# Newsletter

No. 02 | April-June ‘07

**GTZ-GITEWS** | Editorial

# Capacity Building in Local Communities

## German-Indonesian Cooperation for Tsunami Early Warning System



GITEWS

## Editorial

Preparedness is the clue to cope with tsunamis, which are quite common natural phenomena along the Indonesian coastlines. Preparedness builds on knowledge about the natural hazard and the vulnerability towards it. Preparedness also includes the ability to recognize natural warning signs and / or receive warning messages from a tsunami early warning system on time. Prepared people and communities will know then how to react and have plans ready for evacuation and emergency response.

Consequently, the success of early warning will express itself by the public reaction to the warning. Local actors play a very prominent role to achieve this target. Awareness and knowledge about the hazard and potential impacts, receiving advisories and warnings from national institutions, giving guidance and instructions to local population and preparing people for natural disaster are the genuine tasks of local governments and their communities

The project “Capacity Building in Local Communities” for Tsunami Early Warning and Preparedness is designed as a Pilot Project. Experiences from the three Pilot Areas in Sumatra, Java and Bali will be “translated” into Best Practices, Guidelines and Tools, which later on shall enable other communities in Indonesia to get better prepared. In this edition we present a “Checklist for assessment, planning and monitoring” as a tool to help implement Tsunami Early Warning in Indonesian Local Communities.

Best regards
Harald Spahn, Team Leader GTZ-IS.

**GITEWS - German Indonesian Tsunami Early Warning System**
Internal Project Meeting
14-15 June 2007, GFZ Potsdam

## GITEWS – Internal Project Meeting

On 14 and 15 of June 2007 the GITEWS project held its annual meeting at the GeoForschungsZentrum Potsdam. More than 120 scientists and technicians from the contributing institutes in Germany as well as guests from inland and abroad participated.

The first day started with presentations from the project management and external partners from Indonesia (BMG, RISTEK) and UNESCO (IOC, JTIC). Progress reports were also given by members from the work packages „Seismology", „Ocean-instrumentation" and „Capacity Building". One highlight was the introduction of five from a total of nine participants of the GITEWS PhD programme. The day came traditionally to an end with a barbeque and get together at the GFZ cantine.

The second day focussed on contributions from the „GPS-Technologies", „Modelling and Simulation", as well as on the „Early Warning and Mitigation Centre (DSS)" and „System Integration". Many milestones have been achieved, but a lot of tasks still remain to be solved until the end of 2008; when the Tsunami Early Warning System for Indonesia will start operation.

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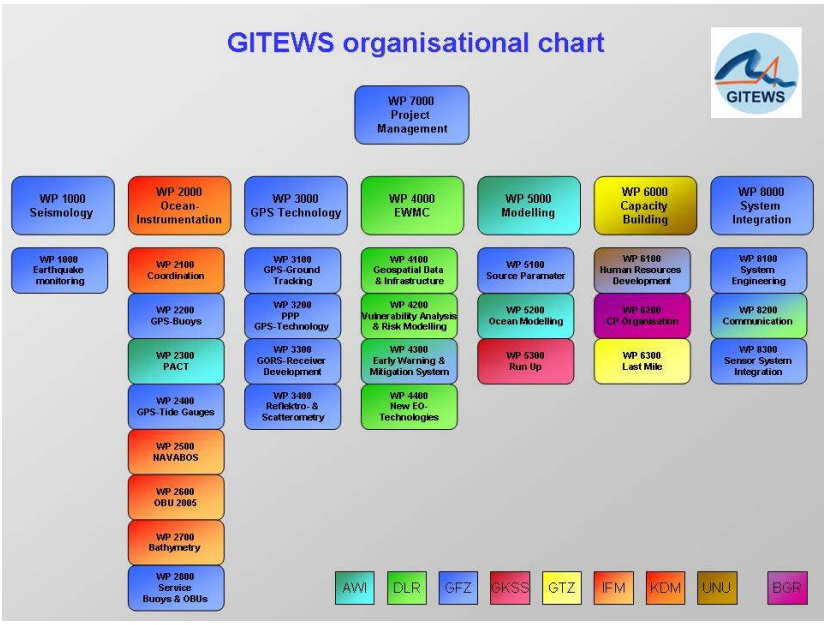


