

**LGA/DRR
INCHEON
AUG. 2009**

ICT FOR DRR

THE KOREAN CASE

DUGKEUN PARK, PH.D.

**National Institute for Disaster Prevention
National Emergency Management Agency
Republic of Korea**

NIDP



Contents

Background

ICT Systems for DRR in Korea

- Introduction of Seven Specific Systems

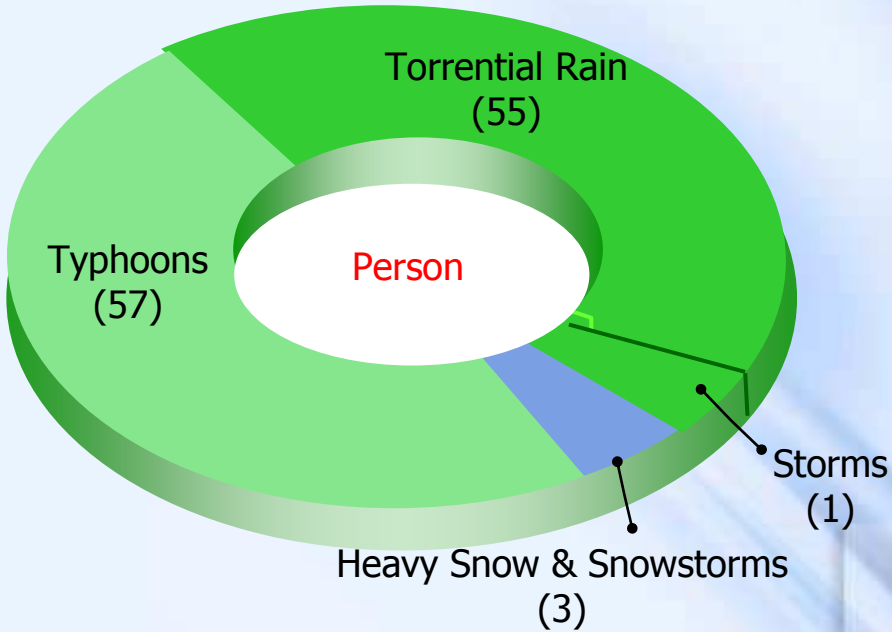
Capacity Building and Cooperation

Future Directions

Last Month ! Busan Metropolitan City !

