

Disaster Risk Reduction in UNESCO

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Overview

1. Definition of DRR
2. Disasters in Asia and the Pacific Region
3. The Global context for DRR
4. UNESCO Regional Science Bureau for Asia and the Pacific mandate
5. UNESCO programmes in DRR

1. Definition of DRR



**Risk = f(Hazard, Exposure,
Vulnerability)**

DISASTER RISK REDUCTION (DRR)

There is no such thing as a 'natural' disaster, only natural hazards.

Disaster Risk Reduction (DRR) aims to reduce the damage caused by natural hazards like earthquakes, floods, droughts and cyclones, through an ethic of prevention.

Disaster risk reduction is the concept and practice of **reducing disaster risks** through **systematic efforts to analyse and reduce the causal factors of disasters**. Reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness and early warning for adverse events are all examples of disaster risk reduction.

<https://www.unisdr.org/who-we-are/what-is-drr>

2. Disasters in AP region

FACTS BETWEEN 2005 TO 2014

- **Over 40% of the 3,979 disasters that occurred globally occurred in the AP region.**
- Resulting in the loss of half a million people
- Representing almost 60% of the total global deaths related to disasters
- More than 1.4 billion people were affected by these disasters
- Constituting 80% of those affected globally
- Severe economic damage of more than half a trillion USD over the same period.



Source: Disasters without Border Regional Resilience for SD, UNESCAP, 2015

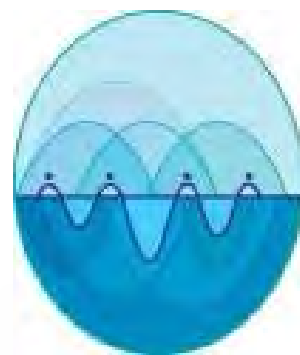


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3. The Global Context

**Sendai Framework
for Disaster Risk Reduction
2015 - 2030**



**ISLAND
VOICES
GLOBAL
CHOICES**

UN Conference on
Small Island
Developing States
Apia, Samoa | 2014



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3. The Global Context

Sendai Framework
for Disaster Risk Reduction
2015 - 2030

Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015

Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015

Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030

Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030

Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020

Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030

Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030

Priorities for Action

There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas.

Priority 1

Understanding disaster risk

Disaster risk management needs to be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment

Priority 2

Strengthening disaster risk governance to manage disaster risk

Disaster risk governance at the national, regional and global levels is vital to the management of disaster risk reduction in all sectors and ensuring the coherence of national and local frameworks of laws, regulations and public policies that, by defining roles and responsibilities, guide, encourage and incentivize the public and private sectors to take action and address disaster risk

Priority 3

Investing in disaster risk reduction for resilience

Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment. These can be drivers of innovation, growth and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses and ensure effective recovery and rehabilitation

Priority 4

Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction

Experience indicates that disaster preparedness needs to be strengthened for more effective response and ensure capacities are in place for effective recovery. Disasters have also demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of the disaster, is an opportunity to «Build Back Better» through integrating disaster risk reduction measures. Women and persons with disabilities should publicly lead and promote gender-equitable and universally accessible approaches during the response and reconstruction phases

Guiding Principles

Primary responsibility of States to prevent and reduce disaster risk, including through cooperation

Shared responsibility between central Government and national authorities, sectors and stakeholders as appropriate to national circumstances

Protection of persons and their assets while promoting and protecting all human rights including the right to development

Engagement from all of society

Full engagement of all State institutions of an executive and legislative nature at national and local levels

Empowerment of local authorities and communities through resources, incentives and decision-making responsibilities as appropriate

Decision-making to be inclusive and risk-informed while using a multi-hazard approach

Coherence of disaster risk reduction and sustainable development policies, plans, practices and mechanisms, across different sectors

Accounting of local and specific characteristics of disaster risks when determining measures to reduce risk

Addressing underlying risk factors cost-effectively through investment versus relying primarily on post-disaster response and recovery

«Build Back Better» for preventing the creation of, and reducing existing, disaster risk

The quality of global partnership and international cooperation to be effective, meaningful and strong

Support from developed countries and partners to developing countries to be tailored according to needs and priorities as identified by them