**The "German-Indonesian Tsunami Early Warning System" (GITEWS)**

is a contribution on the part of the German government to the rebuilding of the infrastructures in the region of the Indian Ocean. The project is funded by the German Federal Ministry of Educational Research (BMBF)

**Indonesian Partners**

State Ministry of Research and Technology (RISTEK)

Meteorological and Geophysical Agency of Indonesia (BMG)

National Coordinating Agency for Survey and Mapping (BAKOSURTANAL)

Agency for the Assessment and Application of Technology (BPPT)

National Institute for Aeronautics and Space (LAPAN)

Indonesian Institute of Science (LIPI)

Ministry of Communication and Information Technology (DEPKOMINFO)

Secretariat of National Coordinating Board for Disaster Management and IDPs (BAKORNAS PBP)

**Project website**
www.gitews.org

*Working Group Padang*

# News from Pilot Areas

**Padang**

On 27 March 2007, Padang Municipality received the BMG Award for its activeness in disaster preparedness efforts, especially in earthquake and tsunami preparedness. The award was directly handed over by President Soesilo Bambang Yudhoyono at the State Palace to the Mayor of Padang Municipality, Drs. H. Fauzi Bahar.

The Mayor dedicated the award to all related stakeholders who have been involved in disaster management efforts in Padang. He especially expressed his gratitude to GTZ IS – GITEWS who has consistently worked alongside the Municipal Government (*Pemko*) in developing TEWS in Padang Municipality.

During a technical meeting between the Padang Working Group and the GTZ-IS GITEWS team an analysis of the current state of tsunami warning dissemination in Padang City was done. Several ad-hoc measures were identified to improve communication especially in black-out conditions or when hand phone communication is down.

GTZ-IS consultant Alex Kesper, who is preparing a guideline on local dissemination technologies, will collaborate with the Padang Working Group to elaborate a case study on the Padang dissemination system.

The second topic of the technical meeting focused on hazard assessment and evacuation planning. The Padang Working Group will be supported by GTZ-IS consultant Katrin von der Dellen, an expert in Geography, in both topics.

Following the GTZ Team visit, the Padang Working Group instantly took action. In line with the previous plan, and under the coordination of Indra Catri, the group immediately organised successive and intensive meetings to formulate the Strategic Plan on Disaster Management for Padang Municipality.

To strengthen their organisational capacity and as one of the elements in PUSDALOPS, the Indonesian Inter-Citizen Radio (*Radio Antar Penduduk Indonesia* / RAPI) has carried out a field visit to the BMG operational office in Padang Panjang and held a mini workshop on Earthquake and Tsunami. The workshop went very well and even attracted the attention of RAPI members in Riau to attend it.

*Aim Zein:*
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Aim Zein, GTZ IS Padang supervisor with Fauzi Bahar, the Mayor of Padang at the State Palace during the BMG Award hand-over ceremony.

Technical Meting between Padang Working Group and the GTZ-IS GITEWS Team analyzing warning dissemination technologies and hazard assessment in Padang

**RENSTRA development in Padang:**

**The Padang Working Group Schedule:**
4 May - continuation of RENSTRA - Meeting
6 May - continuation of RENSTRA - Smoothing
13 May - Focus Discussion Group - Presentations and 1st Hearing with Public

**Next steps in Padang:**

**Padang ready for FM RDS testing in July 2007.**
RISTEK supported RRI Padang with a Computer Set, Internet Installation and 3 months subscription fee. Co-operation between Pemda and RRI Padang already established .GTZ-IS coordinates the testing in Padang.

Participants of the Tsunami Early Warning Assessment Workshop in Bali Province

**Bali**

Bali Island is one of the world's icons of tourism, while at the same time it is located in one of Indonesia's vulnerable hazard areas. Implementing Tsunami Early Warning therefore is not only a governmental issue but also a priority for the private sector. In Bali GTZ-IS has established cooperation on province level, in Badung District and with private sector associations.

A joint agreement regarding Capacity Building for Tsunami Early Warning System and Preparedness was agreement signed on 23rd May 2007 between the **Province Government of Bali** and GTZ IS during the opening ceremony of the TEWS Assessment and Planning in Bali workshop.