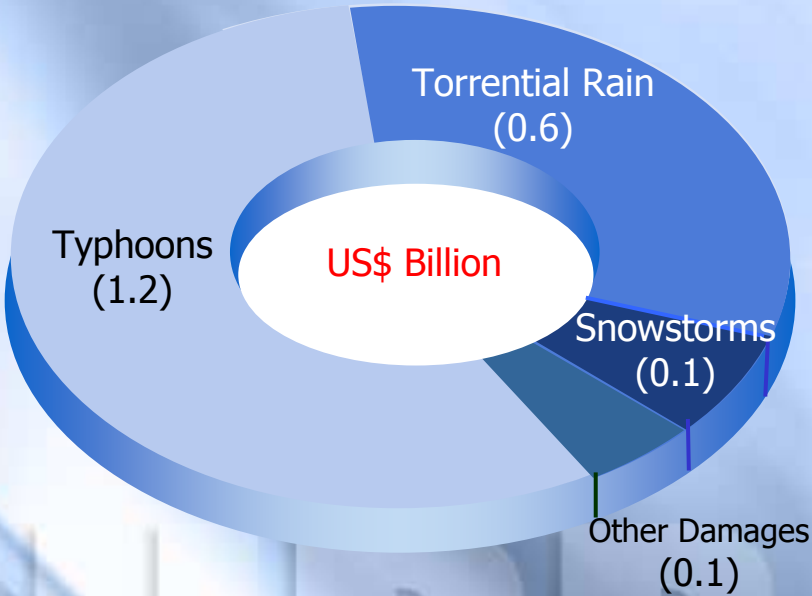


Natural Disasters in Korea



Average: 117 Deaths/year

Average Death Toll
by Natural Disasters in the Last 10 years



Average: US\$ 2 billion/year

Average Property Damage
by Natural Disasters in the Last 10 years

Why ICT for DRR

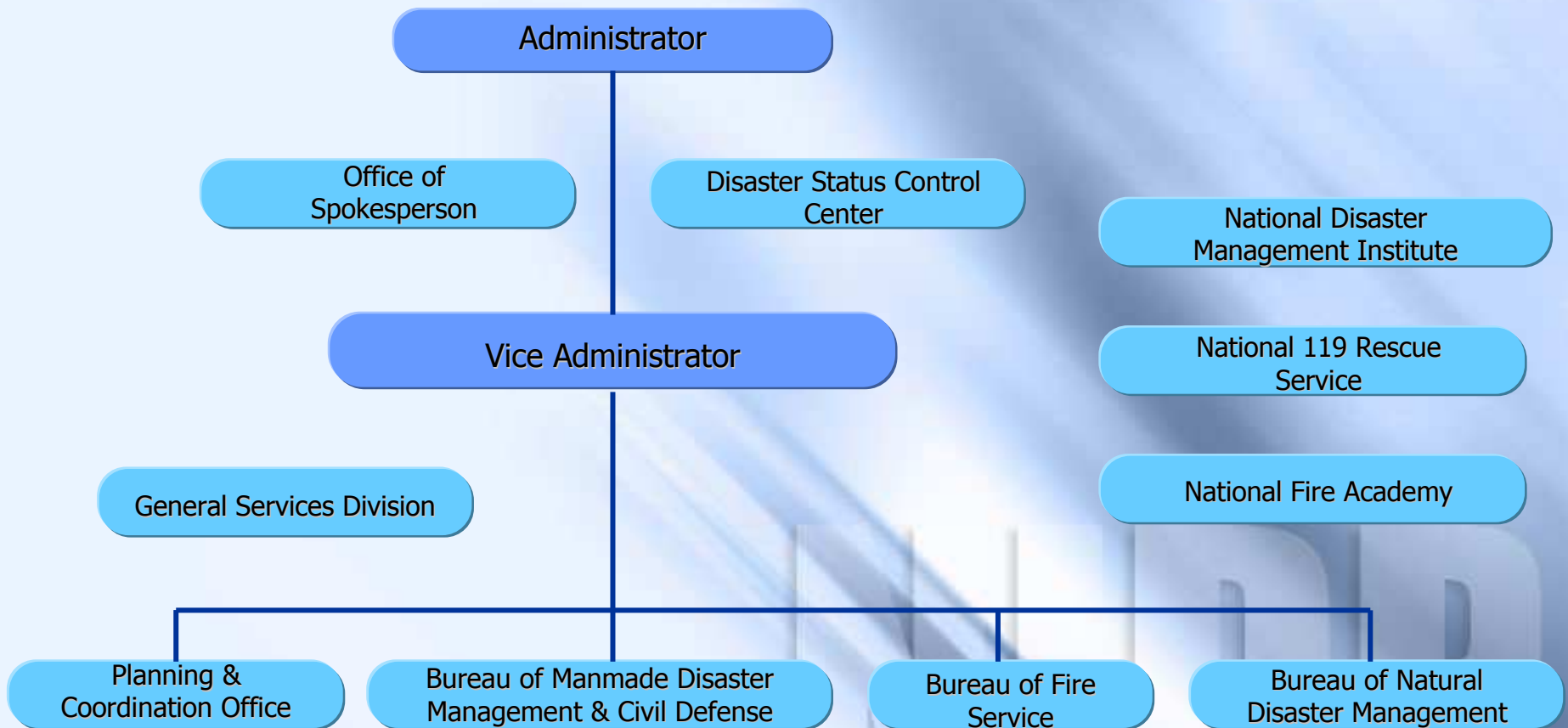
- *Various systematic ICT systems have been established and operating for DRR in Korea*

- *Construction of SAFE KOREA, that protects the people by fast and correct disaster information dissemination through the variety of ICTs*



- *Contribution to the construction of ICT systems in Asia-Pacific area for disaster management skills*

