

Contribution of Rural Communications/ICT to Effective Disaster Relief

ITU Workshop on “the role of Telecommunications/ICT in Disaster Mitigation”

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Himalayan View from Dochu La Pass 3116m in Bhutan

Extracts from Tampere Convention(1998) on the Provision of Telecommunication Resources for Mitigation/Relief Operations

- **The Tampere Convention recommends, that states remove or reduce regulatory barriers that currently impede the use of telecommunications resources as well as safeguarding of immunities to humanitarian assistance personnel.**
- **Telecommunications assistance can be provided to beneficiaries in a disaster-struck location or in support of disaster prevention/mitigation.**
- **The Tampere Convention urges states and non state entities to cooperate in deploying terrestrial and satellite equipment**
 - **to predict and monitor hazards and disasters**
 - **to share information about hazards and disasters**
 - **to install and operate reliable and flexible telecommunications resources for humanitarian relief and assistance organizations.**

It was pointed out by the then ITU SG Yoshio Utsumi at WCDR 2005 in Kobe to waive regulatory barriers that impede the use of telecommunications.

**These barriers include the licensing requirements to use allocated frequencies,
restrictions on the import of telecommunication equipment as well as limitations**

WSIS Outcomes-ICT and Disasters

Declaration of Principles

- Encourage special attention to extend benefits of information society to countries with special needs (LDCs etc) and those with ‘conditions that pose severe threats to development, such as **natural disasters**

Plan of Action

- E-health – strengthen and expand ICT-based initiatives for providing medical and humanitarian assistance in **disaster and emergencies**
- E-environment – establish monitoring systems, using ICTs to forecast and monitor the impact of **natural and manmade disasters** particularly in developing countries, LDCs and small economies

Mandate of ITU-D for Rural Communications Development-1

World Telecommunication Development Conference, 2006 March 7-15, Doha, Qatar (WTDC'06) of approved **the programs and resolutions to follow up **Tunis Commitment and Tunis Agenda** of WSIS(Nov. 05, Tunis) for the communications development of developing countries in particular in their rural and remote areas.**

Mandate of ITU-D for Rural Communications Development-2

Doha Action Plan as agreed upon by the WTDC'06 is taking into consideration the several important action lines related to the rural communications development set out by the Summit such as **infrastructure development** and the **provision of e-applications** in the rural and remote areas.

Mandate of ITU-D for Communications Deveopment-3

- **The Action Plan is based on the six programs, five global initiatives and the associated resolutions reflecting the conclusions of the Summit and the needs of developing countries. Programs 2, 3, and 6 for ICT in rural, isolated and poorly served regions have been expanded to include indigenous communities.**
- **The activities of ITU-D Study Group 1&2 for the period of 2006-2010 will follow up the action lines set out by the Doha Action Plan.**

Mandate of ITU-D for Rural Communications Development-4

- Program 2:

Information and communication infrastructure and technology development

- Program 3:

E strategies and ICT applications

- Program 6:

Least developed countries (LDCs) and small island developing states (SIDS), and **emergencies telecommunications**

Activities of Q10-2/2 Rapporteur's Group-1

- To date, ITU-D SG2 Rapporteur's Group on Q10-2/2, in particular, set out the analysis reports on the responses to the questionnaires globally distributed to its member states and sector members as for the situations of rural communications, and the case studies submitted by the developing countries implementing the rural communications projects.**

Activities of Q10-2/2 RG-2

- **ITU-D Rapporteur's Group on Q10-2/2 is conducting e-discussions on the selected topics on the rural communications since the previous the study period.**
- **For further information refer to:**
<http://www.itu.int/ituweblogs/ITU-D-SG2-Q10/>

RGQ10's e-discussion topics

	Topic
1	Community Development
2	Developing Support for Small Businesses
3	Rural technology for Social infrastructure
4	Emergency Support & Disaster Mitigation
5	Sustainability, Reliability & Effectiveness
6	Environmental Monitoring & Protection
7	Economical Viability
8A	Indices in rural area
8B	Community participation in infrastructure
9 (New)	Broadband for rural
10 (New)	NGN for rural

Findings of RGQ10-2/2 Studies

Through the studies of ITU-D Rapporteur's Group on Q10-2/2, it was found out that the development of rural communications is now at the highest priority in most of the developing countries.

