

No. 13 | January-March '10

GTZ-GITEWS | Editorial

Capacity Building in Local Communities German-Indonesian Cooperation for Tsunami Early Warning System

Project extension |

02



Results from Padang assessment |

07



Exchange program |

08



Community awareness in Bali |

09



- 03 | News from Pilot Areas
- 06 | Our Partners
- 10 | Media workshop
- 11 | Publications
- 12 | From our team



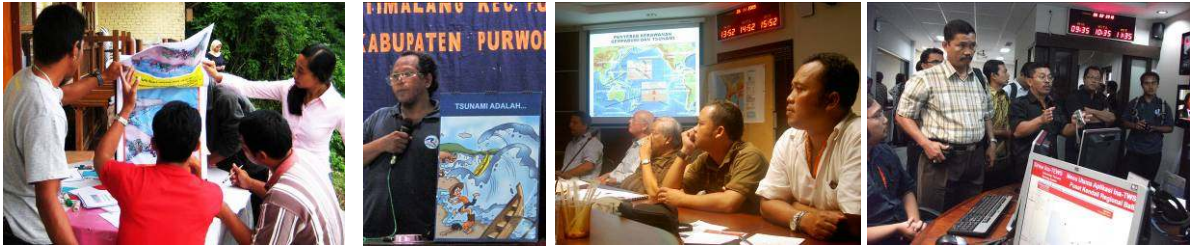
Editorial

The focus of the German - Indonesian cooperation for tsunami early warning is shifting more and more towards solving practical questions related to the sustainable operation and maintenance of the system. Key challenges relate to ensuring financing, defining organizational issues, and continuous capacity building. The link between the technical system and the community at risk is considered to be one of the key factors of a functioning warning system. As the ongoing transition from the implementation to the operation phase of InaTEWS will not be finalized until March and to ensure thorough testing of the system, the GITEWS project has been extended for one more year.

The project "Capacity Building in Local Communities" is part of the extension program and will continue until the end of 2010, with the testing and the introduction of the new warning scheme. One of our main tasks will be integrating the new warning scheme into the "products" developed so far and supporting our local partners to update local warning mechanisms and procedures. The remaining time is also seen as a valuable opportunity to prepare the stage for future capacity building.

Nine more months to go! We are looking forward to continuing the cooperation with all of you.

Best regards
Harald Spahn, Team Leader GTZ-IS



Training of community facilitators / exchange program

Nine more months to go!

Capacity building in local communities – 3rd phase

The extension of the project until the end of 2010 provides us with the opportunity not only to continue, consolidate and finalize important work processes related to the warning and response system, but also to move on with initiatives for further up-scaling and future capacity building.

The agenda for the 3rd phase

In the upcoming months, an updated DSS version will be installed and tested. With the updated version, the new warning scheme will be introduced. After a testing period it is expected that the new warning scheme will be put into operation sometime later this year.

Advisory (0-0.5m)	I	Move away from beaches and rivers!
Warning (0.5-3m)	II	Evacuation – partial
Major Warning (>3m)	III	Evacuation – full

The new warning scheme will introduce a modified warning sequence, new warning levels, different types of warning messages and new contents. With one advisory and two warning levels, the new scheme will also increase the possibility of differentiated reaction at local level. It will be one of our priorities to inform and train our partners in the pilot areas accordingly and to support them to update local SOPs and manuals. In addition, there is still an urgent need to document the actual status of the warning chain and the new warning scheme in a comprehensive way to provide clear references for local governments and other stakeholders in tsunami early warning.



The recently implemented Exchange Program was very much appreciated by all partners involved as it helped clarify open issues regarding the link between the national and local level and contributed to better understanding of the system itself. We will continue supporting this kind of dialogue.

The progress in the early warning mechanism and evacuation planning in the pilot areas, together with the training of community facilitators, has now set the groundwork for increased community awareness activities. We will support our partners to spread the message around.



In all pilot areas, new legal and institutional frameworks are under construction. Several districts are setting up local disaster management agencies and preparing local legal regulations on disaster management and tsunami early warning. In Java, a number of districts decided to join forces by building up a network for tsunami early warning and preparedness. We will use the remaining time to help consolidate these initiatives.

Significant progress has already been made in documenting the tools, lessons learnt and experiences deriving from our project. Some documents are still under revision because we need to integrate the latest developments or we are still observing and evaluating ongoing processes. We are confident that we are able to finalize the "Tsunami Kit" at the beginning of the second half of the year.