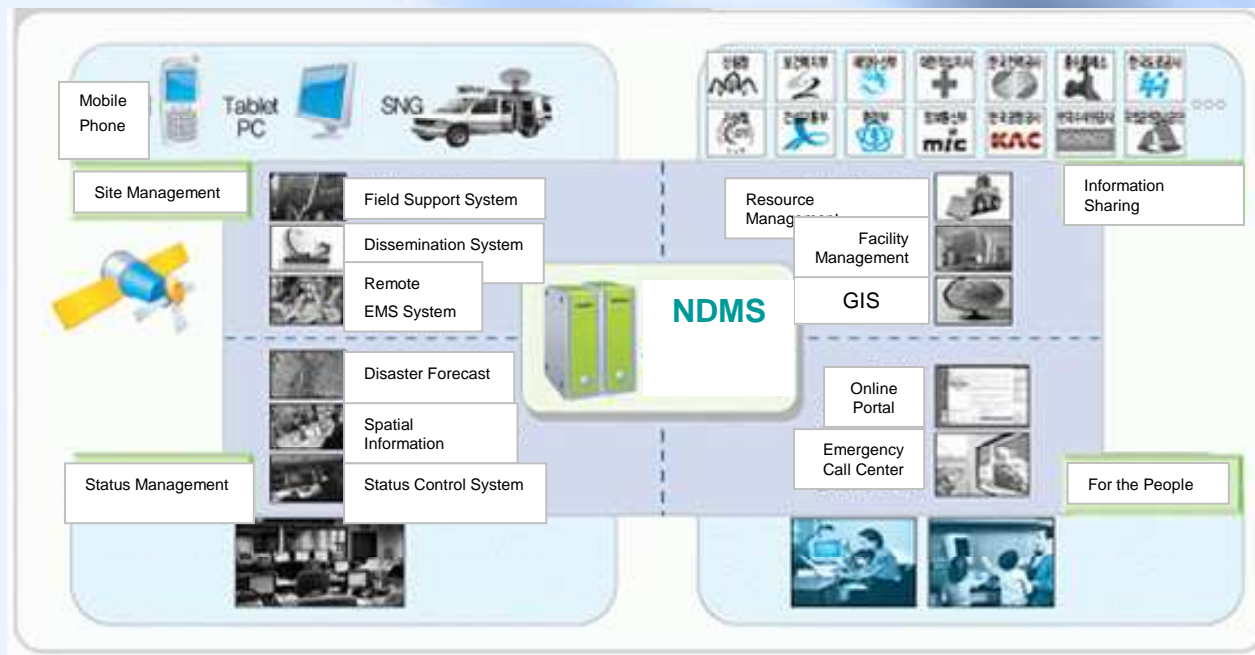
Organization of NEMA



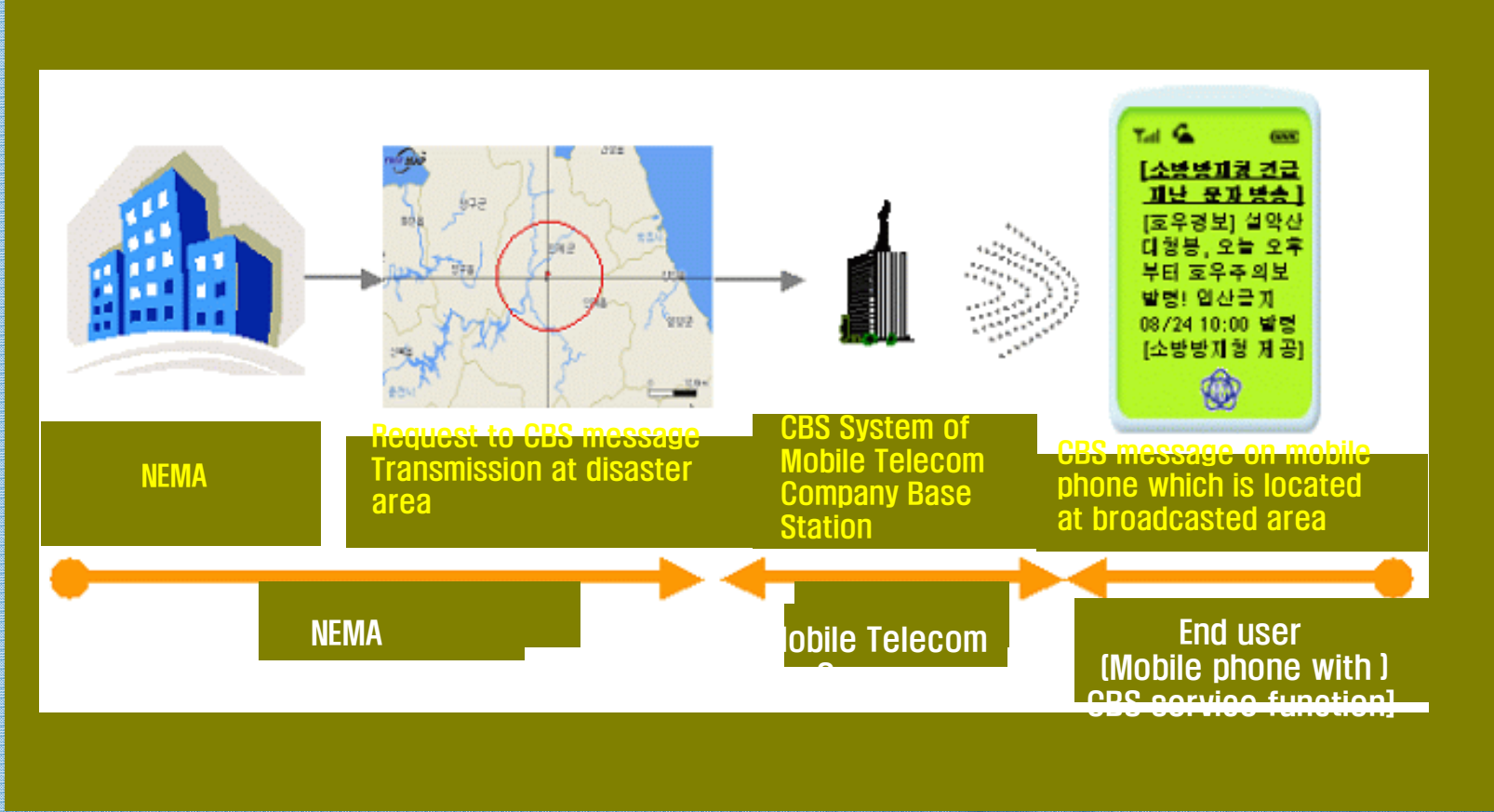
1. National Disaster Management System

NDMS

Comprehensive disaster information system
for disaster prevention, preparedness, response, and recovery

