
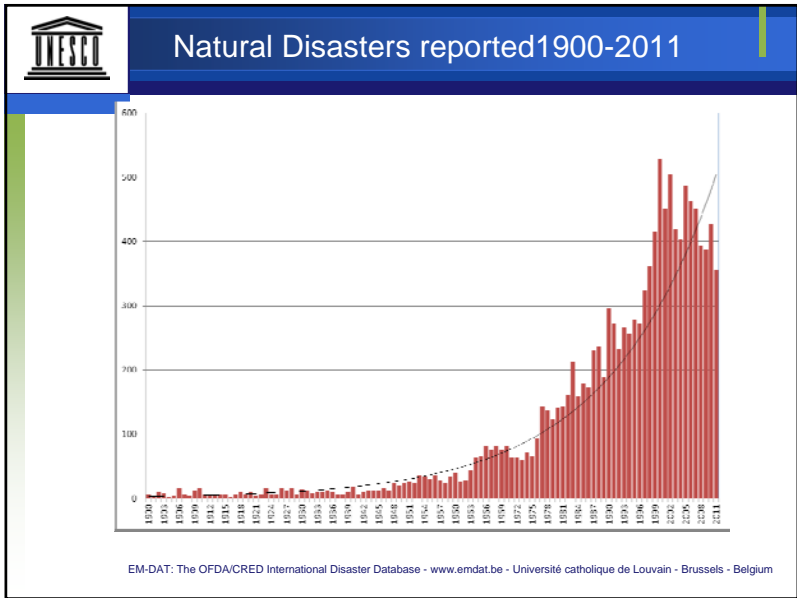

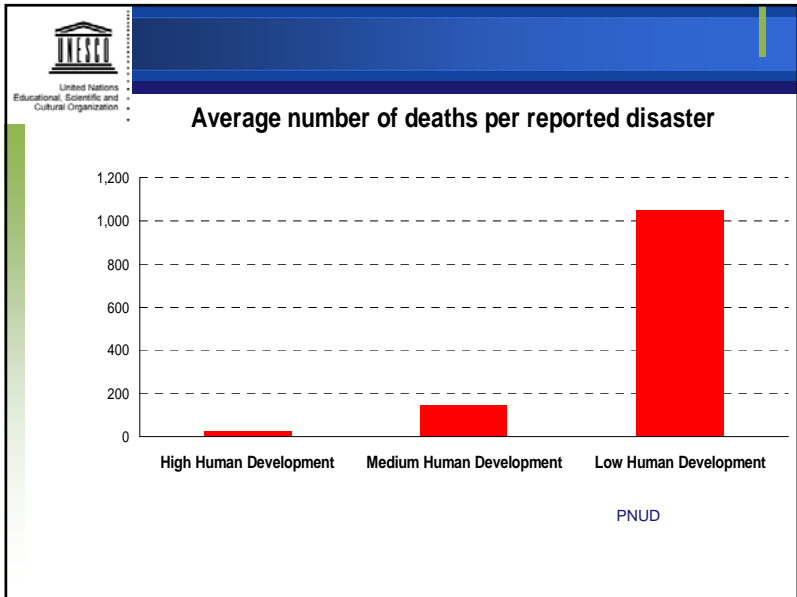


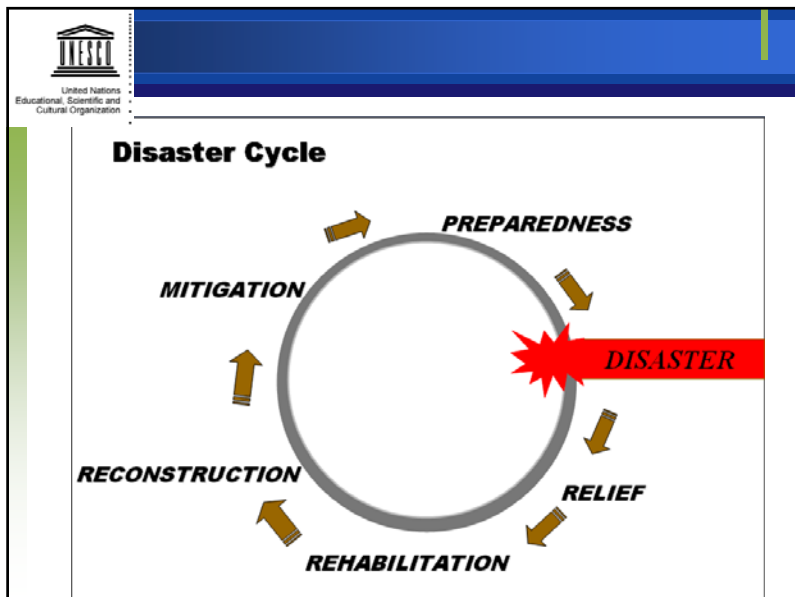
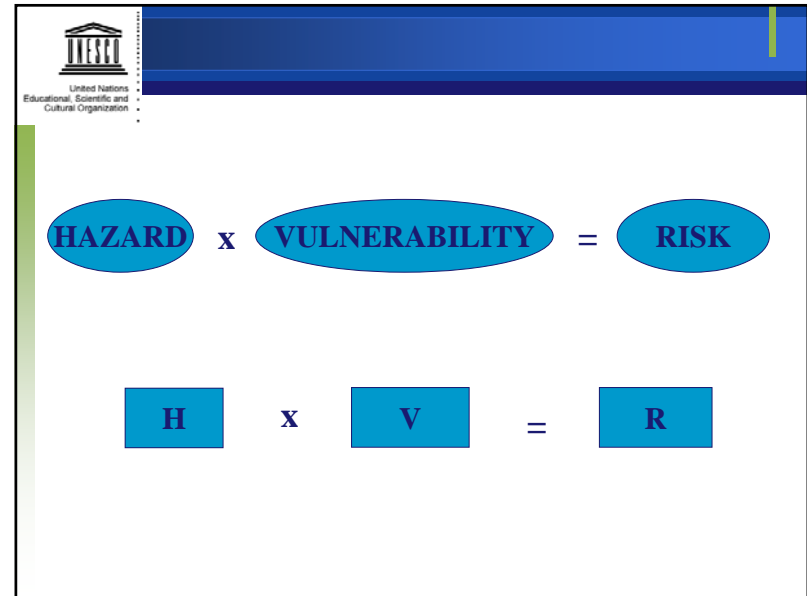
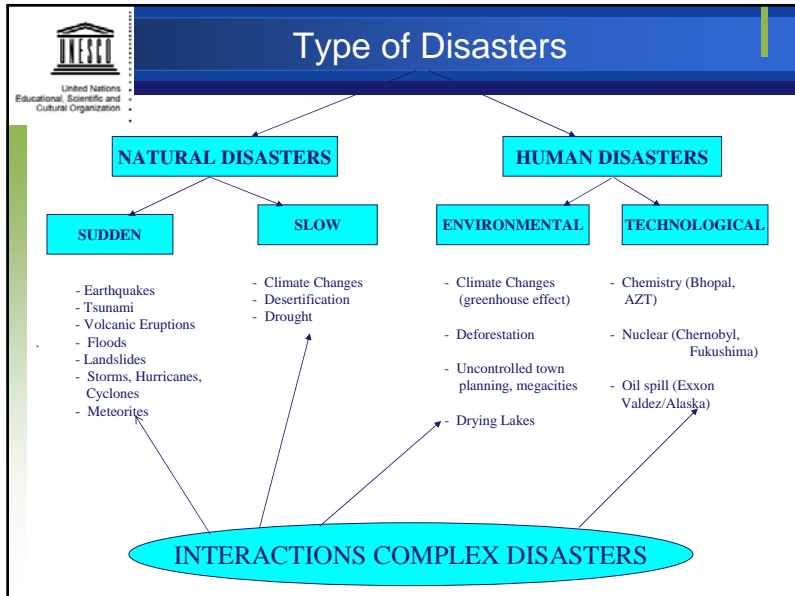
**Badaoui ROUHBAN**  
 Director  
 Unit for Natural Disasters  
 UNESCO, Paris


**10 Major Disasters (fatalities) in the last 30 years**

Iran	Earthquake	1990	35,000
Bangladesh	Cycl/flood	1991	140,000
Venezuela	Flood	1999	30,000
Iran	Earthquake	2003	27,000
Indonesia, others	Eq/tsunami	2004	over 280,000
Pakistan	Earthquake	2005	over 80,000
Myanmar	Cycl/flood	2008	over 130,000
China	Earthquake	2008	90,000
Haiti	Earthquake	2010	over 200,000
Armenia	Earthquake	1988	25,000





## United Nations system engaged in DRR

United Nations Educational, Scientific and Cultural Organization

International Strategy for Disaster Reduction (ISDR)

UNESCO

unicef

FAO

UN-HABITAT  
United Nations Human Settlements Programme

World Meteorological Organization

United Nations University  
*"advancing knowledge for human security and development"*

