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Telecoms  
Save Lives  
When  
Disasters  
Strike.

# Role of ICT in disaster management

## Second WSIS FACILITATION MEETING ON ACTION LINE C7 E-ENVIRONMENT

Geneva, Switzerland (21 June 2008)

Cosmas L. Zavazava, PhD.  
HEAD,  
Emergency Telecommunications,  
Least Developed Countries,  
and Small Island Developing States



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# IMPACT OF RECENT DISASTERS

- In 2008 (Jan-May)
  - Myanmar – Cyclone more than **78'000 deaths** – 50'000 missing
  - China – Earthquake – **more than 70'000 deaths**
    - Economic Loss up to **20 US\$ Billion**
- Last Decade (2000-2008)
  - Total Deaths including all disasters more than **1'200'000**
- Globally:
  - 95% of deaths occur in Least Developed Countries
  - Annual losses amount to more than **US\$ 80 billion**
  - Every US\$1 spent on mitigation saves **15-20 US\$** in losses.



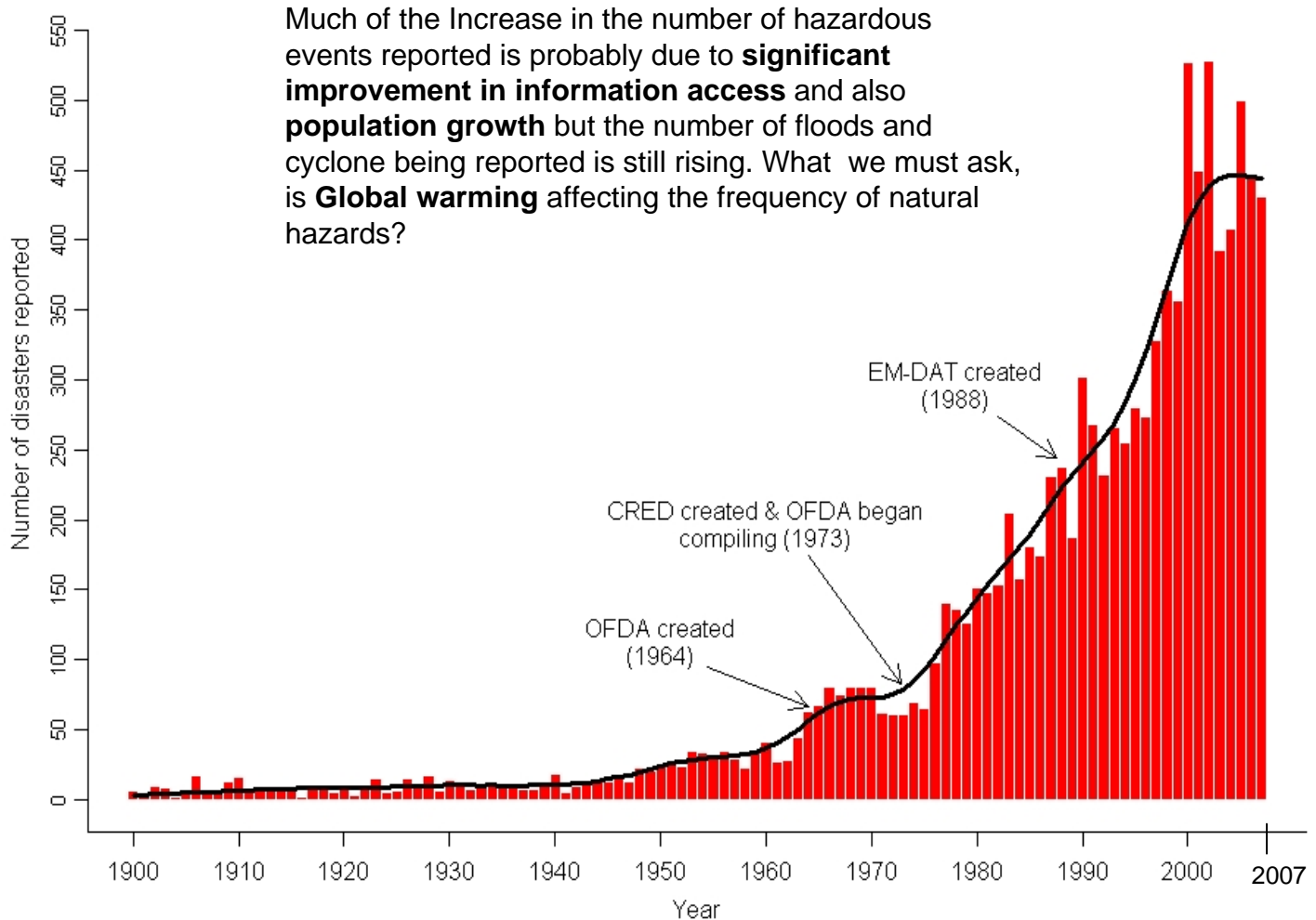


# Trends in Disasters

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### Natural disasters reported 1900-2007





