The Role of ITU in Disaster Management

CELEBRATING 25YEARS OF ACHIEVEMENTS
ITU-D 1992 2017

About ITU

ITU-D

Role in policy, regulation, and legal frameworks development. Implementation of ICT projects and capacity building activities
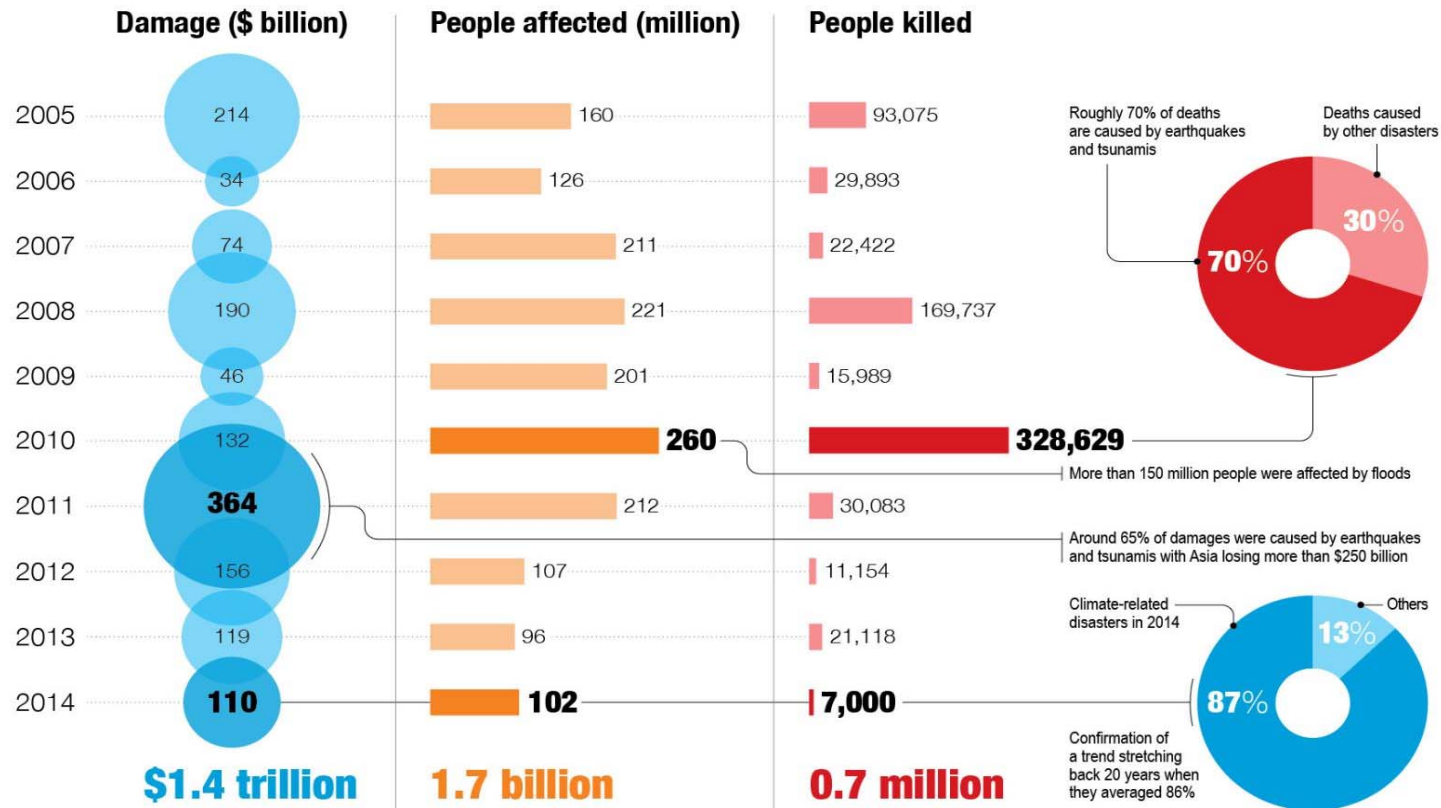
ITU-T