Please refer to the report:

“Analysis of case studies on successful practices in telecommunications for rural and remote areas (published by ITU 2006)”

Down loadable(free) from the following URL:

<http://www.itu.int/pub/D-STG-SG02.10.1-2006/en>

Infrastructure Development-Findings of RGQ10-2/2

- There are choices of technologies available in the market to be applied to the rural and remote areas depending on the surrounding conditions of the areas.**
- The selection of technologies should be based on the selection criteria taking into consideration the cultural, geographic, demographic, political and economic landscape of an area that would be best suited for the scenario.**
- All around the world, major telecommunication firms, small local operators, cooperatives and individuals are offering telecommunication services by using different, innovative and unique technological solutions.**

Infrastructure Development –Findings of RGQ10-2/2

- The definition of broadband is not given by the ITU yet, however, bit rate of 1Mbps or higher may be sufficient for most of the e-applications to be provided globally.**
- In the developing countries, and in the rural and remote areas, in particular, 56kbps/64kbps or higher speed may be realistic for their broadband services considering economic and technical viability.**
- The broadband infrastructure to provide services in the rural and remote areas may be divided into two separate sections namely trunk line (backbone) and access line (last mile).**

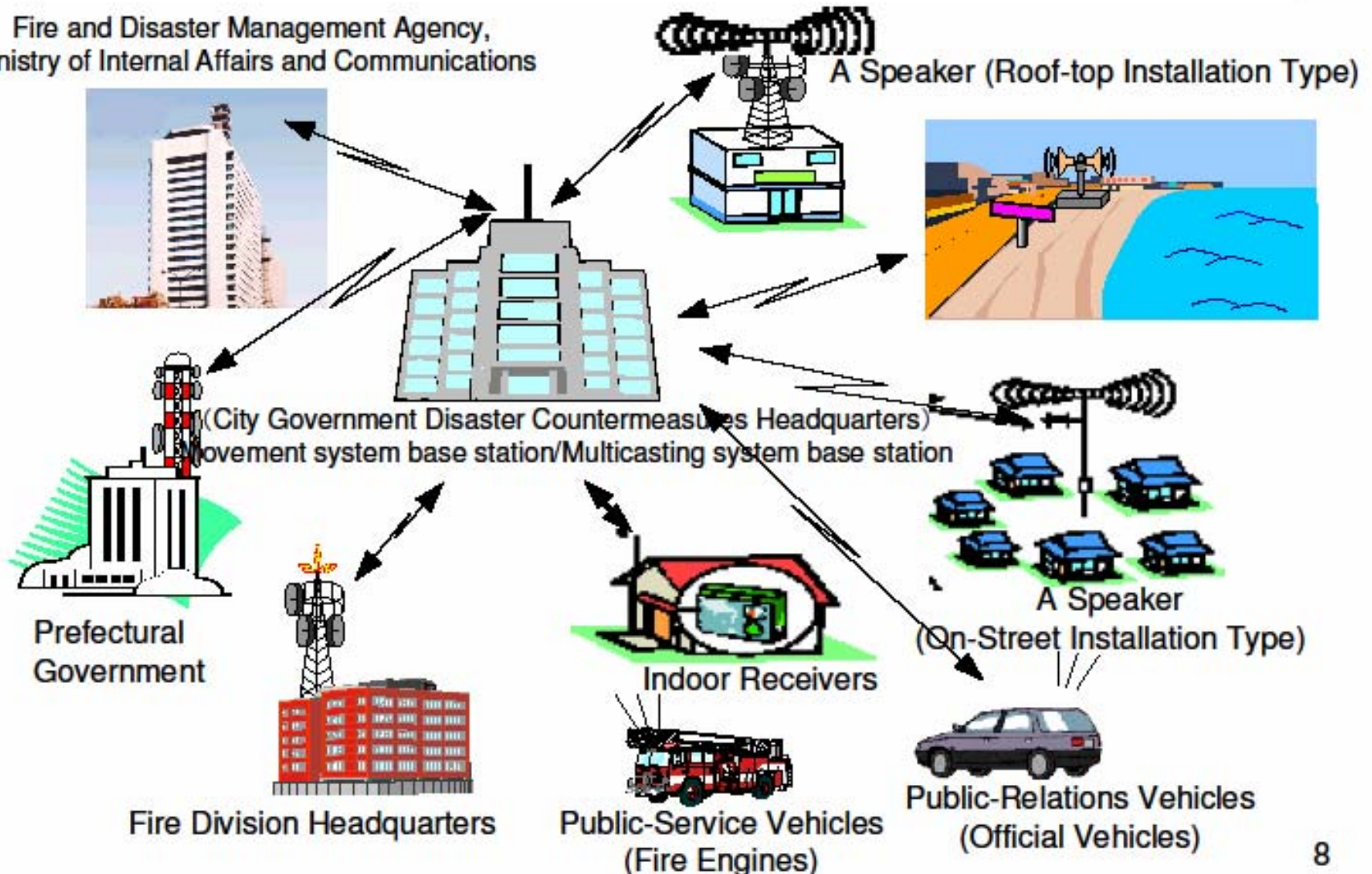
Infrastructure Development – Findings of RGQ10-2/2

