

Determination of Hazard from the National Level: Sri Lanka Experience

Nuwan Waidyanatha
November 19, 2007
New Delhi, India



www.lirneasia.net

No "button" pressed for Dec. 26, 2004 Tsunami

- ❑ **00:58:53 UTC:** A monster earthquake, measuring 9.0 on the eastern Indian Ocean near Sumatra, Indonesia, causes an enormous wave packet that starts moving towards northeast and southwest.
- ❑ **02:33 UTC:** A tsunami hit the east coast villages in Sri Lanka.
- ❑ **03:45 UTC:** PTWC received a call from a Sri Lankan Navy Commander inquiring about the potential for further tsunami waves from aftershocks.
- ❑ Geological Survey and Mines Bureau of Sri Lanka knew of the occurrence of the earthquake. Not tasked to issue warnings and did not have the capacity to interpret seismic data



www.lirneasia.net

"Button" pressed on 12 Sept. 2007, but...

- ❑ **4:40pm (IST):** Earthquake hits off of southern Sumatra
- ❑ **5:18pm (IST):** Authorities are saying "warning" at a time when only "alerts" should be sent out.
- ❑ **5:55pm (IST):** Radio and tv stations have issued a tsunami warning. PTWC issues a tsunami watch for Sri Lanka.
- ❑ **5:57pm:** The DMC issues a tsunami warning, people near beaches urged to evacuate.
- ❑ **6:00pm:** Sarvodaya DD reports that the HIH will be manned overnight by two HIH personnel. If required a voice alert by the ED will be issued to all Sarvodaya villages.
- ❑ **6:05pm:** SL's largest phone provider, Dialog Telekom, is having difficulty obtaining information from the DMC. Then the phone lines start getting cut. Only SMS messages seem to be getting through.



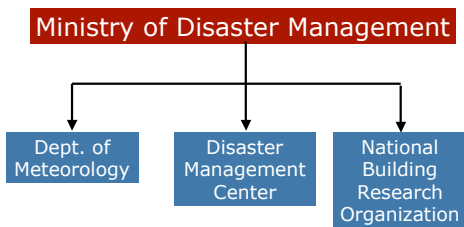
www.lirneasia.net

"Button" pressed on 12 September, but... (cont'd)

- ❑ **6:11pm:** Tsunami warning confirmed for the eastern,northern and southern SL coasts from the Met Dept..
- ❑ **6:25pm:** DMC sends another SMS warning for North, Eastern and Southern coasts, people are to move from the coast.
- ❑ **6:26pm:** CNN reports there is no indication that a tsunami has been generated
- ❑ **6:36pm:** TV- Met Dept. reports existence of a tsunami warning. People advised to stay away from the coastline.
- ❑ **6:44pm:** MDMHR secretary says that people need to be vigilant and evacuate.
- ❑ **6:48pm:** A small tsunami has hit Padang, Indonesia. SriLanka expects a small tsunami by 7:30.
- ❑ **7:34pm:** The DMC sends another SMS lifting the tsunami warning. USGS has increased quake magnitude to 8.2.
- ❑ **8:05pm:** CNN reports tsunami threat passed. Dialog Telekom has made a cell broadcast the following message "Tsunami Warning Avoi".