Role in developing international standards defining elements in the interoperability of ICT global infrastructure
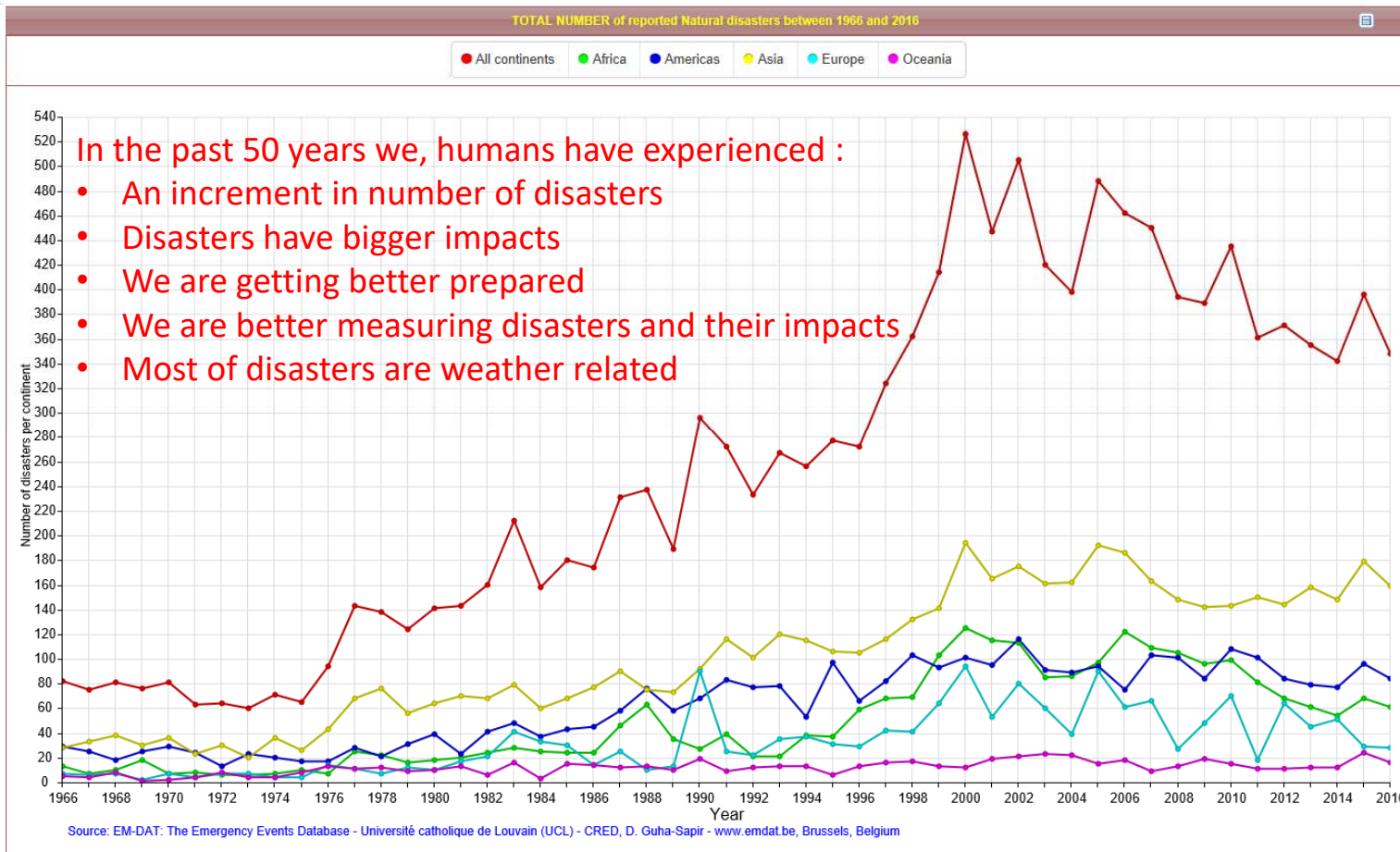
ITU-R

Role in global management of the radio-frequency spectrum and satellite orbits

ITU WTDC BUENOS AIRES 2017
9-20 October

ITU-D 1992 2017 CELEBRATING 25 YEARS OF ACHIEVEMENTS

Disaster Impacts 2005 - 2014

Damage ($ billion)	People affected (million)	People killed
2005 — 214	160	93,075
2006 — 34	126	29,893
2007 — 74	211	22,422
2008 — 190	221	169,737
2009 — 46	201	15,989
2010 — 132	260	328,629
2011 — 364	212	30,083
2012 — 156	107	11,154
2013 — 119	96	21,118
2014 — 110	102	7,000
$1.4 trillion	**1.7 billion**	**0.7 million**

Roughly 70% of deaths are caused by earthquakes and tsunamis

Deaths caused by other disasters

70% 30%

More than 150 million people were affected by floods

Around 65% of damages were caused by earthquakes and tsunamis with Asia losing more than $250 billion

Climate-related disasters in 2014

Others

87% 13%

Confirmation of a trend stretching back 20 years when they averaged 86%

Source: UNISDR

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Trends

Natural Disasters

Number of Natural Disasters (1966-2016)

TOTAL NUMBER of reported Natural disasters between 1966 and 2016

Legend: All continents · Africa · Americas · Asia · Europe · Oceania

In the past 50 years we, humans have experienced :
- An increment in number of disasters
- Disasters have bigger impacts
- We are getting better prepared
- We are better measuring disasters and their impacts
- Most of disasters are weather related

Source: EM-DAT: The Emergency Events Database - Université catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium