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Consultation meeting on evacuation planning in Sanur / Participants of exchange visit to Bali



Bali

Further progress had been made to implement the tsunami warning chain between province and district level. The media will also play an important role in forwarding warning and guidance to the community at risk. Further on evacuation planning and awareness campaigns in the three focus areas of Kuta, Tanjung Benoa and Sanur are on the agenda.

Warning chain framework and procedures agreed

As stated in the Governor Decree 31/2009, the Emergency Operation Centre (PUSDALOPS) at province level is the official institution mandated to provide tsunami warning services to Balinese institutions and communities at risk. However, coordination and links with the Balinese districts remained an open question. In a series of meetings, a common framework and the role of the districts in the tsunami warning chain in Bali were agreed on:

1. PUSDALOPS has the mandate to implement the warning chain in Bali. This is the institution that receives warning messages from the National Tsunami Warning Centre at BMKG, makes decisions on evacuation, and sends guidance to other institutions and the general public. Decision-making is based on a SOP.
2. If a district is ready to assume these functions for its jurisdiction, it may take over the task from the province. However, there must be assurances that the district will follow the same policies as the province.
3. Each of the tsunami prone districts will appoint an institution responsible for receiving warnings and disseminating them promptly to the community at risk.
4. Districts will develop internal mechanisms and procedures for warning dissemination.

5. Districts will mobilize the necessary resources to support the warning chain, according to guidance from PUSDALOPS.

It was also agreed that the provincial PUSDALOPS will support the districts to develop the procedures and provide orientation on InaTEWS to local authorities.

Sanur Evacuation Planning

The initial draft of the Sanur tsunami evacuation plan has been completed by the working group under the coordination of the Denpasar Disaster Management Agency (BPBD). The draft adopts a 5-step approach, which was tested and validated in Kuta in the past year. The initial draft has been approved by the local authority. The local authority recommended holding community meetings to disseminate the draft plan and to obtain input from the communities for further improvements.

Evacuation procedures are similar to the ones developed for Kuta. Several hotels were identified which meet criteria for vertical evacuation of guests and staff. The strategy also follows a two-zone concept, in line with the future warning levels.

Assembly points have been identified for each of the three villages in Sanur where people can obtain first aid and basic services in a tsunami emergency.

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Exchange Visit

The last of the exchange visits between the pilot areas has been conducted in Bali.

Working groups from Java and Padang visited Bali for three days.

The visit led them to Kuta to discuss evacuation procedures and the involvement of civil society organizations in the evacuation planning process.



In Tanjung Benoa, the cooperation between the tourism sector and local communities was on the agenda. A visit to the PUSDALOPS provided an opportunity to discuss SOPs and dissemination technologies.

The exchange visit was followed by a one-day working meeting with representatives from all three pilot areas to discuss experiences on evacuation planning at grassroots level.

Next steps in Bali

Finalization of the evacuation plan in Sanur. Documentation of processes and results from the Kuta and Sanur evacuation planning exercises. Follow up on development of district procedures for TEW. Support of further community awareness events in Tanjung Benoa, Kuta and Sanur.



The deputy mayor and seminar participants at the presentation of the assessment results / PUSDALOPS container / BPBD Padang personnel

Padang

From the results of the assessment on early warning and tsunami preparedness after the earthquake on 30 September 2009, and from the exchange visits to Jakarta, Bali and Java, we learned many lessons, which are now being followed up in Padang. The last phase of the GTZ IS-GITEWS Project will focus on strengthening PUSDALOPS, as well as on dissemination and community outreach, and synchronization of tsunami early warning across the province of West Sumatra.

Follow up from the assessment

A seminar to present the results of the assessment of early warning and tsunami preparedness after the earthquake on 30 September 2009 was conducted on 28 January. The deputy mayor of Padang and about 20 stakeholders from government institutions, NGOs, and INGOs participated. The assessment results, as described on page 11, gave a clear message and recommendation to Padang with regards to the delegation of authority for TEW.



In general, all participants including the vice mayor agreed to give the mandate for decision-making and dissemination of an official call for evacuation to PUSDALOPS. But the question is: is PUSDALOPS ready to take on that responsibility? This question is related to legal issues as well as human resources concerns. Also, it has to be made sure that PUSDALOPS has all the technical equipment that is required to receive warnings and disseminate guidance to the general public.

After the seminar, TPSPB members sat together to define the next steps.

Working Group for province-wide tsunami early warning

Padang has a working group (called TPSPB) to design a system of disaster preparedness for Padang City. At provincial level, the DDR Forum performs a similar task, but with province-wide coverage.

As one of the positive effects of the exchange visit to Jakarta, a joint working group between Padang city and the province has been established. This group aims to document the concept of tsunami early warning for the province of West Sumatra. The documentation starts with what has been done in the city of Padang. The ultimate goal is to synchronize TEW between the city and the province, as well as other coastal districts in West Sumatra.



