

Introduction

KNOWLEDGE & AWARENESS



Author:

Henny Dwi Vidiarina, Harald Spahn

Editor:

Marhadi Prayitno
Abigael Wohing Ati
Michael Hoppe

Design and Layout:

Adriani S. Soemantri, Rummy Iqbal,
Wisnu Pramarta
(MAKATA)

Reference:

The content and structure of the
Checklist is adapted from
"Developing Early Warning Systems:
A Checklist" - UN/ISDR, 2006,
www.unisdr.org/ppew/ppew-index.htm

Copyright © 2010 by GTZ IS-GITEWS

Published by:

German-Indonesian Cooperation for a
Tsunami Early Warning System (GITEWS)
Capacity Building in Local Communities

Deutsche Gesellschaft für Technische
Zusammenarbeit (GTZ) GmbH

GTZ Office Jakarta
Menara BCA, 46th Floor
Jl. M.H. Thamrin No. 1
Jakarta 10310

T: +62 – 21 – 2358 7111

F: +62 – 21 – 2358 7110

E: gtz-indonesien@gtz.de

I: www.gtz.de/indonesia

www.gitews.org/tsunami-kit



Content

Knowledge and Awareness for Tsunami Preparedness	01
The Project Approach for Developing and Sharing Knowledge and Raising Awareness to Improve Preparedness	03
Building Awareness and Expertise Among Key Actors of the Warning System	05
Increasing Public Knowledge and Awareness of the Tsunami Risk and InaTEWS	09
The Content of the Tsunami Kit Related to Knowledge and Awareness	21

Knowledge and Awareness for Tsunami Preparedness

In the disaster risk management framework, early warning is known to be an intersection of science, technology, sociology, and psychology as well as governance and practical disaster management. Due to its complexity, a tsunami early warning system like the Indonesian Tsunami Early Warning System (InaTEWS) is probably among the most demanding warning systems. To set up and operate such a system, work, experts, officials and practitioners from many different levels with various backgrounds and diverse perspectives need to join efforts. To make it work, a common understanding of the overall system has to be developed.

This means that people who for instance work on community preparedness need to understand how warnings are generated and what they can expect from the National Tsunami Warning Centre (NTWC). In turn, those who for example design warning dissemination mechanisms and formulate warning messages need to be familiar with the needs of the end users: the community at risk. Knowledge sharing and making each actor aware of the role of others and of their own responsibility is a precondition of an effective warning system.



Framework of early warning

While the Aceh tsunami raised public awareness about tsunamis and the need for preparedness, a clear understanding about the risk of tsunamis, how to get prepared and how exactly the warning system can help to save lives is still limited both amongst disaster practitioners and the public. This is confirmed by the project's experience and assessments done by several institutions like the "Assessment of Community Based Preparedness on Earthquake and Tsunami Disaster in Indonesia" by the National Institute of Sciences (LIPI) and UNESCO Jakarta with support from UN-ISDR in 2006. This study found that people, including local decision makers and disaster practitioners, do not have a sound understanding yet of what early warning systems are, their components and why they are important. This lack of knowledge and awareness is partly due to unavailability and inaccessibility of appropriate information.

UNISDR defines public awareness as the extent of common knowledge about disaster risks, the factors that lead to disasters and the action that can be taken individually and collectively to reduce exposure and vulnerability to hazards (UNISDR Terminology on Disaster Risk Reduction, 2008).

The project took this situation into account by setting a strong focus on building knowledge and increasing awareness about tsunami risk and InaTEWS both on the part of officials and practitioners as well as the communities at risk.

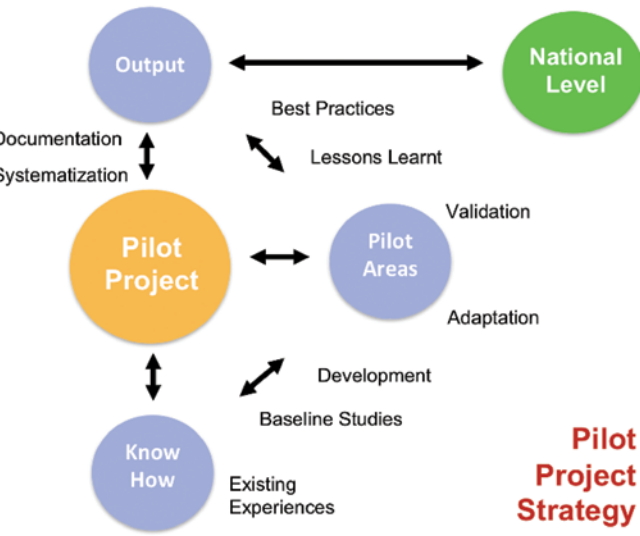
The Project Approach for Developing and Sharing Knowledge and Raising Awareness to Improve Preparedness

The development of InaTEWS began in 2005 – starting more or less from zero. The concept of disaster risk reduction (officially only introduced by law in 2007), preparedness and early warning was new. To build an institutional response capacity for InaTEWS at local level, it was necessary to develop institutional arrangements, clarify and assign roles, develop warning and response mechanisms and procedures.