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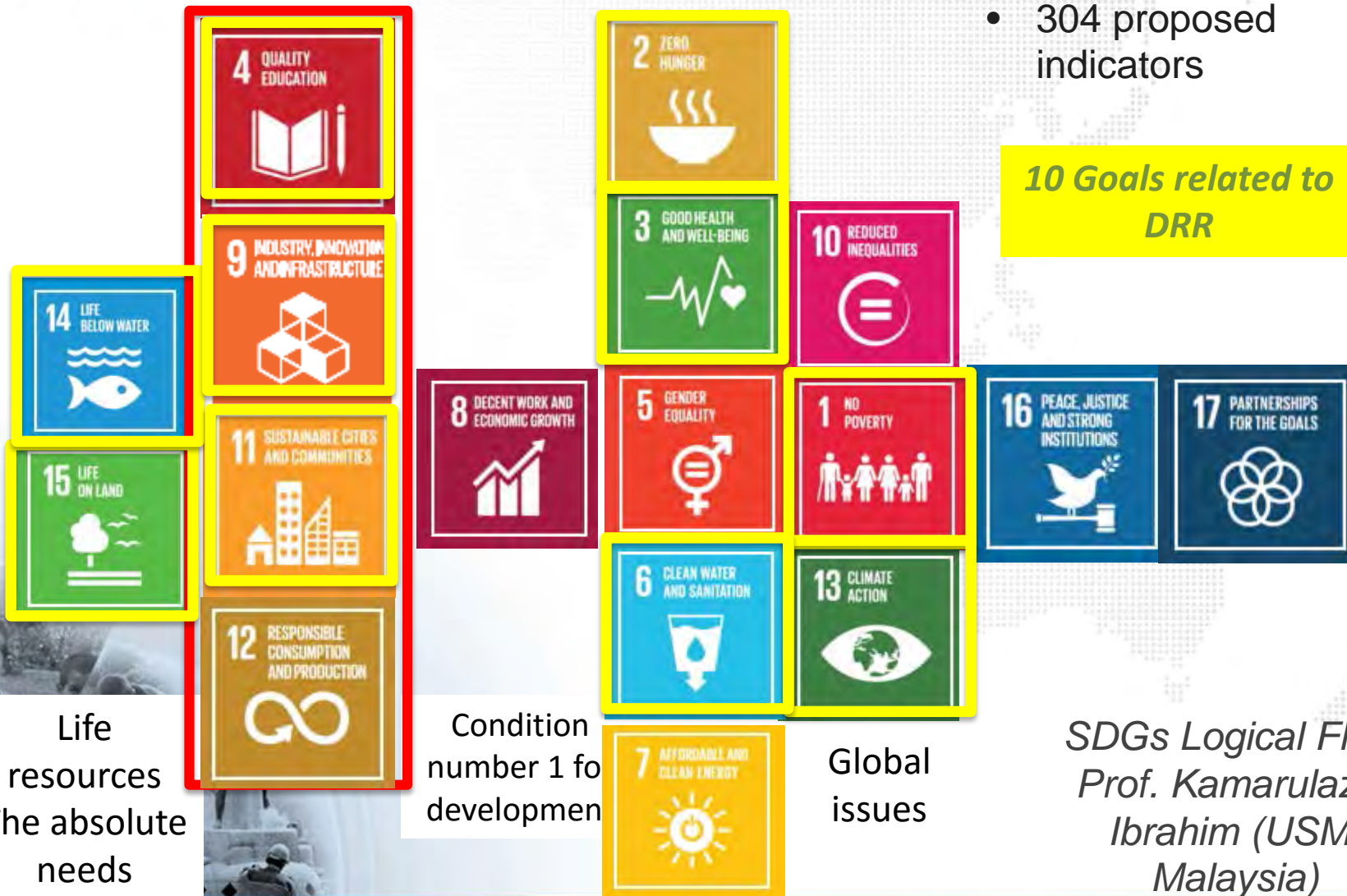
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Sustainable Development Goals