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# ABOUT ITU

**191 Member States**  
**700 Sector Members**  
**100 Sector Associates**

## ITU

Helping the World Communicate

### ITU-T

Telecommunication  
standardization  
- network and service  
aspects



### ITU-D

Assistance delivery and  
implementation of  
telecommunications in  
developing countries

### ITU-R

Radiocommunication  
standardization and  
global radio spectrum  
management



# The use of ICT/Telecommunications in Emergency

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**Establishing Early Warning  
Systems for timely alert of  
disaster occurrence**

**Establishing Monitoring Systems  
Acquisition of  
Satellite Imagery to assess  
areas with restricted access  
(Earth Observation &  
GIS)**

**ICT  
Telecommunications**

**Coordinate Humanitarian  
Response Operations**

- Distribution of Equipment
  - Transport vehicles
- Emergency Infrastructure
  - Humanitarian Staff
- Operations Security

**Provide support  
to victims**

- Food
- Water and Sanitation
- Shelters

**ICT is the bloodstream of Disaster Management**





# MULTI-HAZARD ICT/SOLUTIONS

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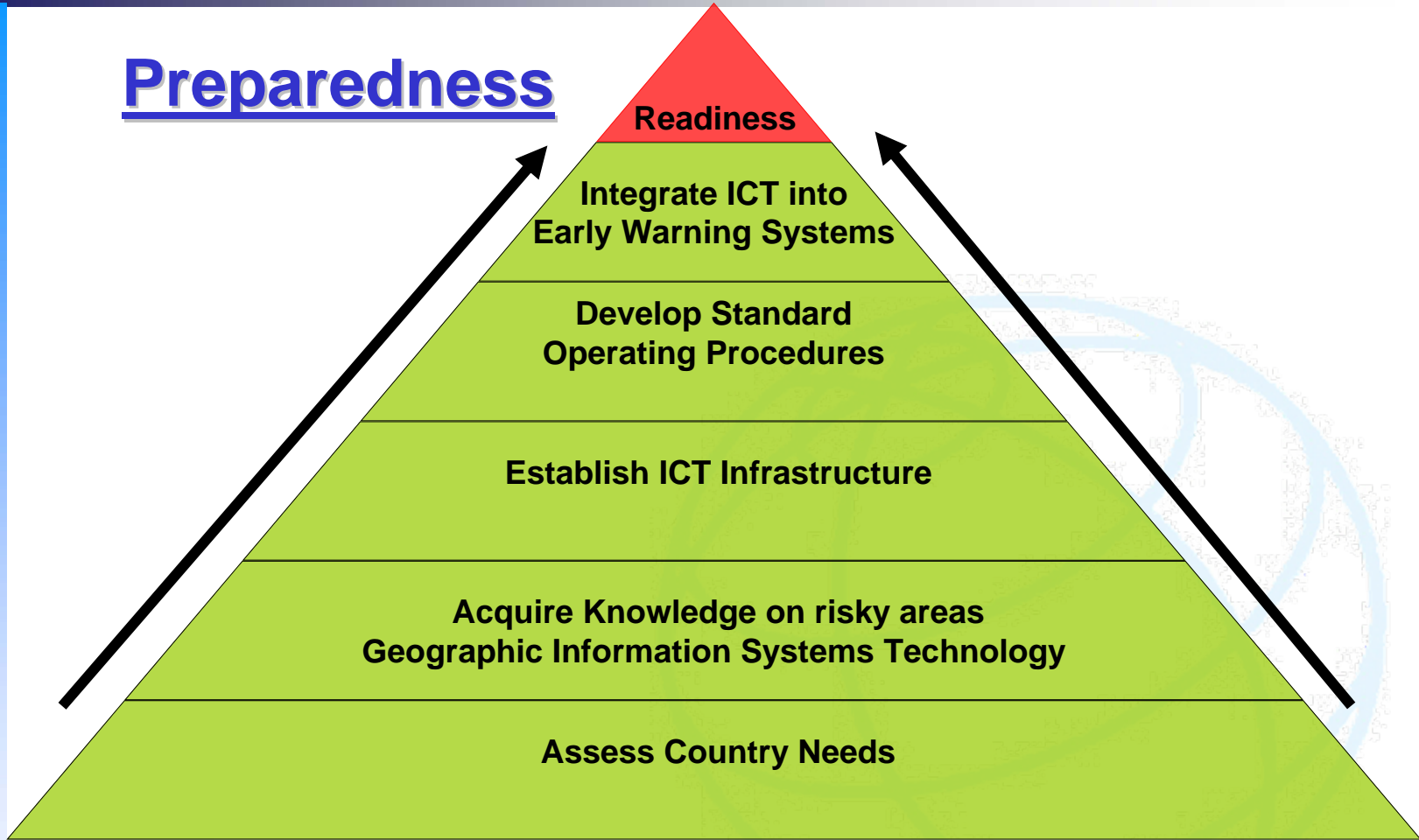