In line with its mandate, the project focused on developing these capacities in the pilot areas of Bali, Java and Padang. The first and probably most challenging step for the project in 2006 was to get involved with the potential local stakeholders of InaTEWS and to build cooperation and partnership. After cooperation agreements had been made the work could begin. Local authorities assigned multi-stakeholder working groups, consisting of representatives from the government and civil society, for the joint effort towards tsunami preparedness.

A learning process on both sides characterized this joint effort. It was this process that enabled knowledge sharing and the development of appropriate solutions. The project looked at existing experience and knowledge in the pilot areas and gathered experience with and

know-how for early warning in Indonesia as well as in the international sphere. The requirements to implement InaTEWS and the implications of having to deal with the threat from local tsunamis were explored. All this knowledge was brought into the development process with the partners.



In various meetings and workshops, the project together with its partners from local and national level shared experience and discussed the local tsunami risk, clarified roles and responsibilities of different stakeholders, agreed on procedures and policies as well as response plans and warning arrangements – and built a shared vision of tsunami preparedness.

Since people’s capacity to respond to tsunamis is highly related to the institutional capacity of its government to provide warning services and evacuation policies, the project initially focused on institutional preparedness. After sufficient progress had been made, joint activities extended to community outreach in the pilot areas in order to strengthen people’s awareness of the tsunami risks, local warning arrangements and ways to respond to the threat.

Based on all these experiences, the project developed a number of approaches and products to help raise public awareness build understanding amongst disaster practitioners and improve the technical capacity of institutions.

Building Awareness and Expertise Among Key Actors of the Warning System

Exchange programme: supporting dialogue between local and national level and across the pilot areas

The project supported exchanges and dialogue among stakeholders at the district, provincial and national level to create a strong collaboration in developing common understanding leading to coherent procedures and mechanisms and improved institutional capacities, especially by addressing the link between the National Warning Center and the local level. Experience sharing and dialogues between local and national level were facilitated through workshops.

At the same time, project partners from one pilot area visited their peers in other pilot areas. This enabled a horizontal exchange of experience between the pilot areas, supported networking and knowledge transfer. People could learn from the experience of others, discuss problems and challenges and adopt solutions.

Disaster Awareness in Primary School (DAPS) training

The project collaborated with the GTZ Science Education Quality Improvement Project (SEQIP) to strengthen tsunami preparedness in the educative sector by contributing to the DAPS training module development. The trainers from the DAPS Program trained a selected team from the Education Quality Insurance Institution (*Lembaga Penjamin Mutu Pendidikan - LPMP*). The LPMP team provides training on natural disaster preparedness to teachers, headmasters, and school personnel using the DAPS module. Those trained teachers are then expected to integrate their new knowledge and information about disasters into subjects in the curriculum with regards to “Bahasa Indonesia”, Science, Social Studies, Physical Education, and Art. Furthermore they are encouraged to develop own disaster preparedness plans within their institutions.

The DAPS tsunami training module consists of 5 chapters: (1) natural disaster, (2) tsunami hazard, tsunami early warning (3), evacuation planning process for schools, (4) how to survive during a tsunami and (5) first aid procedures and equipment. The target group of the DAPS module are primary school teachers who are expected to include the topics into their curriculum.



The tsunami module might need to be updated later on to include the latest developments of the implementation process of the InaTEWS which is still ongoing.

Training of PUSDALOPS staff

In the pilot areas, together with its partners, the project conducted a series of training sessions for staff of the Emergency Operation Center. The training focused on five main topics: knowledge on earthquake and tsunami hazard risk, end to end tsunami early warning system, Decision Support System (DSS) at InaTEWS, warning chain, standard operational procedures (SOP), and dissemination technology.

Documentary: community awareness campaigns and evacuation planning in Pilot Area Java

Together with the project partners in Pilot Area Java, GTZ IS-GITEWS produced two documentary videos on experience with awareness campaigns and evacuation planning at grass root level. The duration of each video is around 20 minutes. They can be used as references and learning media. Although the main target is the project's pilot areas in Java, the videos can also be shared with decision makers and organizations in other areas.