The logical flow

- 169 proposed targets
- 304 proposed indicators

ENABLERS



*SDGs Logical Flow,
Prof. Kamarulazizi
Ibrahim (USM,
Malaysia)*

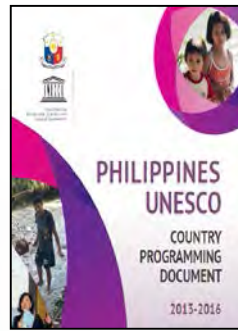
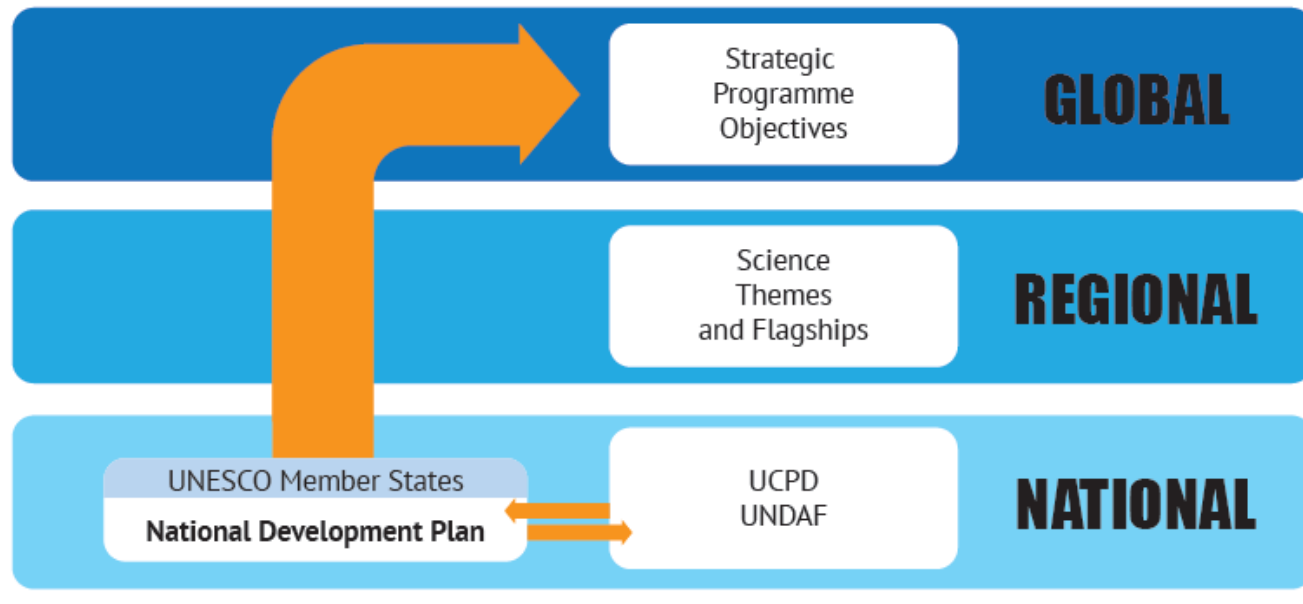


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4. UNESCO Regional Science Bureau for Asia and the Pacific

