Experience from Asia Pacific Region

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ITU Regional Office for Asia and the Pacific

Regional Joint Conference on “Disaster: Relief and Management – International Cooperation & Role of ICT”

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Outline

- Introduction
- ITU Activities
- Findings and Outcomes
- (Country) Initiatives/Activities in ASP
- Conclusion and Recommendations

Introduction

ITU Regional Office for Asia and the Pacific

Regional Office

Bangkok, Thailand

Head: Dr. Eun-Ju KIM
3 professionals
3 administrative staff

→ Australia, Bangladesh, Bhutan, China, Hong Kong (China), India, Japan, Maldives, Mongolia, New Zealand, Nepal, Korea (Republic of), Sri Lanka, Thailand, Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Papua New Guinea, Solomon Islands, Samoa, Tonga, Tuvalu, Vanuatu

Area Office

Jakarta, Indonesia

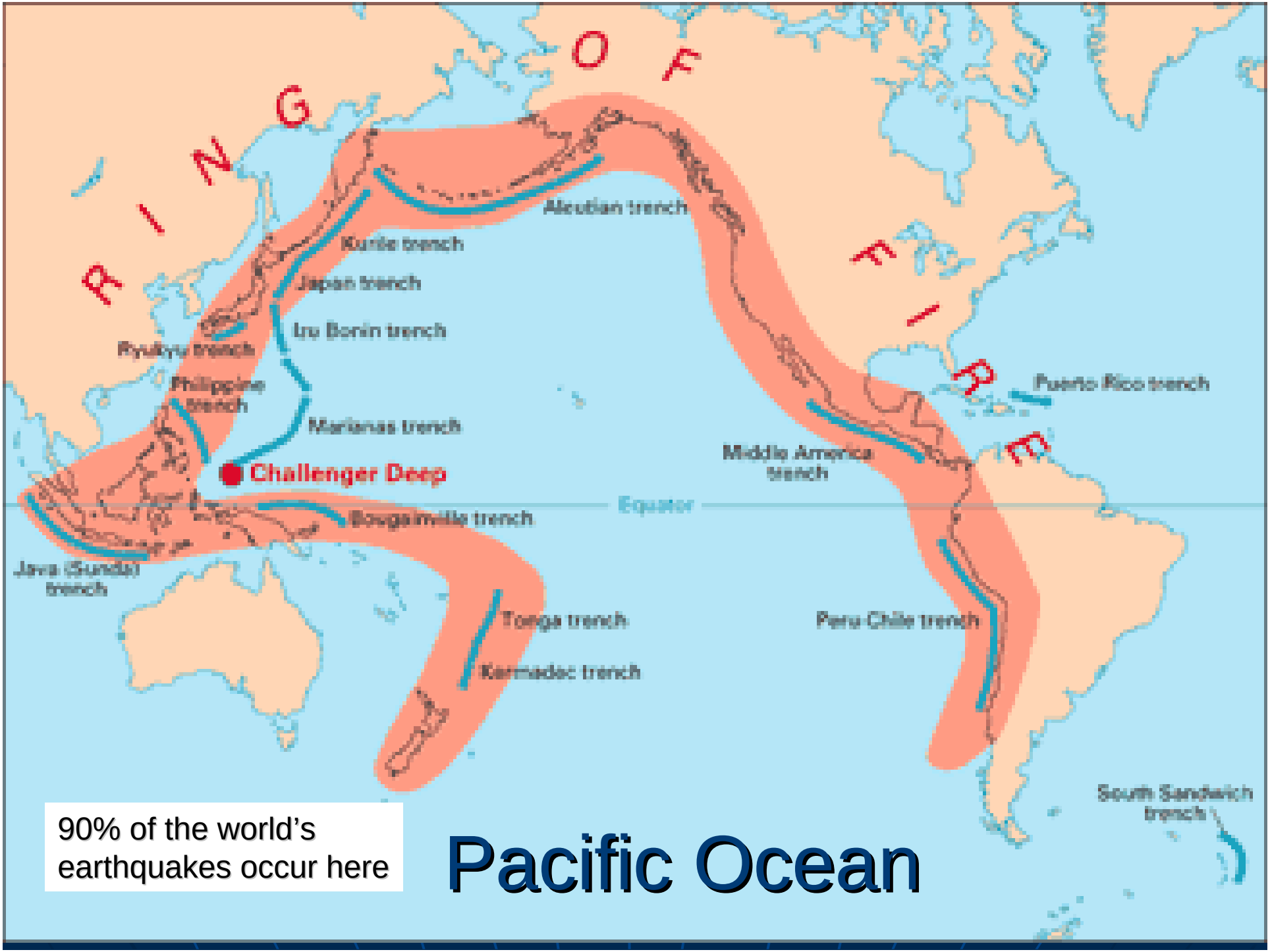
1 professional
2 administrative staff

→ Afganistan, Brunei, Cambodia, DPR Korea, Indonesia, Iran, Laos, Malaysia, Myanmar, Pakistan, Philippines, Singapore, Vietnam, [Timor Leste]