UNWFP

WORLD BANK

World Health Organization

UNEP

PNUD

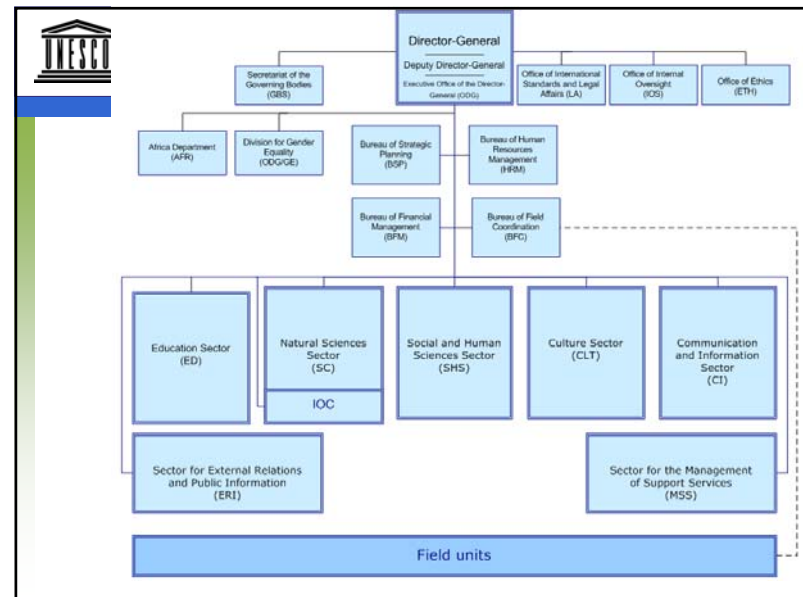
## Hyogo Framework for Action

### Five Priority Areas

- ❖ Governance.
- ❖ Risk identification, assessment, monitoring and early warning.
- ❖ Knowledge management and education.
- ❖ Reducing underlying risk factors.
- ❖ Preparedness for effective response and recovery

## UNESCO

United Nations Educational Scientific (natural, social, human sciences) Cultural (culture, communication, information, WHC) Organization





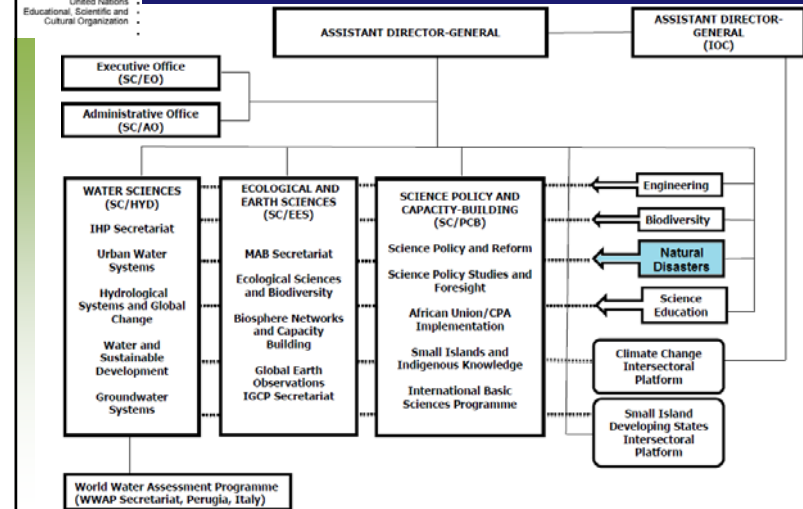
## UNESCO's Actions for Disaster Reduction

### Long-term Goals

- ❖ Observation and early warning networks of natural hazards
- ❖ Hazard risk mapping
- ❖ Disaster-resistant building codes
- ❖ Education for disaster reduction
- ❖ Help make schools safer
- ❖ Promotion of public awareness through communication
- ❖ Protection of cultural monuments and sites
- ❖ Social dimensions and ethics of disasters



## Natural Sciences Sector



## UNESCO Scientific Programmes

### ❖ Natural Sciences

- International Hydrological Programme (IHP)
- Man and the Biosphere Programme (MAB)
- International Engineering Initiative
- International Geosciences Programme (IGCP)
- Intergovernmental Oceanographic Commission (IOC)



### ❖ Social and Human Sciences

- Management of Social Transformations (MOST) Programme

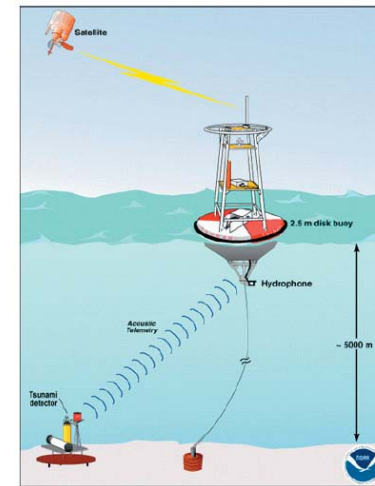
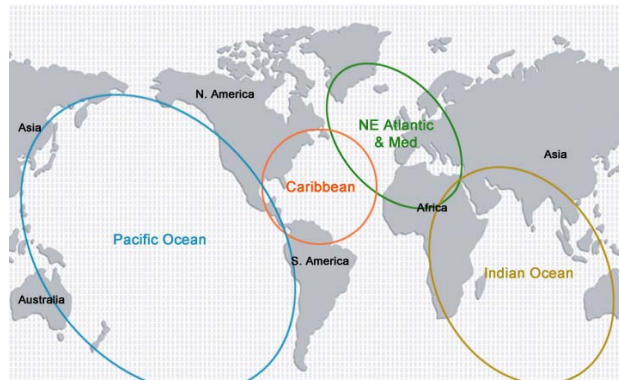


### Establishment of international and regional centres

- Japan,
- Peru,
- Iran,
- FYR Macedonia,
- Netherlands
- ...



