

Community-based disaster risk reduction in East Java

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Mount Kelud, which is located on the borders of the Malang, Kediri, and Blitar regencies of East Java province in Indonesia is an active andesitic stratovolcano. In 1586, Mount Kelud erupted with a death toll of 10,000, and, during the twentieth century, five eruptions occurred, in 1901, 1919, 1951, 1966, and 1990 with a total death toll of around 5,400. Eruptions of Mount Kelud potentially threaten three regencies, and lava flows threaten two. These primary and secondary risk mean that, within a 10km radius, Mount Kelud, is potentially a risk to 1,777,864 people. Meanwhile, all these communities are at a low level of preparedness. Mount Kelud is usually seen as a tourist destination, and the threat of disasters has been neglected. The change, during the 2007 incident from an explosive to an effusive eruption is still causing threats for some villages around. This condition implies two threat scenarios: firstly, if the dome of lava grows quickly, the threat changes from an explosive eruption to the dome avalanche, as happened during the recent eruption of Mount Merapi. Secondly, if the dome of lava should be obstructed or stopped, the volume of the crater lake would be larger than before, because the water sewer of the bottom crater lake would be obstructed.

Lesson 1: Village-level disaster risk assessment

Village-level disaster risk analysis consists of a series of activities: firstly, workshop training on disaster risk, and secondly, participative disaster risk mapping. The workshop training has transformed the level of participants' understanding of:

- The concept and paradigm of disaster risk reduction
- The threat of Mount Kelud's eruptions, analysis of the vulnerability of communities to them, and their capacity to deal with them
- Disaster risk reduction in relation to Mount Kelud
- Disaster management
- The concept of disaster risk reduction and community-based disaster management.

The participative disaster risk-mapping is carried out after the workshop training on community-based disaster risk analysis. The result is a 'map' of the village's disaster risks. To move towards participative village disaster risk mapping, based on a geographical informa-



Image: DREaM UPN

Participatory mapping using global information system for village preparedness team



Student first aid training

tion system (GIS), we then carry out GIS training for disaster risk map arranging. Community representatives from 12 villages, plus teachers' representatives are involved in this training. The training then goes into a further phase, which seeks to deepen the skills of participants at regency level, in order to increase their ability at using GPS, decide the element, mapping model, schedule and location of the activities, and also the future needs. The activity starts with the group making and choosing the location, and setting a time limit. The goals of this activity are to combine the mapping result, share results in order to find the other elements, and make corrections..

Lesson 2: Disseminating the knowledge of PRBBK

This is aimed at strengthening the capacity for disaster risk recovery (known as PRB in Indonesia) in the community through activities such as, firstly Training for Community Based on Disaster Risk Management (PRBBK) and Emergency Care and Handling of the Patients (PPGD) for the community and, secondly, training facilitators of PPGD. PRBBK and PPGD training was conducted in 12 villages with 419 participants.

Training the community in PPGD and PRBBK has strengthened the disaster management capacity of the communities of the Mount Kelud region. PPGD ability is an important skill that must be known and studied continuously. On the other hand, in PPGD the understanding between communities and medical principals must be understandable. With this training, we expect the ability of the medical community to be transmitted to others. Facilitator training has produced 53 skilled local facilitators. Furthermore, the facilitators have been able to disseminate their knowledge to 419 people (77 women and 329 men), the participants in the PRBBK training. All those who participated in the PRBBK training have now been organized into Standby Village Teams.

Lesson 3: Standby Village Teams

The establishment and strengthening of these Village Standby Teams has been done through a series of activities and closely related with the previous activity, PPGD and PRBBK village workshop training. The process used to form these standby teams incorporates standby team workshops, field rehearsal and simulation. This activity has sharpened the knowledge of Village Preparedness Teams about volcanology, and strengthened their commitment to building awareness of DRR in their villages.

The workshop was attended by the whole team of 12 villages and was held at the Observation Post of Mount Kelud, Margomulyo hamlet, Sugihwaras village, Ngancar sub-district, Kediri District. The rehearsals are carried out order to establish a brotherhood between the village standby teams around Mount Kelud, to increase the capacity of the standby teams in PPGD by holding exercises together, and to provide clear information about the condition of Kelud.

The capacity of the 419 standby team members is further enhanced by standby team workshops, field rehearsal, and simulation. Until now, the standby team has been able to coordinate a simulation in five villages with the participants of every village in general, followed by 125-200 local residents, including vulnerable groups, both pregnant women, children, and elderly people.

Results

This programme has resulted in significant changes in beliefs, attitudes, behaviours, practices, ideas and



Image: DREaM UPN

No string puppet show training for disaster risk reduction programme at school

people's confidence in understanding the substance of disaster risk in the eruption of Mount Kelud. The important changes in public confidence in the face of such risk come from the certainty that disaster is not just a fate, but a result of our inability to manage threats and vulnerabilities. So, to reduce the risks that come from a volcanic eruption, communities should change their behaviours and practices.

The changes in behaviours and practices related to disaster risk reduction came about both directly and indirectly. On the society side, preparedness for disaster risk reduction in the shape of the Village Standby Teams has already materialized. These teams have joined together as 'Anchors Kelud', Redi Community Network (Mountain) Kelud.

The community's enthusiasm for rehearsal action has already been showed. This enthusiasm can also be seen in the changes in behaviour and practice of village officials and other actors who deal directly or indirectly with disaster management. In the community radio station, for example, changes in behaviour and practices have meant that information on risk reduction has been incorporated into radio broadcasts. These changes are for the long term and there is some indication that their adoption will be widespread. From village to district administration level, the behaviour changes are demonstrated by their involvement in community dynamics.

Strong and significant changes have occurred in the community, but on the other side, local government has not changed significantly as yet, because the programme has not yet targeted those

institutions. In the future, we plan that district government agencies will be the main target group.

The issue of human rights, particularly political injustices that lead to gender issues and conflicts have become part of cross-sectoral concern in the region of Mount Kelud. Based on the 'glasses' of disaster risk reduction, these phenomena play a real role in the vulnerability of society. In fact, all forms of vulnerability are closely related and can create new forms.

The substance of disaster risk analysis (the threats, vulnerabilities and capacities) were explained in any activities at district level workshops and training in the villages and schools in the disaster-prone region (KRB) of Mount Kelud. Risk analysis can be enlightening for the government and society, because the analysis of disaster risks, such as poverty, social injustice, political, gender and the environment always appears as the main and basic cause of vulnerability, so the risk analysis itself can be used as a tool for resolving the problem.

Strengthening the understanding of this risk reduction has a positive impact on other issues that occur in the community, such as control and access issue to land due to differences in political attitudes. There are a few examples of this, such as the preparation of the GIS-based disaster risk map.