Role of ICT in Reducing Disaster Risk in Mongolia

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# Introduction of Mongolia

- **Capital:** Ulaanbaatar
- **Administration:** 21 provinces
- **Area:** 1.5 mln sq.km
- **Population:** 2.7 mln
  - In Ulaanbaatar: 1.1mln
- **Geography:** Northeast Asian Region
  - Between Russian Federation and China,
  - mountains, forest, steppe, desert
- **Political system:** President
- **Economy** traditionally based on breeding livestock and agriculture, mining (copper, gold, coal and others)
Hazards, most occur in Mongolia

- Flood
- Earthquake
- Tsunami
- Drought and Dzud
- Volcano explosion
- Forest and steppe fire
- Hurricane
- Winter and Windstorm
- Heavy rain, hail, lightning
Types of Disasters

- Drought
- Winter freeze
- Flood
- Strong snow and Dust storm
- Heavy rain, hail, Lightning
- Human and animal highly infectious disease
- Fire on objects
- Forest and steppe fire
- An industrial accident
- Chemical accident
Statistics of Hazard, most occur in Mongolia

- Flood: 8%
- Storm: 10%
- Zud: 8%
- Earthquake: 3%
- Thunder: 3%

Forest and steppe fire: 68%
Number of injured and died people due to disaster and hazards /2000-2010/
Died livestock

<table>
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<th>Year</th>
<th>2000</th>
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Number of died livestock over the years.
Rate of disaster and hazards in Mongolia
Total lose of economy / billion tugrugs /
Cumulative number of earthquakes occurred between 1994 and 2010

- **Seismic crisis starts - 2010**
  - Number of events: 543

- **Seismic crisis starts - 2009**
  - Number of events: 508

- **Seismic crisis starts - 2005**
  - Number of events: 350
National disaster management system
Legal environment on disaster protection in Mongolia

1. Fundamental law (1992)
2. Law on disaster protection (2003)
3. Law on danger of fire protection (1999)
4. Law on forest, steppe fire protection (1996)
5. Law on state resource (2009)
7. Policy and programs of government on disaster protection (2011)
The Structure for Disaster Protection Operation

Deputy Minister of Government

State department of Disaster Protection

Emergency affairs agency

State Special Commission

Department of city and aimags for disaster protection

City and aimags special commission

Department and branches of disaster protection for aimags and cities

Special emergency agency of city

State resource branch

District and branches of disaster protection for aimags and cities

Special emergency agency of district

Disaster research Institute

Ladder groups

Rescue groups

Rescue group

Rescue group

Rescue and ladder team
Locations of disaster management groups
Types of Disaster Management communications systems in Mongolia

• Early warning system
• Telecommunication /internal and external switches/systems
• Radiocommunication networks
• Satellite mobile networks /leased channels/
• Integrated networks of State organizations
• Integrated information data bases for disaster management
Early warning systems in Ulaanbaatar
Early warning systems in Mongolia

Weather forecast is transmitting to public via information media tools the following

http://www.imh.mn www.tsag-agaar.mn/

National radio and television
MNB, TV-5, TV-8, TV-9, UBS, MN-25, C1

Fax, telephone, telex
Disaster Management Communications System

Barrett 2050 HF

The Barrett 2020 Email Fax & Data System
The 2020 provides a simple automatic interface for speech, data, fax and email among all stations in an HF Network with connectivity to Internet, email and fax facilities.

2050 Advanced HF Transceiver
The Barrett 2050 HF transceiver, the centre piece of the 2000 series of HF communications equipment, combines current technology with the intuitive, “ease of use”.
Models to communicate from Disaster origin to Telecom Switches and Mobile networks
One of the main communication systems for the Disaster relief operation is Radiocommunication.

Emergency affairs agency for aimag

Radio station

Computer

Radio modem

Disaster origin

Radio station

National emergency affair agency

Radio station

Radio modem

Internal network

Database for Disaster Management

Enforcement agencies (Army, Police, Intelligence agency...)

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National emergency affair agency

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One of the main communication systems for the Disaster relief operation is Radiocommunication.
• At present, there are 21 telecamera used for Disaster Management in Ulaanbaatar.
• Call center – Dial 105: Anytime when disaster occurs or emergency situation, you can call 105 in Mongolia.
Telecommunication Early Warning Systems
New project - Establishing and implementing new Disaster warning system in Ulaanbaatar and other provinces
Overview the project

Project Name: Early Warning System for Ulaanbaatar

Project Purpose
- Guarantee of speedy and correctly warning sign using high technology
- Establish the foundation of early warning system with interface NEMA (National Emergency Management Agency) and relation agency

Project Period: 1 Year

Project Main Scope
- Establish the early warning system at NEMA
- Establish the early warning system at Ulaanbaatar district
- Construction of early warning station at Ulaanbaatar city
National workshop on Disaster risk

National Workshop on “Role of ICT in Reducing Disaster Risk in Mongolia” was held in Ulaanbaatar on July 6, 2011 organized by the ICTPA, CRC and the ITU.

The National Workshop was successfully organized and participants were from various government and professional agencies that have major roles in Disaster management in Mongolia and from service operators in the ICT sector.
Priority Actions to improve ICT role in Disaster Protection

*Based on the current ICT /Telecommunications Network coverage nationwide of Mongolia, we are planning to introduce integrated Emergency Alerting, Early Warning Broadcasting System, that is affordable our network feature.

• To Develop and to define Emergency Telecommunications Plan, which consists detailed action plans, rules and procedure to use ICT for Disaster Protection, defining functions of each key stakeholders

• To strengthen international Cooperation for improving effective use of Emergency Telecommunications
THANK YOU FOR YOUR ATTENTION!