The first task for the group is to develop a concept document on how the province will serve TEW across West Sumatra.

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Update from local partner BPBD

To improve the dissemination system, equipment including RABAB and repeaters have been moved back from the Disaster Management Agency (BPBD) office to the Indosiar station, which is located at the top of Gado-Gado Hill. The decision was taken in view of the greater coverage of dissemination from this location.

15 new government personnel have recruited and are now operating the PUSDALOPS. From May 2009 to February 2010, PUSDALOPS was operated by give volunteers and only 2 BPBD staff on each shift. With the new recruited personnel, the PUSDALOPS will be run by five BPBD staff, with the volunteers on standby as the first response team.

Training for PUSDALOPS operators and the first response team will be held in April 2010. The PUSDALOPS operators will be trained in disaster management, InaTEWS, data management, communication, and reporting. The first response team will be receive training in rapid assessment, first aid, shelter, communications, etc.

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Next steps in Padang

(1) Socialization of the local regulation on tsunami early warning (TEW Perwako), (2) Documentation of tsunami early warning in West Sumatra, (3) Training for PUSDALOPS operators



Participants of 14th Pilot Area Java workshop / Local facilitators in Ciamis discussing activities for 2010

Java

The Java pilot area will make use of the extension of the project until end of 2010 to continue implementing community events and pursuing inter-district cooperation activities. The Tsunami Forum is one focal point, which is expected by participating districts to serve as a forum for sharing ideas, awareness and resources for managing disaster preparedness, including establishing tsunami early warning.

Proposed Activities in 2010

Following the training for local facilitators (ToF) in 2009, a series of meetings was held with partners in the Java pilot area (Bantul, Purworejo, Kebumen, Cilacap and Ciamis districts) in February 2010. It was agreed that the local facilitators and the working groups would work in close cooperation to organise community events to increase tsunami awareness. These community events will be followed by the development of evacuation planning in selected villages in the 5 districts. This will include installing dissemination technology (local sirens) in these villages, and linking them to the local emergency operation centre (PUSDALOPS).

To facilitate the implementation of those activities in Purworejo and Ciamis, the local working groups would like further assistance from the experienced working groups of Bantul, Kebumen and Cilacap. GTZ continues to provide support in the form of technical advice and materials.

This initiative constitutes part of the inter-district cooperation approach. Attention is also being given to institutionalization of the cooperation into a tsunami forum. Other agreed activities, also considered part of the tsunami forum, are the strengthening of the communication network of SAR (Search & Rescue) groups, peer-facilitation of training, and exchange visits.

Exchange Program

An exchange program visit to the pilot area of Bali was carried out on the 4 - 6 February, in which 15 representatives of partners from the Java pilot area together with 10 others from Padang participated. The participants met the communities in Tanjung Benoa and Kuta villages, observed the mangrove area, visited the provincial PUSDALOPS, and observed the implementation of dissemination activities at a school and in a village.

From the visits, the participants from Java noted some differences and applicable ideas in implementing preparedness measures. They are encouraged to try out some of the initiatives implemented in Bali for replication in Java. Some of the initiatives have been discussed at internal follow-up meetings in each of the five districts.

Another visit to Padang is envisaged by the partners from Java. This purpose of the visit is to learn from the experience of the local community and local authority reaction to the recent catastrophic earthquake in Padang on 30 September 2009.

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BPBD supports Tsunami Forum

The Tsunami Forum is seen as a strategic initiative to assist in strengthening the Central Java Disaster Management Agency's (BPBD) implementation of the tsunami early warning system on the south coast of Java. In the last two workshops, the BPBD was consistent in providing ideas and support the institutionalization of the Tsunami Forum. The BPBD has also indicated its willingness to provide further support, including relevant training, to the districts in need.



Proposed Tsunami Forum activities

Exercising the Local EWS Components

Exercising or testing the implemented components is an important last step when implementing tsunami early warning. The districts in the pilot area of Java are considering exercising the local warning chain and the preparedness mechanism in the community upon the completion of project activities in late 2010. At present, the working groups are exploring options to implement the exercise, and are open to cooperation with other interested agencies.

Next steps in Java

Installation of dissemination technology and support of community events will continue, particularly in Bantul, Kebumen and Cilacap. In the meantime, Purworejo and Ciamis intend to begin with local hazard mapping. The 15th Workshop will be held on 4 - 6 April.