The workshop was attended by a total of 90 participants representing provincial public institutions like Public Works, Health, Social, Law, Protocol, Police, Army, Navy, Air Force, BMG, and also from the community, private sector (RAPI, TELKOM, PHRI), PMI (Red Cross), Yayasan IDEP and university (Marwadewa). Mr. MP Sihombing from KESBANGLINMAS Province of Bali, Mr. Harald Spahn from GTZ-IS, and Mr. Jumadi from BMG Bali were the resource persons for the workshop.

The workshop was facilitated by Mr. Gede Sudiartha from PMI Bali, Budi Suharjo (PMI Bali), Benny Usdianto from GTZ IS Yogyakarta, Mrs. Catur Yudha Hariani from PPLH and Mr. H. Iskandar Leman.

The forum concluded with the establishment of a Bali provincial TEWS working group which consisted of 15 persons and an action plan for the implementation of the Tsunami Early Warning

Cooperation with **Badung District** was also formalized by signing a Co-operation Agreement with the Vice Bupati of Badung, Mr. I Ketut Sudikerta, on 21 March 2007. Mr. Yoga Segara as the head of KESBANGLINMAS will be in charge for the operational and technical implementation of the cooperation. As a first step a TEWS assessment and planning workshop was held on 4 – 5 April 2007 attended by 49 participants, mostly from the public sector.

Concepts and guidelines for Evacuation Planning were the topics of a technical meeting on 21-22 May 2007 held at the Meeting Room of the KESBANGLINMAS Regency of Badung. Practical implementation will be done in the Kelurahan Kuta with the support from Matthias Mueck, a geographer from DLR.

Awareness raising for Tsunami Hazard and Preparedness was supported with the distribution of 600 poster to schools, public health centers as well as the Balinese Tourism Associations like BTB, PHRI and BHA.

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*FM RDS - now as temporary service in Bali*

After Bali the FM-RDS technology will be tested also in Padang and Southern Java in the next months. After having concluded all tests, a final decision will be taken, whether and how FM-RDS technology will be introduced as a permanent warning dissemination technology in Indonesia.

As the test results in Bali showed the applicability of FM-RDS for Tsunami Early Warning and the technical system is still in place and working, it was decided by the involved institutions (RISTEK, BMG, RRI Bali) to maintain the warning service via FM-RDS on a temporary basis until the final decision will be taken or further notice.

We will keep you informed.

**Private Sector Partnership**

The framework for a partnership with the tourism sector was discussed on 25th May 2007 between the project and representatives from Bali Tourism Board, GAHAWISRI, PHRI, and BHA. As a first step it was proposed to present the TEWS during the Seminar on Security on the 3rd week of June.

Opening sessions of the first training in Kebumen and the second training in Cilacap. Resource persons from BMG and LIPI.

**Java**

The capacity building process in the Pilot Area of South Java is organized as a series of training workshops facilitated by our project. In between the training sessions the implementation activities are accompanied by the GTZ-IS advisor. The three districts participating in the Java are: Bantul in Jogjakarta, and Kebumen and Cilacap in Central Java.

In the Pilot Area of South Java the capacity building process started with a **Kick off Workshop** and **first training** on the 14th and 15th of March 2007, in Karanganyar - Kebumen, attended by 29 participants representing government and non-government institutions from Bantul, Kebumen and Cilacap Districts.

Resource persons from BMG, LIPI and GTZ provided basic knowledge about earth dynamics, earthquake and tsunami occurrences and the Indonesian Tsunami Early Warning System (INATEWS). Further on the roles and training activities as a realisation of technical cooperation between the Local Governments and GTZ were discussed. Participants, together with other local actors, then assessed the current status of the tsunami early warning system and preparedness mechanism in their respective areas using assessment tools SWOT, Checklist and Stakeholder Analysis.

The assessment results were used as a reference to decide on the kinds and priority of training needs and implementation measures for local tsunami early warning and preparedness.

The local government of Cilacap hosted the **second training** on the 2nd and 3rd of May 2007, attended by some 24 participants from Kebumen and Cilacap Districts. Aside from presenting the results from the follow up activities to complete the assessment, the participants discussed the importance to establish a *24/7* institution - working on 24hours a day and 7days a week – to receive warnings from BMG, decide about actions to be taken and inform the population in the risk areas. Participants also learned about the initiative for vulnerability assessment in Cilacap facilitated by LIPI, which is supported by the GITEWS project. On the second day the concept of hazard assessment was introduced and the participants started identifying hazard zones in Kebumen and Cilacap using topographic maps. The results of the mapping exercise enable them to develop future evacuation plans for their areas.