Increasing Public Knowledge and Awareness of the Tsunami Risk and InaTEWS

Training of local facilitators and support of community awareness campaigns

Local facilitators are the main promoters of tsunami early warning and preparedness at grass root level in the pilot areas. To improve the capabilities of community facilitators, GTZ IS-GITEWS, the Indonesian Red Cross and the Center for Disaster, Research, Education and Management from the UPN University in Yogyakarta (DREAM -UPNVY) developed **Tsunami Awareness Campaign Training Modules** at two levels: (1) Training for masters trainers (ToT). (2) Training for local facilitators (ToF). After a first application the module was revised and enriched by introducing a tailor made adult learning method designed by consultants from the Profitable Environment Network (PREMANet). The training approach named DarMi or Sadar Tsunami (Tsunami Aware) consists of three types of training modules:

The “Training of Trainer (ToT)” module was developed and implemented by GTZ-IS and PREMANet team to prepare a group of master trainer who were expected to train local facilitators to implement community awareness activities in the pilot areas. The master trainers had been selected from partner organizations and working groups in the pilot areas. The module contains in-depths information on principles of disaster management, earthquake and tsunami hazard, InaTEWS, warning chain, evacuation planning and adult learning methods. It also describes how to plan and to deliver trainings for local facilitators.

The second module was developed to assist master trainer in conducting training for Local Facilitators (ToF). The content of the module is similar to the first module. The difference is basically on level of in-depth discussion and technical explanation to meet the competences required by local facilitators.



Additionally a guidebook and a visualization tool, called “Lembar Balik”, were developed to assist local facilitators to prepare and implement community events. The guidebook explains: (1) steps to conduct community events, from preparation up to implementation; (2) topics to be discussed with the community (knowledge on tsunami hazard, warning chain, how we react, knowing my area or introduction on evacuation plans). The “Lembar Balik” is a visual aid to explain the principle topics related to tsunami preparedness and is used by local facilitators during community events. Other materials like videos, comics and posters were made available to be used and distributed during community events.

Production of outreach materials

The project developed printed and audiovisual media such as brochures, posters, comics and films. These materials have been widely distributed and are also used during awareness campaigns by the facilitators.

- Tsunami Poster

“Whenever Tsunami Strike, We are Prepared” or “*Kapanpun Tsunami Datang, Kita Siap Menghadapinya*” is a two-sided poster. The front side visualizes a tsunami prone area with relevant aspects related to hazard and risks, forecasting, warning and reaction, which are the 4 elements of tsunami early warning. The back side briefly explains the concepts behind each of the elements. This poster is easy to understand and designed for the public in general.





1 Tsunami adalah gelombang besar yang sangat datang di samudra yang dapat disebabkan oleh gempa bumi, letusan gunung berapi dan longsor di dasar laut. Gelombang besar yang sangat berbahaya ini dapat menghancurkan arah, dan bergerak dengan kecepatan tinggi.

Sumber gempa yang berada di Samudra Hindia menimbulkan bencana pantai Indonesia. Jika gempa tsunami terjadi, petak pantai sangat sepi. Gelombang tsunami yang pertama mencapai pantai hanya dalam hitungan menit. Tsunami datang sehingga menimbulkan gelombang hingga jarak antar dua gelombang mencapai 10 sampai 60 menit.

- Tsunami Comic “Kapanpun Tsunami Datang, Kita Siap Menghadapinya”

The poster was reproduced in the form of a comic to make it easier for people to carry, so that they can read and share it with other people. The 20-pages comic describes each component of the poster. The comic is mainly for school students and available only in Indonesian language.

- Tsunami Warning Comic “Peringatan Tsunami”

In 2007, GTZ-IS supported the initiative from BMKG Yogya to translate a tsunami warning comic into Javanese, because many senior citizens in Bantul only understand Javanese language. The “Peringatan Tsunami” comic was originally developed by IOC-UNESCO and ITIC in the English version, and later was translated into Indonesian by BMKG, LIPI, and UNESCO. The comic provides more detail background information about InaTEWS that is easy to understand by junior and high school students to help these to explain the matter to the elderly.



Production of educational videos

- “10 Menit Kehidupan” (10 Minutes of Life)

LIPI, GTZ IS-GITEWS and UNESCO/IOC/JTIC produced a package of four 10-minutes videos that give a complete explanation about the Indonesian “end to end” TEWS, since most available materials only provide information about TEWS in general, without taking the specific situation in Indonesia into account. The videos explain earthquake and tsunami hazard (video 1), the Indonesian Tsunami Early Warning System (video 2), disaster preparedness and mitigation (video 3), SOPs, simulation and drills (video 4). The video package can be used as visual aid in introducing tsunami early warning either in a training or community event since it’s easy to understand.