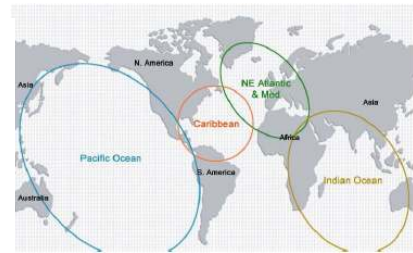
Members of Working Group 6 / Tsunami Early Warning Systems worldwide



United Nations
Educational Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission



Working Group 6 - ICG/IOTWS Community Preparedness, Emergency Response & Mitigation

In 2005, during the 2nd annual Session of the ICG/IOTWS in Hyderabad, India, Working Group 6 was added to work on mitigation, preparedness and response. The group's terms of references were introduced during an intersession meeting in Putrajaya, Malaysia in 2007, chaired by Michelle Vielle from the Seychelles and Vice-Chair Che Moin from Malaysia.

In August 2009, the newly elected chair, Irina Rafliana from Indonesia, led the subsequent intersession meeting in Jakarta, directing the group to develop a more concise action plan, emphasizing interrelations with other Working Groups, and to particularly focus on capacity building in tsunami preparedness and emergency response. The group is developing the following outputs:

(1) Working Document

"**Preparing the Last Mile of the Indian Ocean Tsunami Warning System**" is a collaborative document which looks at learning experiences and good practices from countries around the Indian Ocean countries in developing TEWS, the importance of assessing risks, challenges in tsunami warning dissemination, the role of media in warning dissemination, useful tools in developing community preparedness, and lessons from the first Indian Ocean Wave Exercise 2009. The work is led by Amir Mohyuddin, Director Mitigation and Preparedness, National Disaster Management Authority, Pakistan.

In the near future, this document will provide member states with a sound reference for further development of their community preparedness and response strategies, and even more importantly, will help other countries to overcome barriers to developing their degree of preparedness at all levels.

(2) Contribution to Inter ICG Report on Disaster Management and Preparedness

At the ICG/IOTWS Steering Group Committee meeting, held in Perth in December 2009, ICG/IOTWS Chair, Professor Jan Sopaheluwakan appointed the Chair of Working Group 6 and Working Group 3 to the Task Team 2 of the *Inter-ICG Tsunami and Other Related Hazards Warning System (TOWS)* to work on an **Inter-ICG Report on Disaster Management and Preparedness**, teaming up with related working group from the ICG/NEAMS, ICG/PTWS, and ICG/CARRIBE WS. The Chair of ICG/IOTWS Working Group 6 was also appointed by the IOC UNESCO Tsunami Unit to coordinate and chair this task team.

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Contribution from Indonesia

A regional training was conducted in Bangkok in November 2009 under the coordination of WG 3 Chair, Professor Sam Hettiarachchi, and Russell Arthurton, who is also the Chair of the Community Preparedness WG for ICG/NEAMS TWS. As Chair of WG 6, Irina Rafliana had the opportunity to deliver a lecture on community preparedness and hands-on training in developing evacuation maps, derived from the hazards, vulnerability and capacity profiles developed nationally by the participants. Participants from 14 countries, representing disaster management offices, research institutions, universities, and national meteorological agencies were pleased with the overall approaches introduced and the assistance given to better understand the relation between risk assessments, preparedness, mitigation and policy making.

Contribution from GTZ-IS GITEWS to Working Group 6

Following the intersession meeting in Jakarta in August 2009, a workshop on SOPs for disaster management offices was held. It was clear that there are outstanding issues and unmet gaps related to the SOPs for receiving and forwarding timely warnings, and also for timely reaction by relevant agencies and stakeholders at national and local level, down to the communities at risk.

Harald Spahn from GTZ IS shared Indonesia's lessons in understanding the warning chain, and development of local SOPs that are being integrated into Indonesia's end-to-end tsunami warning system.

Participating member states engaged in this in-depth discussion, resulting in a better understanding of the different settings in different countries, and of the different interpretations of their warning chains that enable official warning messages get to the people at risk in time.

WG 6 participation in IOWave 2009

To test the current status of operational procedures in warning dissemination and emergency response, Working Group 6 was also engaged in the first ever Indian Ocean Wave Exercise, in 2009. Indonesia, Sri Lanka, Pakistan, Kenya were among the member states who tested local authorities' decision making and public evacuation during the exercise. Some other countries decided to test their SOPs for calling for public evacuation with table top simulations in national tsunami warning centres and disaster management offices.



