

OUR EXPERIENCE

Where is the Safe Area?

Experiences from Hazard Mapping in Java Pilot Area

THE INITIATIVE

At the end of 2006, the districts of Bantul, Kebumen and Cilacap in southern Java decided to participate as Pilot Districts for the implementation of the tsunami early warning within the framework of the GITEWS project. One of the first steps was to find out about the local tsunami hazard threat and the potential impact for the communities. However, very little information was available in the three districts.

It was quickly discovered that no generally adopted approach to tsunami hazard mapping at the district/community level had been developed so far. Facing this challenge, and being convinced that many Indonesian communities are in the same situation, the project decided to develop a simple and low-tech but sufficient and adequate tsunami hazard mapping methodology which enables communities to develop basic planning tools until more sophisticated information might become available.

In cooperation with national experts, representatives from district governments and local organizations, the project started developing and conducted a mapping exercise in the three districts. The team worked jointly with local stakeholders in order to optimize the approach and to adjust it to local capacities. The experience and lessons were evaluated on a daily basis and fed into the final methodology.

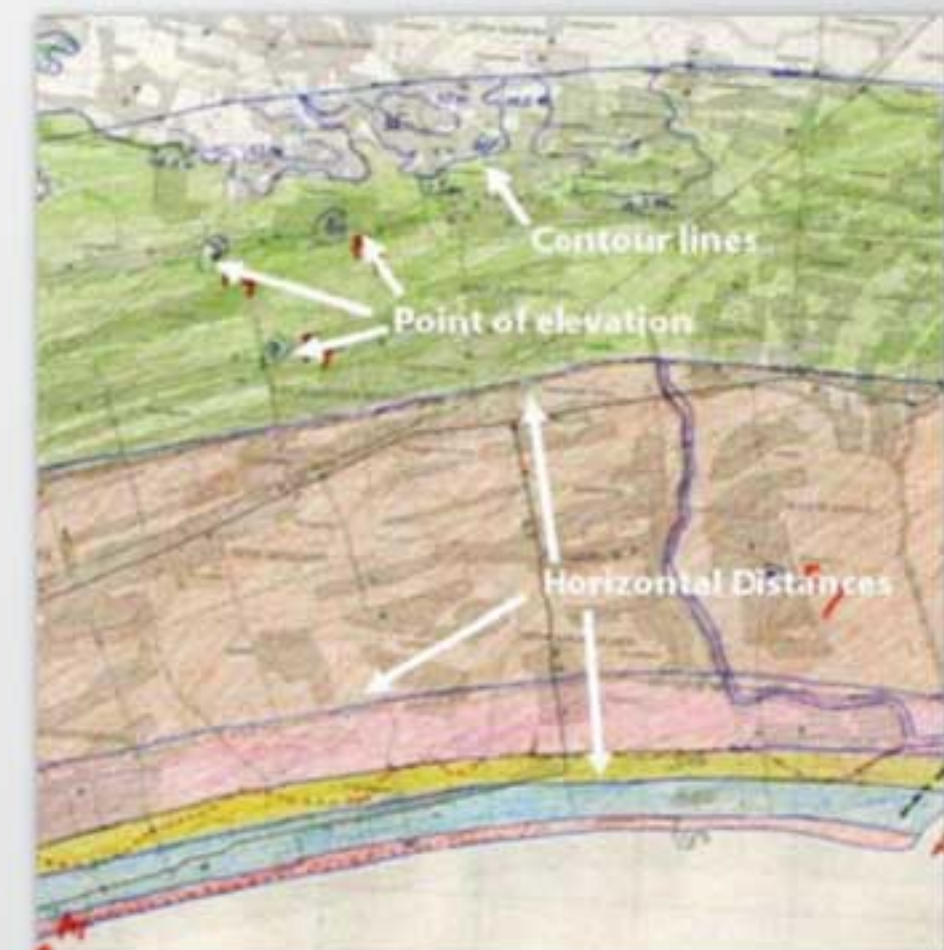
THE GOAL

The goal of the mapping exercise has been twofold. On the one hand, the project aimed at producing tsunami hazard maps for the three districts. On the other hand, the main goal was to develop a general tsunami hazard mapping methodology at the district / community level.

WHAT HAS BEEN ACHIEVED?

The assessment and mapping of the tsunami hazard at local level is an issue that requires both expertise and local knowledge. A purely community at local level based approach without input from experts is, due to the complexity of the issue, not considered as sufficient. In addition, local stakeholders must also be involved. The cooperation between the advisory team and 'local experts', however, allowed for the development of a methodology that is applicable for implementation at the district level and triggers a learning process on both sides. The participatory exercise ensured that local knowledge was integrated, and a deeper understanding about the potential threat, had been generated. Throughout the process, the experience and lessons were evaluated and documented.

One result of the process was the development of a Step-by-Step Tsunami Hazard Mapping Tool:



Getting Started – Outlining Zones and Geomorphologic Features



Where is the Safe Area? A Suggestion for a Tsunami Hazard Mapping Methodology for the District Level – GTZ IS, September 2009

In addition, the initiative generated awareness among stakeholders at the district level about the local tsunami threat and its potential impact on communities in the project area and built capacities along the way.

Another result of the process is a set of Base and Hazard Maps for each of the participating districts.

LESSONS LEARNT & POTENTIAL FOR REPLICATION

The tsunami hazard mapping was jointly conducted with local actors who are involved in tsunami preparedness. This participatory process not only provided results regarding the local tsunami hazard, but also created awareness about the requirements for preparedness and the scope of the threat amongst all participants. National experts worked in cooperation with local actors. This team composition provided the opportunity to combine scientific expertise with local knowledge about the area and its characteristics.

Since the hazard mapping exercise uses a simple approach, it can be replicated in other communities in Indonesia and elsewhere. It can be implemented by local actors. However, it requires some technical input from experts in order to use all knowledge available. The final step of the exercise involves some technical skills that might not be available in all communities (Geo Information System - GIS). If the technical requirements can not be met, the hazard maps can also be developed manually.

ACKNOWLEDGEMENTS

The hazard mapping exercise, initiated by GTZ IS, involved national experts from the Ministry of Marine Affairs and Fisheries (DKP), the Gajah Mada University of Yogyakarta (UGM), and the Agency for Meteorology, Climatology and Geophysics in Yogyakarta (BMKG-DIY). This inter-institutional team of experts, consisting of representatives of the above institutions and organizations, worked in close cooperation with representatives of local government and non-governmental organizations who belong to working groups that had been created in order to work towards the establishment of the (local) tsunami early warning system.

Maps for each of the participating districts



Base Map - Kebumen



Tsunami Hazard Map - Kebumen



Base Map - Cilacap



Tsunami Hazard Map - Cilacap



Base Map - Bantul



Tsunami Hazard Map - Bantul

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Published by:

Deutsche
Gesellschaft für
Technische
Zusammenarbeit
(GTZ) GmbH

Photos & maps:
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