# Global Tsunami Warning System



United Nations  
Educational, Scientific and  
Cultural Organization

## Where the First Wave Arrives in Minutes

Indonesian Lessons on Surviving Tsunamis near Their Sources



United Nations  
Educational, Scientific and  
Cultural Organization

# Pakistan Flood Risk Management



## International Flood Initiative



UNITED NATIONS  
UNIVERSITY



International Strategy  
for Disaster Reduction  
ISDR



**Pakistan Flood Risk Management**

- ❖ Integrated flood and watershed management
- ❖ Groundwater resources for emergency situations
- ❖ Glaciers Melt, landslides and ground instability geohazards in flood affected areas
- ❖ Education and capacity building as a cross-cutting issue



**International Flood Initiative**

International Centre for Water Hazard and Risk Management (ICHARM)  
 Tsukuba, Japan

Global Center of Excellence for Water Hazard and Risk Management  
**ICHARM**  
 International Centre for Water Hazard and Risk Management under the auspices of UNESCO








**UNESCO-IHE**  
 Institute for Water Education

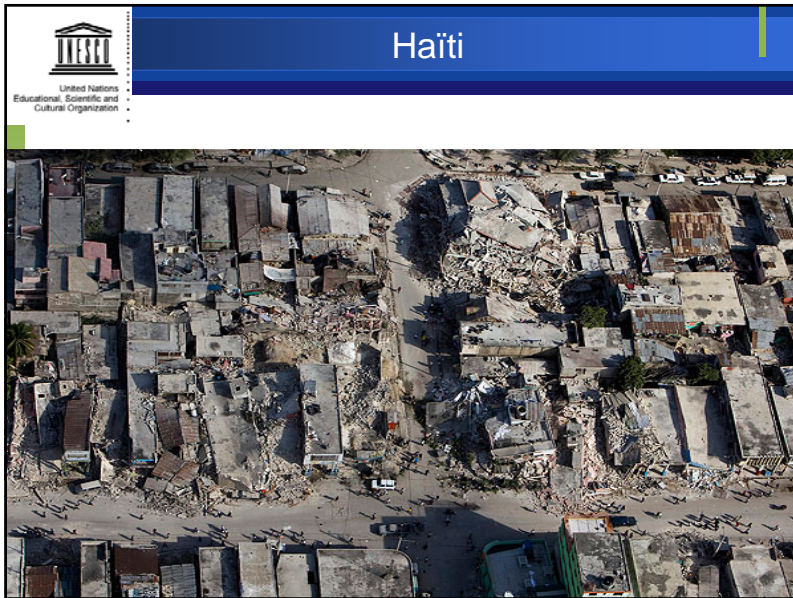


- Flood resilience
- Floating buildings
- Redesigning urban areas

- Flood warning
- Developing flexible, appropriate software tools for real-time flood prediction
- Examining the effect of climate on flood prediction tools
- Using SMS messaging to deliver flood warning by location



**DROUGHT HORN OF AFRICA**

- Operational Regional Drought early warning system
- A Regional Groundwater Resources Database
- A critical mass of scientists
- A set of drought response policies for managing groundwater in emergency situations



## Haiti



## Haiti – Presidential Palace, 2010

United Nations Educational, Scientific and Cultural Organization

## HAITI

- ❖ Training of 350 masons on earthquake-resistant housing
- ❖ Psychosocial support for secondary school children
- ❖ Reconstruction and equipments for secondary schools and vocational colleges
- ❖ Support for community radio stations
- ❖ Rapid reestablishment of Haitian coastal hazard warning services
- ❖ Humanitarian communication programmes in refugee camps

<http://unesdoc.unesco.org/images/0019/001905/190539f.pdf>

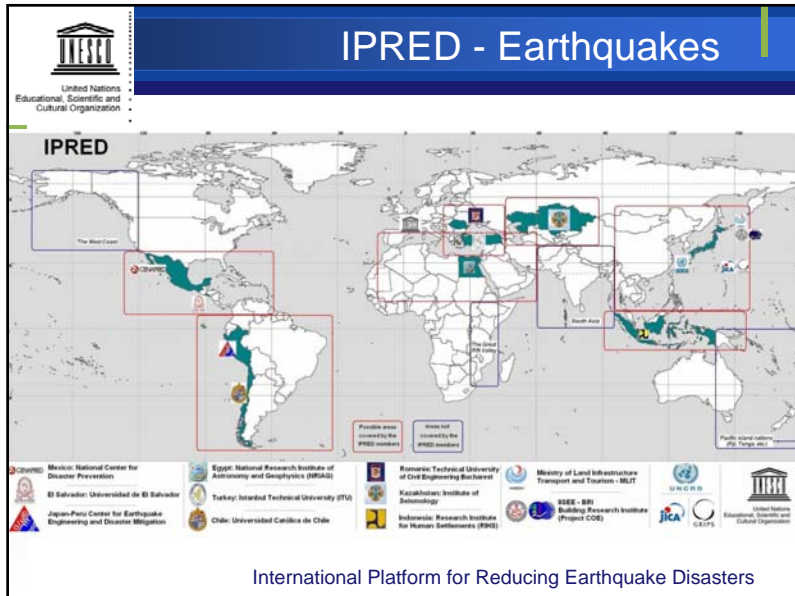
United Nations Educational, Scientific and Cultural Organization