Preliminary Consolidation Meeting to develop a depository of tsunami awareness materials and preparedness tools

International Partners

Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning System ICG/IOTWS

The Intergovernmental Oceanographic Commission (IOC), coordinated by UNESCO at the 23rd Assembly in 2005, has decided to create the Indian Ocean Tsunami Warning and Mitigation System (IOTWS) and to establish an Intergovernmental Coordination Group for IOTWS (ICG/IOTWS), currently chaired by Professor Jan Sopaheluwakan from Indonesia, to develop a comprehensive architecture for its regional tsunami warning system.

The membership of the ICG/IOTWS consists of the member states of the IOC within and bordering the Indian Ocean, observers from other IOC member states, and invited observers from other organizations (including NGOs), programs and projects in accordance with the IOC rules and procedures.

The ICG/IOTWS is divided into six working groups (WG) designated to facilitate different technical aspects: WG 1 on seismic measurement, data collection and exchange; WG 2 on sea level data collection and exchange, including deep-ocean tsunami detection instruments; WG 3 on risk assessment; WG 4 on modelling, forecasting and scenario development; WG 5 on the establishment of a system of interoperable advisory and warning; and WG 6 on mitigation, preparedness and response.

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7th session of ICG/IOTWS

The 7th session of the ICG/IOTWS will be held in Banda Aceh on 14-16 April 2010. The Meteorology, Climatology & Geophysical Agency (BMKG) is hosting this meeting. The members will discuss technical issues related to tsunami warning procedures and operations, tsunami research projects, tsunami mitigation activities and best practices (especially in preparedness and emergency management), as well as public education programs or other measures taken to heighten awareness of tsunami hazards and risk.

The discussion will be based on the national reports of the participating countries and the progress reports of each WG. The decisions and recommendations from the meeting will be used as the framework for further program planning and budgeting for 2010-2011 in the member countries.

JTIC/UNESCO, Depositories of tsunami awareness materials and preparedness tools

The Jakarta Tsunami Information Centre (JTIC) is implementing a UNESCAP-funded project to develop a depository of tsunami hazard information, preparedness tools and awareness materials.

The depository will focus on collecting tsunami preparedness tools, public awareness materials, and training and education material developed by stakeholders (government agencies / institutions, NGOs, INGOs, CSOs, etc.) in Indonesia, Timor Leste, Thailand, and the Philippines.

The project will also provide support to fill the tsunami awareness and preparedness tools gaps and needs of each participating country by translating these into their local languages and contextually adjusting them to the local culture. These newly developed materials and tools will be assessed and tested in local coastal areas and widely disseminated through media workshops and awareness activities in schools in each of the participating countries.

At present the project is collecting data and information in Indonesia, Thailand, and the Philippines. Once all data are gathered, this information will be shared with the participating countries and will also be available on the JTIC website: www.jtic.org

Order / Name	Brief Description	Catification No.
	<p>This book provides information on developing tsunami preparedness materials for schools and communities. It includes preparedness materials in five languages: Indonesian, Thai, English, and others. It also includes disaster preparedness (Disaster-Ready Review - DRR) a model developed by the National Institute of Science & Technology (NIST) and UNESCO. It also includes a model for the development of a community-based disaster preparedness plan. It also includes a model for the development of a community-based disaster preparedness plan. It also includes a model for the development of a community-based disaster preparedness plan.</p>	
<p>Target Audience:</p> <p>General Public School Teachers Students Government Officials Others (please specify below)</p>	<p>Type of Materials / Tools:</p> <p>Poster Caption Leaflet Brochure Booklet DVD Video/CD/DVD Sound Alarm Other (please specify below)</p>	<p>Available Language:</p> <p>Indonesian Thai English Others (please specify below)</p>
<p>Purpose of Materials/Tools:</p> <p>City/Town/Tourism Business and Enterprise Multi-Sector/Local Government Others (please specify below)</p>	<p>Specifications:</p> <p>Number of Pages: Illustration: Images/Graphics: Maps: Size: Material: Other (please specify below)</p>	<p>Available Format:</p> <p>Printed Copy Electronic Copy Links to the Materials/Tools</p>
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Sample of Data Collection

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Visit to BMKG Jakarta / dialogue with members of the Bali Hotel Association on vertical evacuation / representative from Central Java BPBD at the 14th workshop

Motivating Communities and Partners to Take Action

The exchange program is a venue for partners to adapt, validate and replicate the valuable experiences shared during the program. Cross-visits and dialogue have helped strengthen InaTEWS by improving procedures, mechanisms and institutional capacities related to the early warning system, and especially by motivating communities and partners to initiate cooperation and resources sharing.

