

► Conduct of Volcano Evacuation Drill: Putting the System to test

After almost two years of MIAVITA Project WP5 facilitation, the barangay was ready to test what it has so far put together from their documented volcano disaster plan to their indigenous communication system. On 3 July 2012, under slight drizzle, teams were dispatched to the upper sitios within four to six kilometers (Cabatuan, Batang, Pinulakan and Tinago) to observe the conduct of the first-ever volcano evacuation drill for the barangay.

At the time designated Capt. Mateo Belotendos gave the signal from the Barangay Hall and this was relayed by the "toltoqs" in the upper sitios. The households which have their own *toltoq* responded by also sounding their own house *toltoq*, and walking down the trail to the barangay hall- the designated pick up point.

Communication and Warning



Sounding the toltoq during the drill.



Residents of sitio Cabatuan heed the warning and evacuate.

FINAL OUTPUTS

- Reorganized Barangay Disaster Risk Reduction and Management Committee (BDRRMC), with functions defined by the community after a series of small group discussions
- BDRRMC Plan that was put together step-by-step
- Barangay Spot Map that was updated base on sitio/purok-level spot mapping
- 3-Dimensional Map of Barangay Biaknabato, a product of the Participatory 3-d Mapping Exercise (P3DM)
- Information Material (poster) in local language developed together with barangay officials, residents and teachers
- Conduct of barangay-initiated information campaigns in the upper sitios of Cabatuan, Batang, Pinulakan and Tinago
- Use of indigenous material- *toltoq* (piece of bamboo) for the Community-based Communication System. Households especially in the upper sitios were encouraged to have their own toltoq as means of communicating
- Conduct of Volcano Evacuation Drill

Evacuation



Committees of the BDRRMC test-exercise their defined functions during the drill. Participant-evacuees register. "Relief for evacuees" are distributed. Women from Day Care school prepared hot soup for the participants who walked all the way from the upper sitios.



Post-activity evaluation on how to improve the conduct of the drill.

GOOD PRACTICES in VOLCANO DISASTER RISK REDUCTION:

Case Study: Barangay Biaknabato, La Castellana, Negros Occidental, Philippines

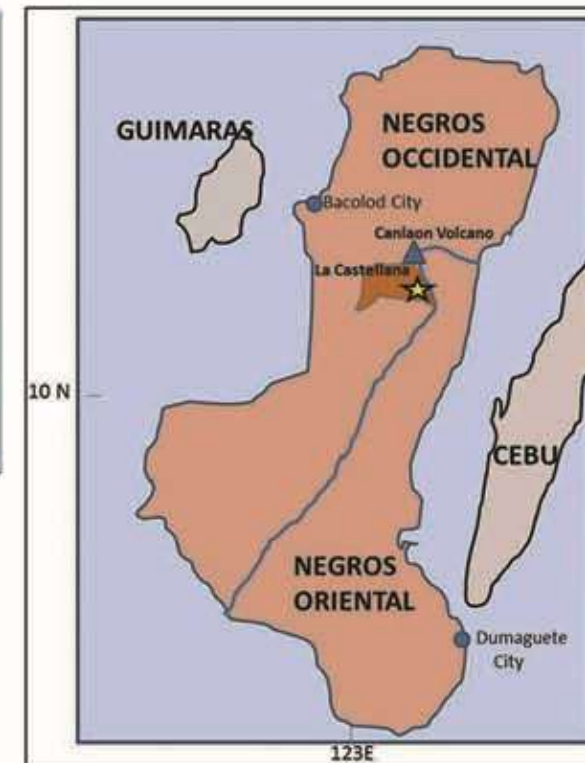
Mitigate and Assess Risk from Volcanic Impact on Terrain and Human Activity (MIAVITA 2009-2012)

Barangay Biaknabato is located in the south southeast slope of Kanlaon Volcano, in the Municipality of La Castellana, Province of Negros Occidental.

The barangay has 680 households (705 families), with a total population of 3,398. The barangay covers an area of about 12.6 km² and is composed of 11 sitios/puroks namely- Proper/Poblacion, Nahanunga, Luho, Balucanag, Calapnagan, Buyon/Sapwa, Tamburong, Tinago, Cabatuan, Pinulakan and Batang. Agriculture is the major source of livelihood of residents. From its rugged terrain with rich soil derived from the volcanic origin of its rocks, major agricultural produce include sugar cane, fruits (such as banana, jackfruit, papaya, avocado, mango), coffee, root crops (*camote, gabi*), corn and coconut.



Location of Barangay Biaknabato, La Castellana, Negros Occidental.



In August 2009 until January 2010, during the initial reconnaissance for the MIAVITA Project conducted by PHIVOLCS, Brgy Biaknabato, together with another barangay, Pula, in Canlaon City, Negros Oriental Province was shortlisted as possible pilot site for the implementation of the community-based activities. The barangay was primarily chosen due to its proximity to the volcano as well interest and willingness of the barangay to take part and cost-share resources.