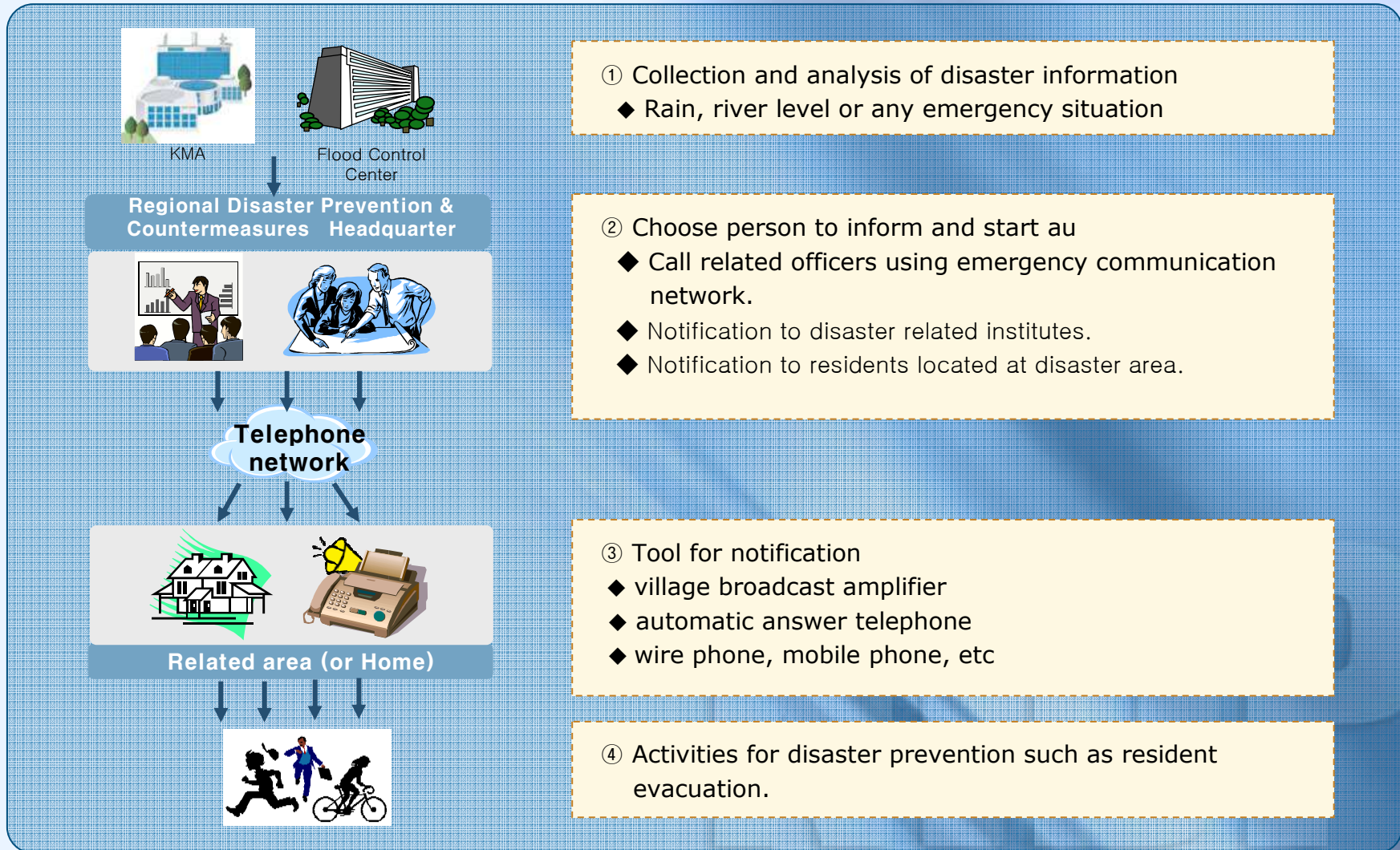


2. Cell Broadcasting Service

