THE WORLD BANK and POST-NATURAL DISASTERS CONTEXTS

• Since 1980, the World Bank has approved more than 500 operations related to disaster management, amounting to more than US$40 billion.

• These include post-disaster reconstruction projects, as well as projects with components aimed at preventing and mitigating disaster impacts.
“ICT, as defined in the Information & Communication Technologies Strategy Paper of the World Bank Group (April 2002), consists of hardware, software, networks, and media for collection, storage, processing, transmission, and presentation of information (voice, data, text, images).”
CONFLICTS AND NATURAL DISASTERS IN THE DEVELOPING WORLD

CONSEQUENCES

• Loss of human life
• Destruction of social and economic infrastructure
• Set back in economies
• Displacement of Populations
• Scarce funds are drawn to rebuild due loss or damage, instead of being used on new projects for development and to alleviate poverty

PREVENTION

• Conflict must be avoided by all means
• Disaster preventive actions must be taken
• Risks must be assessed, understood and disseminated
• Understanding the vulnerabilities of communities to weather-climate and water-related hazards is essential
• Climate information and forecasting
• It is vital to have a disaster prevention and mitigation strategy!
KEY ISSUES

POST-CONFLICT & POST-NATURAL DISASTER

1- How to apply ICT in order to support functioning government systems, improve inclusiveness, transparency, accountability and service delivery.

2- What should be the sequencing, the effective prioritization?

* For further information on ICT in Post-Conflict Countries, please access:
Countries are pursuing strategies of decentralization (local elections, reorganization of public structures, etc).

ICT is essential for the reconstruction and development efforts.

Once peace is established and stabilization achieved, there is an immediate rush to help a country.
Post-conflict/Low-Capacity countries pose particular challenges: combination of political and cultural environment, conflict scars, disorganization of public structures and the damages inflicted to the country's infrastructure.

National and regional stability is vital to the planning and implementation of decentralized financial management, while political instability or conflict remissions can damage or destroy reconstruction and development projects (The Ivory Cost case).
Countries are pursuing strategies in order to be prepared to face natural disasters - lives must be saved; people must be rescued.

ICT is essential for managing the relief efforts.

Once the worst has passed and situation is stabilized, there is an immediate rush to help.
• Post-Natural Disaster contexts pose terrible challenges: dead people; sick, dehydrated and famine survivors; displaced populations, disorganization of public structures, damages inflicted to the infrastructure; lack of energy, fuel, potable water, medicines and food.

• Communications and access to data-bases are vital to the planning and implementation of relief operations and reconstruction efforts.

• Natural disasters are extremely costly and sometimes can cause faster and higher economic losses, as well as more casualties than a conflict.
ICT
MIXED OPINIONS AND VISIONS

- Skepticism on ICT x Enthusiasm on ICT.

- Immediate needs to be served: clothing, medicines, food, potable water, sanitation, shelter, repairs on the damaged infrastructure.

- Simplicity x Complexity.

- What is the most appropriate technology?

- What should be done first? How to face the hurdles?

- How to match the technology to the job?
TYPICAL VIEWS IN POST-CONFLICT COUNTRIES

Walls Perforated by Bullets

Situation Stabilized, Children Back to School

UN Secretary-General In Rwanda, 1994

UN Mobile Telecom Unit

Post-Conflict Destruction

Amputees

Local Election Day

UN Convoy
RECENT VIEWS IN A POST-NATURAL DISASTER CONTEXT: HURRICANE KATRINA

Destroyed Airport Hanger, New Orleans

Situation stabilized: a young couple repairing their home

Infra-structure being repaired

President George W. Bush with US National Guard members in hurricane-ravaged area, Sep 27th, 2005

Aerial View, Northern Part of New Orleans, Sep 13th 2005

Flood and destruction
PAKISTAN PRIME MINISTER SHAUKAT AZIZ (CENTER) SPEAKS TO AN EARTHQUAKE SURVIVOR

HOUSES DESTROYED IN BALAKOT, 56 MILES FROM ISLAMABAD. IT SHOULD BE NOTICED THAT THE TELECOMMUNICATIONS TOWER RESISTED THE EARTHQUAKE.
Members of the Canadian Red Cross board a Canadian Forces plane at Canadian Forces Base Trenton in Ontario September 3, 2005 to travel and help with the relief effort.