DISASTERS AFFECT EVERYONE

but they impact poor and vulnerable the most

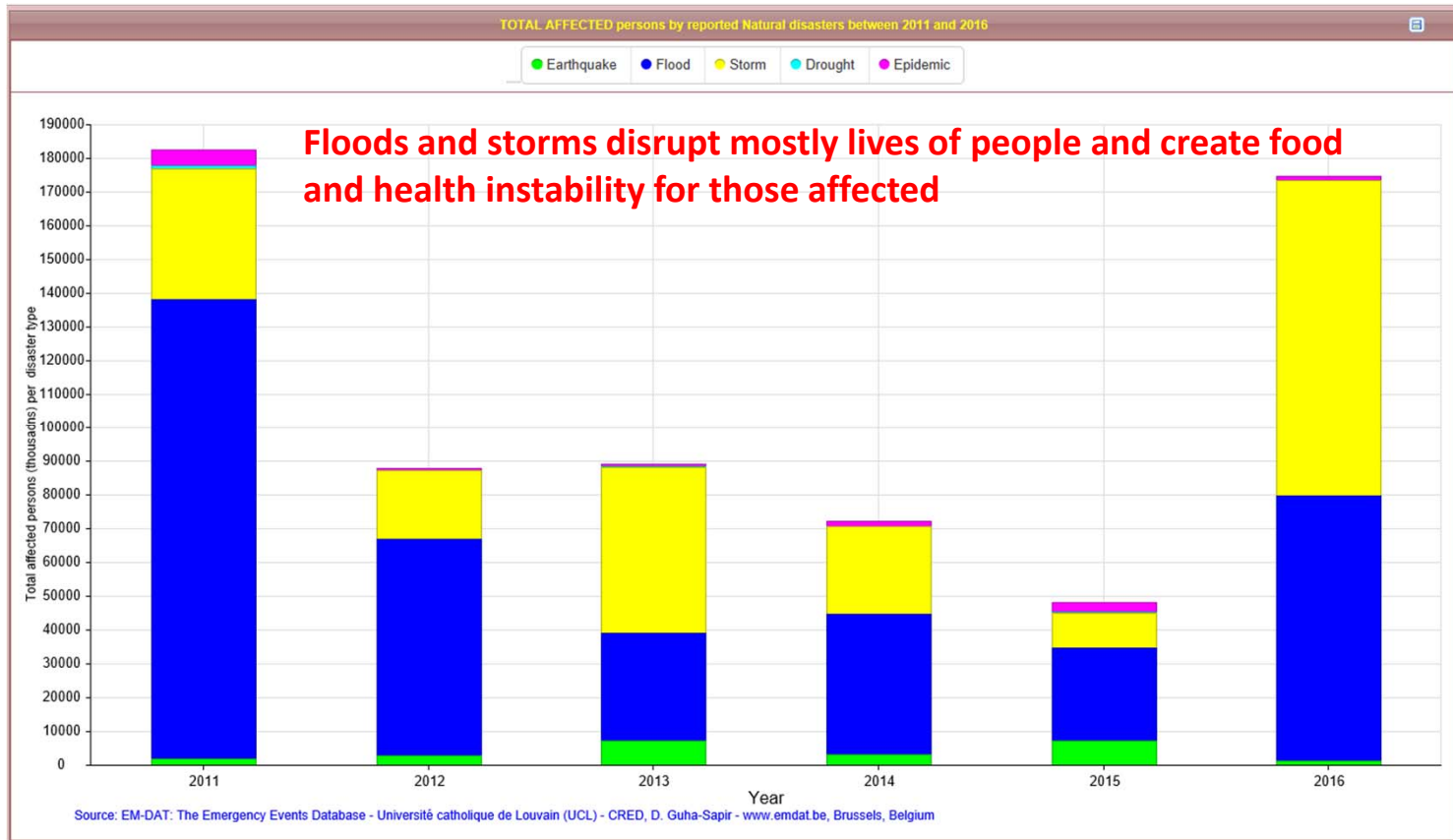LOW INCOME COUNTRIES ACCOUNT ONLY FOR 9% OF THE WORLDS DISASTERS ...

9%

■ Low Income Countries

91%

BUT

48%
OF FATALITIES

48%   52%

Lost Lives (2000-2016)

