

The Monitoring of Merapi Volcano Activities through the Community Radios

[Flaming lava melting down toward south-east with huge volume and high acceleration. The gliding distance was approximately 5 kilometres. The wind blew eastward. People of Deles cluster of Kemalang Village and its adjacent must come down hurry to the save point area.]

Through communication radio, this warning is delivered by volunteers who are observing Merapi Volcano. Few seconds later villagers were running down to safe points that have been set up before to avoid the flaming clouds that came with hot clouds fell down.

Merapi (2.980 metres a.sea level), located between Yogyakarta and Central Java Province, is among the most active volcano on earth. Merapi's character is hard to predict. The melting lava that came with deadly hot clouds could kill thousand of lives at Merapi's slop. It only took less than 10 minutes for the flaming lava and hot clouds to reach villagers residentials.

Government through BPPTK (Bureau of Investigation and Development of Volcano Technology) has prepared monitoring system for Merapi's activities. There were four monitoring posts that have been set up at strategic points at Merapi slope. These posts regularly deliver report to Directorate of Volcanology and Geological Hazard Mitigation.

There is problem. Reports from monitoring post took some valuable time to reach villagers in the most critical areas. The cause is fatal. On 22 November 1994, Kaliurang post reported the sight of flaming lava with hot clouds moving toward westward of Merapi slope. The report went to BPPTK at 7.30 am. Next, BPPTK forward the report to Sleman Regency who forwarding the information to Pakem Subdistrict. Afterwards, Pakem Subdistrict deliver the report to Hargobinangun village. At 10.00 am, alarm was on but it was too late. Two hours before, TURgo village which located on Hargobinangun village had been demolished by lava and hot clouds from Merapi. Dead toll was 43 lives. Thousand of people took refuge with limited facilities.

Villagers around Merapi slope had their own way to cope with their dangerous situation. Through local knowledge which inherited from many generations, they can read nature sign to predict Merapi activities. The moving of animals that came down from Merapi is one of the sign for the villagers to take shelter in another area.

In reality, part of that nature sign could not reliable anymore as an early warning system in Merapi Volcano. The damaged ecosystem around Merapi has caused the extinction certain animals.

Some villagers in Merapi slop still believe in opinion from certain traditional figures who could lead them in critical times. One of popular figures is Mbah Maridjan who worked as Merapi's caretaker for the Sultanate of Yogyakarta. Yet some young people prefer other source information. In consequence, when Merapi erupts, people facing uncertain situation. Which source of information should they trust?

In Merapi rim, there are at least 3 community radios, i.e. Radio Lintas Merapi (Deles Cluster of Sidorejo Village, Kemalang Subdistrict, Klaten, Central Java,) Radio K (Ketunggeng Village, Dukun Subdistrict, Magelang, Central Java), and Radio Merapi-Merbabu Community (MMC) (Kuncen Cluster of Samiran Village, Selo Subdistrict, Boyolali, Central Java). All radios are actively reporting information to their communities, especially at times when Merapi showing higher level activity.