## UNESCO - IPRED

- ❖ International Platform for Reducing Earthquake Disasters

**IISEE** INTERNATIONAL INSTITUTE OF SEISMOLOGY AND EARTHQUAKE ENGINEERING

BUILDING RESEARCH INSTITUTE **BRI**



**IPRED - Earthquakes**

United Nations Educational, Scientific and Cultural Organization

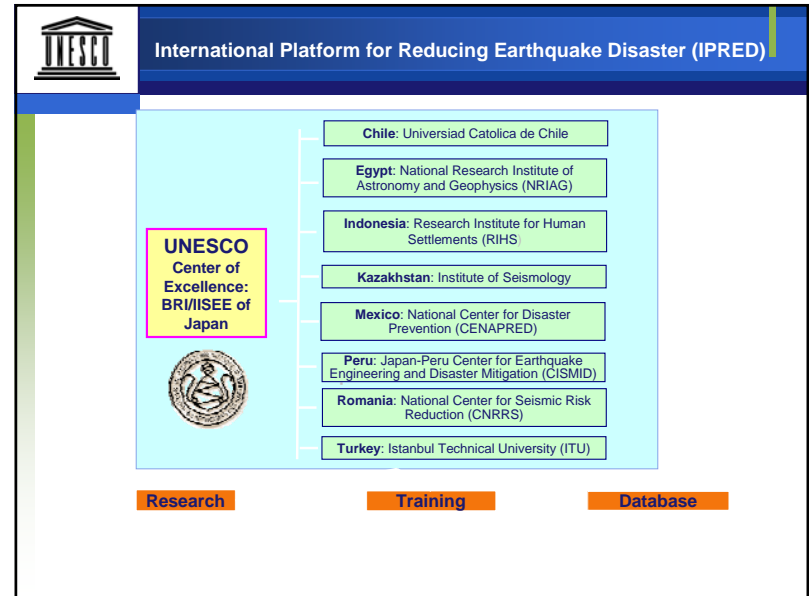
**IPRED**

Focus area covered by the IPRED members

Areas not covered by the IPRED members

Mexico: National Center for Disaster Prevention  
 El Salvador: Universidad de El Salvador  
 Japan-Peru Center for Earthquake Engineering and Disaster Mitigation  
 Egypt: National Research Institute of Astronomy and Geophysics (NRIAG)  
 Turkey: Istanbul Technical University (ITU)  
 Chile: Universidad Católica de Chile  
 Romania: Technical University of Civil Engineering Bucharest  
 Kazakhstan: Institute of Seismology  
 Indonesia: Research Institute for Human Settlements (RIHS)  
 Ministry of Land Infrastructure Transport and Tourism - MLIT  
 ISEE - BR Building Research Institute (Project COE)  
 UNESCO  
 JICA  
 CEISF  
 United Nations Educational, Scientific and Cultural Organization

International Platform for Reducing Earthquake Disasters



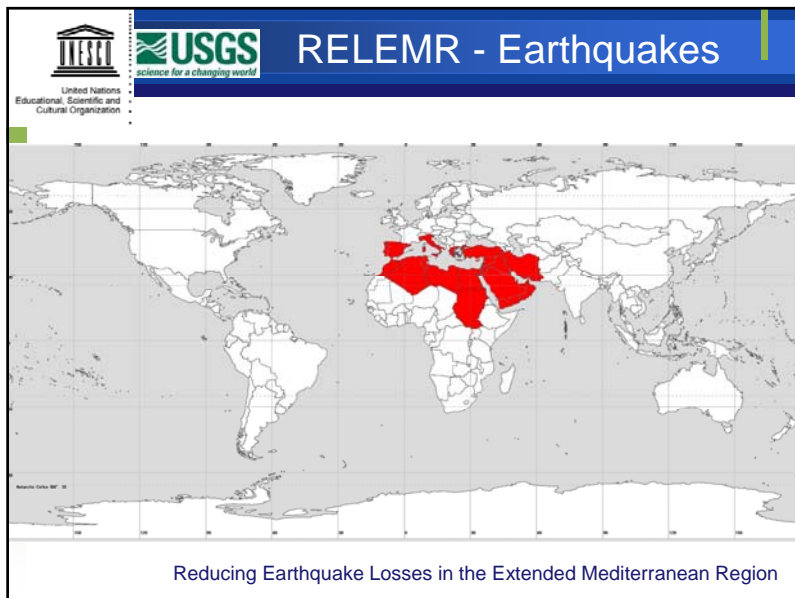
**International Platform for Reducing Earthquake Disaster (IPRED)**

United Nations Educational, Scientific and Cultural Organization

**UNESCO Center of Excellence: BRI/ISEE of Japan**

- Chile: Universidad Católica de Chile
- Egypt: National Research Institute of Astronomy and Geophysics (NRIAG)
- Indonesia: Research Institute for Human Settlements (RIHS)
- Kazakhstan: Institute of Seismology
- Mexico: National Center for Disaster Prevention (CENAPRED)
- Peru: Japan-Peru Center for Earthquake Engineering and Disaster Mitigation (CISMID)
- Romania: National Center for Seismic Risk Reduction (CNRRS)
- Turkey: Istanbul Technical University (ITU)