Linking Global and Regional Medium Term Strategic Objectives



R&D, Capacity Building, Training, Networking, and Policy Advice

MISSION as the regional sciences bureau for Asia and the Pacific

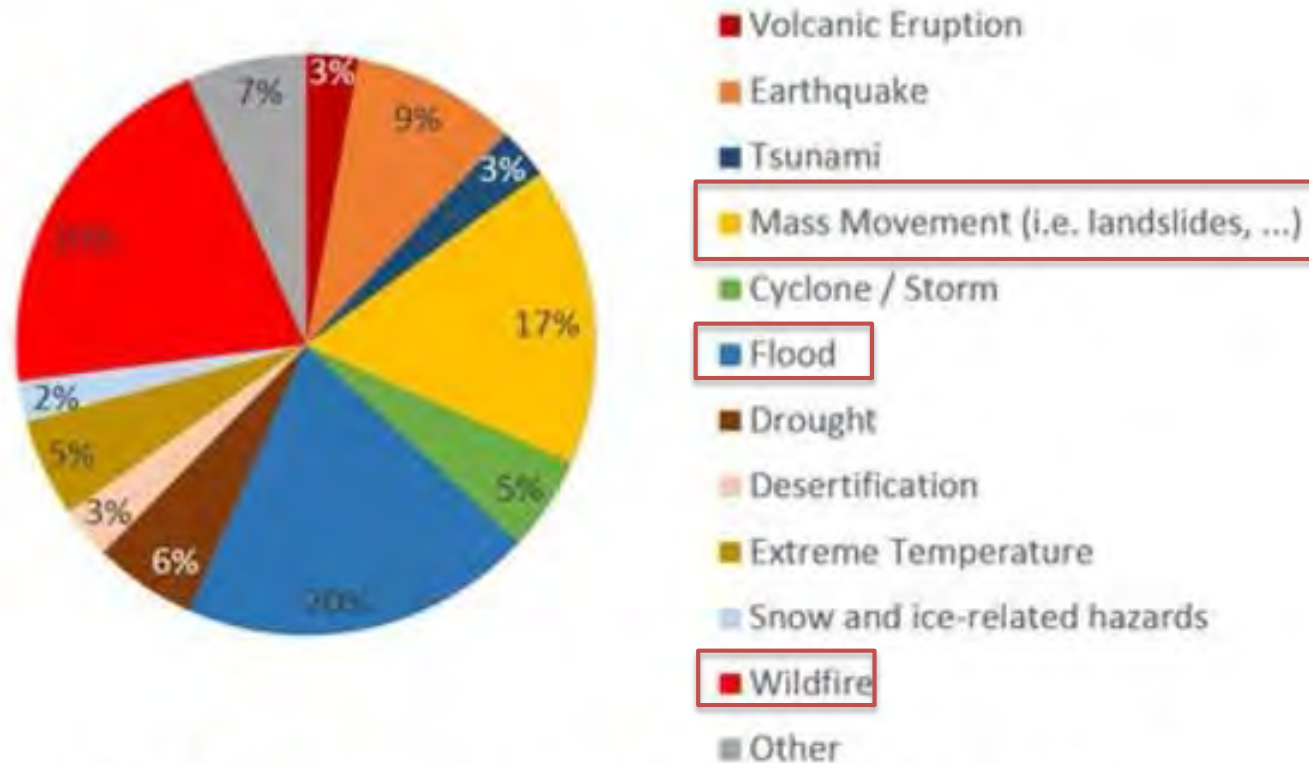
- **The Bureau will carry out the following mission:**
- **To work with Member States on key issues and problems in Asia-Pacific region, in order to engage sciences in the service of human needs and improve both environment and quality of life of the region's people.**
- **To mobilize science, technology, innovation and policy, for enabling Member States in the region on addressing new and emerging challenges that could facilitate to set a course for a sustainable future.**

5. UNESCO DRR related Programmes

- A. Geohazard Risk Reduction (IGGP)
- B. Water-related Hazards (IHP)
- C. Tsunami Programme (IOC)
- D. School Safety (DRR)
- E. Disaster Risk Reduction in UNESCO designated sites (MAB, WH)
- F. Crisis and Transition Responses

<http://www.unesco.org/new/en/natural-sciences/special-themes/disaster-risk-reduction/>

Natural Hazards in UNESCO designated sites (2015 survey)



Based on the survey addressed to UNESCO designated sites managers in 2015

89% of all Biosphere Reserves, 82% of UNESCO Global Geoparks and 96% of World Heritage sites are potentially exposed to at least one type of natural hazard that may turn into a disaster and threaten a site's integrity (2015)

Natural Sciences Programmes and Initiatives

International Science Programmes



Intergovernmental
Oceanographic
Commission



International
Hydrological
Programme



Man and
the Biosphere
Programme



International
Geoparks and
Geoscience
Programme



UNESCO's initiatives



Sustainability
Science





A. Geohazard Risk Reduction

International Geoparks and Geosciences Programme :




UNESCO Global Geopark

- **Geopark** : *single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development. Their bottom-up approach of combining conservation with sustainable development while involving local communities is becoming increasingly popular.*
- **Geopark** is a territorial entity focusing on :
 - Natural Resources
 - **Geological Hazards** (volcanoes, earthquake, water-related)
 - Climate Change
 - Education
 - Science
 - Culture
 - Women
 - Sustainable Development
 - Local and indigenous Knowledge
 - Geo-conservation



Networks in geohazard risk reduction:

1. International Consortium on Landslides (ICL)
2. International Platform for Reducing Earthquake Disaster (IPRED)
3. Partnership for Environment and Disaster Risk Reduction (PEDRR)
4. Reducing Earthquake Losses (REL)
5. Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector (GADRRRES)

-  Geoparks (50 in 7 countries in the region)
-  Aspiring Geopark (in CA, SA)
-  UNESCO Category 2 centre (2 in China)