Infrastructure	Type of Technology	System
Trunk line technology	Wire line technology	Fiber optic cable
		Power line communication
	Wireless communication	Satellite communication
		Fixed wireless
Access line technology	Wire line technology	Copper
	Wireless technology	Multipoint Microwave Distribution System- MMDS
		Local multipoint distribution system- LMDS
		802.11b/g-WiFi & 802.16-WiMAX

Japanese Examples for Disaster Communications

Tsunami Warning System in Japan (1) Disaster Management Radio

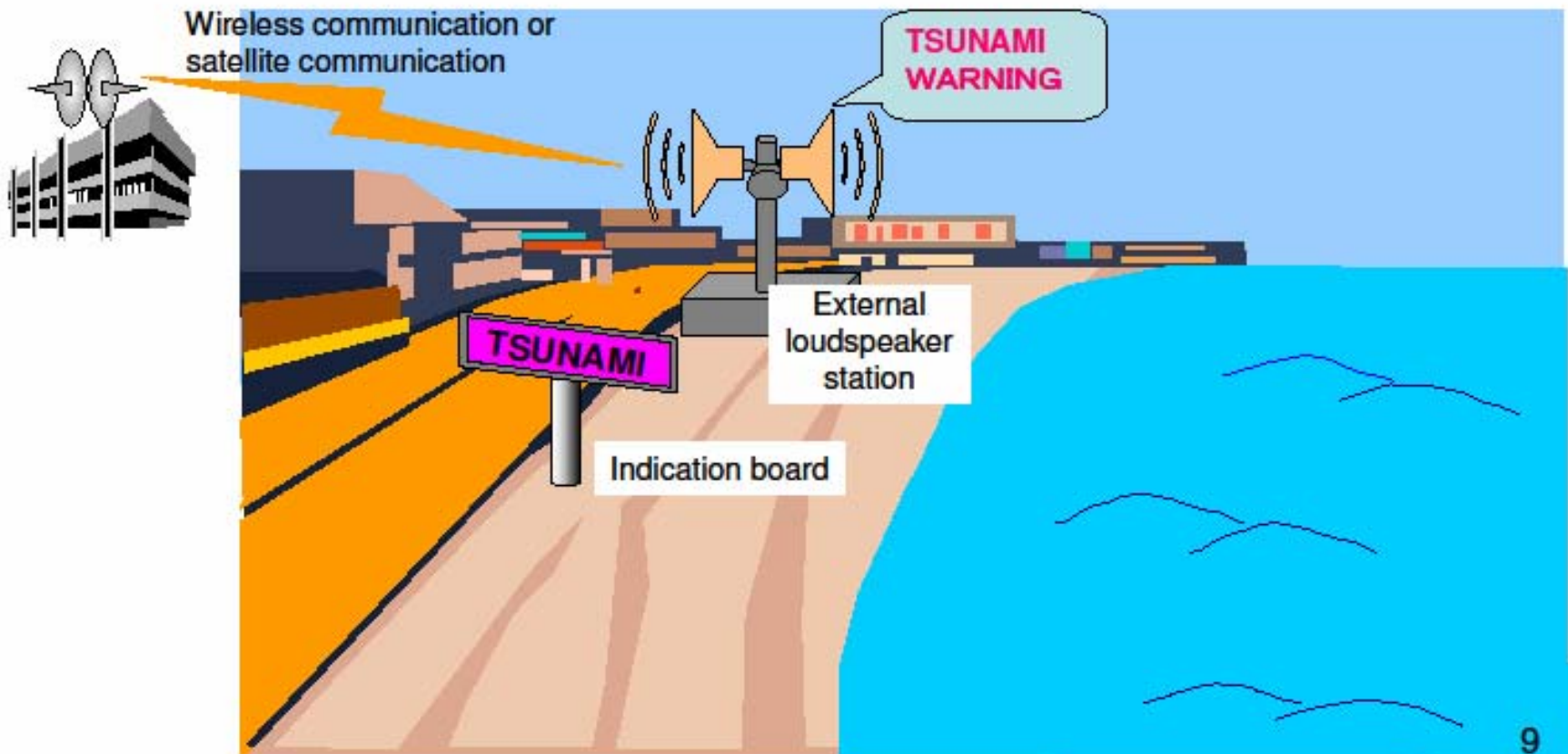
Fire and Disaster Management Agency,
Ministry of Internal Affairs and Communications



Japanese Examples for Disaster Communications

Tsunami Warning System in Japan (2) Reporting and Notification by Loudspeakers and Sirens