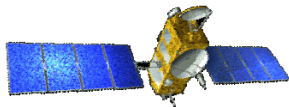
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## Preparedness



***Emergency Preparedness consists of actions, arrangements and procedures taken in anticipation of an emergency to ensure a rapid, effective and appropriate response that may save lives and livelihoods***

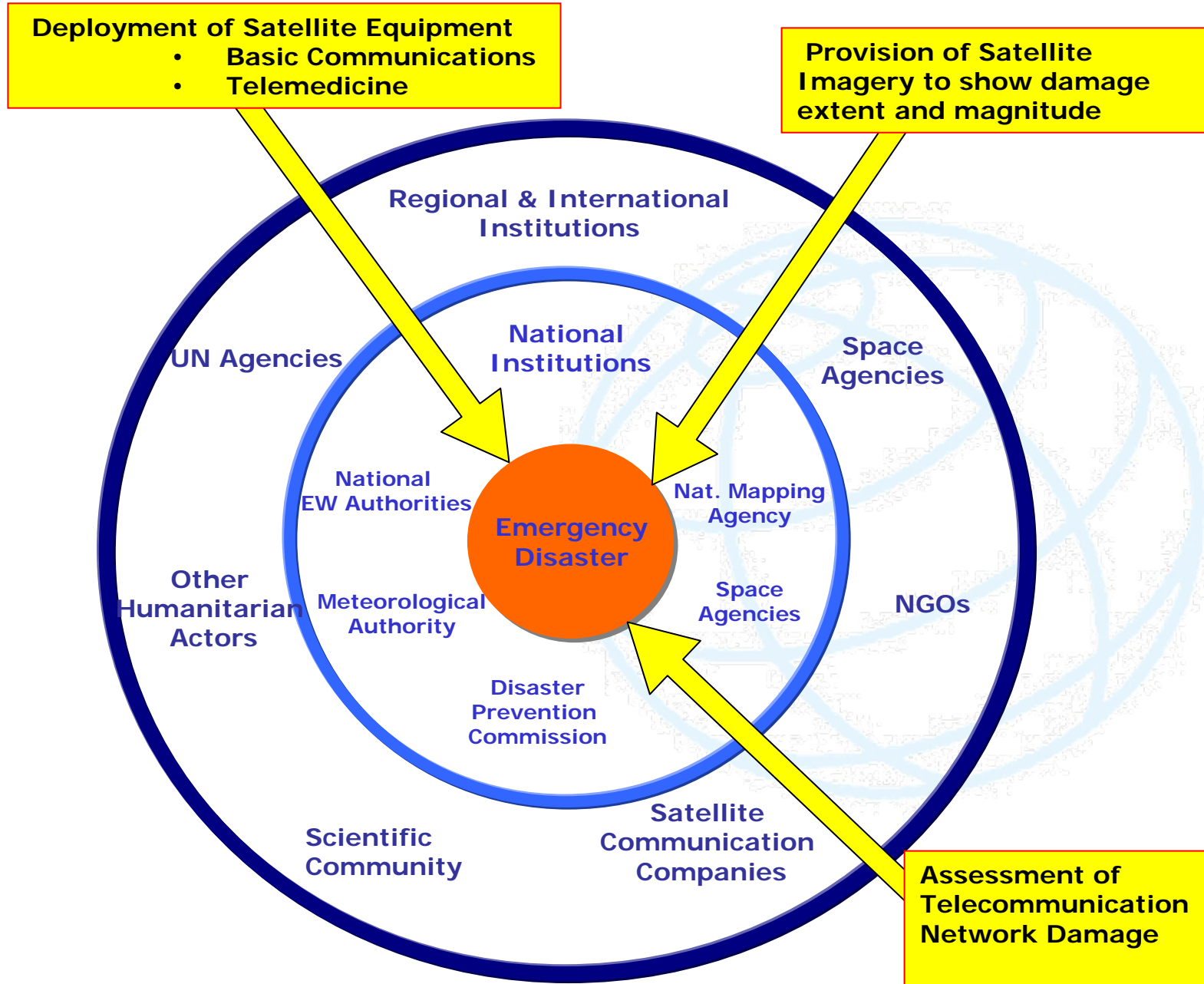




# Emergency Response: The Big Picture