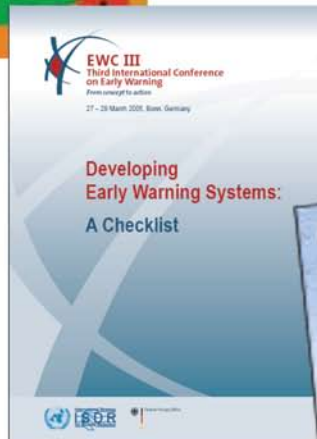
- “Budi Jadi Sunatan” (Budi finally gets circumcised)

GTZ IS-GITEWS and JIWA production house developed a video that addressed common misconceptions about tsunamis among people in general. “Budi Jadi Sunatan” (Budi finally gets circumcised) is a 30-minutes edutainment video that provides basic information and motivates people to improve their strategies in facing a tsunami. The target audience is communities in prone villages in Sumatra, Java and Bali. This video helps to translate a rather complex technical topic into easy-to-understand information, by simplifying the language and presenting the ideas in a simple short story about Budi and his village.



Reprint of educative materials

The project has reproduced (1) the UNESCO “Tsunami Glossary”, both the English and the Indonesian version, (2) the “Tsunami Teacher” DVD, a compilation of documents and tools developed by UNESCO/ ITIC for the Pacific TEWS in Indonesian language, and (3) “Developing an Early Warning System”, a checklist developed during the third international conference on early warning organized by UNISDR in Indonesian. The original documents were developed by international and national institutions: IOC-UNESCO and ITIC, ISDR, Ministry of Home Affair, BMKG, and BNPB.



Support of disaster preparedness exhibitions

GTZ IS-GITEWS contributed to disaster preparedness exhibitions organized by LIPI, both at national and local level, particularly in the early warning room of the “knowledge & skill section”. It included the support of public activities during the exhibition like competitions by students from local schools to visualize tsunami early warning on wall paintings and posters. More than three thousand visitors in each exhibition have been recorded by LIPI.



Communication with project partners and an interested audience

Since April 2007, the project produces and distributes a bilingual quarterly newsletter to provide information about activities in the pilot areas and other tsunami early warning related topics to keep partners well-informed at local and national level. Furthermore the project regularly shared project experience with international partners, especially those from German GITEWS working groups.



The Content of the Tsunami Kit Related to Knowledge and Awareness

The Tsunami Kit provides a printed and an electronic version of documents and materials to improve knowledge and awareness that were produced by the project and includes additional inputs from our project partners and local stakeholders, i.e. LIPI, KOGAMI, RISTEK, BMKG, and IDEP.

Checklist – an assessment and monitoring tool for knowledge and awareness

Tools – manuals and guidebooks

- Community Module and Manual for Training of Local Facilitators (ToF) and related Visualization Tool “Lembar Balik”
- Tsunami Module for the Disaster Awareness for Preliminary School (DAPS) and the related Training Manual

Our Experience – best practices and lessons learnt (fact sheets)

- Exchange Program – A Local Partnership and Exchange Initiative
- Community Awareness - Training of Facilitators for Community Outreach
- Warnings from Nature versus Technology-based Warnings: Response Strategies Need to Integrate Both

Info – information on other initiatives within InaTEWS (fact sheets)

- Tsunami module for disaster awareness in primary schools (DAPS) - Strengthening Tsunami Preparedness in the Educative Sector
- Exhibitions for Disaster Preparedness - Science based Community Preparedness by COMPRESS - LIPI
- KOGAMI - Capacity Building for Local Communities
- Disaster Awareness in Primary School: A Module on Tsunami Hazard
- Tsunami Ready: A Tool Box for the Hotel Industry

Outreach Material – material for education and awareness raising

- Poster
 - Folded material of the English version poster "*Whenever Tsunami Strike, We are Prepared*" produced by GTZ-IS GITEWS and softcopies of both English and Indonesian versions.
- Comics
 - "*Kapanpun Tsunami Datang, Kita Siap Menghadapinya*", produced by GTZ-IS GITEWS (only in Indonesian)
 - "*Tsunami Warning*" produced by IOC-UNESCO, ITIC. The original English version was translated into Indonesian by BMKG, LIPI, and UNESCO/JTIC. A Javanese version ("*Peringatan Tsunami*") was produced by BMKG Yogyakarta and GTZ-IS GITEWS

- Video films
 - “*Budi Jadi Sunatan*”, 30 minutes video for communities in risk areas produced by GTZ IS-GITEWS, Indonesian with English subtitles
 - “*10 Menit Kehidupan*”, four video films for training purposes produced jointly by LIPI/UNESCO-JTIC/GTZ IS-GITEWS, Indonesian version only
 - “*Perencanaan evakuasi dan penyadaran masyarakat*”, two documentation videos on evacuation planning and awareness campaign at community level Pilot Area Java produced jointly by the local working groups and GTZ IS-GITEWS, Indonesian version only
 - “*No Strings*”, an animated video on natural disaster preparedness produced by IDEP
- Music CD
 - “*Science in Music*”, disaster-related music compilation from various musicians produced by LIPI

Further Resources – other useful documents

- Reprints of UNESCO reference documents
 - “*Tsunami Glossary*” and developed by UNESCO
 - “*How to Survive a Tsunami*” and developed by UNESCO – English version