**Research**      **Training**      **Database**

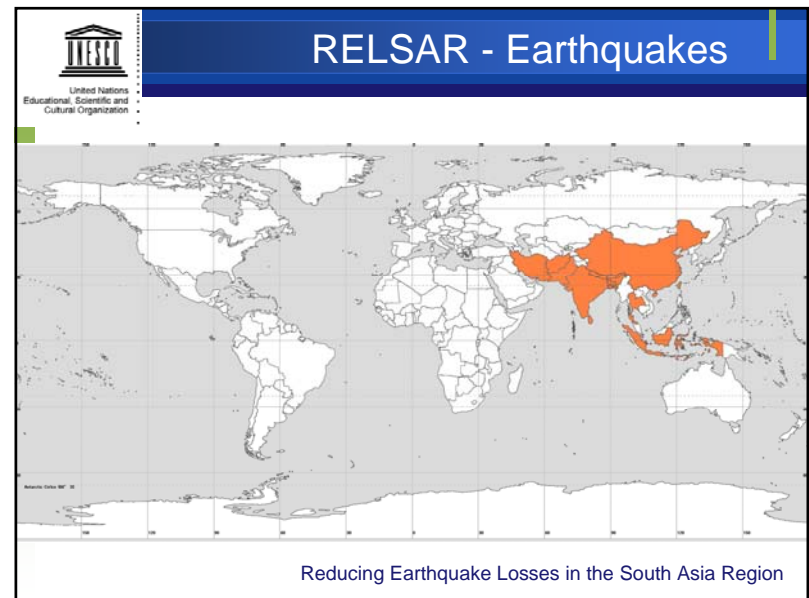


**RELEMR - Earthquakes**

United Nations Educational, Scientific and Cultural Organization

**USGS**  
science for a changing world

Reducing Earthquake Losses in the Extended Mediterranean Region




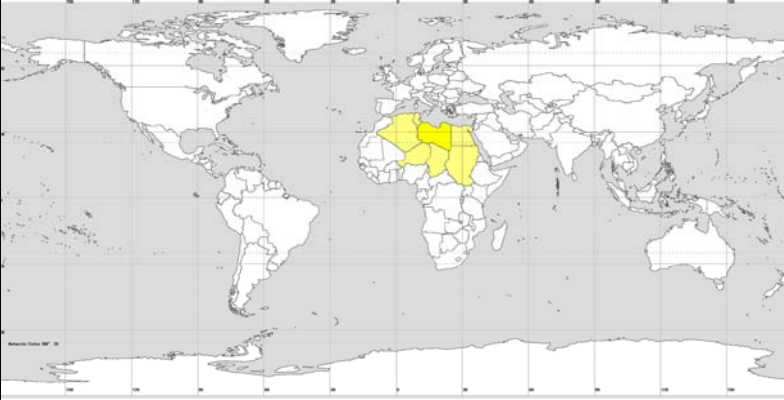
**RELSAR - Earthquakes**

United Nations Educational, Scientific and Cultural Organization


Reducing Earthquake Losses in the South Asia Region




 United Nations Educational, Scientific and Cultural Organization  
 Libyan Center for Remote Sensing & Space Science  
 المركز الليبي للاستشعار عن بعد وطول الفضاء  
**LNSN - Earthquakes**




Libyan National Seismological Network – National project with regional vocation




❖ Global Taskforce on Building Codes


 United Nations Educational, Scientific and Cultural Organization  
**Kathmandu Office, Nepal and New Delhi Office, India**





- ❖ Establishment of Earthquake Monitoring Stations in Nepal
- ❖ Preparedness for Flood Risk Reduction through Mapping and Assessing Risk and Management Options and Building Capacity in Lal Bakaiya Watershed, Nepal
- ❖ Improving Human Security through Better Understanding of Flood Mechanism in the Himalayas: A Pilot Project for Flash Flood Management in the lesser Himalayas of South Asia



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**ICL - Landslides**

International Consortium on Landslides

United Nations Educational, Scientific and Cultural Organization

**International Consortium on Landslides (ICL)**

Kyoto University

The First World Landslide Forum  
1990-11-12, Kyoto University, Japan

United Nations Educational, Scientific and Cultural Organization



**IMEWS - Volcanoes**

Volcanoes - International Monitoring Early Warning System

United Nations Educational, Scientific and Cultural Organization

**DIPECHO Project: Strengthening Early Warning Systems in Central America from a multi-threat perspective**

United Nations Educational, Scientific and Cultural Organization

- ❖ Inventory and diagnostic of EWS in Central America.
- ❖ Study of EWS legal frameworks and procedures.
- ❖ Validation of the "Manual on EWS Regional Flood" (produced by the OAS).
- ❖ Guidelines for the design and sustainability of EWS to Landslides / Mudslides
- ❖ Development of educational materials on EWS for the Ministries of Education.
- ❖ Incorporation of EWS in the formal school curriculum of each country.
- ❖ Awareness workshops and training aimed at authorities and officials from the ministries of education in the subject EWS.
- ❖ Support national efforts to commemorate the International Day for Disaster Reduction