Disaster Threats in ASP

- STORMS including tropical storms, Cyclones, Typhoon, storm surges, hail storms
- FLOODS including flash floods, river floods, mountainous flash floods, tidal waves, sea-level rise
- LANDSLIDES including mud slides/mud flows, wrecking havoc
- DROUGHT
- FOREST FIRES
- EARTHQUAKE
- TSUNAMI
- Others e.g. avalanches, cold/heat waves, man-made disasters

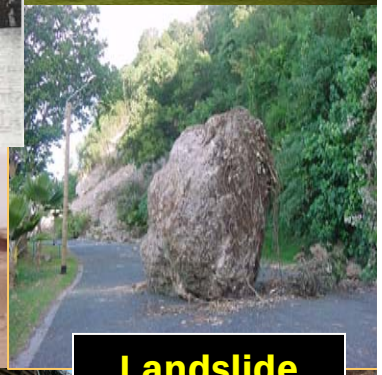

Asia Pacific
Kazakhstan
Mongolia
Drought, Avalanches
Uzbekistan
Kyrgyzstan
N Korea
日本
Japan
S Korea
China
Afghanistan
Landslide
Pakistan
Nepal
India
Flood, Drought
Myanmar
Typhoon
HI
Thailand
Vietnam
Cyclone
Malaysia
Indonesia
Earthquake
+
Tsunami
Papua New
Guinea
Earthquake
+
Tsunami
Indian
Ocean
NT
QLD
Australia
WA
SA
NSW
VIC
TAS
New Zealand


RING OF FIRE
Aleutian trench
Kurile trench
Japan trench
Izu Bonin trench
Ryukyu trench
Philippine trench
Marianas trench
Challenger Deep
Bougainville trench
Java (Sunda) trench
Tonga trench
Kermadec trench
Middle America trench
Puerto Rico trench
Peru Chile trench
South Sandwich trench
Equator
90% of the world's earthquakes occur here
Pacific Ocean