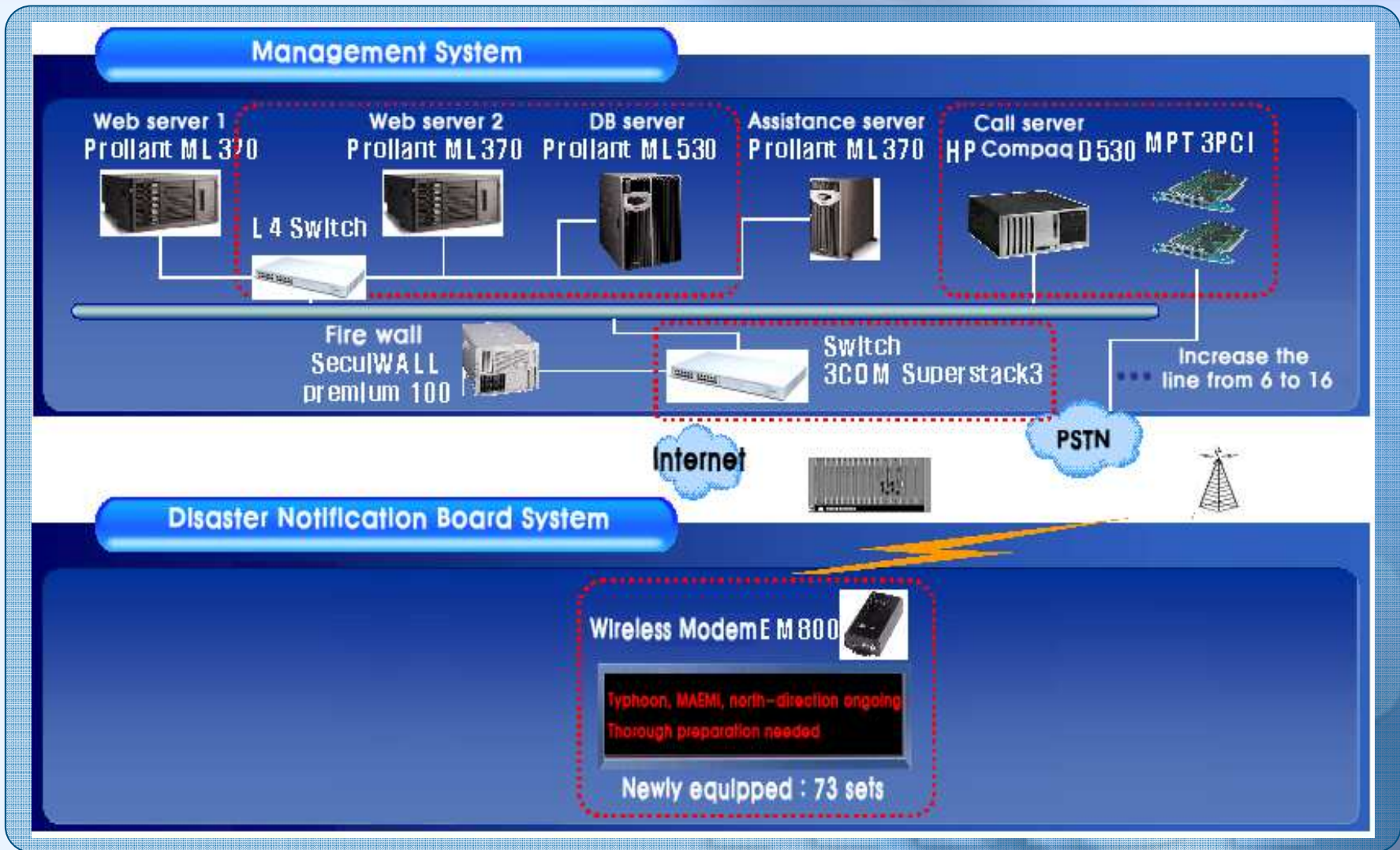


[CBS Message Transmission flow]