United Nations Educational, Scientific and Cultural Organization

## Safe School Strategy



School collapse or damages




- Tangshan, China 1976 (>2,000)
- Spitak, Armenia 1988 (>1,000)
- Ardakul, Iran 1997 (110)
- Bingol, Turkey 2003 (84)
- Ahmedabad, India 2003 (>25)
- Kashmir, Pakistan 2005
- Sichuan, China 2008 (>6,500 Classrooms)
- Haiti 2010 (>5,000 schools)

United Nations Educational, Scientific and Cultural Organization

## School Safety

1. Baseline study on school safety activities worldwide
2. Methodology for assessing school safety
3. School safety index
4. Guidelines for strengthening school safety
5. Implementation of school safety measures, e.g.:  
(soft → emergency plans)  
(hard → retrofitting)

- ❖ Multi-sectoral (ED, SC, SHS, CLT, CI)
- ❖ UN Interagency (UNISDR, Unicef, WB, etc)
- ❖ DRR Community (Plan, Save the Children, INEE)


TPKE

United Nations Educational, Scientific and Cultural Organization

## UNESCO - Indigenous





Indigenous Knowledge



ESD-DRR


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## DIPECHO Project: Learning and Preparedness for Tsunamis



United Nations Educational, Scientific and Cultural Organization

## Learning and Preparedness



Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura

- Fortalecimiento del Sistema Regional de Alerta ante Tsunami en Chile, Colombia, Ecuador y Perú


United Nations Educational, Scientific and Cultural Organization

## Education Package “Earthquake Preparedness Programme for School”

UNESCO Office, Jakarta

Reinforce the school community group in disaster preparedness

1. Development Kit for Teachers
2. Learning Materials for Teachers
3. Worksheet for Students



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## Asia-Pacific Cultural Centre for UNESCO (ACCU)

Programmes and materials in Disaster Reduction and Preparedness




United Nations Educational, Scientific and Cultural Organization

## DRR Activities Sub-Saharan Africa



United Nations Educational, Scientific and Cultural Organization

## Support for the study of geo hazards within the framework of the geosciences Initiatives African Region

- ❖ to improve the awareness and the understanding of, and the preparedness for geohazards
- ❖ to be included and specifically addressed in the study of Earth science in the Africa universities.



United Nations Educational, Scientific and Cultural Organization

## Hyogo framework for action 2005-2015

**Priority No 3:**



**Knowledge, innovation and education -  
Building a culture of resilient communities**

*“the integration of disaster risk reduction as an intrinsic element of the UN Decade of Education for Sustainable Development”,*

United Nations Educational, Scientific and Cultural Organization


## DRR integration into curricula

1. A comprehensive mapping that captures key national experiences and good practices with regards to integration of DRR in school curriculum
2. A guidance for governments, ministries and partner agencies and organizations to effectively integrate DRR in curricula. It will draw from previous experiences and further DRR agenda through curriculum enhancement.





TPKE

United Nations Educational, Scientific and Cultural Organization




## Minimum Standards for Education: Preparedness, Response, Recovery.




Notes d'orientation pour La construction d'écoles plus sûres

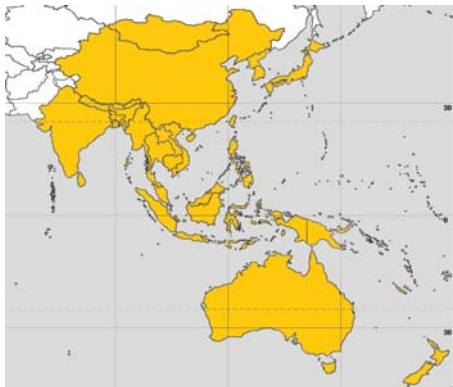
Dispositif mondial de réduction des catastrophes et de relèvement (GFDRR)




United Nations Educational, Scientific and Cultural Organization



## UNESCO Bangkok Asia and Pacific Regional Bureau for Education



United Nations Educational, Scientific and Cultural Organization





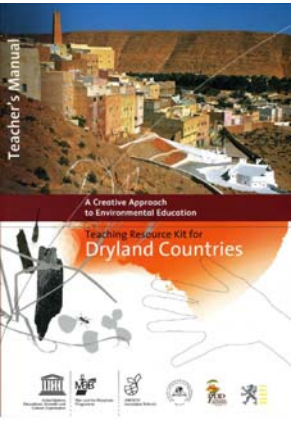
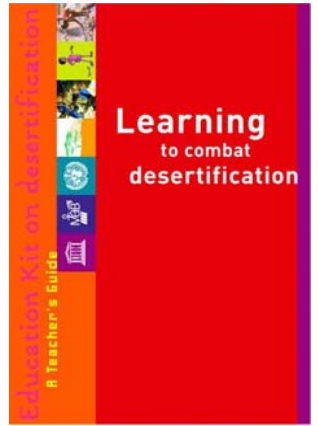
## Education for Natural Disaster Preparedness in the Context of ESD UNESCO Bangkok

