of the residents likewise contributes to its vulnerability in the event of disasters that can impair capabilities to perform their usual livelihood activities. The fact that only a limited area of the barangay is suitable for agricultural production, lack of options for land-based alternative livelihood further contributes to low coping capacities of the residents. This fact was highlighted during the recent oil spill which exposed the vulnerability of Barangay Tando's residents.

Another factor that further contributes to vulnerability is accessibility of the barangay. The sole access being a small strip of land with a gravel road renders the community at risk of being isolated if this access is rendered unpassable. It also constrains transport of products out of the barangay to the market as well as transport of essential goods into the barangay.

III. Assets and access to resources for reducing vulnerability

A large portion of the barangay's land area is composed of hills with trees, vines and shrubs suitable for firewood, charcoal production and handicrafts. This can serve as alternative source of livelihood for residents in case fishing is disrupted assuming that the necessary skills will be provided to residents. The barangay has been a recipient of a service vehicle from the municipal government which significantly enhanced the logistical capability of barangay officials in performing their mandates.

In terms of financial assets, the community has access to financial assistance provided by the provincial and municipal governments. Being classified as among the "disparity barangays" it is prioritized in terms of social services and poverty reduction interventions by the government. Furthermore, several non-government organizations have been assisting the community in the area of livelihood and community organizing.

There is an active organization of fisherfolks in the barangay which is also a member of the municipal and provincial federations. The Barangay Tando Fisherfolk Association (BATAFA) is mandated to serve the interests of fisherfolks and has access to assistance from the Fisheries and Aquatic Resources Management Council (FARMC), the BFAR and other government agencies.

Being a relatively small community, residents have shown cohesiveness in implementing government projects in the past which can also be a positive factor for disaster risk management.

3. Design of Community Preparedness Plan

I. Community organizing and assignment of roles

Community awareness on the disaster risks and hazards they are exposed to is an essential component in CBDRM. The need for the community to take proactive action and manage risk reduction activities should be ensured (K. Vatsa). For Barangay Tando, an awareness campaign should be initiated to educate the residents on their role in disaster preparedness and response. The existing organization particularly the fisherfolk association should be provided with the necessary capability building to empower them and serve as the primary disaster team. One model that can be applied is the experience of Benguet Province in implementing the Integrated Community Disaster Planning Program (ICDPP) which is centered on the formation and training of Barangay Disaster Action Team (BDAT). The members of the fisherfolk association should compose the core group of the BDAT and additional volunteers can be recruited from among the residents of the barangay. This team will be under the Barangay Disaster Coordinating Council (BDCC) and could also spearhead the implementation of disaster mitigation projects and respond to emergency situations in the community.

During emergency situations such as typhoons, the BDAT issue warnings and instruct the residents to prepare for the approaching storm events. If evacuation is needed, the BDAT should lead the operation and manage the evacuation centers with the support of concerned agencies. They should also assist in rescue operations and participate actively in the rehabilitation phase.

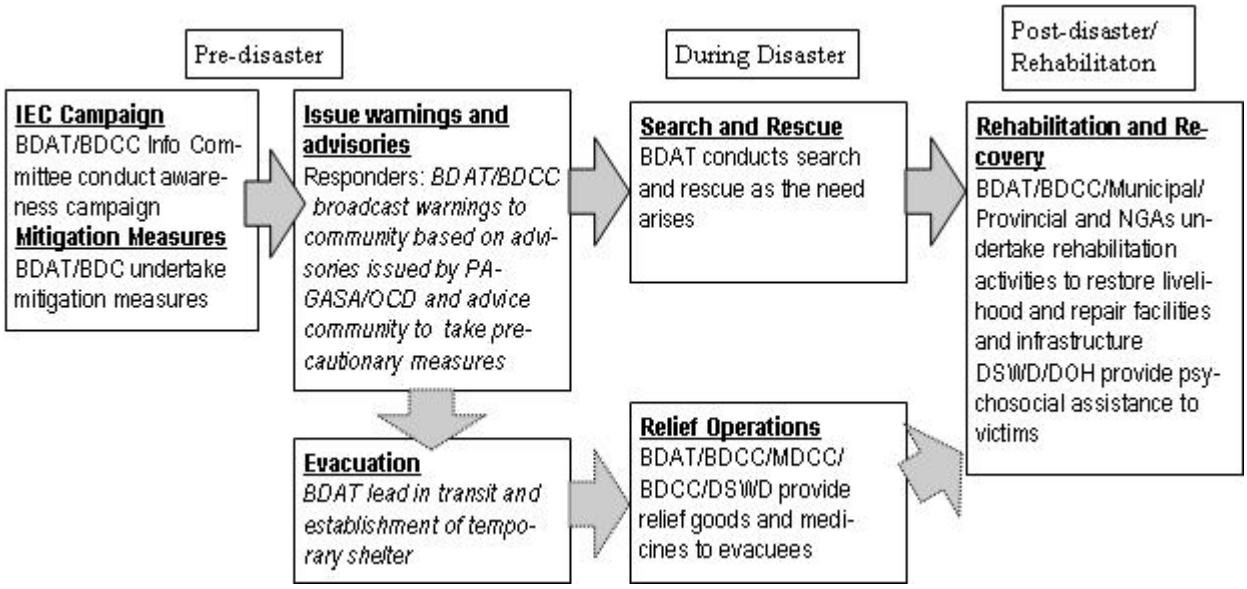
A committee that will take charge of Information and Education Campaign (IEC) should also be created under the BDCC. The school teachers of the elementary school in the barangay could be tapped to serve as primary lecturers supported by other capable professionals and elders in the community. The technical assistance of government agencies such as the municipal and provincial governments as well as national governments agencies; PHIVOLCS, DENR and MGB should also be tapped to provide technical data such as hazard maps. The existence of Geographic Information System (GIS) facilities at the provincial government could significantly enhance the analysis and planning at the barangay level. At the height of the oil spill disaster, the GIS capability of the province was put to good use. The provincial government in partnership with an NGO has recently implemented an approach called Appreciative Inquiry Community Mobilization (AICM) for social development. This approach can also be used for CBDRM in Tando.