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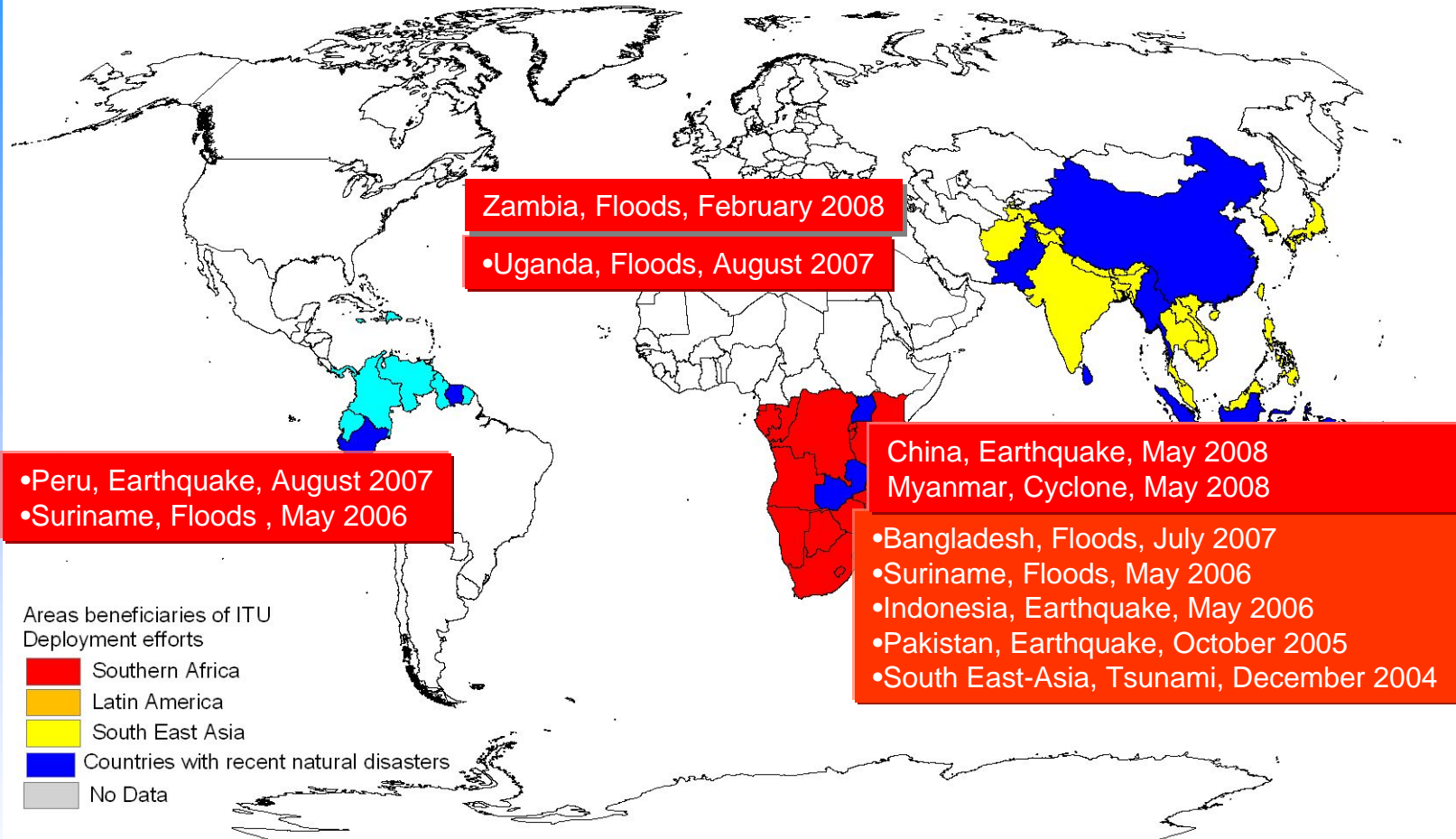




# Most recent ITU Deployments

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Map Produced by ITU-BDT-LSE February 2008

Data Source: ITU - Emergency Telecommunication <http://web/ITU-D/emergencytelecoms/response/index.html>

The boundaries and names shown and the designation used on this map do not imply official endorsement or acceptance by the United Nations