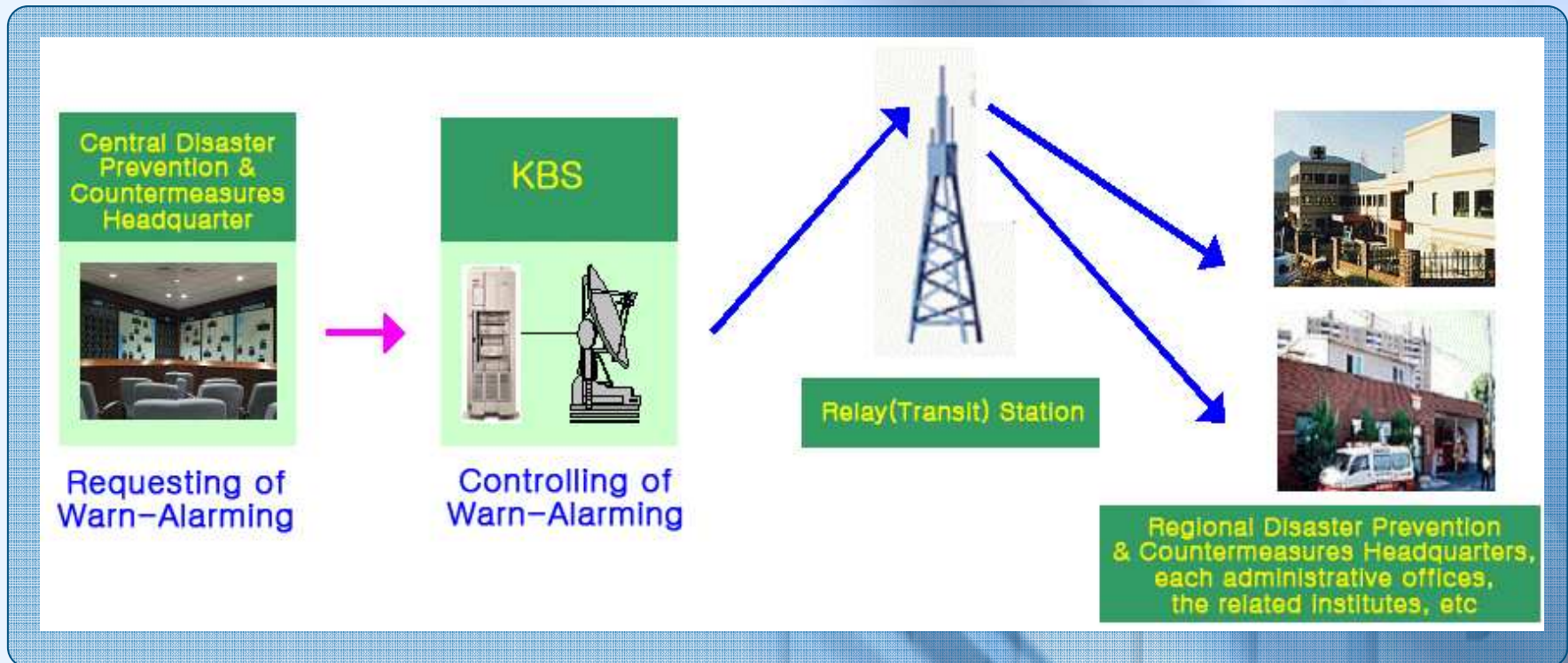
3. Automatic Verbal Notification System



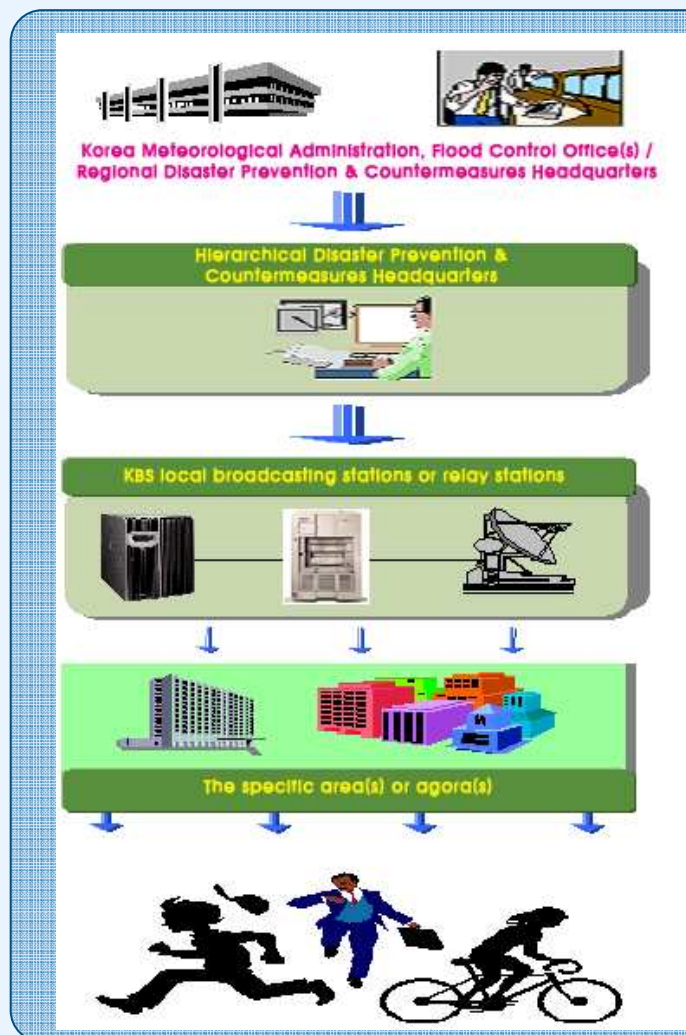
4. Disaster Notification Board System



5. TV Disaster Warning Broadcasting System



6. Radio Disaster Warning Broadcasting System

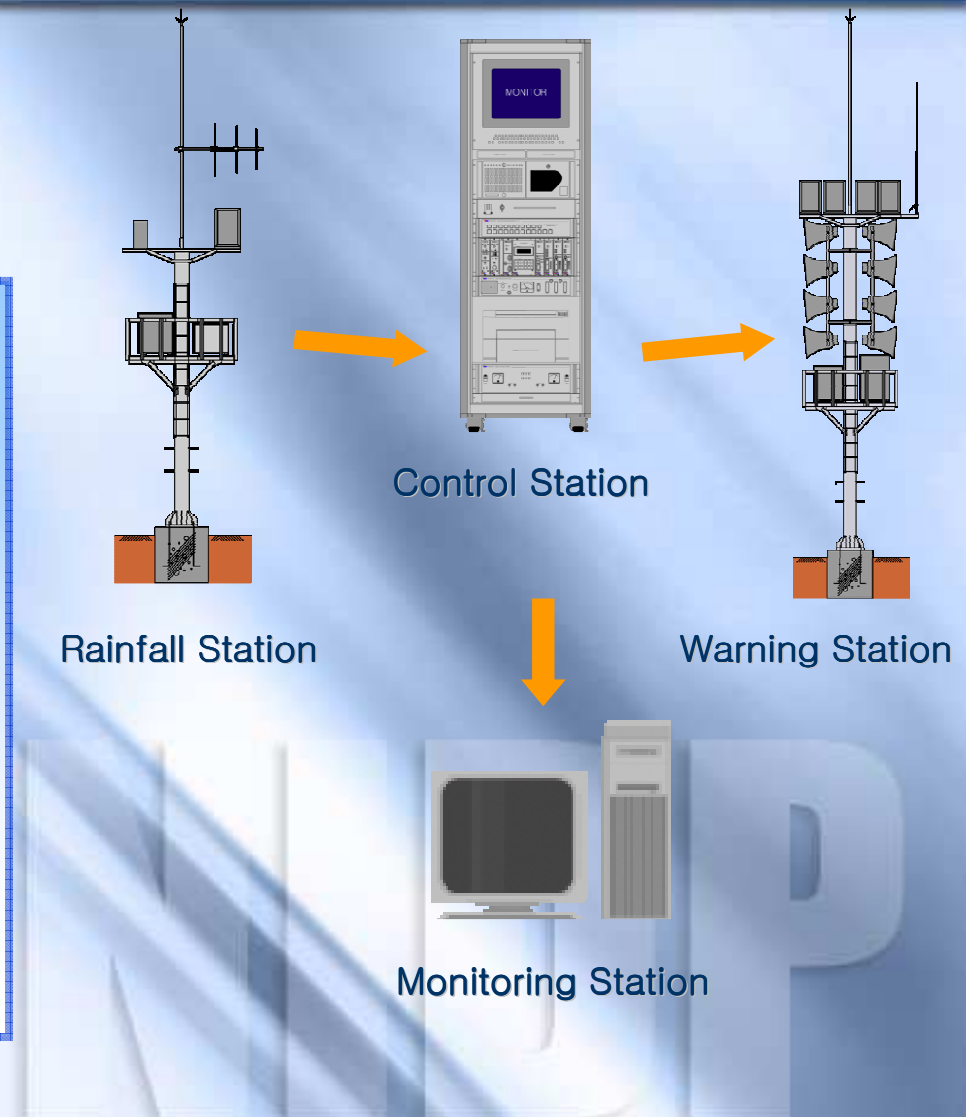


- ① Out breaking of emergent disaster situation and its foreseeing
 - ◆ warns when out breaking of local downpour, typhoon attack, flooding warns at the vulnerable time
- ② Requesting of alarming the disaster warning at specific area
- ③ Reviewing of disaster warning alarming and operation
 - ◆ Finalizing the area and selecting correct sentence
 - ◆ Starting operation of disaster warning alarming system
- ④ Acting of disaster warn alarming system for and at specific area
- ⑤ Starting of disaster warn broadcasting
 - ◆ Auto radio turning on and maximizing of its volume at specific area