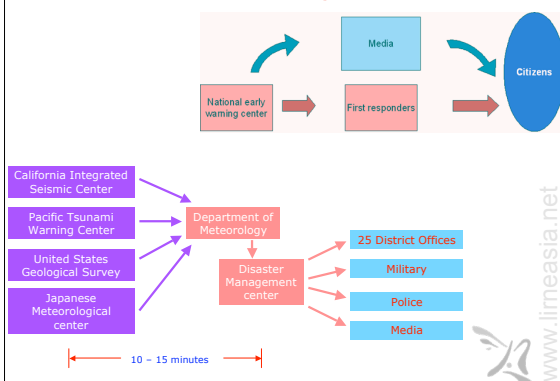
www.limeasia.net

Disaster Management in Sri Lanka - Operative Structure



www.limeasia.net

Tsunami Warning Process



www.limeasia.net

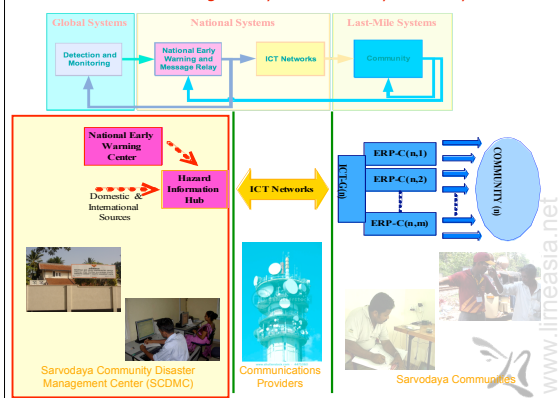
Categories of Tsunami Notification in SL

- ❑ $6.5 < M < 6.9$ EWC officials keep close watch on the sea level situation. **No official bulletin will be issued.**
- ❑ $7.0 < M < 7.4$ Earthquake **Information** Bulletin will be issued as soon as possible stating the location, magnitude and the outlook.
- ❑ $7.5 < M < 7.7$ Tsunami **Advisory** Bulletin will be issued requesting people in the coast line to be vigilant and to be ready for evacuation at short notice. **notice.**
- ❑ $7.8 < M$ A Tsunami **Warning** will be issued with evacuation notice.

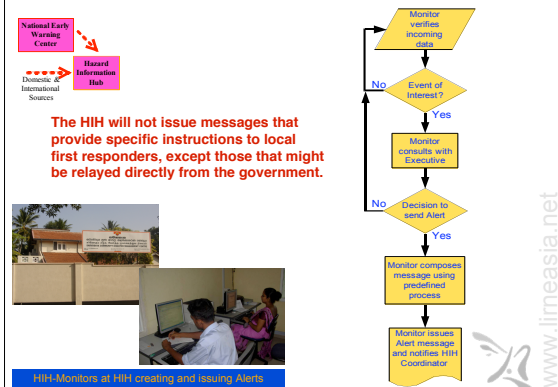


www.limeasia.net

Decision and Message Relay in Community-based System



Hazard Information Hub Standard Procedures

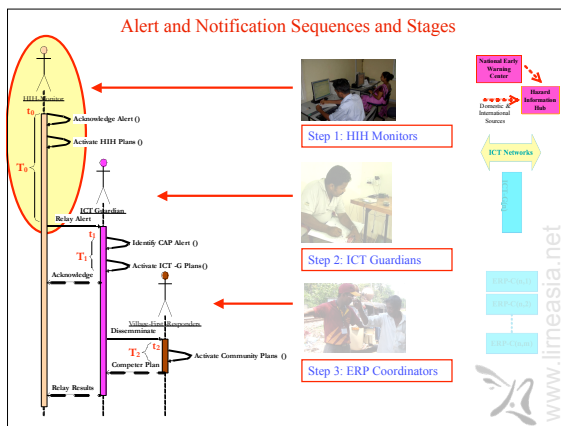


EOI form and Effectiveness Measure

□ Effectiveness of the **HIH Monitor** was measured based on whether they were capable of --

- Extracting and Recording the mandatory CAP elements (qualifiers) from the received bulletin
- Deciding on and Recording the Priority of the hazard and set the CAP attributes <certainty>, <severity>, and <urgency>
- Accuracy of recording the necessary and sufficient information on the EOI
- Providing the minimal set of information for Executive to make decision on authorizing dissemination to local level

The EOI form is a structured document for recording hazard information. It includes sections for 'INFORMATION SIGNATURE', 'APPROVAL SIGNATURE', 'NAME', 'POST NAME', and 'ST. ADDRESS'. Below these are checkboxes for 'CERTAIN', 'SEVERE', 'URGENT', and 'OTHER'. There are also checkboxes for 'DISSEMINATION' and 'ACTION'. The form is labeled 'Page 1 of 1' and has a watermark 'www.limeasia.net'.



Performance of the Hazard Information Hub