Disaster Threats in ASP

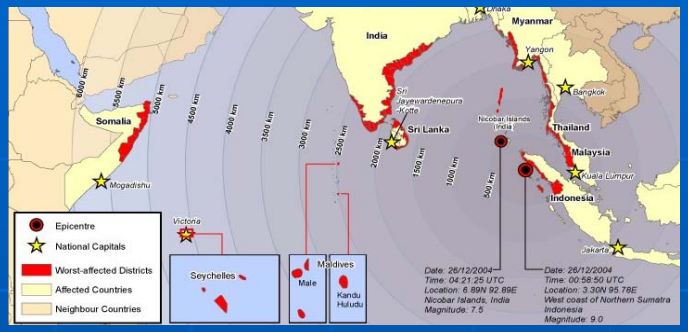
Floods

Tsunami



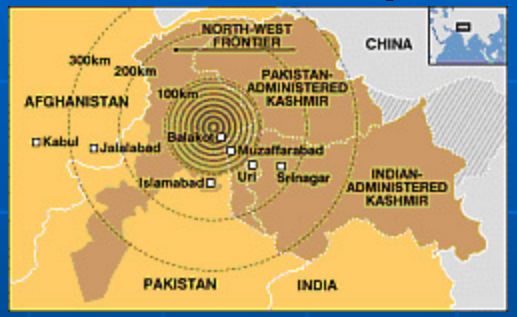
Landslide

Some Major Disasters in ASP, *to name just a few,*



Dec 2004 Tsunami

Oct 2005 South Asia Earthquake



May 2006 Indonesia Earthquake

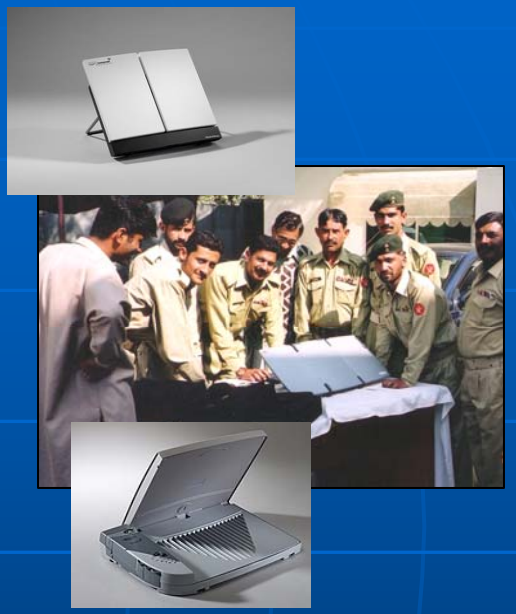
Nov 2006 Typhoon *"Durian"*

Apr 2007 South Pacific Tsunami (Solomon Islands)

ITU Activities

ITU Response Effort in ASP

- Indian Ocean Tsunami, December 2004
  - Provided 14 satellite terminals (GANS) & training to Sri Lanka
  - Sent an expert to Thailand to conduct training



- South Asia Quake, October 2005
  - Provided 55 satellite terminals (GANS) to Pakistan
  - Trained government officials and physicians how to use the equipment

- Java Earthquake, May 2006
  - Provided satellite imagery, mapping services and training for post-disaster telecommunication network planning, rehabilitation and vulnerability reduction

ITU Activities in ASP

- Assessment in Four Countries
  - Under Telecom Surplus (now ICT Development Funds), assessed the damage to the telecommunication infrastructure in Indonesia, Bangladesh, Maldives, and Sri Lanka
  - Delivered study reports including assessment of telecom infrastructure for emergency communications and recommendations
- Workshop on Disaster Communications
  - Organized workshops in Sri Lanka and Bangladesh
  - Disaster management stakeholders were invited and discussed issues/challenges and ITU's recommendations
  - Interim national emergency/disaster communication team/committee was formed
- ITU/ESCAP Joint Regional Workshop on Disaster Communication for Asia Pacific
  - Under Australian Government funds (DCITA), held the workshop from 12-15 December 2006 attended by 135 participants from GOs, NGOs, and private sector from 32 countries
  - It included 57 presentations in ten symposium-discussion sessions plus two workshop sessions
  - Recommendations were adopted

ITU On-going Activities in ASP

(under Australian funds and Doha Action Plan)

- **Providing expert service to assist countries in:**
  - Development of *"National Emergency Telecommunication Plan"*
  - Assessment of telecommunication infrastructure and facilities readiness for emergency communications
  - Entering into the Tampere Convention
- **Capacity Building**
  - Organizing regional and national workshop(s), seminar(s)
  - [proposal] publishing a handbook/guideline/case studies on last mile access and technology options
- **ITU Proposal for Pacific Island Sub-region**
  - Assessment and study of suitable emergency communication
  - Provision of Emergency Communication Package as a pool resource in the sub-region