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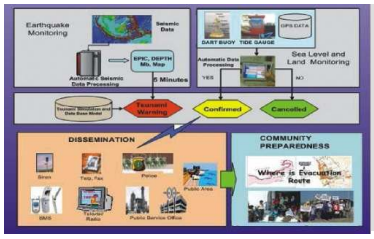
**Workshop Impressions**

Representatives from Bantul explaining progress of early warning already achieved. Bantul established an own siren system for tsunami alerts. **(Kebumen Workshop 14th of March 2007)**

Participants from Kebumen working on delineation of tsunami impact sub-zones on maps **(Cilacap Workshop 3rd May 2007)**

*Discussion of tsunami impact zones based on the experience of tsunami 2006 in south Java on Widara Payung beach, Binangun Sub-district, Cilacap.*






# Our Partners

RESEARCH AND TECHNOLOGY (*RISTEK*) - Journal
Source: www.pirba.ristek.go.id

**"The Sangkuriang Buoys" from RISTEK**

Two buoys have been installed in the northern coast of Aceh and western coast of Sumatra Barat. "We call them the Sangkuriang buoys," said Ridwan Djamaluddin, the Head of the Technology Centre for Marine Survey (*Balai Teknologi Survei Kelautan*) of BPPT.

Just like in the legend of Sangkuriang, in which a lake was said to be formed in a very short time, the system has been developed and installed only in 4 months time. These BPPT' version of buoys was already installed before in other locations which is the southern coast of the Sunda Strait and has been upgraded ever since.

Ridwan admitted that the technology for the Sangkuriang buoy is based on the models from other countries. As a beginner, Indonesia is among the few countries producing tsunami early detection equipment. "While some of the components of the system have to be purchased, most of them are developed by our own experts," said Ridwan further.

Apart from the receiver station at the BPPT office, the Meteorological and Geophysics Agency (*Badan Meteorologi dan Geofisika* / BMG) has built facilities for TEWS operational center purposes. In addition to cooperation among its agencies, the government has also collaborated with Germany, the United States and Malaysia and targeted that by 2008, tsunami early warning system will be operational.

The tsunami early detection technology is only one component of TEWS. There are other components involving the participation of regional governments to ensure rapid information dissemination to the public.

**Initial Discussion on Tsunami Evacuation Drill in 2007 in Banten Province**

On Monday, 28 May 2007, the Ristek Team visited the Provincial Government of Banten to have an initial discussion on the possibility of organizing a Tsunami Evacuation Drill.

The RISTEK Team was received by the Governor of Banten Province herself, Ibu Ratu Atut Chosiyah, and her following staff: Head of BMG, the Regional Development Planning Board (BAPPEDA), the Provincial Office Head of the Mining and Energy Department (DISTAMBEN), the Provincial Office Head of Manpower Department (NAKER), Head of Nation Unity-Community Protection (Kesbang Linmas) of Cilegon and a number of staff from the respective provincial offices.

During the meeting, the Research and Technology Department (Kesmenristek), as represented by Mohammad Rasyid, expressed their interest to organise a Tsunami Drill in the District of Serang and the Municipality of Cilegon of Banten Province on 26 December 2007. Both areas were selected for the drill because both are industrial complex and, base don the available data prone to tsunami.

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**TEWS Training for ASEAN Member Countries**

As a follow-up of the 53rd Meeting of the Committee on Science and Technology (COST) in Da Nang - Vietnam on 23-27 April 2007, Indonesia Tsunami Early Warning System (INA-TEWS) will held training on Tsunami Early Warning System (TEWS). The training is meant for ASEAN member countries and is planned to take place in October 2007.

The training will be coordinated by the Research and Technology Department, which coordinates the development of INA-TEWS.

The training will include the following subjects:

- General design of INA-TEWS
- Earthquake monitoring
- Sea Surface / Ocean Monitoring: Tide Gauge and Buoys
- Tsunami Modelling Dissemination/ ICT System and Warning Centre
- Community Preparedness
- Supporting data (GPS, Geospatial, etc).
- The meeting will be continued with further meetings.