TOTAL DEATHS caused by reported Natural disasters between 2000 and 2016

Legend: ● Earthquake ● Flood ● Storm ● Drought ● Epidemic
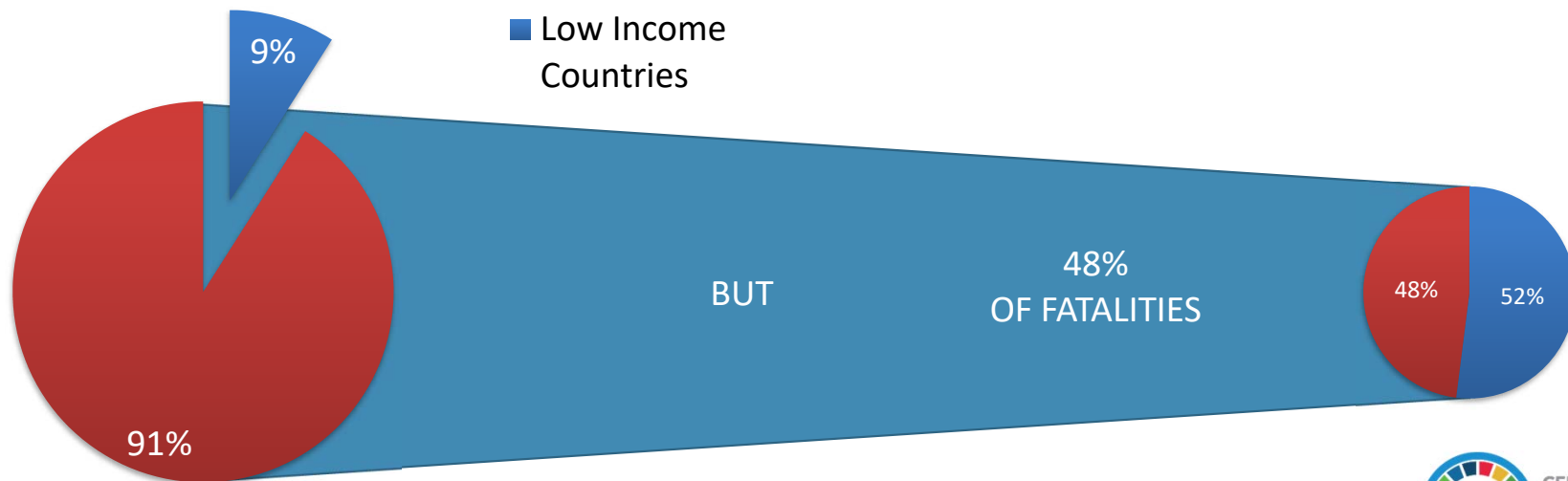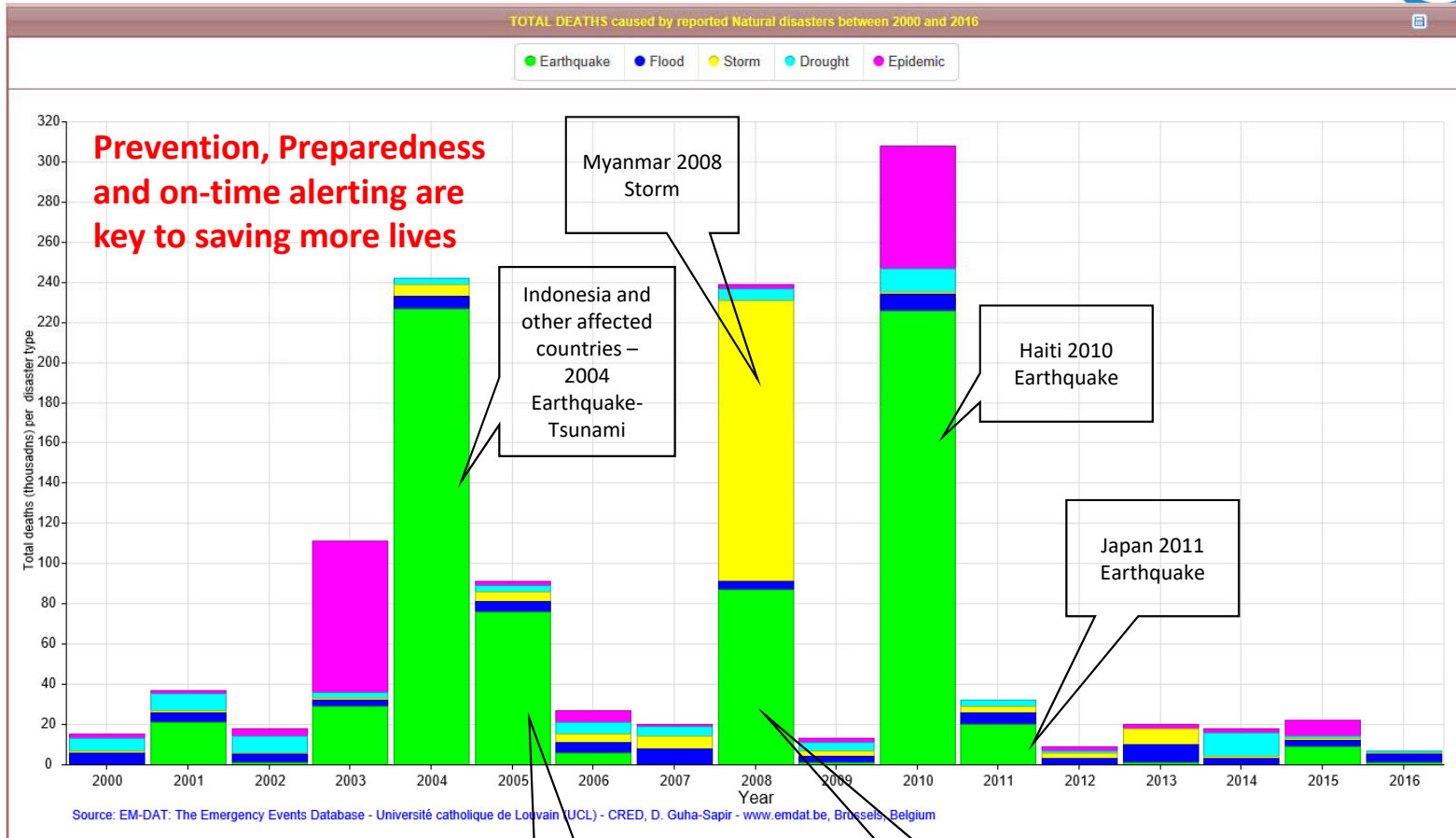
Prevention, Preparedness and on-time alerting are key to saving more lives

Myanmar 2008 Storm

Indonesia and other affected countries – 2004 Earthquake-Tsunami

Haiti 2010 Earthquake

Even the most resilient nations face large human and economic losses

Japan 2011 Earthquake

Pakistan 2005 Earthquake

China 2008 Earthquake

Source: EM-DAT: The Emergency Events Database - Université catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium

Y-axis: Total deaths (thousandns) per disaster type
X-axis: Year

Affected Population (2011-2016)

TOTAL AFFECTED persons by reported Natural disasters between 2011 and 2016

● Earthquake ● Flood ● Storm ● Drought ● Epidemic

Floods and storms disrupt mostly lives of people and create food and health instability for those affected

Source: EM-DAT: The Emergency Events Database - Université catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium

Economic Losses (2011-2016)

Disasters disrupt national economies …

Overall economic loss is higher in developed countries …

Example: Vanuatu (SIDS) LDC graduation was delayed due to the 2015 storm to 2020 …

Role of ITU

Committed to connecting the world ➔ connecting world in distress situations!