- ⑥ Proactive disaster prevention activities such as relevant residents sheltering

7. Automatic Rainfall Warning System

SYSTEM OVERVIEW

- Automatic rainfall (water level) observing station at the upper and middle area of mountain valley
- Automatic warning system at the lower area
- Automatic remote control/ monitoring station at control center



Capacity Building

- **Regular Training and Education (NDMI)**
 - *Telecommunications Disaster Response*
 - *NDMS Operations and Applications*
 - *Government Disaster Management Network System*
 - *Disaster Forecast and Early Warning System*
- **Advocacy in Policy**
 - *Disaster and Safety Management Basic Act*
(Article 38, 66: Disaster Information, Early Warning)
 - *Natural Disaster Countermeasures Act*
(Article 3: DRR information Compilation etc)



Capacity Building and Cooperation

International Cooperation

- Cooperation with **Tsunami-hit** Five Countries: Oct. ~ Nov., 2005
- Cooperation with **Iraqi** Disaster Managers: Oct. ~ Nov., 2006
- Cooperation with **Mongolian** Disaster Managers: Aug. ~ Sept., 2007
- System Support for **Indonesian** Early Warning System (CBS): 2008 ~ 2009

INDP

TOWARDS COMPREHENSIVE DRR SYSTEMS USING ICT

- *To construct a “working” ICT System, international cooperation, as well as system refinement, is important to minimize loss of lives in the regional level.*
- *Need to expand and integrate currently-available local ICT systems into a regional level covering multi-hazards including Tsunami, Typhoon, Landslide, Tidal wave, etc.*
 - **Start new initiatives such as “Network for Networks” or “System of Systems” using ICT on knowledge sharing and DRR data analysis**
- *Effective Systems using ICT need to be actively considered in emergency action plan, disaster response activities including emergency aid and training.*



THANK You

drpark@korea.kr

NDP