There are 16 national institutions involved in the Indonesian Tsunami Early Warning System. Kemenristek is appointed as Coordinator and eight institutions are appointed as focal points. The appointment is based on the **Decree of the Coordinating Minister for People's Welfare of the Republic of Indonesia in the capacity of Executive Director for National Coordinating Agency for Disaster Management (Bakornas PB), Number: 21/Kep/Menko/Kesra/Ix/2006**, concerning appointment of a Government Institution as Focal Point and establishment of a Tsunami Early Warning System Development Team.


# Our Partners

**Jakarta Tsunami Information Centre (JTIC)**

JTIC is an information website under the Intergovernmental Oceanographic Commission (IOC) and funded by the Canadian International Development Agency (CIDA). It functions to increase and strengthen awareness about Tsunami and the development of the Tsunami Early Warning System in Indonesia through information service.

Under the auspices of UNESCO-IOC, Jakarta Tsunami Information Centre (JTIC) is a centre dedicated to be the clearing house of information on the development of the Tsunami Early Warning System in Indonesia and the point of dissemination of information on tsunami preparedness through a website; www.jtic.org.

In its unique position in Indonesia, JTIC strives to become a quality information centre focusing specifically on tsunami hazard by periodically compiling information and data from verified sources. Its website is presented in two languages (English and Bahasa) and hosts various quality materials (books, booklets, leaflets, posters, newsletter, articles, etc) on tsunami. It is hoped that these quality resources could in turn be of useful reference for decision makers and other stakeholders involved in the development of Tsunami Early Warning System in Indonesia (Ina TEWS) and in conducting public education on tsunami.

This endeavor has been made possible through the cooperation between JTIC and various parties, both national and international, that share their activities and programmes information on the management of tsunami mitigation (upstream and downstream).

Some other features available in the website are guidelines and common knowledge on how people can be prepared for tsunami event and what to do when the hazard strikes; Tsunami glossary; Tsunami Teacher; as well as examples of Tsunami Disaster SOPs from different regions. In its time, it is expected that this website will be the source of information of SOP for area / districts in Indonesia who have not developed SOP for Tsunami Disaster and could make adaptation from the available SOP of other districts.

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*We would also welcome tsunami-related materials to be posted on our website, including the information of your organization's involvement in the development of Tsunami Early Warning System in Indonesia, Tsunami Preparedness, Community Development and Capacity Building for tsunami mitigation in Indonesia.*
*Please send your suggestion, comments, ideas and information to info@jtic.org.*

JTIC website provides a special section called ***Discussion Forum***.

As a starting point, the website has set eight threads currently in place within the Discussion Forum:
(1) Capacity Building,
(2) Community Preparedness,
(3) National SOP,
(4) Local SOP,
(5) Seismic Monitoring,
(6) Oceanographic Monitoring,
(7) Tsunami Modeling and (8) Communication Systems.

JTIC has already gone online, however it is currently at its development stage. Therefore some of the features still have limited information but will continue to be added and updated. We are thus open to suggestion to continue developing and improving the content of JTIC website.

Sector VII Kota Padang, project region for evacuation planning (Google earth satellite image)

# Evacuation Planning in Bali and Padang

**Evacuation Planning**

Although evacuation planning for Tsunami Hazard is the mandate of Local Government, the planning itself is a multi stakeholder task, integrating knowledge from decision makers, experts, local communities, private sector. Different approaches, levels of detail and methods for evacuation planning are necessary depending on whether you plan for cities or rural areas.

## Evacuation Planning in Padang

An inter-institutional working group for evacuation planning "Padang working group" is already established and consists of members of different ministries, fire brigade, police, Armed Forces, SAR, PMI (Indonesian Red Cross), Kogami, Media, National water and electricity company, Telkom, hospitals etc.

Next steps for evacuation planning will be the identification of vulnerable groups, critical infrastructure and high risk public places and buildings. Further more risk and safe zones for horizontal as well as vertical evacuation and evacuation routes will be identified. Based on this information and further information from a hazard assessment a detailed evacuation map for Sector VII of Padang City will be developed.

To coordinate administrative authorities for evacuation and as operational controller for secondary relief units PUSDALOPS (Emergency Operation and Control Centre) is to be set up in Padang. The official regulation for these competences of PUSDALOPS isn't ratified by the local government yet, but expected for early 2008.
The operability of the emergency units was first proven when recently 5m waves in Padang - caused by persistent winds from the Indian Ocean coinciding with the arrival of the lunar tide - damaged several settlements near the northern beach of Padang. The fire brigade, police, navy and Kogami evacuated 500 persons which found temporary shelter in tents.