- Direct Assistance during all phases of disaster management
- Capacity building and awareness creation
- Project Implementations
- Facilitate ratification and implementation international treaties
- Standards development and implementation
- Spectrum allocation best practices and dispute resolution

Disaster Risk Reduction(DRR)

ICT Needs of Developing Countries for Disaster Prevention Preparedness, Response and Recovery

- Captures the unique needs of developing countries
- Promulgates and promotes DRR solutions
- Implements projects on disaster warning and alerting systems
- Development and review of policy and regulation (NETP)
- Promotes international cooperation and implementation of standards – Tampere Convention, CAP
- Provides direct assistance during emergencies on telecommunications

Disaster management, network resiliency and recovery recommendations and best practices

- Collects and documents information and concepts helpful to the work on disaster relief systems/ applications, network resilience and recovery from a telecommunication network perspective
- Critical information infrastructure protection
- Standards development and adoption such as common alerting protocol (cap, x.1303)
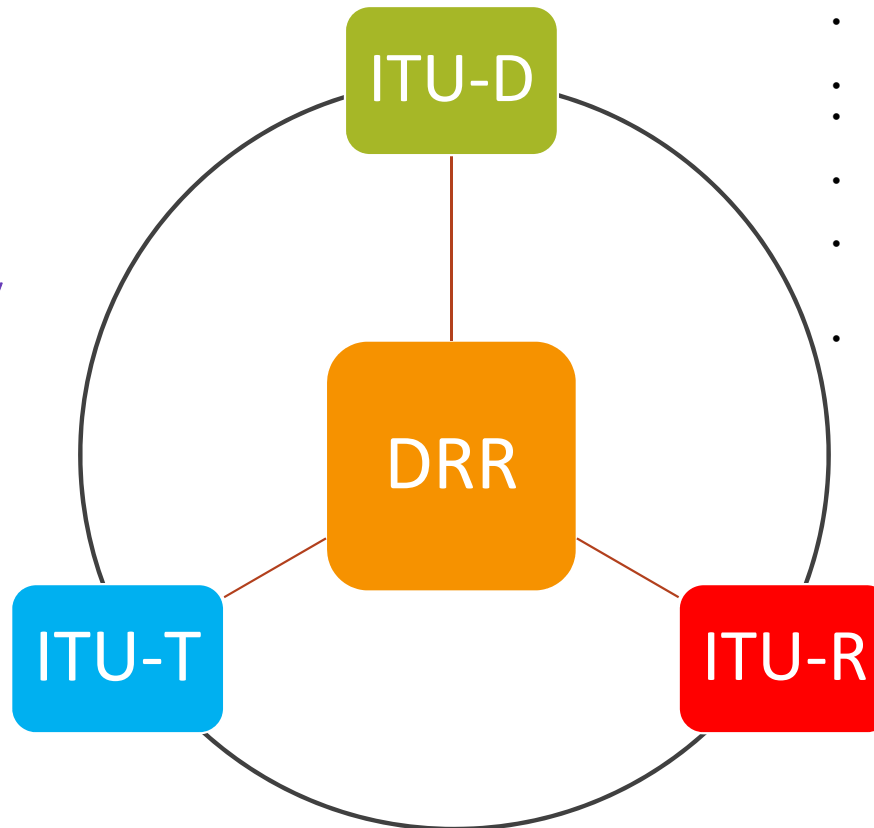
Radiocommunications in DRR

- Develop recommendations and reports on radiocommunications for disaster management
- Emergency frequency allocation best practices
- Satellite services regulation – meteo services, earth observation, etc.

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ITU Work Principles

Multi-Hazard
- Epidemics
- Earthquakes
- Floods
- Storms

Multi-Technology
- Satellite Communication
- Mobile Communication
- Radiocommunication

Emergency Telecommunication Principles

Multi-Phased
- Prevention
- Response
- Preparedness
- Recovery

Multi-Stakeholder
- Member States
- Partnerships
- UN Agencies
- Private Sector
- NGOs

Our Work - Disaster Risk Reduction

PROMOTION, AWARENESS AND PARTNERSHIP BUILDING:
- ORGANIZATION OF GLOBAL FORUMS (GET)
- ORGANIZATION OF REGIONAL WORKSHOPS AND FORUMS
- ORGANIZATION OF NATIONAL WORKSHOPS