Prime Minister Paul Martin flips a burger as United States Ambassador to Canada David Wilkins looks on at a charity fundraiser by the Red Cross for Hurricane Katrina victims, on Parliament Hill in Ottawa, Sept 28, 2005.
# Hurdles and Logistical Difficulties in Post-Natural Disaster Contexts

## Major Hurdles

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<th><strong>POWER SUPPLY</strong> (or electricity):</th>
<th>The geography of a natural disaster location should always be examined.</th>
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<td><strong>TELECOMMUNICATIONS INFRASTRUCTURE:</strong> The aftermath will usually call for wireless solutions</td>
<td>Locations pose challenges for ICT equipment maintenance and training.</td>
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<td><strong>TRANSPORTATION OF TEAMS AND SUPPLIES TO THE AFFECTED AREAS:</strong> helicopters are very important since roads are likely to have been damaged or destroyed.</td>
<td>There are <strong>no stores like COMPUSA</strong> nearby to find parts or to take equipment for repair.</td>
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## Logistical Difficulties

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<th>Helicopters when existent for rescue operations can carry ICT equipment, parts and technical people.</th>
<th>Continuing bad weather negatively affect relief efforts</th>
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CELLULAR PHONES IN POST-NATURAL DISASTER AREAS CAN SUPPORT RELIEF OPERATIONS.

Pictures: telecom tower in Bo, Sierra Leone.
PUBLIC-PRIVATE PARTNERSHIPS: USING PRIVATE SECTOR INFRASTRUCTURES ALREADY EXISTENT

VSATs powered by solar panels in remote areas can receive information before and immediately after the Natural Disaster, and also support the mitigation efforts.

If the telecommunications infrastructure is not existent and already operational, emergency technical teams should quickly deploy them.

R W A N D A - 2004
SUPPORT FROM NGOs – “Telecoms Without Borders” in Muzaffarabad, Pakistan

A team from Telecoms Sans Frontières (Telecoms Without Borders) arrived in the disaster zone in Pakistan and installed a satellite telecom center for rescue teams near the Muzaffarabad heliport, where hundreds of injured people were being evacuated.

Satellite connection facilitates the flow of information, and provides communications between rescue teams and UN agencies for coordination. Calls to hospitals where relatives have been evacuated and to other cities that were not affected enable comforting news and help a lot in getting more efficient assistance.

*Communications are vital in relief operations!*

Source: www.cellularnews.com
WIRELESS EMERGENCY BROADBAND

AD-HOC NETWORK
WI-MAX

1. A service provider sets an 802.16a – wi-max – transceiver atop an antenna tower. Height gives the line-of-sight service better range and coverage. The signals reach the client’s transceiver either directly or, in some cases, by bouncing off smooth surfaces. However, bounced signals are more error prone, and thereby have a much-reduced effective throughput.

2. The received wi-max signal is decoded and unencrypted, and the payload extracted. Ethernet traffic is bridged to a standard local area network, such as a wired ethernet router for an enterprise network, or to a wi-fi access point to support nearby mobile users.

3. Within a few years, expect to see wi-max transceivers built directly into wi-fi access points, to allow them to serve as turnkey wi-fi hotspots. They may even be built into portable computers to let them tap directly into the wi-max network.
TYPICAL NEEDS IN POST-NATURAL DISASTER CONTEXTS

- Survivors need to communicate with family and friends.
- Access to personal records, banking accounts, credit cards.
- Rescue teams need to communicate with coordination centers.
- Medical personnel need communications to access records; order drugs, call for med-evacs and all other types of requests.
- Communication is essential in any large logistical operation.
- Provision of new IDs and other documents to survivors.
- Data-bases with survivors names and information must be built and made accessible on the web.
ICT RELATED GOOD PRACTICES

• National strategies to predict, prevent and mitigate natural disasters, including a chapter for the use of ICT in a Post-Natural Disaster Context.

• Include risk management when planning development projects. Make information available on the web.

• Legislation allowing the Universal Fund to be used in emergency situations. Example: USA - FCC Order 05-178, dated Oct 14, 2005, providing US$ 211 Million for reconstruction and remediation relating to the restoration of telecommunications services, to help the victims of Hurricane Katrina.

• Technology convergence to disseminate information: Satellite, Cell phones, radio, tv, Internet.
ICT RELATED GOOD PRACTICES

• Cross-cooperation of International Organizations such as the World Bank, World Meteorological Organization, Red Cross; and Country Governments, Provincial and Local Governments, NGOs, local Internet service providers.

• Mobile Phone Operators getting involved in the preparedness for Natural Disaster and mitigation. Their infrastructures are the ones most likely to survive disasters and can be quickly repaired.

• Invest in ad-hoc networks.

• Use ICT to map potential disaster areas.

• Support Open Standards to make possible the inter-operability of data-bases.

• Having an IFMIS to track donor’s funds, revenues, disbursements and accountability.

• Going wireless. WIMAX if available and possible.
Thank you
Xie xie
Danke
Khawp khun
Yum 6otic
Mahalo
Salamat
Juspaloraña
Spacibo
Obrigada
Arigato

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