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## Evacuation planning in Bali

The village of Kuta in Badung district was selected as a pilot study area for the mapping process because of it's representative structure for touristic coastal areas.

Evacuation maps will be developed based on a methodical approach considering hazard and vulnerability elements as well as planning components for responsible authorities. During the working process risk zones vulnerable to tsunami impact and applicable evacuation components will be defined.

As a first step, all relevant authorities providing spatial and statistical data were contacted. The responsible political authority is KESBANGLINMAS. During the last two months all further proper authorities were contacted to define cooperation mechanism and joint working plan.

Furthermore all local stakeholders working with maps and spatial information (BMG, PMI, BAPPEDA, DKP) were involved in the mapping process. Previous experiences and knowledge were exchanged and further steps discussed during a technical meeting in May 2007. The available spatial data for the village of Kuta are already implemented in a digital base map.

For the mapping process further data is required. In cooperation with different stakeholders (BMG, PMI) an applicable method to gain data by field work visits will be developed. The obtained data will be integrated in the mapping process to complete spatial elements as decision support for evacuation planning.

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**Kuta – Base Map**

As a further component part of the evacuation planning process, the setup of a spatial information tool using Geo Information System (GIS) is also in progress. For the study area Kuta, spatial analyses will be conducted considering potential scenarios of tsunamis for the coastal area. The main objectives are giving a statement about the endangerment of the study area, decision support in case of a tsunami event and the development of an information tool which is transferable to other coastal areas with same environmental properties. The tool will be developed in view of local application possibilities and technical know-how.

**Kuta –
Google Earth Image**

Parangtritis and other popular beachs in Bantul visited by many local tourists and rather densely inhabited.

# The Siren System for Tsunami Early Warning in Bantul District

The tsunamis which hit Aceh (2004) and Pangandaran (2006) encouraged the local government and the community of Bantul District to immediately implement tsunami early warning by installing sirens in the south coast of Bantul. Beaches in Bantul also suffered from the wave impacts caused by tsunami from southern Java in 2006, where the most damages occurred in the coast of Pangandaran.

In 2005, Local Government of Bantul installed the first 3 manual tsunami alarm units, 2 of them contributed by the Provincial Government of Yogyakarta. End of 2006, Bantul added 5 new units, which can be operated from long distance, and modified the 3 units previously set up. Each alarm unit is equipped with 5 to 6 loud speakers. These 8 alarm units are installed in 8 sub-villages along the coast of Bantul. Within a distance of 500 meters from the coastal line in Bantul about 20 thousand inhabitants are living and there are also some public facilities and infrastructure.

The command control is positioned at the official house of the Head of District and the BMG Office in Yogyakarta. Such that, upon receiving warning messages from BMG, personnel operating the command control can activate siren sound and disseminate verbal warning messages to the community. The loud speakers can be heard by people within the radius of 200 meters or more, depending on the wind direction on the beach.

The installation of the EW tools is primary meant to disseminate warning messages related to earthquake and potential tsunami received from BMG to the community. The dissemination system will also be used for other frequent hazards in the area, for example tidal waves, storms and floods. The alarm units are occasionally used to deliver verbal messages of particular social activities to the local people. A Repeater has also been installed in Bantul to support two-ways communication between SATLAK, BMG and SAR.

The implementation of the siren system in Bantul cost approximately 400 million rupiah, which was sourced from the contingency fund of the local government. All the work was done by local technicians, in a way that easy handling and maintenance as well as cost effectiveness is assured.

*Taufik Faqih Oesman (SAR)*
*Mohammad Ayub (Technician)*

**Command control** **Command distributor** **Public address**

The Head of Bantul District, Idham Samawi, fully supports implementation of tsunami early warning system in Bantul.

Since 2006, the local government of Bantul has also carried out some preparedness activities. Among other a evacuation simulation involving about 1000 people from Kretek village, school pupils, members of SATLAK, Police, Military, Indonesian Red Cross, and other relevant institutions. Socialization of information about earthquake and tsunami to the people was done in some villages through meetings, distribution of leaflets, interactive dialogues at private radio stations and placing evacuation route signs. The local government of Bantul is presently reorganising land use of areas within a distance of 500 meters from the coastal line.