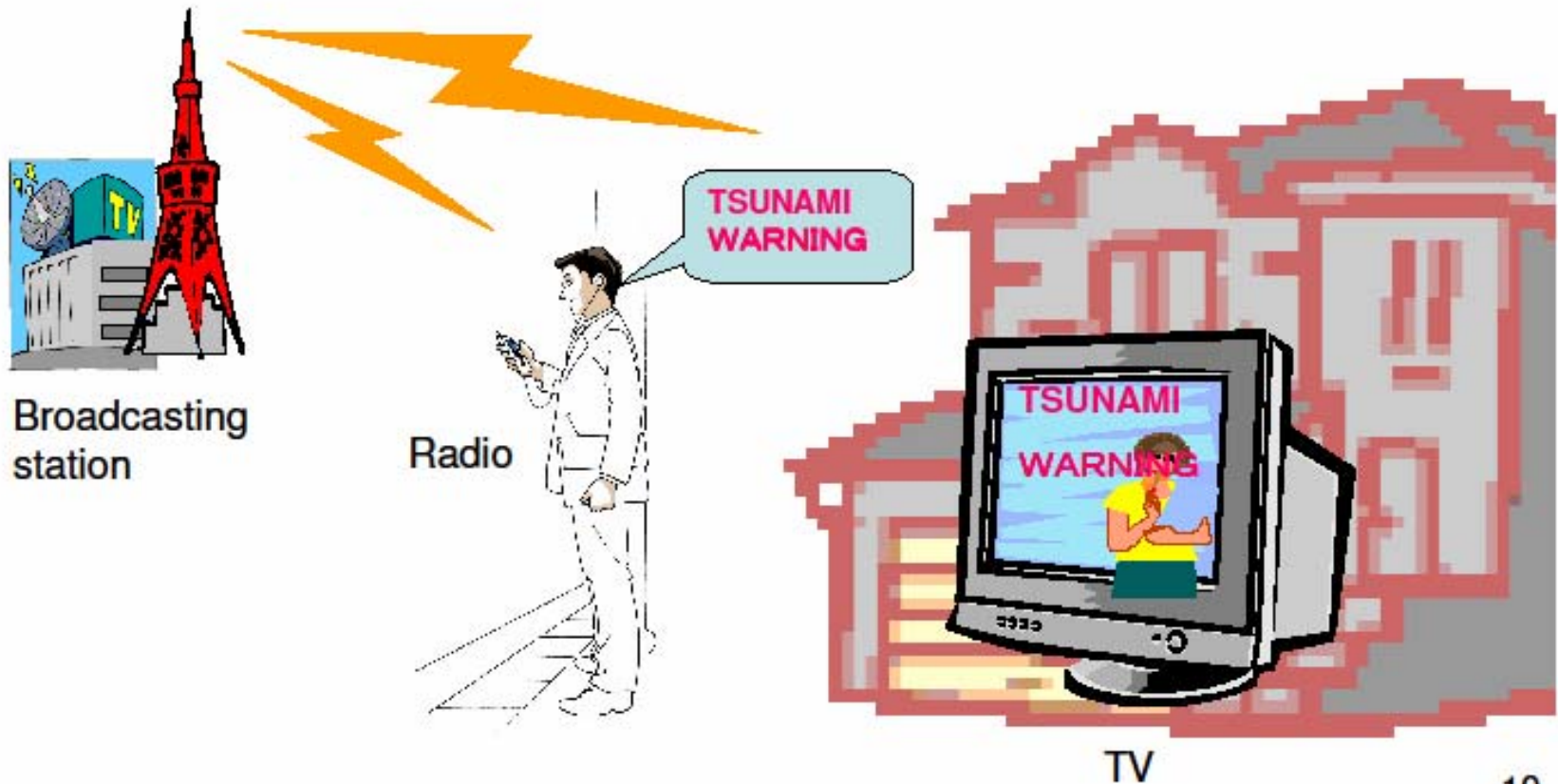
- ◆ Using loudspeakers is an effective measure to catch the attention of people in a specific area.
- ◆ Announcement using loudspeakers can transmit information from 2 to 300 m; using a siren, it can be transmitted from 1 to 2 km.



Japanese Examples for Disaster Communications

Tsunami Warning System in Japan (3) Broadcasting

- ◆ Broadcasting is the most effective method to transmit information over a wide area
- ◆ It is important to prepare a system that can report disasters and provide notification by disaster warnings on TV or by a news bulletin on TV/radio.

