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U.S. Contribution to the Indian Ocean Tsunami Warning System

March 2007
US IOTWS Program Update

US Indian Ocean Tsunami Warning System (IOTWS) Program
from advanced technologies to resilient communities

National Workshops on Coastal Community Resilience (CCR) in Sri Lanka and Indonesia

February 26-March 2, 2007, Ahungalla, Sri Lanka; March 26-30, Jakarta, Indonesia

Over 65 participants from government agencies, NGOs, and universities in Sri Lanka and Indonesia shared their experiences on coastal community resilience (CCR) and learned about new tools that can be used to analyze and prepare for hazards. Initiated through the US IOTWS Program with partners from throughout the region, CCR provides a holistic framework to address the increasing risks from coastal hazards and vulnerable communities living in coastal areas.

Photo: US IOTWS Program

CARE Indonesia facilitating a field mapping exercise during the workshop in Jakarta

During the two workshops, US experts trained participants on methods to assess and strengthen resilience, based on eight elements: governance, socio-economic and livelihood assets, coastal resources management, land use management and structural design, risk knowledge, warning and evacuation, emergency response, and disaster recovery. The presentations and exercises were designed to help participants in understanding the technical and practical issues in building coastal community resilience.

Photo: US IOTWS Program

Participants at the CCR Indonesia workshop

Both events concluded with several national Sri Lankan and Indonesian agencies committing to immediate action plans for using the CCR approach and assessments in selected communities. The participating agencies also shared their plans for incorporating CCR into their ongoing work plans. The next National Workshop on CCR, in Thailand, will be during June 4-8, 2007.

Tsunami Geology Field Training on Phra Thong Island, Thailand

February 28-March 7, 2007, Phra Thong Island, Thailand

Geologic field work supported by the US IOTWS Program has begun to clarify Indian Ocean tsunami history and hazards. From February 28 to March 7, 2007, a team of Thai, Indian, and U.S. scientists uncovered evidence for pre-2004 tsunamis on Phra Thong Island, Thailand. As shown in the photo to the right, four beds of light-colored sand each rest on dark soil. The uppermost sand bed records the tsunami of December 26, 2004, and the underlying sand beds probably represent earlier tsunamis from the past few thousand years. Further study of such evidence is likely to show how often the Indian Ocean is engulfed by tsunamis like the one in 2004. The resulting estimates of tsunami frequency can help provide guidance to Indian Ocean governments and other stakeholders on locations for detection devices and foster more resilient coastal development.

Photo: Brian Atwater

Layer-cake evidence for four Indian Ocean tsunamis surrounds Kruawun Jankaew, a geologist at Chulalongkorn University, Thailand. Dr. Kruawun led the international team that made this discovery in March 2007.

USAID Concludes Study on Sri Lankan Policies and Institutional Capacity for Early Warning and Disaster Management

March 7, 2007, Colombo, Sri Lanka

Under the USAID-funded US IOTWS Program, the Asian Disaster Preparedness Center (ADPC) and several U.S. Government experts recently concluded a study of the policies and institutional capacity for early warning and disaster management in Sri Lanka. At a national consultative meeting, 20 high-ranking Sri Lankan disaster management officials reviewed the findings of the assessment and its recommendations. Based on those findings, the Sri Lankan government has agreed to establish a national committee to develop impact outlooks with warning information; pilot an early warning system and communication plan; and develop local standard operating procedures (SOPs). The US IOTWS Program conducted similar studies in Indonesia and Thailand and will soon hold national consultations with these countries.

Photos: Ramraj Narasimhan

Mr. Benjamin Kauffeld (right), USAID Sri Lanka, and Major General Gamini Hettiarachchi, Director General of the Sri Lankan Disaster Management Center, address the national consultative meeting on Sri Lanka's policies and institutional capacity for disaster management.

Indonesians Receive Radio Phones and Training to Rapidly Communicate Emergency Information

March 20-23, 2007, Jakarta, Indonesia

In March, the US IOTWS Program introduced a critical communications technology to Indonesia's tsunami warning system, and other countries. Leading up to World Meteorological Day on March 23, the U.S. National Oceanic and Atmospheric Administration (NOAA) distributed 150 radio phones and trained 25 disaster management technicians from the region on RANET warning communications. Ten Asian countries participated in the training including the technical field staff from Indonesia's Meteorological and Geophysical Agency (BMG)

stations and communications staff from the Ministry of Marine Affairs and Fisheries. NOAA developed RANET as a community-based emergency communications system to reach the "last mile" in developing countries and remote locations. To date, 150 RANET units are being disseminated to tsunami-affected communities in Indonesia and another 50 units in Sri Lanka. The radios were featured in exhibits for World Meteorological Day. USAID, NOAA, and BMG jointly sponsored trainees from the 10 countries in order to promote greater sharing and cooperation at a regional level.

BMG Celebrates World Meteorological Day

March 23, 2007, Jakarta, Indonesia

The Meteorological and Geophysical Agency (BMG) of Indonesia and the Ministry of Home Affairs hosted a World Meteorological Day workshop on March 23, with the participation of 23 governors and 40 mayors from across the country. The workshop aimed to raise awareness of the importance of effective monitoring and forecasting systems, with a focus on developing local tsunami early warning systems in Indonesia. Representatives from the US IOTWS Program participated, including the U.S. Forest Service, Asian Disaster Preparedness Center, U.S. National Oceanic and Atmospheric Administration (NOAA), and Mayor Harry Kim of Hawaii County. The Minister for Communication Ir. Hatta Rajasa, Minister for Research and Technology Dr. Kusmayanto Kadiman, and Minister for Home Affairs Mohammad Ma'ruf provided key note speeches. President H.E. Susilo Bambang Yudhoyono presented awards to local administrations, the media, and other agencies for their active roles in disseminating early warning information to the public. Participants also identified strategies for further investments in the system and toured an exhibit of forecasting and warning technology, including the RANET system and others. Remarking on BMG's collaboration with NOAA to introduce RANET, BMG Director General Ir. Sri Woro Harijono mentioned the RANET Training Course on Tsunami Warning Dissemination conducted March 20-22 and said, "*This system is making use [of] the satellite communication system AsiaStar which is free of charge and able to broadcast information to all the remote islands in Indonesia.*"

UPCOMING US IOTWS PROGRAM AND RELATED ACTIVITIES

Advanced ICS Course, April 6-22, 2007
USA
For more information contact S.H.M. Fakhruddin, US IOTWS Program, at fakhruddin@adpc.net

Workshop on Local Standard Operating Procedures (SOP), April 10-12, 2007
Indonesia
For more information contact Stacey Tighe, US IOTWS Program, at stighe@cbn.net.id

Thailand National Consultation on Assessment of Policy and Institutional Capacity for Disaster Management, April 27, 2007
Thailand
For more information contact S.H.M. Fakhruddin, US IOTWS Program, at fakhruddin@adpc.net

Indonesia Basic/Intermediate ICS Training Course, April 30-May 4, 2007
Jakarta, Indonesia
For more information contact S.H.M. Fakhruddin, US IOTWS Program, at fakhruddin@adpc.net

Regional Sharing of Best Management Practices on Incident Command Systems for Disaster Management, May 8-11, 2007
Jakarta, Indonesia
For more information contact S.H.M. Fakhruddin, US IOTWS Program, at fakhruddin@adpc.net

Thailand National CCR Training, June 4-8, 2007
Thailand
For more information contact Atiq Ahmed, US IOTWS Program, at atiqka@adpc.net

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**.