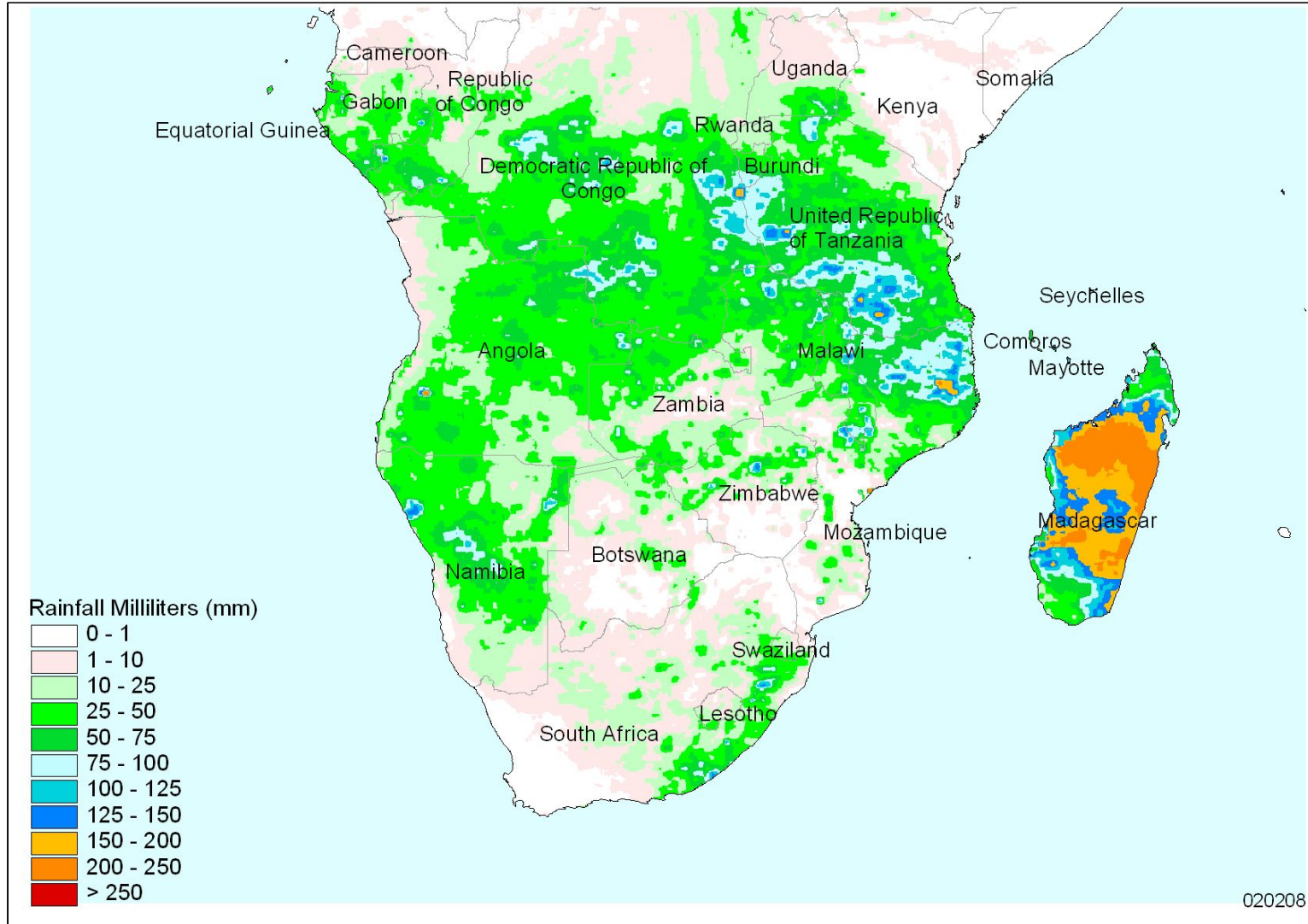
**Deployment of Satellite Phones, Satellite Terminals,  
Training and support to local authorities**



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# Monitoring Southern Africa Flooding, January-February 2008





# ICT in support of Disaster response: Myanmar

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### Approaching Cyclone

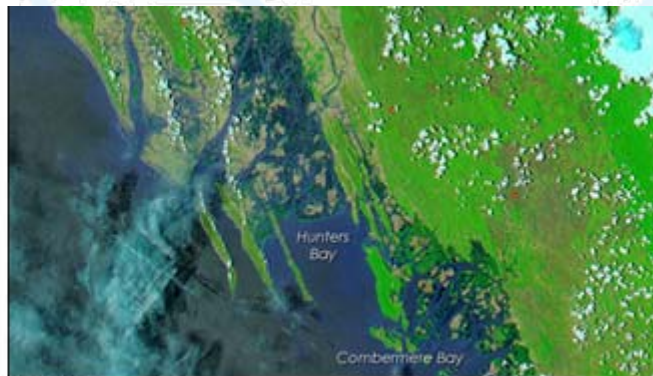


May 3, 2002



April 19, 2008

### Pre-Disaster: High Resolution Satellite Imagery



May 7, 2008

### Post-Disaster: High Resolution Satellite Imagery

TIME



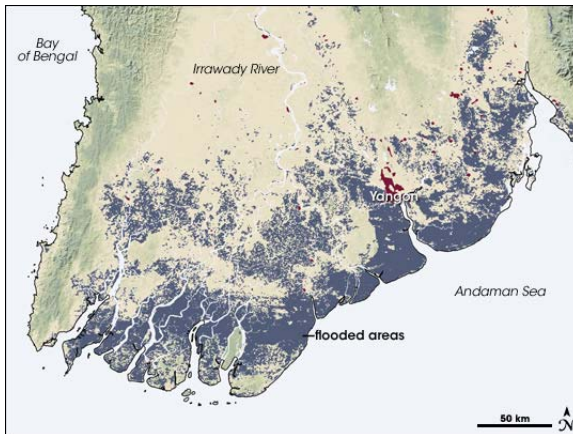




# ICT in support of Disaster response: Myanmar

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## Post Disaster Assessment of Impacted Areas: GIS