Strengthening local capacities and ownership

A field trip in February 2010 to Tanjung Benoa and Kuta gave 25 visitors from Padang and Java the opportunity to learn from practical experiences in integrated evacuation planning procedures, both at community level and government level. Direct observation and open dialogue with the actors in Tanjung Benoa and Kuta equipped the participants with a simple methodology in evacuation planning. A participant from Purworejo district pledged his commitment to start an evacuation planning process in his community using the techniques and methodologies learned from this visit.

A visit by partners from West Sumatra to national institutions (BMKG and BNPB) in the last week of February promoted a common understanding of the early warning system and contributed to the improvement of procedures, mechanisms and institutional capacities. During the visit specific questions for the Padang area were raised and agreements made to resolve open issues. The visit also triggered further initiatives for cooperation between the City of Padang and provincial institutions and neighbouring districts in setting up procedures and mechanisms for information and resources sharing.

Emphasizing organisational capacity building

Inefficiency in warning dissemination, duplication and confusion in roles and responsibilities are organizational problems that require intervention at the organizational level. The agenda of the exchange program is designed to address organizational challenges in InaTEWS, with a focus on clarifying roles, responsibility and shared resources.

The exchange program in Java for example has focused on capacity building for the tsunami working groups in the pilot districts. The program built the capacity of the working groups in mentoring neighbouring districts in hazard awareness and mapping and warning dissemination as public services. It also strengthened the inter-district network and built on the organizational set up for inter-district and inter-province cooperation in tsunami early warning.

Dialogue between local organizations and national partners (BMKG and BNPB) has strengthened the institutional relationship through confirmation and clarification of the procedures and mechanisms, and exploration possibilities for institutional cooperation.

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Where to next...

The exchange program has provided a venue for partner organizations and the communities to share experiences, learning and challenges, and build on the model of inter-district cooperation in tsunami preparedness.

The extension of the project has provided the exchange program the opportunity to explore new approaches and to consolidate the impressive progress already made. Areas suggested by the partners for consideration are:

- Development of a light M&E system based on a logical model for tsunami preparedness.
- Strengthen partner organizations' understanding of what is working at a community level, in terms of concrete changes in disaster (tsunami) risk, beyond awareness and skills through a peer review.
- Increase emphasis on district government and focus on replication by sharing best practices.
- Link evacuation planning to existing disaster contingency plans through exchange with other disaster preparedness programs.

Next steps

A "writeshop" to structure the lessons learnt of the exchange program will be conducted in May 2010. The writeshop is designed to identify key challenges in achieving a better tsunami preparedness and a functioning TEWS, and to gather ideas for the way ahead, especially with regard to maintaining continuous exchange without external support from a project.



Community events in Tanjung Bena and Kuta

Community Events in the Bali Pilot Area

How can we strengthen community tsunami preparedness? Sharing knowledge and disseminating information about the tsunami early warning system at grassroots level is one option. To this end, the project has been organizing community events. Expectations are high that these events will raise awareness and stimulate initiatives by the communities to improve their resilience.

Socialization in Tanjung Bena, Kuta and Sanur

At risk communities along the coast need information about tsunami hazards. A socialization campaign has recently been initiated to inform communities about the tsunami risks and early warning and evacuation procedures in Bali.

The campaign has targeted three sub-districts: Tanjung Bena and Kuta starting in December 2009, and Sanur since the end of March 2010. Target groups are people living or working in the red or highest risk zone, including fishers, women, youth, beach retailers, and people working in the tourism sector and in village security and village administration.

Tanjung Bena and Kuta have each conducted nine community events. The campaign in these two areas is scheduled for completion by August 2010.



Community event in Tanjung Bena

The community events are conducted by local facilitators who participated in the five-day training of facilitators in Bedugul, in November 2009. The facilitators are members of local communities who hold key positions such as traditional leaders, village administration personnel, teachers, fishers, retailers and volunteers. As facilitators they are expected to play a leading role in initiating and facilitating awareness activities in their communities. The community events were supported by master trainers and members of the local working group.

The community events address four topics: hazard knowledge, the tsunami early warning system, the evacuation plan, and the action plan. Materials used include videos, posters, comics and leaflets, which are shared with the community members.



Community event in Kuta

Challenges and Opportunities

Challenges and opportunities identified from experience in organizing community events to date include the following:

Appropriate timing of community events is important, as they often coincide with cultural or religious activities. Facilitators occasionally face the situation where an event is attended by hundreds of people instead of the intended smaller community groups. This requires a modification of presentation methods and use of technical tools. Another significant challenge relates to the involvement of village institutions, which do not always see tsunami preparedness as a priority issue.

On the other hand, in Balinese communities there is a strong link between beliefs, culture and habits. So, integrating tsunami preparedness into regular traditional or religious events is important. Community leaders need to be involved as they play a significant in community meetings and have a strong influence on the local people's perceptions of tsunami preparedness.