Findings
&
Outcomes from the Past ITU Activities

Findings

- Many organizations including GOs, NGOs, Int'l orgs, have made progress toward developing policies, programmes, and procedures in disaster management particularly in countries frequently or recently hit by disasters, BUT lack of coordination and cooperation among them. = REDUNDANT WORK, WASTING RESOURCES, INEFFECTIVE and INEFFICIENT WORK

- In many countries, telecom infrastructure and communication facilities regardless of the ownerships, are capable to support Emergency Communications, to some acceptable extent, BUT due to lack of coordination and awareness, they are not fully utilised and/or optimised.

- Particularly in countries which are prone to disasters, National Disaster Management Centre or an entity with similar mandates were established and are in charge of disaster warning and response. Institutional framework and legal/regulatory framework were put in place, BUT very little emphasis on telecommunication for emergency purposes.

Findings (cont.)

- Information sharing has always been a low priority among organisations. Besides data formats are also different and not interoperable.
- No standardization of data format for alerting/warning messages. Currently "Common Alerting Protocol (CAP)" is widely referenced.
- Current existing regulatory barriers which may impede the use of any telecommunication equipment or resources, for instances, use of radio equipment by radio amateurs to facilitate communication during emergency situations or resource mobilisation by international organisations during relief operations.
- There is a need to have a complete understanding of all the options, officially agreed-to standards, and procedures involved in comprehensive disaster communications.

Some Recommendations from ITU to Countries under the Studies

- Formation of a Disaster/Emergency Communication Management Team consisting of representatives from authorities, institutions and companies actively involved in diaster communication, by staff, equipment or services.
- Identify and Educate government officials and relief workers in operating radio equipment including HF/VHF and satellite terminals (if available).
- Priority call and National Roaming during emergency situations
- Emergency Alert via Broadcasting, SMS, Cell broadcasting
- Make available satellite phones and ready to be deployed in remote areas.
- Arrange regular communication drills.

Recommendations from ITU/ESCAP Workshop on Disaster Communication

- A cooperation platform should be formalized involving the different players in providing telecommunications and ICTs for disaster management in the Asia-Pacific region. Players include member states as well as related regional organizations and industry representatives.

- This cooperation platform should not rely solely on physical meetings but adopt electronic working methods.

- The first task of this cooperation platform will be to document existing resources in support of telecommunications and ICT for disaster management in the Asia-Pacific region, considering among others:
  - The experience reported by the various countries in this workshop;
  - The experience reported by different UN agencies in organizing disaster preparedness and relief operations;
  - The experience reported by various NGOs in organizing disaster preparedness and relief operations;
  - Already available resources on the Internet;
  - A inventory of active governmental authorities in disaster management, and in disaster communications management.

