

## Enhancing Local Government Unit Capacities in Disaster Preparedness, Prevention & Mitigation

**Location:** Camiguin Province, Island of Mindanao

**Date:** 2002-2003

**Sector focus:** Natural hazard risk reduction

**Spatial focus:** Municipality and community

### Bibliographical reference

---

*Capacity Building in Community Based Disaster Risk Management in the Philippines* in: Education for Sustainable Development: Case Studies and Best Practices, Rajib Shaw and Badaoui Rouhban (eds), Disaster Reduction and Human Security, UNESCO & Kyoto University, Kobe: CDP, 2005 and *Enhancing LGU Capacities in Disaster Preparedness, Prevention & Rehabilitation*, Final Report to Local Government Support Program, Manila: CDP, 2005.

### Abstract

---

The project involved training of provincial and municipality officials in disaster risk reduction as well as community level participatory risk assessment within five municipalities of the province after devastation by a typhoon and associated flashflood and debris flow in 2001. The province of Camiguin is small and remote. Most people depend on agriculture and fishing, and to some extent tourism, to sustain their livelihoods. It is also prone to typhoons and weather disturbances locally referred to as cloud bursts and has active volcanoes, among which is Mt. Hibok-Hibok.

Community risk assessment and action planning activities were focused on one of the jurisdictions (called barangays) per municipality. In Barangay Hubangon of the municipality of Mahinog a system for flashflood warning and evacuation shelter was developed and actually used shortly thereafter when typhoon Milenyo passed in August 2002.

Related training of municipal representatives from the entire province included a study tour to other areas of the Philippines where community based CRA and action planning has been put in place. Another explicit intention of the project was to develop methods for bridging and coordinating governmental actions at province, municipality, and barangay level with community level assessment and action (collective and individual).

This case should be of interest of most stakeholders in Asia and possibly other parts of the world, where one of the most challenging questions is precisely how to coordinate the activities of civil society with that of local government.

## Technical description

---

**Hazard/risk type:** Flashflood and Debris flow, typhoon, volcanic eruption, disease. The hazards are multiple and inter-connected. There are strong winds from typhoons and also heavy rains locally referred to as “cloud bursts” which trigger flashflood and debris (lahar) flow since there are volcanic deposits from previous eruption of the seven volcanoes in the island.

**Type of assessment:** Hazard, vulnerability, and capacity assessment at the community and other levels

## CRA process

---

Liaison with municipal officials; collection of background and secondary data; training of facilitators; barangay/community discussions.

**Methods used:** Focus group work at community level using drama and maps/charts to present outputs; participatory work with trainees at the municipal and provincial level, including study tour to other parts of the Philippines and discussion of findings. The municipal/provincial facilitators gathered the data from the barangay/community in focus group discussions using the checklist of information to gather. The charts and graphs produced were visual interpretations and presentations of the results of the focus group discussions.

**Was livelihood analysis part of the process?** Yes, especially in the use of the historical transect and problem tree approach.

**Was external specialist knowledge introduced?** Yes, to the extent that the technical reports on the typhoon that had hit the target community the year before were digested and served as background to the community discussion of hazards, especially their ranking of hazards. These technical reports came from the Philippine Institute of Volcanology and Seismology (PHILVOCS) and Philippine Atmospheric, Geophysical and Astronomic Services (PAGASA).

## Vulnerability analysis

---

- ♦ *Camiguin's geophysical make-up* constrains settlements and infrastructural development. Camiguin is a 292 sq. km. volcano island dominated by mountainous terrain with a small area of flat lowland along its coastline.
- ♦ *Limited arable land.* Due to its natural topography, there is low productivity and dwindling natural resources.
- ♦ *53.1% incidence of poverty* (Philippine Poverty Statistics, 2003) down from 71% in the 1990s. An out-migration area with slowdown trend in the recent years from being second rank among out-migration provinces in 1960-1970.
- ♦ *Settlements in hazard-prone locations.* Communities and households in debris flow and flashflood-prone areas. Some families live along the riverbanks and the coastline.
- ♦ *Local Disaster Coordinating Council (DCCs) are oriented towards disaster response* and not disaster preparedness and mitigation/prevention. Disaster Coordinating Council (DCC) members are more focused on emergency response, in doing rescue, giving relief and assisting in evacuation. Roles of DCC members in disaster management in the pre-, during, and post-periods are not well defined and understood.
- ♦ *Local DCCs have inadequate communication system and equipment* for fast dissemination of warning.
- ♦ *Lack of local government resources* for disaster preparedness and mitigation.
- ♦ *Communities lack disaster preparedness information* about flash flood and debris flow hazards.