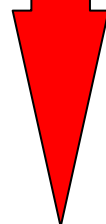


## On Field Post Disaster Assessment of Telecommunication Infrastructure



## On Field Post-Disaster Response: Deployment of Satellite Communication Equipment & Training

TIME







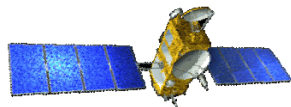
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## Recovery and Rehabilitation

### Rehabilitate Telecommunications Networks

- Eliminate Vulnerability based on GIS Information
- Incorporate Resilience features
- Ensure Network Redundancy



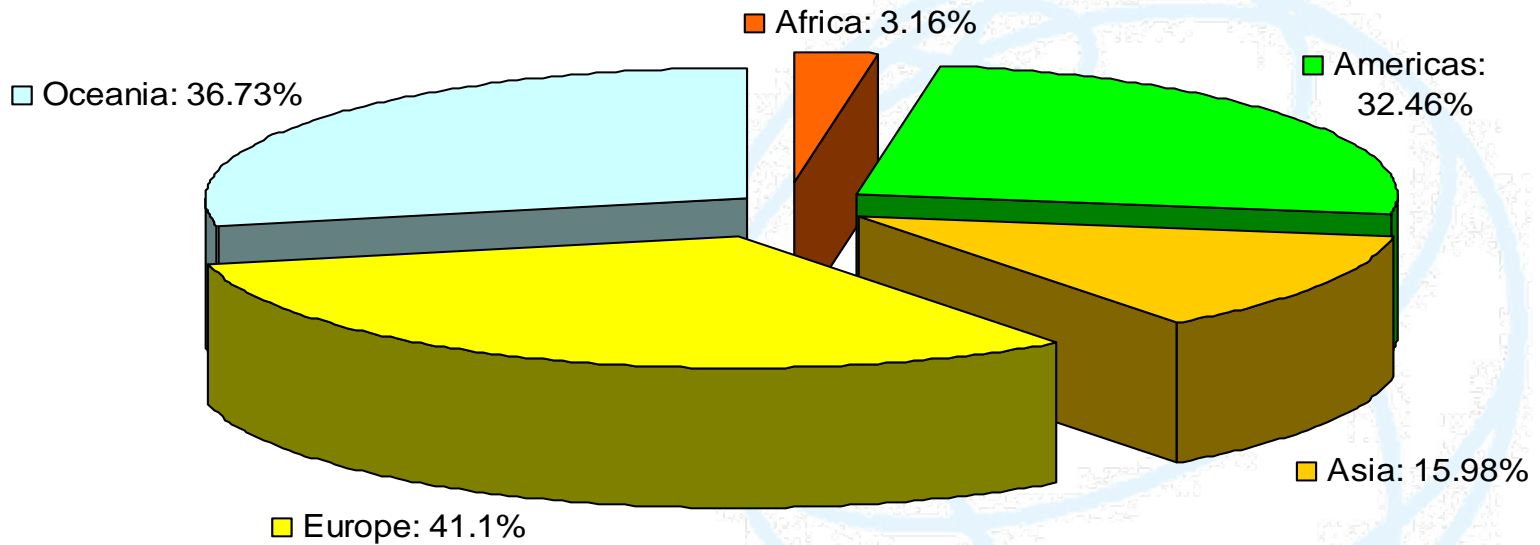


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# But there is a divide...

## Main fixed telephone lines by region per 100 inhabitants, 2006



Source: International Telecommunication Union

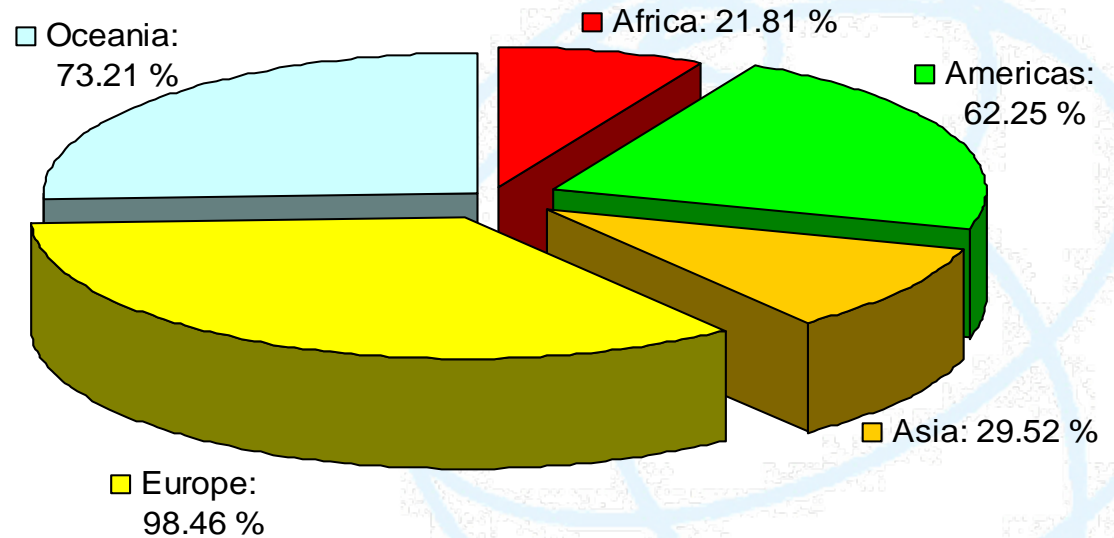


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## But there is a divide...