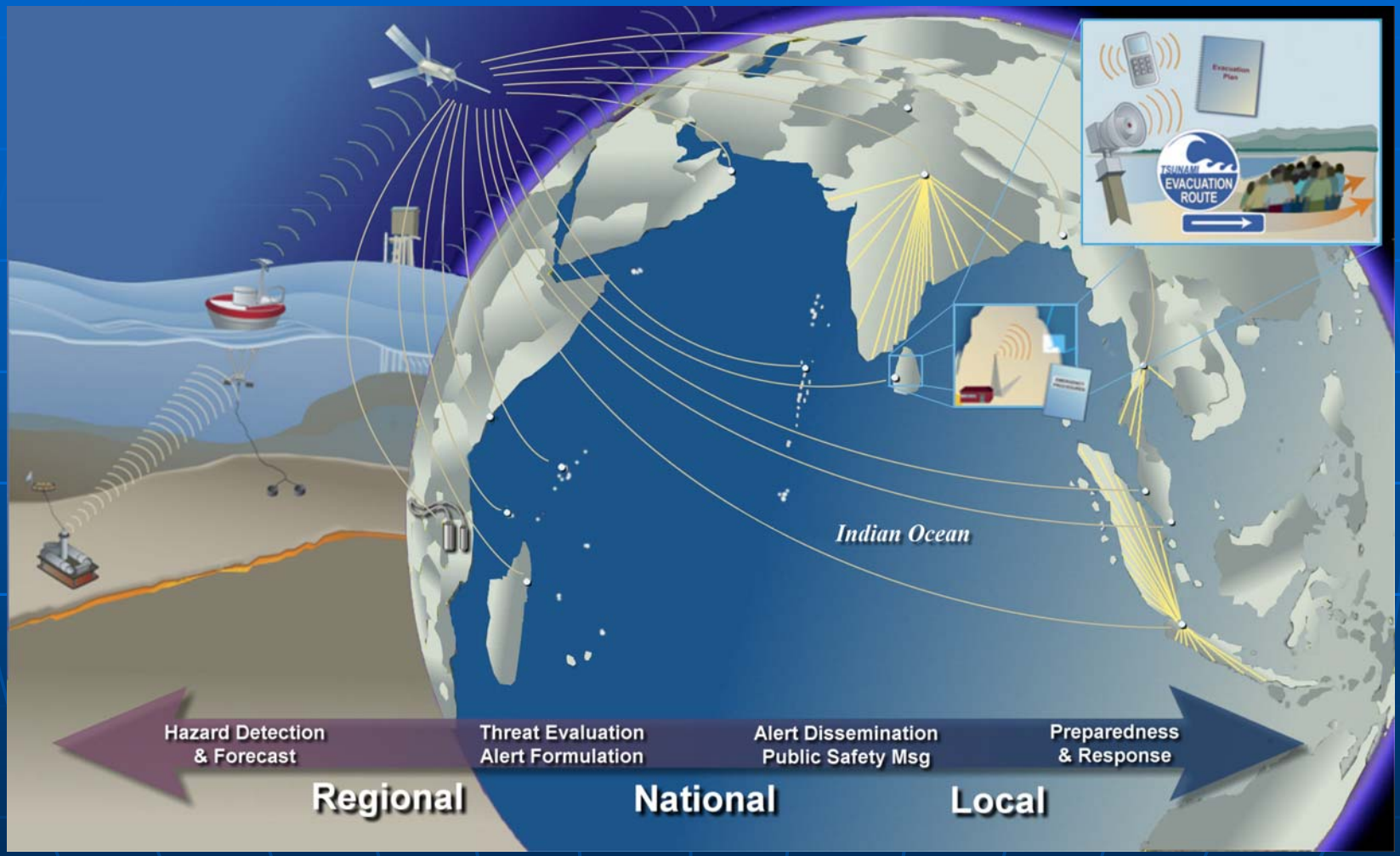
(cont.) **Recommendations** from ITU/ESCAP Workshop on Disaster Communication

- This platform will support efforts by OCHA, ITU and others for promoting the adoption of the Tampere Convention.
- It was recognized that many countries need and will benefit from assistance in organizing their National Disaster Communications Plans. This platform will endeavor to provide tools to assist in this direction.
- Telecommunication is recognized as a key component to facilitate disaster management. Robust infrastructures should build upon already existing systems, such as over-the-air radio and TV broadcasts, internet, amateur radio, and land, satellite and mobile communications. Backup communications components should also be considered. These dimensions should be fully integrated into the National Disaster Communications Plans.
- Ensure that the “physical” and “content” aspects of disaster communications are both encompassed

Initiatives/Activities in Asia Pacific

End-to-End System

The Indian Ocean Tsunami Warning and Mitigation System



Picture from IOTWS (IOC/UNESCO)