## Capacity analysis

---

**Resources available:** Financial resources: Canadian CIDA; Human resources: Manila based specialists from CDP; provincial, municipal, and barangay level government officials both as facilitators and resource people and, in some cases, also trainees. Social resources: family and community organizations, “bayanihan” (solidarity, cooperation, mutual assistance). Natural resources: fertile foil and fishing grounds, beaches and hot springs.

**Limitations to capacity:** Limited time and financial resources of provincial and local government, which are endemic problems in most countries.

## Action planning and implementation

---

**What actions were actually planned?** (1) Development of multi-hazard (with focus on flashflood) warning and evacuation shelter plan for five barangays; (2) Training of provincial, municipal and barangay level officials and community members in disaster preparedness.

**What actions were actually carried out?** Both were carried out.

**Have these actions turned out to be sustainable?** Yes, the Project informed another project implemented from April 2004 – January 2005 in partnership with the local government units and people of Camiguin the “Basic Study on Non-Structural Disaster Prevention Measures for Camiguin Province” funded by Japan International Cooperation Agency (JICA). The new project specifically for flash flood and debris flow disaster prevention involved social survey, institutional study, flood and debris flow hazard mapping, local hazard monitoring (provision of rain gauges, arrangements with PAGASA for provision of forecast for Camiguin), public awareness (posters, pamphlets, warning boards, information education campaign), early warning system (communication equipment, sirens), evacuation plan, evacuation drill in Barangay Hubangon, table top disaster simulation exercises, disaster prevention manual, training and planning in 6 at-risk barangays.

**Were there any unanticipated additional benefits of the actions?** Yes, as two barangays involved in disaster preparedness training in the project were recognized and awarded 2<sup>nd</sup> and 3<sup>rd</sup> for the last 2 years as the “Most Prepared Barangay” by the Provincial Disaster Coordinating Council.

**Were there any unanticipated negative consequences of the actions?** No.

**Limitations on action/ sustainability of actions:** Municipal officers are constrained by lack of financial resources to carry out community risk assessment and counter disaster planning in other barangays not covered by the project. Also, structural mitigation measures which will limit damage to agriculture and property are needed.

## Indicators

---

Zero casualty is the overriding target of the disaster preparedness activities. The fact that typhoon passed during the project and community members were brought to safety is prima facie evidence of some effectiveness that the new warning and shelter system functioned properly. Since implementation of the project, no one in the project area has died in a flash flood or due to debris flow. Within the implementation of the JICA-funded non-structural disaster prevention study, the local government personnel used the participatory and development-oriented framework learned in the project to contribute to making the non-structural disaster prevention measures more relevant and appropriate to the Camiguin situation and needs.

## Contextual notes

---

**Existence/ role of prior or contemporaneous conflict?** In the aftermath of Typhoon Nanang there was blame pointing between the Province and municipalities and the municipalities and the barangays about who did not do what. The Project tried to bridge this conflict by defining roles and responsibilities of each level and strengthening functional coordination.

**Role of displacement/ relocation?** N/A (Conflict is more in central and western Mindanao. Camiguin in north eastern Mindanao.)

**Role of prior disaster & prior recovery attempts?** The province did not expect the landslides, flashflood and debris flow which happened during Typhoon Nanang. The last major disaster was the eruption of Mt. Hibok-Hibok from 1949-1953, and the political and administrative people at all levels of government regularly prepare for volcanic eruption. The experience of typhoon Nanang disaster is referred to in the report as a “wake up call.” Nanang produced torrential rainfall that broke a 100 year record and claimed 220 lives and affected 7,000 families in the province.

**Significant historical, geographic, economic, political, or cultural issues that influenced this instance of CRA and its consequences?** Geographic conditions clearly make this part of the Philippines particularly hazard prone; while economic conditions limit the disposable income available at household level for self protection and at the level of public finance for social protection and mitigation. The politics of the allocation of national budgetary resources to the provinces and the provinces to the municipalities is also central to the question of implementation of structural risk reduction. Five per cent of the Internal Revenue Allotment (IRA) from the National Government is allocated mainly for emergency response, not preparedness and prevention. The IRA is dependent on the size of population, land area, and revenues generated by the local government units. The last mentioned is small in case of Camiguin, so there has been a chronic shortage of central government funds for disaster risk reduction.

## Strategic notes

---

**How has this practice of CRA influenced change in policy and practice at the national level?** Training and sensitization in disaster preparedness and mitigation with CRA as the initial step was done mostly at the local level (provincial, municipal and barangay). The experience in capability building with local governments with its beneficial results in zero-casualty and more proactive actions by the local governments in disaster preparedness and mitigation has been used by an NGO, the national Center for Disaster Preparedness (CDP), to advocate for the replication of local and community based disaster risk management in the Philippines. A delegation from Camiguin made a presentation of good practice during the First National Conference on Community Based Disaster Management in January 2003.