STRATEGY DEVELOPMENT AND IMPLEMENTATION:
- POLICY, LEGAL & REGULATORY FRAMEWORKS
- DESIGN AND IMPLEMENTATION OF NATIONAL EMERGENCY TELECOMMUNICATION PLANS
- BEST PRACTICES AND KNOWLEDGE EXCHANGE THROUGH STUDY GROUPS

EMERGENCY TELECOMMUNICATIONS PROJECT IMPLEMENTATIONS:
- SETTING UP EARLY WARNING SYSTEMS
- ESTABLISHMENT OF EMERGENCY COMMUNICATION INFRASTUCTURE

CAPACITY BUILDING:
- USE OF ICT FOR EMERGENCY RESPONSE
- ESTABLISHMENT OF EMERGENCY COMMUMICATION INFRASTUCTURE
- POLICY DEVELOPMENT AND IMPLEMENTATION
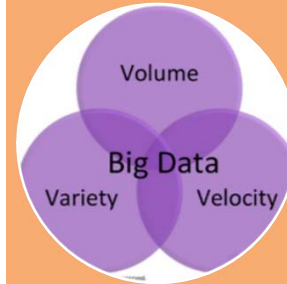
CONCEPT PROJECT IMPLEMENTATIONS:
- ICT APPLICATIONS FOR EMERGENCY RESPONSE (EPIDEMIC, NATURAL DISASTERS, ETC)
- BIGDATA STORAGE INFRASTRUCTURE

EMERGENCY RESPONSE:
- DEPLOYMENT OF EMERGENCY TELECOMMUNICATION SYSTEMS DURING EMERGENCIES
- EXPERT SUPPORT ON SITE FOR COMMUNICATION RESTORATION

Support Through All Phases of Disaster Management

Pre-disaster phase
- NETP development
- Policy and/or regulation review and/or development
- Project implementations
- Capacity building
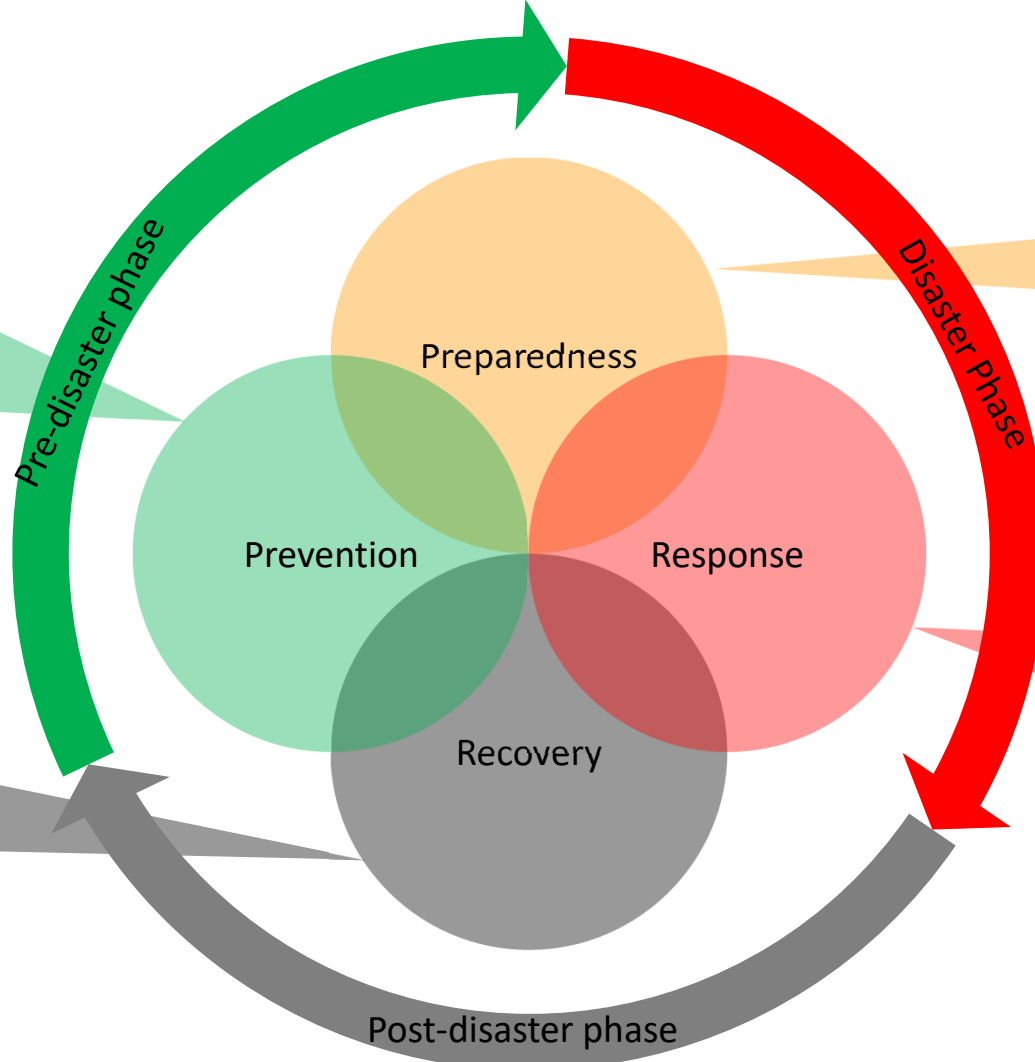
Disaster Phase
- Early Warning Systems
- Resource deployment