The Balinese facilitators and master trainers met at the end of March to share their experiences. These experiences can be assets if they are utilized in upcoming community events. The project team is also involved in the whole process to learn from the practical implementation of the awareness campaign.

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Next steps

- Ongoing monitoring and evaluation of community events in Tanjung Bena, Kuta and Sanur to ensure the quality of the awareness campaign.
- Documentation of the overall process.



Mr. Edie Prihantoro at the CBU & Media Workshop / Participants of CBU & Media Workshop / Discussion during the Bali workshop / Points of discussion

The Media and the Warning Chain

The media has been involved in various discussions to clarify and strengthen their role in the warning chain. Several steps have been taken at both national and local level. Bali, as one of the project pilot areas, has taken a step forward to link the local media to the warning chain. Experiences from Padang provided valuable lessons about media broadcast of tsunami warnings during and shortly after an earthquake.

Media Workshop, Lombok, 22-24 February 2010

Media workshops held as part of the 2009 Indian Ocean Wave Exercise have enhanced the role of the media (especially TV and radio stations) in the warning chain. As mentioned in a previous edition of this newsletter, to integrate the media in the overall tsunami early warning system, several questions raised by both media and government institutions involved in InaTEWS need to be addressed.

Following up the findings from previous meetings, another workshop was held last month (Lombok, 22-24 February 2010). The objectives of the workshop were to optimize the role and function of the media centre at the National Disaster Management Coordination Agency (BNPB), support implementation of regulations on broadcasting tsunami warning messages, and design and draft SOPs for national and local media.

The discussion produced several recommendations:

- A direct connection between BMKG and national media needs to be maintained. Broken servers need to be repaired/replaced.
- The knowledge of media staff on earthquake and tsunami disasters needs to be built on and updated regularly.
- BNPB needs to activate/build a media centre that serves as the main source of information, providing actual and accurate data on disaster events (and impacts).

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Bali Local Media in the Tsunami Early Warning System

The role of local media in the warning chain has been widely recognized. The media plays an important role in disseminating warning messages (and guidance) to people living in risk areas. On national level, several TV and radio stations are linked to BMKG, enabling them to receive tsunami warnings. The community of Bali has recently made an important step forward by linking local TV and radio stations to the provincial PUSDALOPS.

The process started with a meeting to discuss the role of local media in the local early warning chain. During that meeting the participants expressed their interest and ideas for further involvement. Based on this, an agreement between the provincial PUSDALOPS and the representatives of TV and radio stations was made, stating that warning and guidance messages from PUSDALOPS would be disseminated by the local media. The agreement was signed on 28 January 2010.

The next step in implementing the agreement is to develop SOPs. Training for media staff is then foreseen, and a testing or try out (in the form of a simulation) is also needed.

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Experience from Padang

The shaking lasted for more than a minute. Many buildings collapsed immediately. Power was out. Cellular networks failed. People were in panic. Already worried about their families, many feared that the earthquake had caused a tsunami.

The staff of the city's operations control centre had similar thoughts. About five minutes after the tremor they were at least partly relieved: they knew from BMKG that there was no tsunami threat. They sent out this information immediately via VHF radio.

However, this information reached only a few people in Padang, where 400,000 people live in the red zone. Yet, the streets were jammed with vehicles, many of them evacuating inland, others on their way to the sea to check for tsunami signs.

Only 25-30 minutes after the quake, the message that there was no tsunami threat was 'on air', announced by the mayor on Radio Republik Indonesia.

Once again, there is proof that radio frequencies are the most reliable channels of communication. However, the information has to be available via local radio stations even faster. The operations centre, which gets information quickly from BMKG, needs direct access to FM frequencies. This requires not only solid technical solutions and procedures, but also clear agreements and political decisions. Once an agreement has been reached, the warning frequency needs to be widely disseminated to the public so that they know where to tune in the event of an emergency.

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Destruction from the earthquake / 30 September: panic on the streets of Padang / The mayor of Padang on air at RRI / Field research

30 Minutes in the City of Padang

When the ground shook at about 5.16 p.m., people in Padang knew that this earthquake was stronger than any other they had experienced before. Many buildings collapsed immediately, burying those who could not find their way out. Within a minute Padang descended into chaos. After the quake, the streets of Padang were filled with people in shock and panic and worried about their families. At the same time there was the fear that the earthquake had caused a tsunami that would already be heading towards the coast.

Five weeks later, GTZ IS-GITEWS conducted field research in Padang to find out what had happened after the earthquake. How did people react? Did they get information early on? Here is an update on the results.