**Mobile cellular subscribers by region per 100 inhabitants, 2006**



Source: International Telecommunication Union

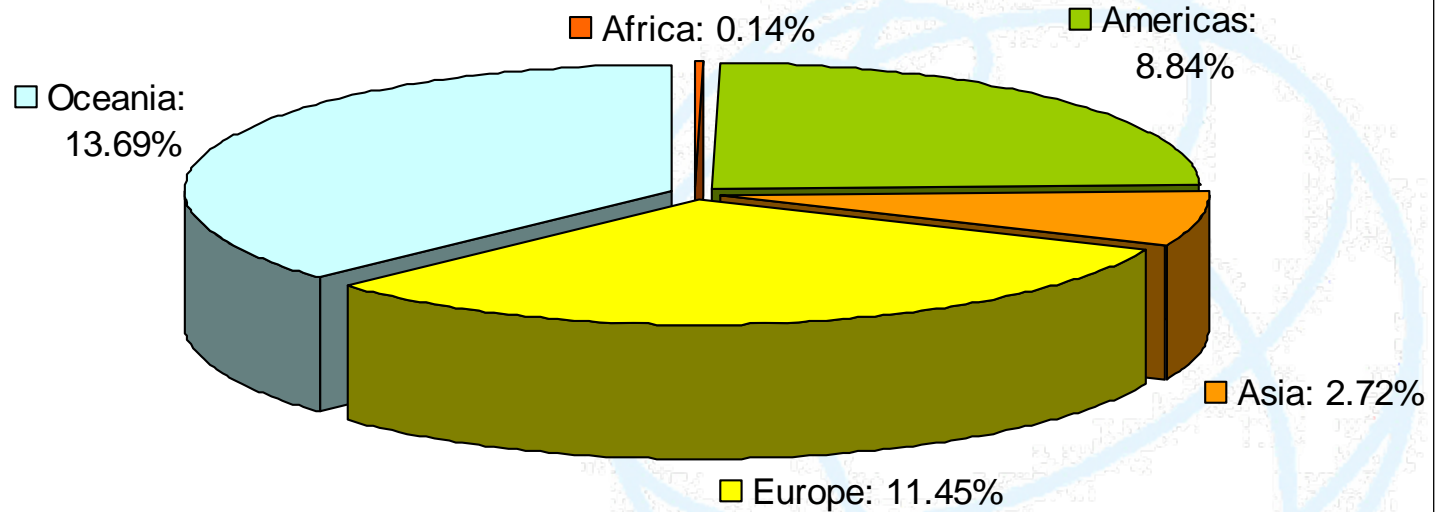


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## But there is a divide...

**Broadband subscribers by region per 100 inhabitants, 2006**



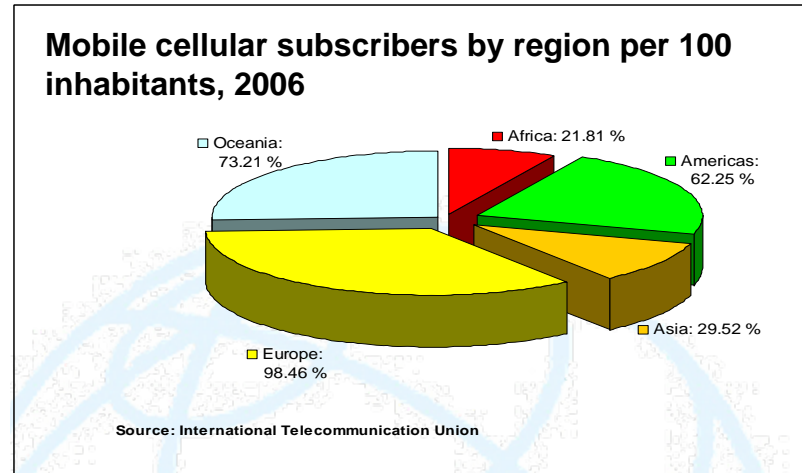
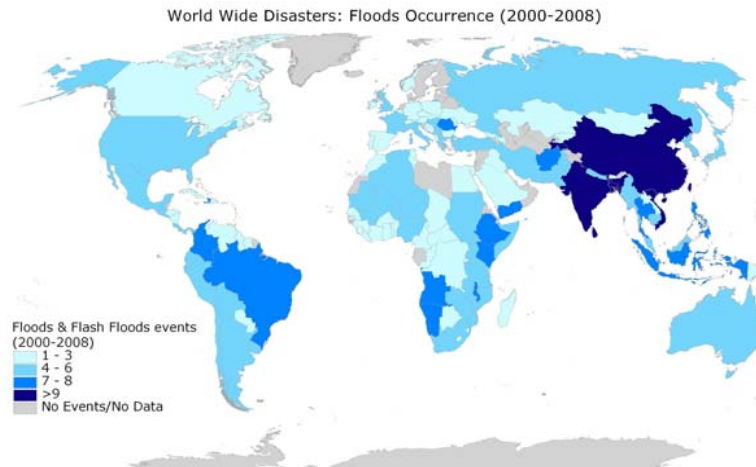
Source: International Telecommunication Union