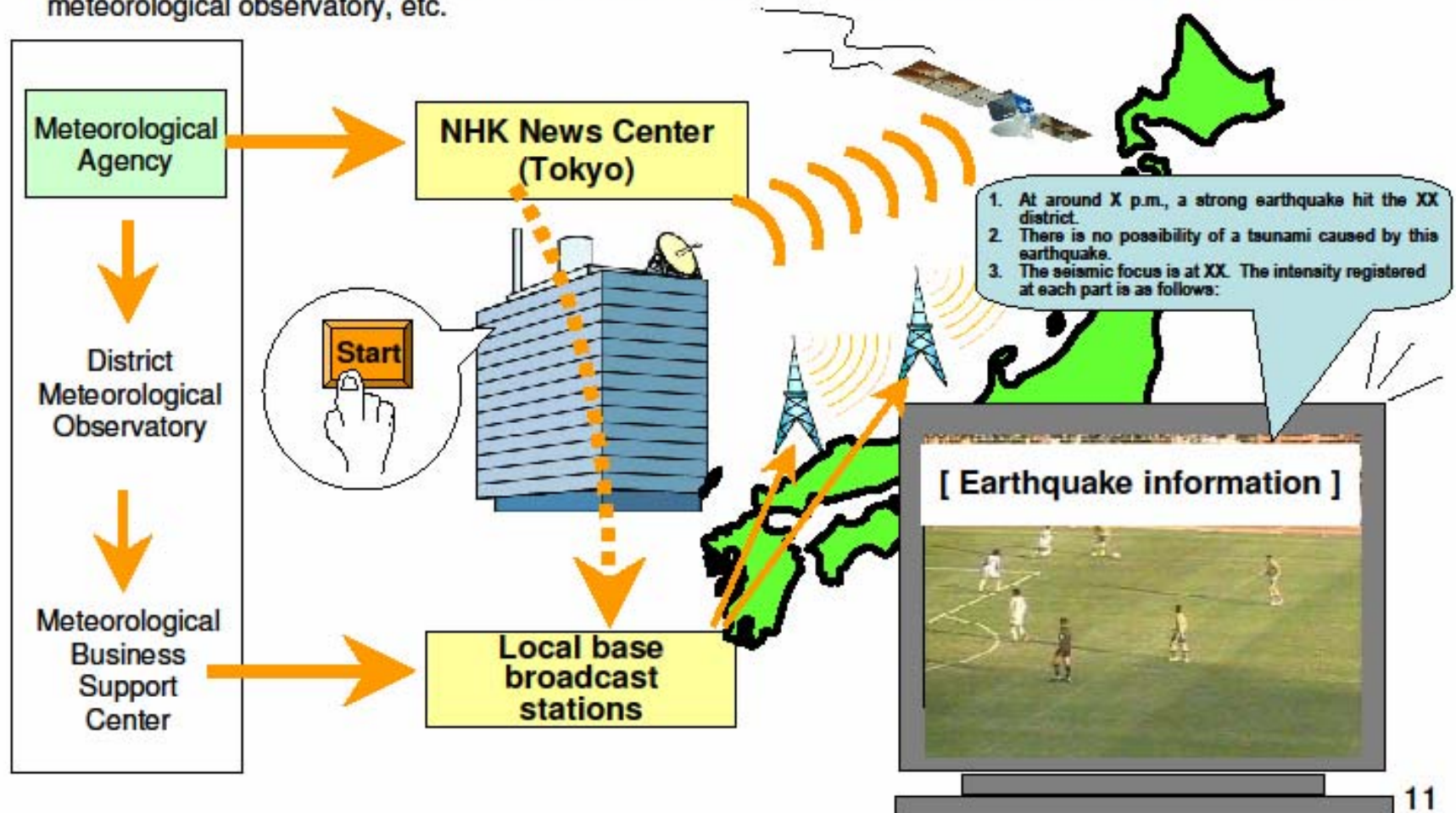


Japanese Examples for Disaster Communications

Outline of Early Earthquake and Tsunami Warning Systems by NHK*

* Broadcasting Culture Research Institute in Japan

- ◆ When an earthquake occurs, the Meteorological Agency communicates the information to the NHK News Center. At the same time, the information is communicated to local base broadcast stations via the district meteorological observatory, etc.



An Example of ITU's Assistance to LDCs

- **Recycled Computers donated from Japan and Korea to Bhutan with financial & technical assistance for installation to schools in rural villages**
- **Together with infrastructure development for rural and remote areas of Bhutan funded by ITU Telecom Surplus**



Satellite Antenna in Rukubji Village, Bhutan

24/02/2006

*Community girls undergoing basic computer training course
in Rukubji Village, Bhutan*



Thank you for your kind attention



Rukubji Village in Bhutan