The national government through the National Disaster Coordinating Council has subsequently adopted CBDM as a strategy in disaster reduction.

**How has this practice of CRA influenced change in policy and practice at local level?** Policy and practice has changed towards a more proactive and participatory approach in the province, 5 municipalities and pilot barangays to varying extents. This project served as a spring board for CDP’s continued partnership in disaster preparedness with the local government units and people of Camiguin in the implementation of the “Basic Study on Non-Structural Disaster Prevention Measures for Camiguin Province” funded by Japan International Cooperation Agency and supervised by the Earth System Science Co.,Ltd. from April 2005 – January 2005. Barangay Hubangon was the site of community-wide evacuation drill which featured the protocols in hazard monitoring, warning and evacuation system and procedures set up between the province, municipality and barangay, using hazard maps, rain gauge, communication equipment, flash flood and debris flow disaster prevention plan and manual provided and produced by the study.

**How has this practice of CRA influenced the level of organization and solidarity in the locality where it was carried out?** With the CRA and counter disaster planning process, the Barangay

Disaster Coordinating Councils and Municipal Disaster Coordinating Councils were strengthened. “Bayanihan” (cooperation, solidarity, mutual assistance) was strengthened within the pilot barangays in having more community volunteers involved in the disaster preparedness activities, mobilizing local resources.

**Less divided along class, gender, age, ethnic lines? N/A**

**More divided along these lines? N/A**

**Are the people living in this area more able to speak out on issues that concern them?** Community risk assessment and counter disaster planning provided venues for people’s and community organizations to participate, discuss and raise issues such as effects of development projects to be implemented in their locality.

**Have new civil society organizations been created directly or indirectly because of this practice of CRA?** No new organizations were created, but participation and coordination of people’s and community organizations in disaster preparedness (which traditionally was vested only on government) was strengthened in the process of CRA and disaster preparedness and mitigation planning and implementation.

## **Lessons learned**

---

### **Community**

- ◆ Flood water does not rise all at once and there is time to give a warning and bring people to safety.
- ◆ Disaster preparedness (risk assessment and counter disaster planning, hazard monitoring and warning system, evacuation drill, disaster preparedness training, public awareness) works to save lives. But to reduce or prevent damages to homes, agriculture and community facilities, structural measures such as dikes are necessary.
- ◆ Have local community hazard monitoring and warning system to have a fail safe mechanism, like when there is communication failure from the provincial and municipal level.

### **Local Government Units and Center for Disaster Preparedness Team**

- ◆ A recent experience of damage and loss from disaster is an opportune time to institute disaster preparedness and mitigation activities.
- ◆ The community risk assessment process and results are used to make the counter disaster plan. The hazard map is the best starting point to explain safe and unsafe areas and is an essential basis for warning and evacuation plan. The community and the local government units should have copies of the hazard map, risk assessment, community studies and disaster preparedness and mitigation plan.
- ◆ Strengthen existing disaster management structures (local DCCs) but allow adjustments in organizational structures at the local/ barangay (village) level based on their counter disaster plan. Strengthen coordination between the provincial and municipal levels and between the municipal level with the barangay (village) levels with defined and agreed upon protocols.
- ◆ A core within the local government unit and the community who see the importance of disaster risk management is vital to sustain the disaster preparedness and mitigation activities. In Camiguin, the Provincial and Municipal Technical Working Groups served this function. At the community level, the various disaster management committees heads and members contributed to ensuring that the counter disaster plan or disaster preparedness and mitigation plan is implemented.
- ◆ The combination of non-structural and structural measures is necessary for disaster preparedness and mitigation.
- ◆ Disaster management, similar to the delivery of basic social services, is part of the governance function and responsibility of the local government. While working with local

government units, ensure community organizations and representatives participate in hazard vulnerability capacity assessment and preparedness and mitigation planning.

- ♦ Combine technology with local resources, knowledge and experience. Solicit the perspectives of the community and listen to the people. Encourage community members to contribute towards disaster preparedness and mitigation.
- ♦ Capacity building of local government and the community initially through training and public awareness is essential for sustainable disaster risk reduction.

## **Keywords**

---

Typhoon, flashflood and debris flow, volcanic eruption, provincial government, local government, civil society and local government partnership, bottom up- top down approach, warning, evacuation shelter.

## **Resource person(s)**

---

Lorna Victoria, CDP, Manila, Philippines, email: [oyvictoria@yahoo.com](mailto:oyvictoria@yahoo.com).