

Learning from the Earthquake 2 September 2009

Strong earthquake occurred in the southern areas of West Java on the 2nd Sep, and caused harmful impacts to the people and the facilities being close to the epicentre. The tremors were also felt in the Pilot Area of Java, and triggered a chain reaction amongst the partners of GTZ IS GITEWS who are establishing early warning mechanism.

Later, the experience of the earthquake was taken as an opportunity to learn the spontaneous reaction of the communities in Bantul (within the PA of Java) for internal use. The learning is conducted by speaking to the individuals directly experienced in this event.

Bantul which is in the process of establishing a local warning mechanism, community preparedness mechanism, communication equipment for TEWS installed and modestly running in the last year particularly was challenged for a proper response towards the earthquake. The reaction of its stakeholders at different levels provides reflections which is useful for further discussions and improvement.

The below is a summary of the chronological reactions by the formal and non-formal institutions, the local authority and the community.

Earthquake occurred on the 2nd Sep. 2009

Time: 14:55 PM
Location: 8.24 LS – 107.32BT
Magnitude: 7.3 SR
Depth: 30Km

The Chain Reaction of the Local Stakeholders in Bantul District

Time	Reaction of Local Institutions	Reaction of Community	Equipment	Remarks
EQ at 14:55	<u>Pusdalops</u> (Subardo and Rini were on stand-by duty from 07:30–19:30): - Experience tremors for about one minute - Felt stunned and panicky - Subardo received radio HT call from SAR	<u>Community in coastal area:</u> - All felt tremors for about one minutes - About 80% of the locals leaved their homes, and stayed outside - About 10 people approached SAR in	<u>At Pusdalops:</u> - No damage found in Pusdalops building - Electricity remained on	

¹ PBK is an operational division attached at and located in front of Kesbangpollinmas. PBK runs 24/7.

	<p>(Taufik), and he asked Taufik to wait for information from National Warning Centre</p> <ul style="list-style-type: none"> - Rini sought for information in the internet (speedy) at BMKG homepage, but no news displayed <p><u>Kesbangpollinmas</u> (Dwi Daryanto from home) via mobile phone:</p> <ul style="list-style-type: none"> - Called Pusdalops, and asked Subardo to take control - Called SAR (Suroyo) in Parangtritis to observe natural sign on the beaches - Drove to Parangtritis to meet SAR <p><u>PBK</u>¹ (Fire Brigade):</p> <ul style="list-style-type: none"> - 3 personnel (Eko, Suhardi, Saiful, Darno) of PBK arrived at Pusdalops to assist. 	<p>Parangtritis, and asked questions about EQ and tsunami</p> <ul style="list-style-type: none"> - Some people remained on the beach <p><u>SARs Bantul</u></p> <ul style="list-style-type: none"> - SAR member of Depok (Purwanto) first talked on the radio (162.55MHz) - SAR Parangtritis (Taufik) called Pusdalops via radio and asked for <i>Info Gempa</i> (EQ information) - SAR Bantul communicated each other about EQ and the general situation of people - SAR Parangtritis (Taufik and Suroyo) initiated coordination of the 4 SAR Posts via radio, and asked SARs to calm down people 	<ul style="list-style-type: none"> - Radio HT connection was on at 162.55MHz - Landline telephone was on 	
15:00	<p><u>PBK</u> (Eko):</p> <ul style="list-style-type: none"> - Checked TV station of SCTV and found a pop-up message regarding EQ issued by BMKG <p><u>Pusdalops</u>:</p> <ul style="list-style-type: none"> - Subardo via radio contacted SARs Parangtritis (Suroyo), Pandansimo (Ngadiman) and Depok (Purwanto) and reminded to observe the beach from an elevation - Rini took picture of the pop-up message on TV to read for later public announcement - Subardo looked at the Sektor Bahaya Tsunami Reference Map, particularly on the 7.1 – 8.4 RS. He did not measured the latitude and longitude (due to being 	<p><u>SAR members</u>:</p> <ul style="list-style-type: none"> - Observed for natural signs on the beach from an alleviation and from the ground level of the Post <p><u>Community</u></p> <ul style="list-style-type: none"> - People individually approached members of SAR and given updates regarding <i>Info Gempa</i> - Neighbours sought information to WG members and Local Facilitators in Bantul - Heard announcement from Pusdalops via SAR's speakers² in Parangtritis, Parangharjo, Depok (clear voice), Pandansimo and Pandansari (unclear voice/distorted), as well as via speakers in the mosques, e.g. Kuwaru, Bubakan (unclear voice/distorted)³ 	<p><u>Pusdalops</u>:</p> <ul style="list-style-type: none"> - DVB (replacement of Ranet) was still dysfunctional, despite if being repaired on 01.09.09 (by BMKG personnel) - Electricity, internet connection, TV remained on - 3 radio channels: Satlak/SAR (VHF 162.55MHz), Police (UHF 440.25MHz), Jaring Komunikasi SAR (VHF 161.85MHz) were on. The channel to BMKG 	<p>PA Java (Benny)</p> <ul style="list-style-type: none"> - Received <i>Info Gempa</i> from BMKG - Disseminated immediately via SMS to his Partners in Bantul: Kesbangpollinmas (Jundan, Dwi Daryanto), SAR (Ayyub, Taufik), WG (Wahid), Local Facilitator (Jakirman, Fadil, Sukijan)

