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## US IOTWS Small Grants Program

# Natural Tsunami Warnings: Reading the Signs

BUILDING COMMUNITY CAPACITY AND TECHNICAL ASSISTANCE TO EFFECTIVELY RESPOND TO WARNINGS OF TSUNAMIS AND OTHER HAZARDS



Top: Community workshop in Koh Lanta, June 13, 2007

Bottom: International workshop in Krabi, June 18-20, 2007

### US IOTWS Small Grants Program

The US Indian Ocean Tsunami Warning System (IOTWS) Program has funded 17 small grants in India, Indonesia, Sri Lanka, and Thailand as part of its \$16.6 million two-year effort to support the development of an end-to-end warning system in the region. The grants program catalyzed and promoted pilot activities that contribute to community and bottom up results in disaster mitigation, preparedness, and response.

### Building Community Capacity and Technical Assistance to Effectively Respond to Warnings of Tsunamis and Other Hazards

In 2005 an international group of researchers interviewed 663 community members from across Thailand's six tsunami-affected provinces to understand their experiences during both the December 2004 tsunami and the subsequent March 2005 tsunami warning and evacuation.

In 2006 East Tennessee State University (ETSU) and the Save Andaman Network (SAN) collaborated to analyze, understand, and disseminate the information gathered during the interviews in order to build the capacity of communities to detect, recognize, interpret, and effectively respond to formal, informal, and natural warnings of tsunamis and other hazards.

### Project Achievements

A comprehensive set of educational materials was developed through the project, including a summary booklet, video and still photography, a DVD, a cartoon book, exhibition posters, and a sample curriculum. Through a series of seven workshops at the community, provincial, and national levels, a total of 250 people have been trained and five government agencies have received technical support on tsunami warning. At the regional level, participants from eight organizations in India, Sri Lanka, the Maldives, and Indonesia took part in more intensive train-the-trainer sessions on warning systems.

In addition, a research team identified promising new ways to increase the efficacy of tsunami warning systems. Warning systems often focus on technical components and official notification roles, to the neglect of considering social aspects, informal notification mechanisms, and natural environmental alerts. Previous studies have shown that tsunami education programs may not increase the level of community preparedness if they do not also address how communities evaluate risk; the benefits of mitigation efforts; and the need for personal responsibility.



The cartoon book helps young children learn how to effectively respond to different types of tsunami warnings.

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The team undertook this study in tsunami-affected communities of southern Thailand and identified an effective model for warning systems that integrates social as well as technical components. The findings for improving tsunami warning systems, such as the greater inclusion of communities in national disaster management and warning efforts, were presented at the international workshop from June 18-20, 2007, in Krabi, Thailand.

### Lessons Learned

- In almost all cases in Thailand's coastal communities, natural precursors such as receding shorelines were not recognized as tsunami warnings. Therefore they did not trigger appropriate responses such as evacuation and sheltering.
- Formal, informal, and natural warnings all have their strengths and weaknesses. An effective warning system should therefore integrate all three types of warnings.
- Public education, community empowerment, and psychological intervention are key factors to consider when building the capacity to respond to warnings.

### Next Steps

As part of its ongoing work with communities in Thailand's six tsunami-affected provinces, SAN will continue to disseminate educational materials, train communities, and provide technical support to government agencies. Throughout 2008 and working with key partners in the area, SAN plans to use the sample curriculum as a pilot in a local school, and to evaluate the breadth of use and effectiveness of the educational materials in 2008.

### About ETSU and SAN

ETSU in the United States has nearly 200 undergraduate, graduate, and medical programs of study. It is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools.

SAN in Thailand is a network of individuals and public and private sector organizations. It was formed in December 2004 to provide rehabilitation for small-scale fisher-folk communities affected by the tsunami.

For more information on activities or partnership opportunities with ETSU or SAN, visit:

ETSU – [www.etsu.edu](http://www.etsu.edu)

SAN – [www.saveandaman.com](http://www.saveandaman.com)

### About the US Indian Ocean Tsunami Warning System (IOTWS) Program

The US IOTWS Program is part of the international effort to develop tsunami warning system capabilities in the Indian Ocean following the December 2004 tsunami disaster. The US program adopts an "end-to-end" approach—addressing regional, national, and local aspects of a truly functional warning system—along with multiple other hazards that threaten communities in the region. In partnership with the international community, national governments, and other partners, the US program offers technology transfer, training, and information resources to strengthen the tsunami warning and preparedness capabilities of national and local stakeholders in the region. For more information please visit [www.us-iotws.gov](http://www.us-iotws.gov).