# Auto Assessment Tool

**The Checklist**

Establishing Tsunami Early Warning in Local Communities requires assessing what is already in place, planning the activities to implement all required elements of the Early Warning System and monitoring the progress achieved. For this purpose the GTZ-IS Team developed a checklist to serve as a simple tool for local decision makers and stakeholder involved in the implementation of Tsunami Early Warning on community level in Indonesia

The Checklist was designed to be used by local actors on their own, without requiring external expertise or resources. However, it has to be stated that self assessments are not effective without a self critical attitude and an open mind.

**Contents of the Guide**

Early Warning is the provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response (ISDR).

A complete and effective people centered early warning system comprises four inter-related elements: (1) risk knowledge; (2) technical monitoring and warning service; (3) communication and dissemination of warnings; and (4) community response capability. Best practice early warning systems also have strong inter-linkages and effective communication.

The checklists are structured around these four key elements. Additionally a number of cross cutting issues that are critical to the development of the Indonesian Tsunami Early Warning System have been outlined.

The document consists of two inter-related parts. For each key element the first part provides useful background information and overarching issues related to the Indonesian Tsunami Early Warning System.

The second part is a series of practical checklists of actions and initiatives that should be considered when developing or evaluating the progress of the Tsunami Early Warning System.

**Using the Checklist**

The checklists were developed to be used as a

1. **Assessment tool**
   - to identify the actual situation of the local community regarding Tsunami Early Warning
   - to identify weaknesses and opportunities as well as potentials for improvement
   - to identify stakeholders involved
2. **Planning tool**
   - to identify the aspects where action is needed
   - to prioritize the topics
   - to define objectives for working groups
   - to develop an action plan
3. **Evaluation tool**
   - to monitor and evaluate the progress and achievements during the implementation process
   - to maintain and the system once established

The checklist is available at our project office or you can download it from:
www.jtic.org

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GTZ-GITEWS
Assessment Tool

**"Implementation of Tsunami Early Warning in Indonesian Local Communities"**

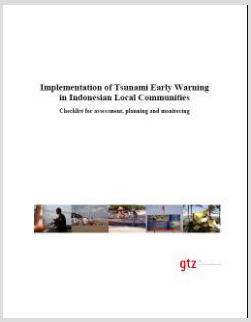
Checklist for Assessment, Planning and Monitoring

by

GTZ-IS GITEWS Team

April 2007

This Checklist was designed by adapting the framework and guideline questions from the "Checklist for Developing Early Warning Systems", which was developed during the EWC III Third International Conference on Early Warning "From concept to action", 27 – 29 March 2006, Bonn, Germany.




As the implementation of Tsunami Early Warning is a multi-stakeholder task, an explanation of the main **actors** involved, and their roles and responsibilities is included. In each local community it will be necessary to identify the relevant actors to be involved in developing the different elements of the Early Warning System. Additionally a **Stakeholder Analysis Tool** is included to facilitate identifying roles and responsibilities of each local actor involved.

# STUDY ON LEGAL FRAMEWORK OF INDONESIA EARLY WARNING SYSTEM

## Baseline Study

**A study on legal framework**

was carried out to examine the integration of the tsunami early warning systems in national and regional legislation. The study is also expected to help stakeholders to assess whether the existing legislation related to early warning clearly raises the responsibility issues between national and local level and how it is related to the regional autonomous governance system.

**Hierarchy of Indonesian Legislative Regulations**

In the Indonesian legislative there are 5 orders of hierarchy:

1. **The Constitution (*UUD*) 1945**,
2. **National Law (*UU*) / Substitute Regulation for Law (*Perpu*)**,
3. **Government Regulation (*Peraturan Pemerintah*)**,
4. **Presidential Regulation (*Peraturan Presiden*),**
5. **Regional (*Province, District/ Municipality, Village*) Regulation**

The region has obligations to draft and execute the legislative instruments in order to provide public protection (within their authority), including regulations either at provincial level and regency / municipal level, or through governor or regency / municipal decree on early warning systems.

For example, West Sumatra & Padang City has drafted a regional legislation on Disaster Management including Early Warning issues as their initial effort in providing protection to the community.