MIAVITA Background

In August 2009, the project Mitigate and Assess Risk from Volcanic impact on Terrain and Human Activities (MIAVITA) was launched in the Philippines and implemented by the Philippine Institute of Volcanology and Seismology (PHIVOLCS-DOST). Funded by the European Commission, this project is a 4-year collaboration among several academic institutions from Europe with the Philippines, Indonesia, Cameroon, Monserrat and Cape Verde. The project's end goal is to develop tools and integrated cost-effective methodologies to mitigate risks from various hazards of active volcanoes. The project is composed of work packages, each with specific objectives and concerns ranging from instrumental monitoring, hazard and risk assessment, socio-economic vulnerability and resilience, database design, capacity building and volcanic threat management. Kanlaon Volcano in Negros Island was identified as the focus of MIAVITA implementation in the Philippines.

Under the MIAVITA Work Package 5- Socio-economic Vulnerability and Resilience, the end-goal is to develop a community-based disaster risk management to reduce people's vulnerability and enhance community resilience. These were undertaken thru profiling the pilot community, assessing people's vulnerability and capabilities in facing volcanic hazards and anticipating people's behavior in the event of a volcanic eruption.

► Disaster Knowledge

Based on profiling studies on Biaknabato, most residents remember only at least three episodes of volcanic unrest from Kanlaon Volcano-October 1969, 1987 and 1993. One possible reason for this few experience recalled is that in 1969, there were still very few residents upslope of the volcano. According to those interviewed, in 1969, rumbling sounds were heard then the volcano spewed ash that affected Tinago, Cabatuan and Pinulakan. People panicked, but no casualties were reported. In any Kanlaon activity, it is the ash that affects livelihood as crops wilted and died. Lahars could also affect the river system running through Biaknabato. This happened in 1987 when after the ash ejection, rains occurred that sent lahars flowing down Tamburong.



Interview with residents of Biaknabato.

► Capacity Building

Activities undertaken by the participants were geared towards the understanding of their local situation: what are the possible hazards from Kanlaon, how this can potentially affect their livelihood and the possible means to avoid this by identifying which crops are more sensitive to ash and therefore susceptible to wilting.



Discussion on Seasonal Calendar. Identifying planting time and harvest time, which months are most vulnerable

► Participatory 3-Dimensional Mapping

The Participatory 3-Dimensional Mapping (P3DM) was introduced as a tool for a better appreciation of the spatial distribution of the various elements and resources within the community. The residents were introduced to this tool to aid them in their planning.



Residents and Barangay Officials work together to complete the Barangay Biaknabato 3-dimensional map.



Barangay Spot Mapping Activity. Sitio residents get familiar with map, which is useful for locating oneself and the barangay resources.



BARANGAY BIKNABATO MAP, MAY 2010

► Barangay Biaknabato Disaster Risk Reduction Management Plan

To facilitate the drafting of the Barangay Disaster Risk Reduction and Management Plan (BDRRM Plan), a series of small group discussions were designed and facilitated by PHIVOLCS. Outputs from each of these discussions were documented. When eventually collated, these were strategically planned to become part of the BDRRM Plan. The following were the topics covered:

- Understanding Kanlaon Volcano and its hazards
- RA 10121- Disaster Risk Reduction and Management Act
- Reorganization of Barangay Disaster Risk Reduction Management Committee
- Committee Roles and Responsibilities
- Understanding Kanlaon Volcano Alert Level Scheme
- Committee Actions Per Alert Level
- Scenario-based volcano emergency planning
- Evacuation Planning (evacuation routes, evacuation areas)

► Establishment of Communication and Early Warning System: Use of Indigenous Materials

Bamboo is a common plant that grows anywhere within the barangay. As such, when the time came that the barangay had to choose and decide which material to use for their communication system, this readily-available, low-cost, low-maintenance and therefore more sustainable "toltog" was the unanimous choice.

Considering the far distance of individual households in the upper sitios, ideally, each household especially within four-six kilometers should have its own toltog as this will become their means of communicating to each other.



An example of the "toltog," a communication device made up of bamboo.



Toltog in a resident's house during the drill, Sitio Pinulakan.



Discussion on possible scenarios and what actions to be taken per Alert Level.

An important component of the DRR cycle is planning for pre-disaster activities of each identified committee of the BDRRM Committee.



In the upper slopes of Biaknabato, houses are isolated. The challenge is to be able to communicate with the nearest neighbor who could be more than 30 meters away. As the material is readily available, it is easier for the residents to own and put-up one in their homes, to be able to communicate with neighbors and nearby sitios at no cost.



Testing the toltog in May 2012.