² Speakers in Parangkusumo, Samas and Tirtomulyo were silent. The frequency at Tirtomulyo was altered during PMI drill and not fixed.

³ The operation of the speakers in the other few mosques was unknown, due to lack of contact persons in those locations.

<p>15:05</p>	<p>rushed)</p> <ul style="list-style-type: none"> - He opened the Operational Manual on page <i>Prosedur Diseminasi WASPADA</i>, and read quickly - Subardo nervously activated the Command Control, and started announcing '<i>Di sini Pusdalops Bantul (2x), informasi dari BMKG, terjadi gempa berkekuatan 7.3SR, kedalaman..., pada lintang ... bujur ..., berpotensi tsunami, Masyarakat harap Waspada, Masyarakat harap Waspada</i>' - Phone continuously ringing but was not picked up; keeping communication via radio with SARs in Parangtritis instead, Pandansimo and Depok - Monitored communication between SAR Bantul (Taufik), SAR Kebumen (Bambang) and Navy Kebumen (Benny) - Info Gempa popped up from the private provider of Air Putih <p><u>Kesbangpollinmas (Dwi Daryanto):</u></p> <ul style="list-style-type: none"> - Received SMS of <i>Info Gempa</i> issued by BMKG from GTZ PA Java (Benny) - Forwarded the SMS to Vice Bupati, Sekda, Asisten I, and head of Kesbangpollinmas - Embarked to Parangtritis beach and met SAR <p><u>Sekda Bantul (Gendut Sudharta):</u></p> <ul style="list-style-type: none"> - Called and asked Dwi to report to him on any condition on the beach <p><u>BMKG of Regional Yogyakarta (Budi Waluyo):</u></p> <ul style="list-style-type: none"> - Called Pusdalops via radio (161.85MHz), 	<ul style="list-style-type: none"> - People reacted calmly to the announcement. Some people were suspected not to hear the announcement due to distance and wind blow (maybe why some people remained on the beaches) - Stayed outside of their homes <p><u>WGs and Facilitators:</u></p> <ul style="list-style-type: none"> - Provided information to the people in their surroundings 	<p>was not connected.</p> <ul style="list-style-type: none"> - Yahoo messenger 'Pusdalops.Bantul@yahoo.com'⁴ was not activated <p><u>Community:</u></p> <ul style="list-style-type: none"> - Speakers (voice) were used to announce guidance of <i>Waspada</i> - Siren (sound) was intentionally not activated by Pusdalops Bantul, as there was no urgency for evacuation, and to reduce panic in the community 	
---------------------	---	--	--	--

⁴ This Yahoo messengers are meant for communication between Pusdalops Bantul and Kebumen