**A definition of Early Warning**
can be found in the Presidential Regulation (PP) No. 50 / 2005 on National Private Broadcaster and in The Law 24/2007 on Disaster Management that has recently been approved by the House of Representatives (DPR). However, both legislations define early warning differently from the international definition by UNDP / UNISDR.

**Roles & responsibilities**
There is no legislation specifying the early warning as a system requiring the definition of roles and responsibilities of involved institutions from national to local level.

Nevertheless, general guidelines (PROTAP) related to the Tsunami Early Warning System has been arranged including the definition of roles & responsibilities of involved institution, such as:

MENKOKESRA→ in coordinating policies; DEPDAGRI → in preparing policies related to local government; BMG → in arranging observation mechanism & warning dissemination; DEPKOMINFO → in preparing policies on disaster information dissemination in timely & uninterrupted basis; PEMDA → in socializing early warning to community.

In relation to the question who is authorised to declare the state of emergency or danger situation and who is authorized in ordering evacuation:

UUD 45 dan Perpu 23/1959 states that the President is the one authorized in declaring the state of emergency, and has a right to appoint the Head of Region as regional civil emergency authority.

The Law 24/2007 state that the disaster emergency status is stipulated by the President for the National scale; by the Governor for Provincial scale, and by Bupati / Walikota for District / City Scale.

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**List of Legal Frameworks under Study**

The 1945 Constitution (**UUD '45**)

18 Laws (**UU**)

1 Draft Law (**RUU)** on Disaster Management

1 Government Regulation (**PP**) on National Private Broadcaster

Ministerial Regulation (**Per Men)** of the Minister of Home Affairs Department (DEPDAGRI) & the Minister of Communication and Information Department (DEPKOMINFO)

6 Presidential Decrees (**Keppres**)

3 Presidential Regulations (**Perpres**) on BAKORNAS, BMG, & DEPKOMINFO)

2 Governor Decrees (**SK Gub)** of Sumatra Barat

1 Mayor Decision (**SK**) of Padang Municipality

1 Draft Regional Regulation (**Ranperda**) of Padang Municipality on earthquake or tsunami disaster management

***Recommendations***

*Relevant institutions such as the BMG, DEPDAGRI, & DEPKOMINFO should **initiate the development of legislative regulations on EWS** in their lines of authority.*

*As West Sumatra & Padang City has initiated, the Regional Governments, especially whose areas are prone to tsunami, **should develop the Regional Regulation on EWS** to ensure protection of the people as stipulated in the Law No. 32 Year 2004 on Regional Government.*

*Considering the number of institutions involve in EWS from National to local level, it is necessary to regulate their roles & responsibilities in the specific legislation.*

# GTZ IS contribution to GTZ SEQIP 'DAPS' Project

The Disaster Awareness in Primary School (DAPS) Programme Phase II focuses on the development of modules on flood, landslide and tsunami.


The module has been implemented in earthquake and tsunami-prone areas covered by GTZ-IS GITEWS, including Padang, Bali, and Java (Bantul, Kebumen and Cilacap) during 19 to 25 March2007.

In this case, GTZ IS has particularly contributed to the development of a Tsunami evacuation mapping module. The module has been designed to assist primary schools with awareness on the significance of a tsunami evacuation map and the knowledge on how to develop a simple tsunami evacuation map.

It is expected that in the long run the module will be incorporated into the primary school curriculum in Indonesia.
It was suggested to include the development of tsunami evacuation plan as one of the topics in the visual art school subject or reading sessions on earthquake and tsunami disaster during Indonesian Language school subject.

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## Supporting Us:

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Katrin is a Geographer with first experience in Disaster Risk Management during an internship at the GTZ Advisory Project Disaster Risk Management in Eschborn in 2006. Currently participating in hazard assessment and evacuation planning for the city of Padang.

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Titis used to work in art-related activities. The Yogya earthquake in 2006 has inspired her to become a NGO's volunteer for emergency & recovery works, particularly in sanitation & health sectors. She joint GTZ-IS/GITEWS in April 2007.

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Matthias, from University of Regensburg in Germany is working currently on tsunami evacuation planning in Bali. He has experience in applying Geo Information Systems (GIS) and Remote Sensing Data. His work is supported and attended by the German Aerospace Center (DLR).

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