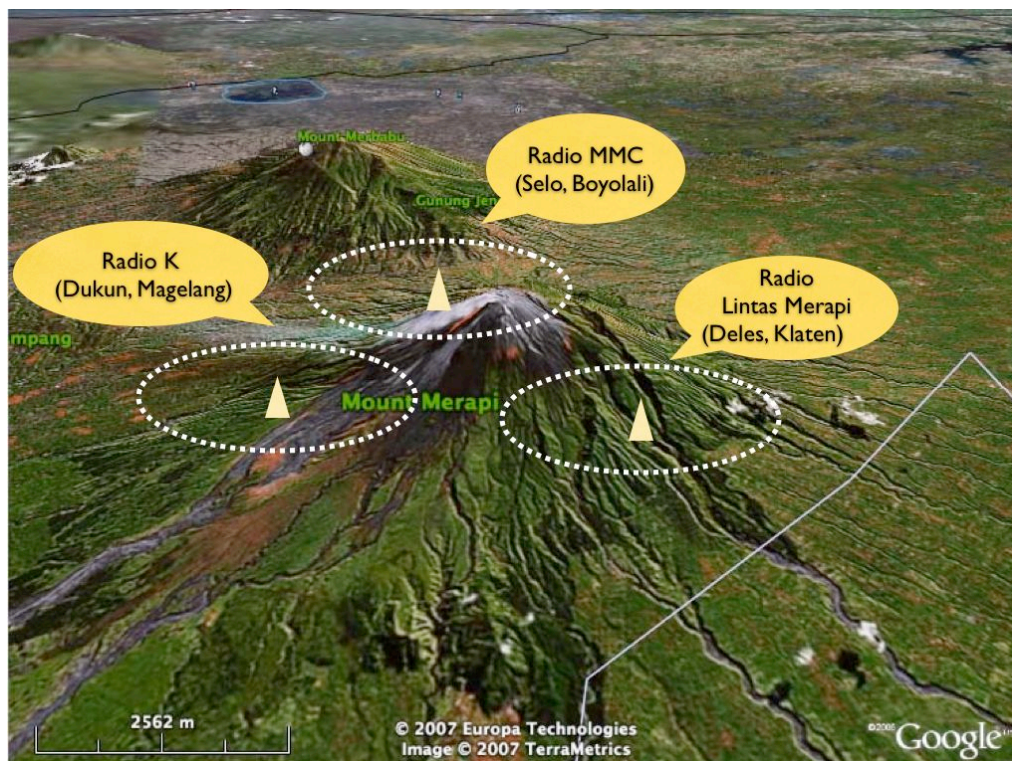


Figure 1

The Location of Community Radios in Merapi Circle

Those radios have established a network with some NGOs to make an information system called Merapi Rim Information Network (Jalin Merapi). Through Jalin Merapi, villagers at Merapi slope could receive information faster than before therefore they could take faster action. Information from southeast, west and north could be monitored simultaneously.

Each community radio has been equipped with broadcast transmitter and communication radio. Information from field reported via handy talky unit to the community radio's studio and broadcast to the villagers through radio program. The source of information is not only from Jalin Merapi's volunteers but also from SAR officers, Indonesia Red Cross volunteers, Indonesia Organization of Amateur Radio (ORARI), and another Indonesia Citizen Radio organization.

The radiowave of community radios in Merapi circle are working on the Frequency modulation (FM). According to the national regulation, these radios is using some channels, i.e. 107,6-107,7, and 107,8 Mhz. Powered by 50 watt of radio transmitter, these radios could reach the area within the radius of 5-10 kilometres from the studio's site.



Figure 2

Guardpost of Jalin Merapi in Deles, Sidorejo, Klaten, Central Java

The Convergence of Technology

Jalin Merapi not only provide information to villagers at Merapi sloep, but also to other parties which have worked in same area in monitoring Merapi activities. This information then upload in the website to make it more accessible for anyone anywhere. Aside from field-update, Jalin Merapi website has interactive feature such as online messenger, discussion forum, maps and databases. Field-update are delivered by handy talky and tag-message from cell-phone. Each tag-message sent to Jalin Merapi automatically displayed on website's front page.

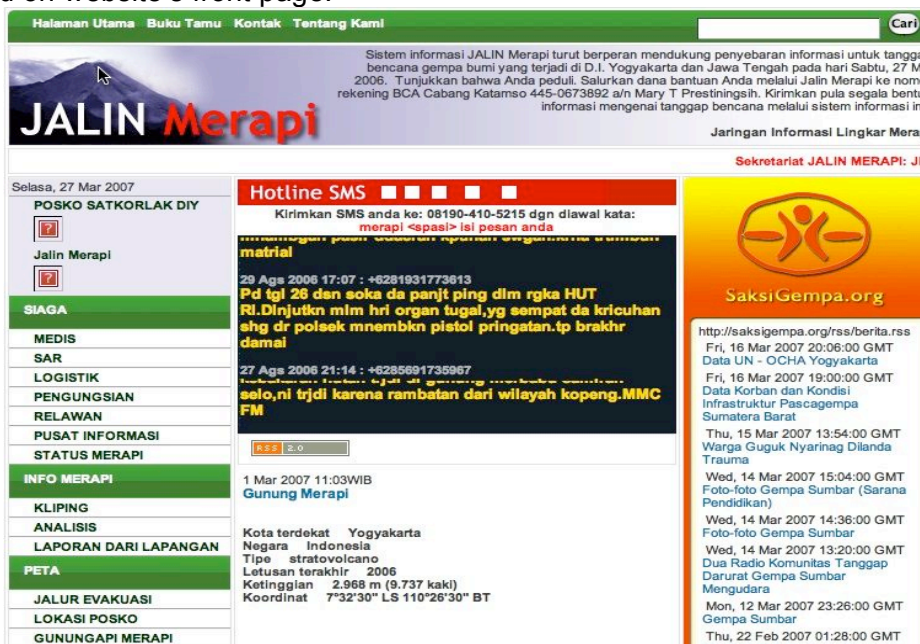


Figure 3

Jalin Merapi's Website <http://merapi.combine.or.id>

Some villagers in Merapi slope who lived in the city and abroad were monitoring and frequently ask about their villages' situation by online messenger. Others were posting complaints and request of help by using tag-message. That information was then used by others who are willing to help.

When rain of dust fell on west side of slope (in Magelang Regency/District), a tag-message from one villager said that they need maskers in large quantity. Afterwards, some NGOs sent off masker in that area. In other occasion, a number of villages in south-east slope had difficulty to meet water supply because the springs covered by Merapi's materials. Villagers then informed Jalin Merapi and soon clean water arrived from an international institution.

Jalin Merapi has taken a role in bridging information from many sources in Merapi Mountain. In that matter, it is not enough to rely on one technology and media. It's important to collaborate (integrate) different kind of technology and media. Jalin Merapi has also been using some advance technology and modern knowledge to work side by side with local technology in Merapi.

*COMBINE Resource Institution
March 2007*