Gujarat
Ahmadabad
Rajkot
Vadodara
Surat
Madhya Pradesh
India
Nagpur
Jharkhand
West Bengal
Kolkata
Bangladesh
Chhattisgarh
Tripura
Myanmar
Orissa
Mizoram
Mumbai
Maharastra
Pune
Hyderabad
Vishakhapatnam
Andhra Pradesh
Goa
Karnataka
Thailand
Mangalore
Bangalore
Chennai
Tamil Nadu
Coimbatore
Truchchirappalli
Cochin
Madurai
Kerala
Sri Lanka
MALDIVES
Maldives

MALDIVES

- A committee entitled "Technical Committee on Early Warning and Emergency Telecommunications" was established consistung of 6 members representing 5 different organizations, namely Maldives National Disaster Management Center, Maldives Police, National Metrological Center, Voice of Maldives and the Telecommunications Authority of Maldives.

- The Committee has compiled a draft "National Plan on early warning dissemination and Emergency Telecommunications". The draft envisage the use of available means and ways of early warning and emergency telecommunication i.e. radio (AM/FM) and TV, SMS (cell broadcasting), existing HF/VHF radio.

- The committee is now focusing on development of the Standard Operating Procedures (SOPs) and try to initiate at least one drill at island or atoll level.

MALDIVES (cont.)

- National Roaming and Priority Calling.
- Provide satellite phones to all inhabited islands and Install a Nationwide Radio Trunking Network (TETRA)
- Training of people providing emergency services i.e. technical training, educating the public.
- Emergency drills both regionally and nationwide and Public Awareness Programmes.
- Preparing to enter in the Tampere Convention.

SRI LANKA

- TRC took a leading role in setting up of the Disaster Communication Management Team (DICOM) and adopted the recommendation from ITU to develop the "National Emergency Communication Plan". TRC also provide the officers of TRC to be contacted in an emergency situation.

- National Roaming
  The mobile operators were of the view that provision of national roaming to a selected user group would not be viable and the use of several SIM cards of different operators would suffice for same.

- Post-paid prioritized SIM cards would be provided to identified officials responsible for initiating action in disaster situations. The SIM cards are to be distributed through the Disaster Management Center (DMC).

- Considering technology options for emergency alerts/warnings e.g. cell broadcasting.

- ITU is providing an expert to assist in the development of National Emergency Telecommunication Plan.