- ❖ Take stock of ongoing ENDP activities at the country level
- ❖ Conduct situational analyses in the following proposed countries to identify and address gaps and needs:

China	Japan
India	Indonesia
Philippines	Sri Lanka
Thailand	Vanuatu

1. Development of an ENDP materials website
2. Regional Workshop on Education for Disaster Risk Reduction for Sustainable Development
3. Curriculum recommendations

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## Learning to combat desertification

United Nations Educational, Scientific and Cultural Organization



United Nations Decade of Education for Sustainable Development 2005-2014

Education for Sustainable Development Toolkit



Media as partners  
in education for sustainable development:  
A Training and Resource Kit

Education for Sustainable Development in Action  
Learning to become better 2011-2016  
UNESCO Education Unit

United Nations Educational, Scientific and Cultural Organization

## Web-Tools

### Teaching and learning for a sustainable future a multimedia teacher education programme

Themes and Modules

UN Decade of Education for Sustainable Development	Getting Started in TLSF	Curriculum Rationale	Sustainable Development Across the Curriculum	Interdisciplinary Curriculum Themes	Teaching & Learning Strategies	Dissemination & Training Toolbox
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United Nations Educational, Scientific and Cultural Organization  
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## Culture Sector

### ❖ World Heritage



Culture Sector (CLT)



Protecting, safeguarding and managing the tangible and intangible heritage

United Nations Educational, Scientific and Cultural Organization

## The World Heritage Convention



The World Heritage Convention:

- unique international legal instrument for the protection of both cultural and natural Heritage
- international cooperation in favour of the promotion of peace and recognition of cultural diversity



## Strategy for reducing risks at World Heritage Properties

- ❖ Purposes:
- ❖ Strengthen the protection of World Heritage
- ❖ Contribute to sustainable development
  - integrate concern for heritage into national disaster reduction policies
  - incorporate concern for disaster risk reduction within management plans and systems for World Heritage properties in their territories.



### A concept created by an emergency:

**1910 : The first dam is built in Aswan**

The Nubian monuments are threatened by the water of the lake created by the dam.

**1960 : The construction of the high dam of Aswan is accomplished**

"The Nubian monuments will disappear under the water unless..."

8 March 1960



### UNESCO launches an international campaign...

UNESCO requests international technical and financial assistance in order to save the Nubian monuments.

A group of experts, coming from different countries, is asked to prepare an action plan in order to safeguard all the Nubian heritage.

- the contribution of 50 countries
- an amount of around US\$ 80 millions
- the acceleration of the excavations



**The temples of Abu Simbel and Philae are "saved".**

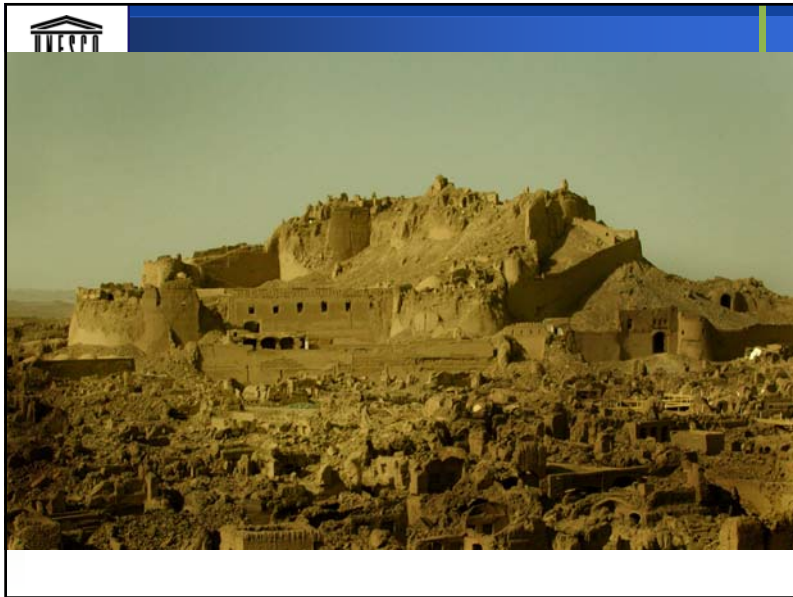


## BAM, IRAN



Copyright: Richard Langenbach





  
United Nations  
Educational, Scientific and  
Cultural Organization


## UNESCO's response to

### Natural disaster

**To protect  
cultural heritage**




Landslides, Machu Pichu, Peru  
International Programme on Landslides supported by UNESCO

  
United Nations  
Educational, Scientific and  
Cultural Organization

## SOCIAL AND HUMAN SCIENCES

### Ethics and Disasters



### International Institute of Seismology and Earthquake Engineering