II. Community response plan

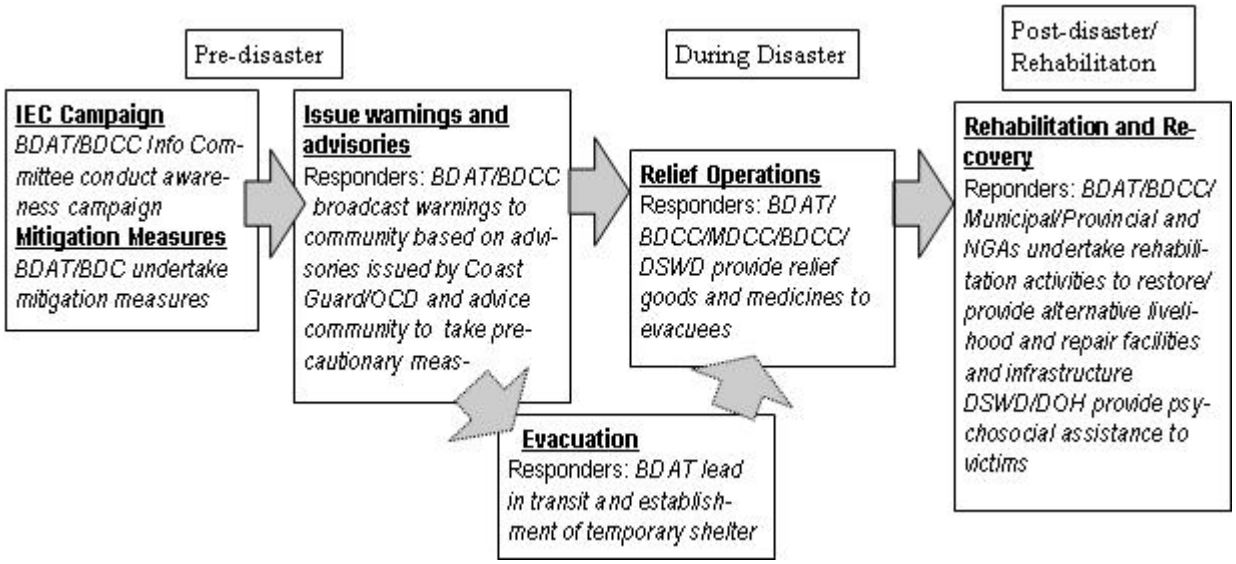
The plan should focus on the 3 hazards identified; typhoons, tsunami and oil/chemical spills. The BDAT should be equipped with the necessary skills and equipment to effectively respond to emergencies. Considering the need for early warning system in the event of typhoons or tsunami, it is essential that the BDAT should acquire communication equipments to access information from agencies concerned such as PAGASA, NDCC and the provincial/municipal governments. Advisories issued by government agencies should be relayed to the BDAT in order for them to issue the warnings in the community. In the event of oil spills, spill booms should immediately be installed to prevent oil from reaching the shores and necessary preparations for possible evacuation should be undertaken in coordination with the provincial and municipal

governments. The following flow charts specify the actions and the responders for the 3 hazards identified.