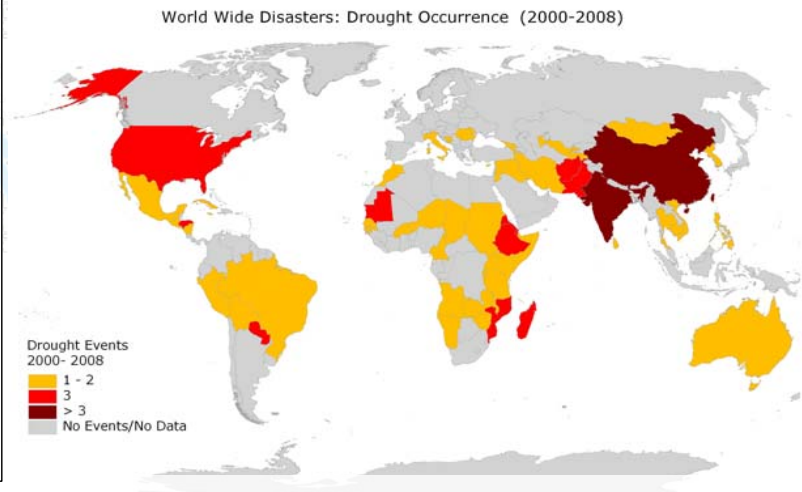
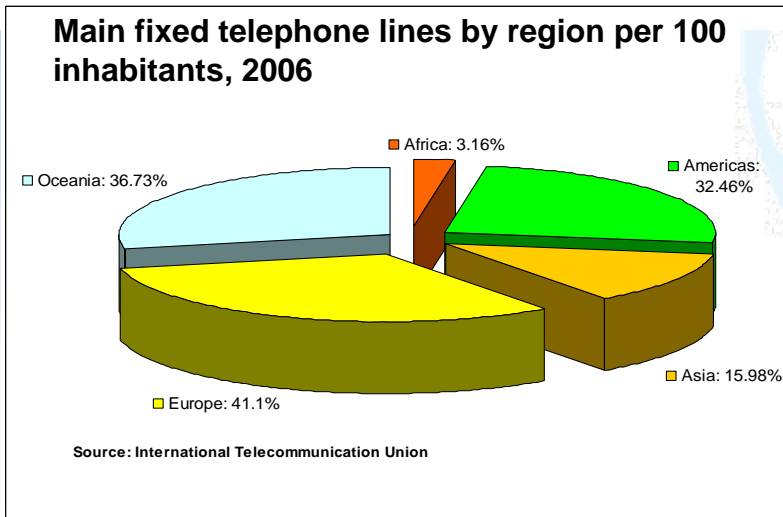
# YET...The Higher the Number of Disasters The Lower the Connectivity

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**Asia and Africa have the highest occurrences of Floods**



**People in Asia and Africa experience more Droughts**



# ITU Initiatives: IFCE

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## ITU Framework for Cooperation in Emergencies (IFCE)

### Eminent Industry Champion

#### Technology Cluster

- Satellite operators and Land Earth station operators
- Telecom Operators
- GIS/Remote sensing service providers
- Radiocommunications Equipment Providers

### Eminent Corporate Champion

#### Finance Cluster

- Governments
- Private Sector
- Development Banks
- Regional Economic Groups

### Eminent Corporate Champion

#### Logistics Cluster

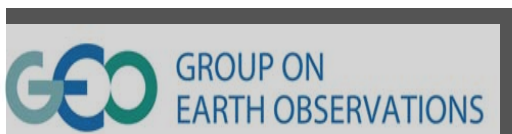
- Air Transport operators
- International Couriers



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# Partnering for Humanitarian Work



**UN Agencies/UNWGET  
(UN Working Group on  
Emergencies Telecommunications)**



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## Concluding remarks

- Need to forge multi-disciplinary partnerships
- Need to establish user-friendly affordable ICT
- Need for disaster prediction, detection and monitoring systems
- Need for Cooperation on sharing information for better response
- Need for Standard Operating Procedure
- Need for integrating National Emergency Telecommunications Plans into Disaster Management Plans
- Need to develop infrastructure to promote Universal Access





**THANK YOU**

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