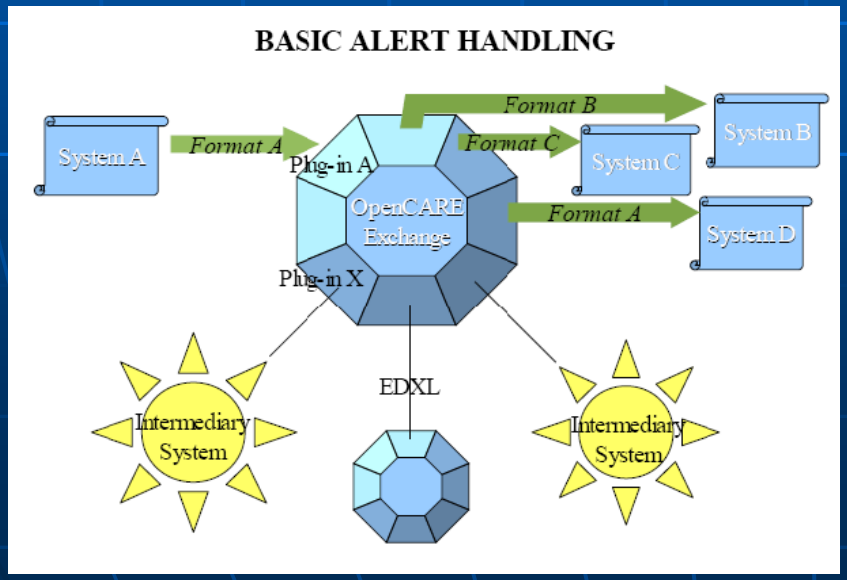
THAILAND

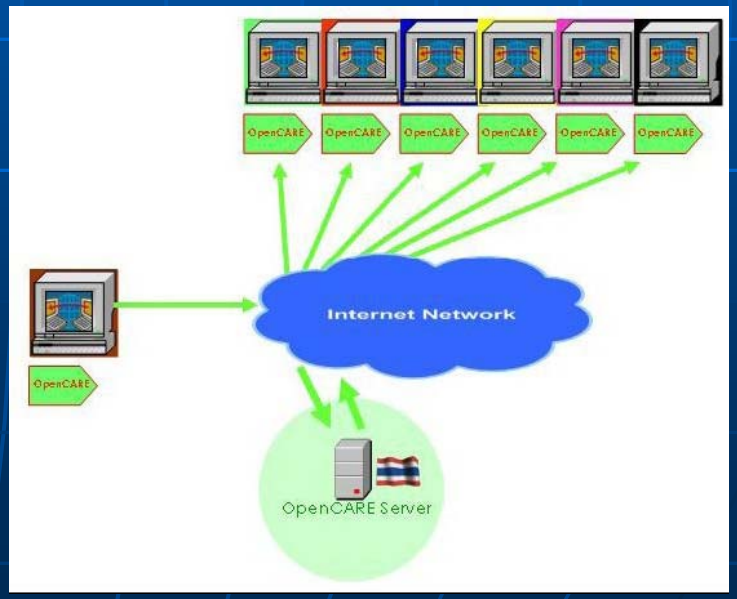
The importance of the Internet and Open Standard

- **OpenCARE** = the Open exchange for Collaborative Activities in Response to Emergencies, http://opencare.inet.co.th

- Scalable information exchange infrastructure which primarily aims at providing better co-ordination in disaster handling

- A set of computer program that gathers information and disseminates them through the Internet network. It can be embedded and work with existing computer systems