Typhoons/Tsunami Response



Oil/Chemical Spill Response



III. Community-level mitigation program

Structural Mitigation

- Construction of seawall at the coastline facing the sitio proper. The BDAT in coordination with the municipal or provincial engineering office to prepare program of works and access funds for the construction of a durable and effective seawall to protect the community from storm surges/typhoons.
- Construction of a multipurpose center in an area of high elevation. This can serve as an evacuation center in the event of emergencies.
- Improvement/Upgrading of access road. Funding support from local and national governments or foreign funding agencies will be accessed for the project.
- Construction of water supply system using rainwater or groundwater to ensure supply of potable water in the event that existing water sources gets contaminated during disasters.
- Access funds from provincial or municipal government for the acquisition of communication equipments (handheld radios, cellular phones)

Non-structural Mitigation

- Conduct of a comprehensive Information, Education Campaign in partnership with NGOs, provincial/municipal governments and church groups
- Recruitment of volunteers as BDAT members
- Undertake DRM training programs for BDAT/BDCC members
- Undertake skills development training to introduce alternative skills to the community for diversification of livelihood sources
- Request assistance from international agencies such as DFID, UNDP, CARE International and Oxfam for alternative livelihood
- Mangrove reforestation projects to serve as buffer in coastal areas

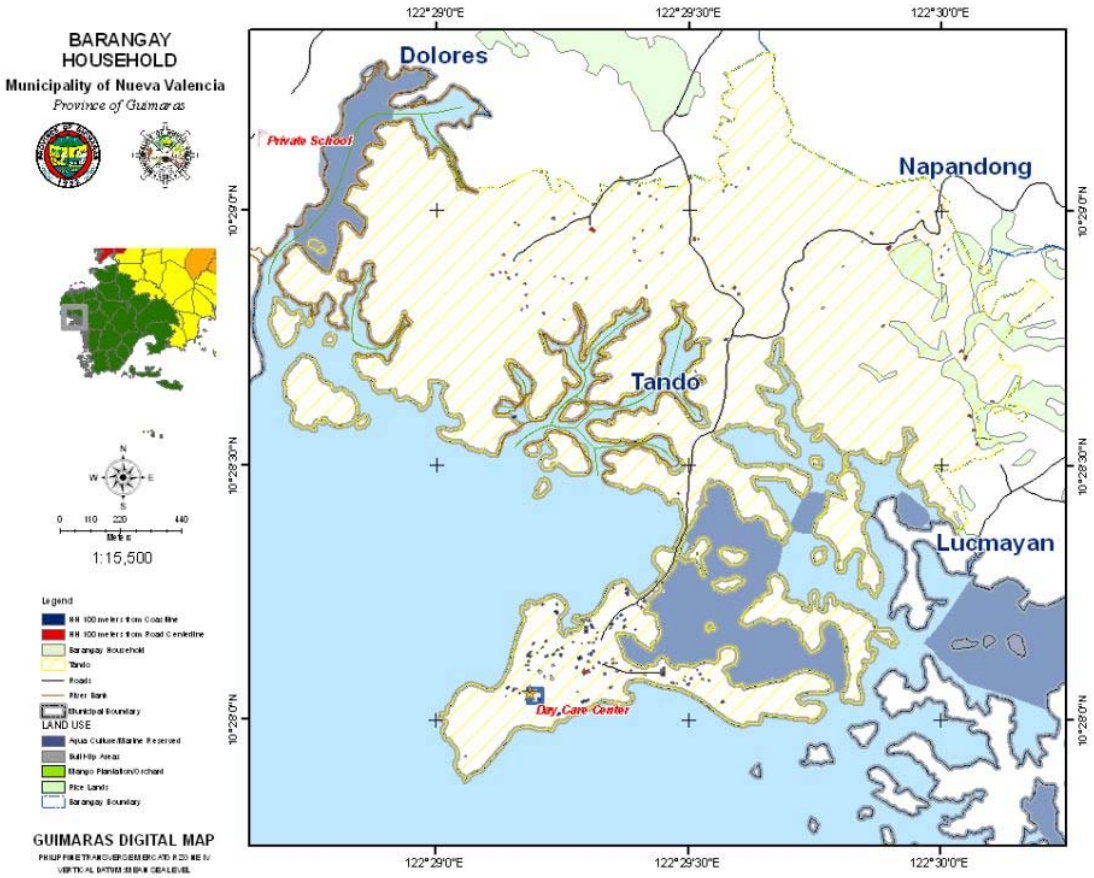
4. Conclusion

I. Challenges and proposed actions

Achieving a positive response from the community to awareness campaign about the hazards and vulnerabilities can be a challenge that should be addressed. People will not prepare for something they do not believe can happen to them (K. Vatsa). It is therefore necessary that an effective IEC design and approach should be ensured in order to capture the attention of residents and motivate them to act accordingly. The campaign should also be sustained and updated regularly.

Structural mitigation measures identified require substantial funding. An aggressive fund mobilization should be undertaken to secure funding from possible sources such as provincial/municipal governments, CDF of congressmen or foreign funding agencies. If funds are not adequate to fund all measures, it may be necessary to prioritize the projects based on level of urgency.

Annex – GIS generated map of Barangay Tando



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