	<p>but not replied. SAR (Taufik) answered BMKG instead</p> <ul style="list-style-type: none"> - Asked SAR to observe for natural signs on the beach <p><u>WGs and Local Facilitators:</u></p> <ul style="list-style-type: none"> - Immediately disseminated the <i>Info Gempa</i> (received from PA Java) to the people in their surrounding 			
15:14:07	<p>Kesbangpollinmas (Jundan, Dwi Daryanto), SAR (Ayyub, Taufik), WG (Wahid), Local Facilitator (Jakirman, Fadil, Sukijan) received update of Red EQ alert (from PA Java)</p>	<p><u>SAR Bantul (Taufik):</u></p> <ul style="list-style-type: none"> - Confirmed Pusdalops via radio that after 30 minutes no natural sign observed 	<p>Communication via radio HT continuous</p>	<p><u>PA Java:</u></p> <ul style="list-style-type: none"> - Received 'Red EQ alert (7.4M, depth:60km) in Indonesia (Bandung) 2/9 07:55UTC, Pop100km:1.6m,tsunami 2.5m: 11min, Christmas Island www.gdacs.org–JRC Sender: +44779790997 Sent: 10:14:07 02-09-2009RED EQ Alert - confirmed tsunami 2.5m, - Ddisseminated to Partners in Java listed above
16:06:05	<p><u>Pusdalops:</u></p> <ul style="list-style-type: none"> - Received updates regarding All Clear message from TV SCTV - Subardo once again used command control to announce 'All Clear' to people via SAR and mosques' speakers: <i>'Di sini Pusdalops Bantul menginformasikan pesan dari BMKG bahwa gempa dengan</i> 	<p><u>Community:</u></p> <ul style="list-style-type: none"> - People in Surobayan expressed gratitude to Pusdalops via radio - People returned to their normal activities <p><u>Local Facilitator (Jakirman):</u></p> <ul style="list-style-type: none"> - Confirmed that people on the coast in his area calmed and were back to their 	<p>Communication via radio HT continuous</p> <p>Information from internet came later</p>	<p><u>PA Java:</u></p> <ul style="list-style-type: none"> - Received All Clear message from BMKG and forwarded to all partners listed above

	<p><i>kekuatan, berpotensi tsunami sudah dicabut. Masyarakat harap tenang dan beraktivitas seperti biasa.'</i></p> <ul style="list-style-type: none"> - Kesbangpollinmas (Jundan, Dwi Daryanto), SAR (Ayyub, Taufik), WG (Wahid), Local Facilitator (Jakirman, Fadil, Sukijan) received update of All Clear message from PA Java 	normal activities		
--	--	-------------------	--	--

Highlights for Future Improvement:

- Weak information flow from NWC-BMKG to Pusdalops-24/7 Bantul due to
 - o DVB – the replacement of Ranet, was not operational yet
 - o No mobile phone (particular number) at Pusdalops dedicated to link to NWC-BMKG that slowed down the reception of EQ info from BMKG
 - o Quality of internet connection is poor (causing late reception)
- Personnel on duty/stand-by at Pusdalops is not adequate
 - o Only 2 persons at one shift,
 - o Operators at Pusdalops need improved skills to handle communication traffic and other equipment (training and exercise are needed)
- Pusdalops SOP partly carried out::
 - o Reference Map was not checked,
 - o Operational Manual was used as reference for decision making process,
 - o No list of contact persons/numbers (Bupati, Sekda, Police, etc.) available.

- SOP at Community is partly carried out:
 - o People were still on the beach,
 - o People were out of buildings/homes and proactively seeking information.
- SAR Communication Network 'Selatan-Selatan' reacted well and played important role in communication flow between districts and amongst members
- WGs and Facilitators spontaneously reacted and are active in dissemination of updates

Sources of Information:

- Dwi Daryanto (Kesbangpollinmas)
- Subardo (Pusdalops)
- Muhammad Ayyub (Bantul)
- Jumakir (Kesbanglinmas/SAR)

Prepared by
Benny Usdianto, GTZ IS GITEWS
03.09.2009