People's reaction after the earthquake

About half of the people interviewed in the survey (of 200 individuals) evacuated low-lying coastal areas. Those who evacuated (98 respondents) did so in relatively short time. Many had gathered valuables and assembled with their relatives before they started to evacuate. After 15 minutes, 83% of them had left. The trigger for this reaction was the strength of the quake. The absence of natural warning signs at the sea (sudden low-tide) was the main reason why people did not evacuate.

People were scared and in panic. Most escaped on motorbikes and in cars, causing massive traffic congestion and accidents. While many people were headed towards the sea to check for tsunami warning signs, others were on their way inland. This added to the traffic chaos on the streets. In some areas, traffic congestion continued for about 3-4 hours after the earthquake.

Access to official information about the earthquake

Within the first 30 minutes of the earthquake, the vast majority of the respondents had not received any official information about whether or not there was a tsunami threat. Information mainly spread by word of mouth and was based on rumours. Over time (about an hour after the earthquake), the situation became clearer. The news that there was no tsunami threat and people should return home, aired on RRI, gradually found its way to more and more people. However, even when people received this information, many continued to evacuate.

Receipt of information from BMKG

Padang's Operations Control Centre (PUSDALOPS, part of BPBD) received the information from BMKG about five minutes after the earthquake through a web-based warning software. Few people received information from BMKG via SMS since most cellular phone networks failed to operate.

Coordination amongst government institutions and dissemination of information

In the first 30 minutes there was no communication between the mayor and the Operations Control Centre. The mayor, who has been on RRI after every earthquake since 2005, usually receives information from BMKG via text message, which he was unable to receive due to a network outage. The Operations Control Centre was able to quickly communicate information via communication radio – but not to a wider public. The information from BMKG had reached Padang authorities (i.e. the operations centre) about 5 minutes after the earthquake but was only available to the public about 25 minutes later, when the mayor eventually announced it on RRI.

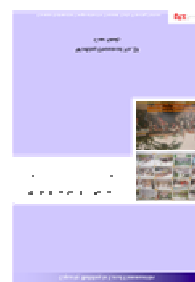
Trust in and expectations of the government

People trust the government, especially the mayor. They believe that the government provides them with accurate information after an earthquake. But they also expect the authorities to provide this information quickly. They consider that using (mosque) loudspeakers would be an effective way to provide them with information. On the other hand, many people trust only what they see. Which is why many chose to observe the sea.

Recommendations:

- Increase community awareness about natural warning signs and reactions.
- Increase people's awareness about the warning system and how it can serve them.
- Provide the Padang Operations Control Centre with the authority and mandate for decision-making and direct dissemination of public guidance.
- Provide the Padang Operations Control Centre with sufficient human, financial and technical resources to do its job.
- Extend the scope of the public warning dissemination system in Padang via mosque loudspeakers and local FM radio frequencies, and promote the use of FM radios as a source of information.
- Create multiple links to BMKG.
- Provide sufficient evacuation infrastructure and promote clear procedures.

KOGAMI, UNU-Last Mile and BPBD supported the study. The paper "30 Minutes in Padang" is now available.



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Project Team Meeting

1 - 5 March 2010, Bali

As the project has been extended until December 2010, the team held a meeting to discuss and plan project activities for the final phase and discuss strategies for the sustainable development of tsunami early warning and preparedness beyond the project lifetime.

The first session on Monday morning provided an overview of the current status of the project and partners' activities and the rationale for the project extension until December 2010. The second main topic of discussion was measures to ensure accessibility of project outputs, nationally and locally.

The second day was dedicated to the pilot areas. The local advisers presented progress reviews and planned partner activities, and the team collected ideas for the phasing out process in their respective areas.

Wednesday was reserved for team building through outdoor activities

The fourth day was dedicated to reviewing the project activities to support community outreach campaigns and related training for local facilitators (ToF). An evaluation workshop was planned for the ToF process and a 'writeshop' will document experiences from the exchange program.

The last day, Friday, the team used for the discussion of technical topics such as the new warning scheme, hazard mapping, and evacuation planning. We closed the team meeting with wrapping up of project priorities to December 2010.

With Deepest Sympathy

*Words cannot express our sadness
But memories keep those we love close to us
forever*

*Our hearts are saddened by your passing and our
thoughts and prayers are with you.*

*Rest in Peace
Retno Winahyu Satyarini
(17 March 2010)*



Our late colleague Retno Winahyu Satyarini supported our project with an evaluation in 2008 and as a consultant for our Exchange Programme in 2009.

We will remember her as a dedicated, kind-hearted and optimistic friend.



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