- Advisory and technical assistance
- Resource deployment
- Damage assessment and reporting

Post-disaster phase
- Infrastructure recovery assistance
- Advisory and technical assistance
- Resource deployment

Preparedness

Prevention

Response

Recovery

Assistance Types and Examples

DEPLOYMENT OF RESOURCES

PROJECT IMPLEMENTATION

POLICY AND REGULATION

CAPACITY BUILDING

DEPLOYMENT OF EMERGENCY TELECOM EQUIPMENT WHEN DISASTERS STRIKE

SUPPORT OF UN, NGOs AND OTHERS THROUGH LICENSING AND FREQUENCIES ASSIGNMENTS

SETTING UP TELEMEDICINE FACILITIES FOR EASY DELIVERY OF HEALTH SERVICES

ASSESSMENT OF NETWORK DAMAGES AND REHABILITIATION

Hospitals

Satellite

Broadcasting

Beach public address systems

Early
Warning
System

ALERT

Disaster Management
Headquarters

Public Announcing Systems

Government
authority

Indoor receivers
Citizens

Public-Safety Vehicle
(Official Vehicles)

Fire Division
Headquarters

Public-Service
Vehicles
(Fire engines)

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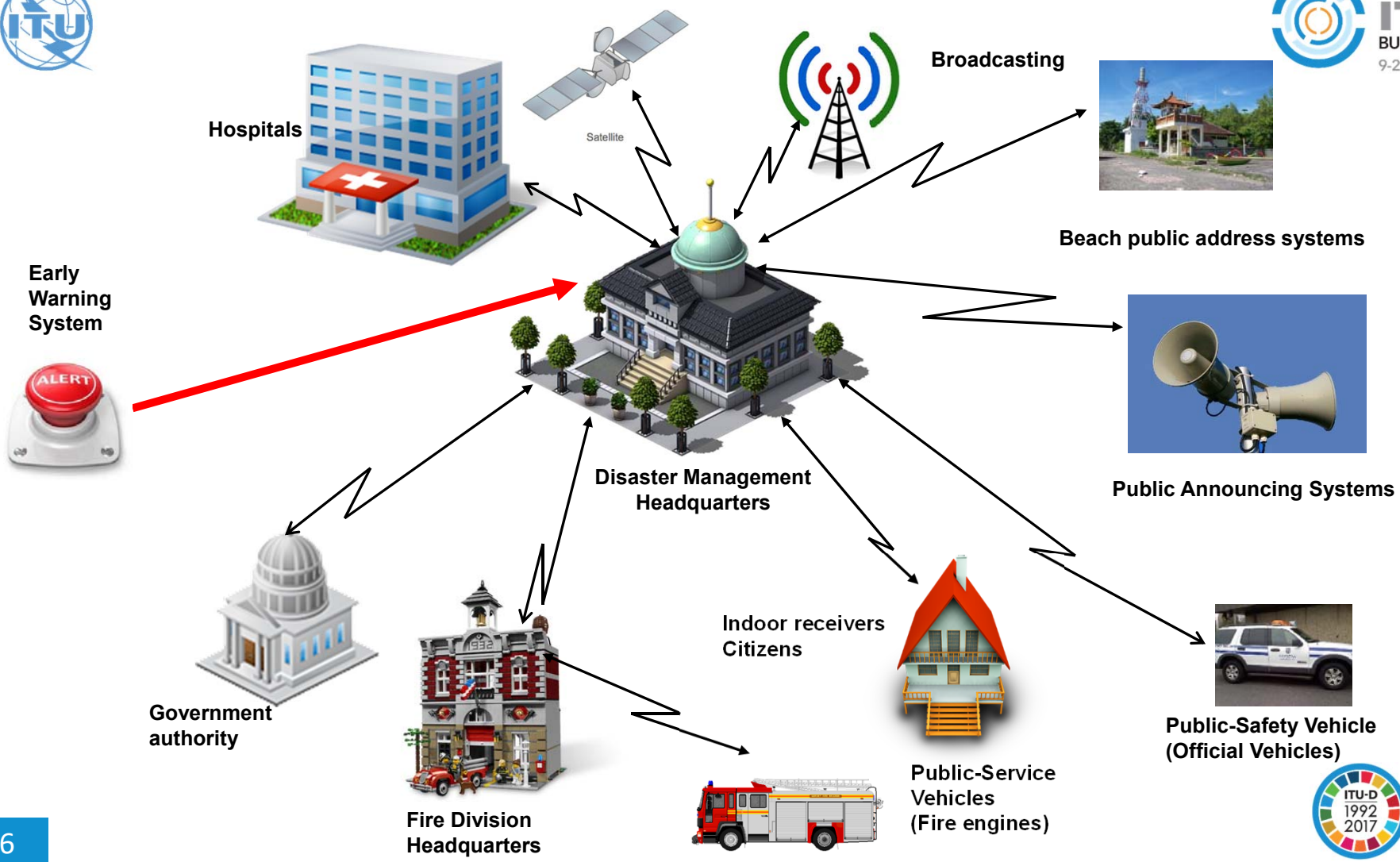
The Assistance Request Processes … 1