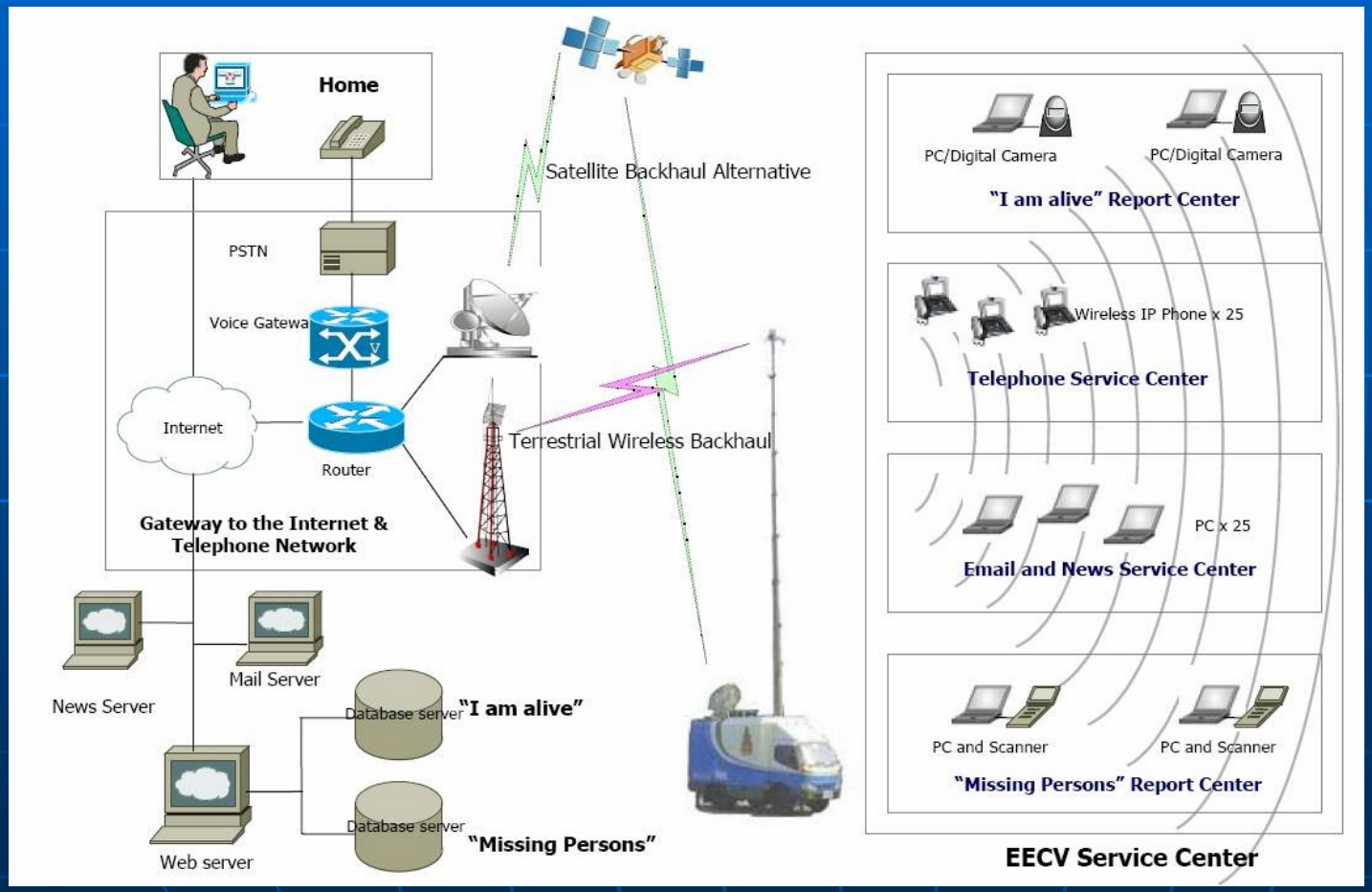




THAILAND

Emergency and Educational Communication Vehicle (EECV)

- **2.4 GHz (Wi-Fi) or WiMax, Microwave, Satellite links, 25 voice calls, 30 Internet access**



Recommendations and Conclusion

Recommendations

- Coordination + Cooperation is a KEY in effective and efficient disaster management no matter what phase it is i.e. preparedness or response. Formal agreements among stakeholders should be established.
- Formation of a team or committee dedicated to deal with emergency/disaster communication in particular.
- Leading agency must be identified with clear leading role.
- The team/committee will be mandated to develop a national emergency communication plan and most likely as part of the national disaster management plan.
- Technology options for emergency communication should be based on outcomes of an assessment of existing network infrastructure, resources (human and equipment), and institutional capacity. State-of-art technologies or million dollar project may not be necessary.

Recommendations (cont.)

- Early warning system(s) should be for multi-hazards. Effective warning message distribution relies on not only telecommunication network, but also people network.
- A country should incorporate the emergency communication in its other last mile access projects e.g. rural communication and vice versa.
- A country should seriously consider to enter into the Tampere Convention.
- Regulatory barriers to mobilise local resources for disaster relief operations should be waived e.g. facilitate the work of radio amateurs.
- Promote private sector involvement probably through Corporate Social Responsibility programme

Conclusion (observations)

- Natural disasters take place more frequently and make more impact than before (Extreme). Climate change and Global warming must be taken into account more seriously.
- Most countries are in need of a plan to deal with disaster/emergency communication in particular
- Emergency communication in Pacific Islands sub-region as well as in remote areas remains a big challenge
- Many developing countries are still in need of technical and financial assistance from outside for disaster management.
- Duplicate efforts (mostly from int'l orgs) have been observed in many countries
- People tend to put more emphasis on technology options than others
- Less private sector's, companies' involvement.