Request for Emergency Response Assistance – Member State

- Member State writes to ITU requesting an assistance

- An agreement is negotiated and signed between ITU and the Member State

- ITU delivers equipment and assigns human resources to the assistance for the Member State
    - ITU pays for freight charges to and from the beneficiary Member State
    - ITU provides satellite terminals and phones
    - ITU pays for the airtime charges – limited usage up to 2000 USD per device
    - ITU assigns resources to support the deployment

Request for Cooperation – Project Implementation

- Member State writes to ITU requesting an assistance

- An agreement is negotiated and signed between ITU and the Member State (sometimes other partners)

- ITU and Member State allocate contributions for the project implementation
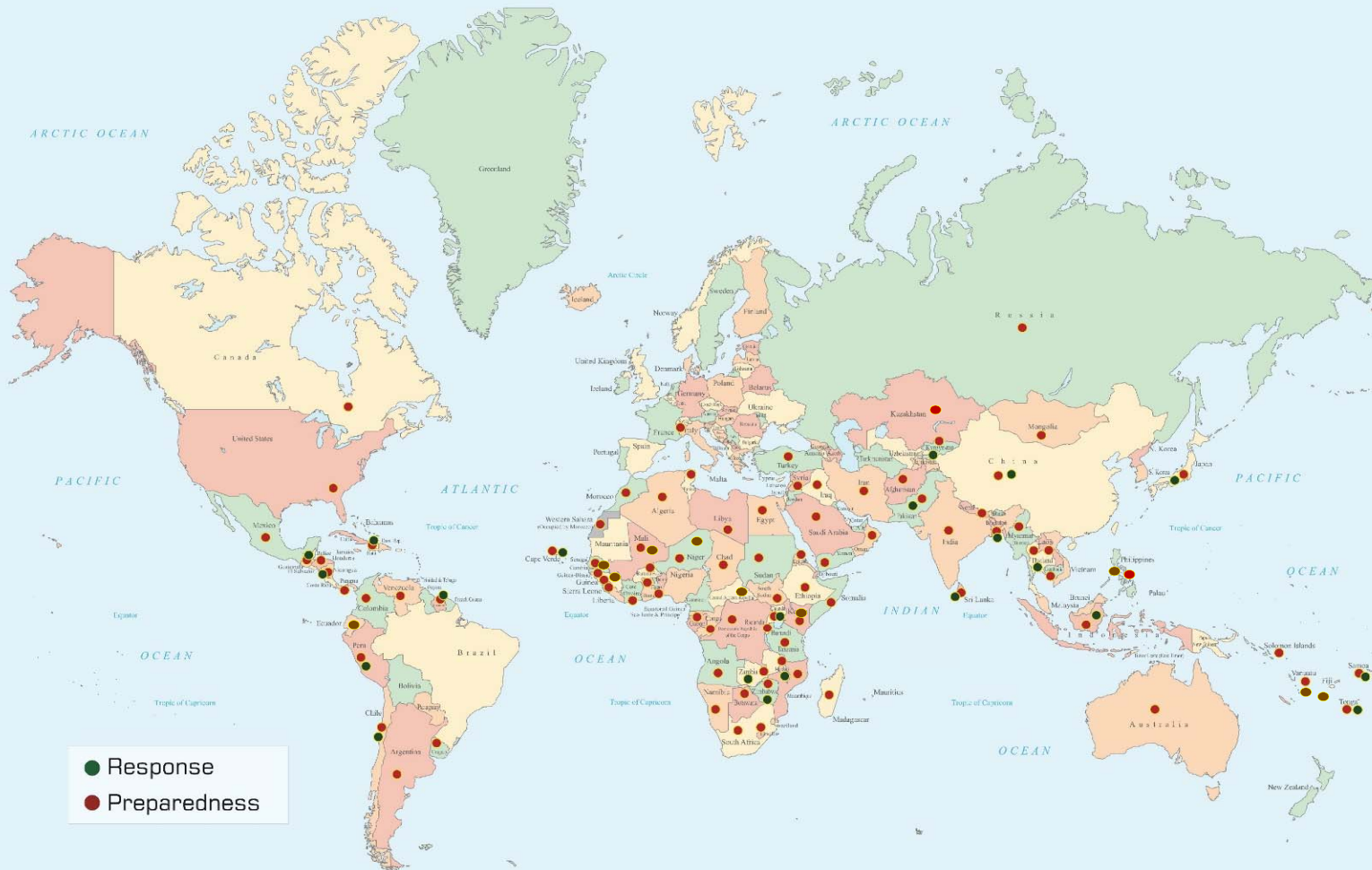
The Assistance Request Processes … 2

Request for Emergency Response Assistance – UN Agency

- UN Agency writes to ITU requesting an assistance

- An agreement is negotiated and signed between ITU and the UN Agency

- ITU delivers equipment and assigns human resources to the assistance action
  - ITU pays for freight charges to and from the UN Agency Office
  - ITU provides satellite terminals and phones
  - ITU pays for the airtime charges – limited usage up to 2000 USD per device
  - ITU assigns resources to support the deployment

- **Etc.**

ITU ASSISTANCE
IN EMERGENCY TELECOMMUNICATIONS

Response
Preparedness

THANK YOU