B. Water-related Hazards (IHP)

UNESCO's Intergovernmental Scientific Cooperative Programme in Hydrology and Water Resources since 1975

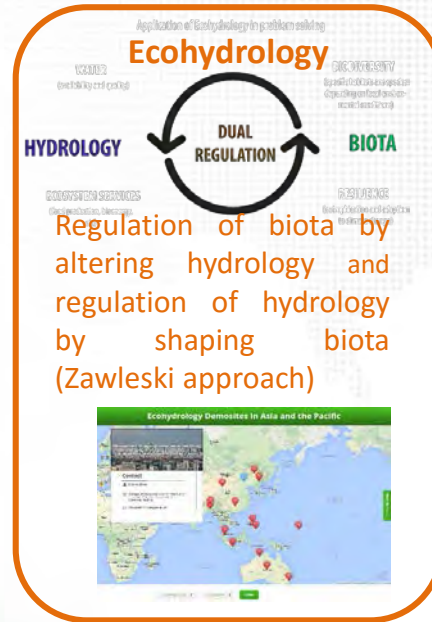
UNESCO INTERNATIONAL HYDROLOGICAL PROGRAMME EIGHT PHASE (2014-2021) UNESCO-IHP-VIII: "WATER SECURITY Responses to Local, Regional, and Global Challenges"



- Risk management as adaptation to global changes
- Understanding coupled human and natural processes
- Benefiting from global and local earth observation systems
- Addressing uncertainty and improving its communication
- Improving the scientific basis to extreme hydrological events

UNESCO-IHP in the Asia Pacific Region

- 27 IHP National Committees
- 6 UNESCO Water Centres among 15 Science Centres
- 6 UNESCO Water Chairs among 28 Science Chairs in the Asia Pacific Region.
- **Regional Steering Committee for Southeast Asia and the Pacific.**
- **International Flood Initiative Secretariat**
- **International Drought Initiative Secretariat**



- UNESCO Natural Sciences Category-2 Centers in Asia and the Pacific
- UNESCO Natural Sciences Chairs In Asia and the Pacific

RESEARCH

POLICY ADVICE

CAPACITY BUILDING



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International
Hydrological
Programme

IHP Nagoya/Kyoto
Training Course

The International Hydrological Programme (IHP) Training Course -
ユネスコ・アジア太平洋地域国際水文学計画トレーニングコース



Japan
Funds-in-Trust



Institute for
Space-Earth
Environmental
Research



DPRI-KU



WRRC
Kyoto University



Ongoing JICA funded project Strategic Strengthening of Flood Warning and Management Capacity of Pakistan- Phase 2

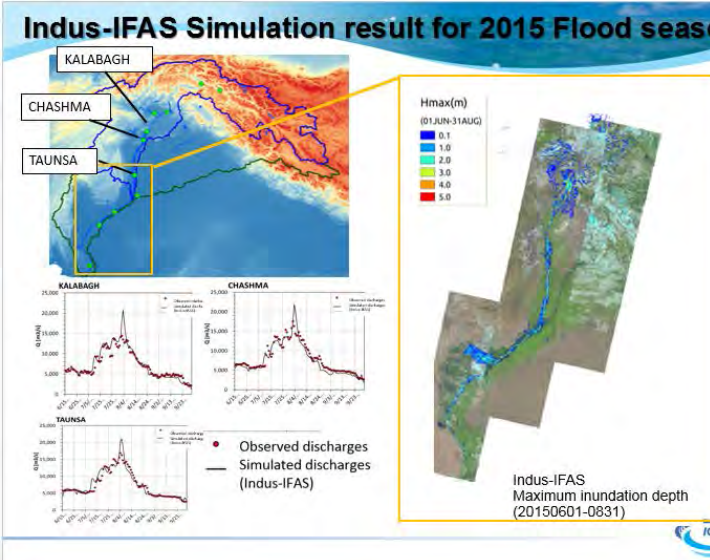


Introduction of Mr Aziz Aimaq, director ANDMA and Mr Farhad Nayyer, Modeller MEW Afghanistan to Mr Riaz, Chief Meteorologist, FFD in presence of ICHARM (Mr Iwami, Dr Tsuda) , 22 April 2016

A. Establishment of the technical foundation for sustainable capacity development on the flood management, forecasting, early warning and flood hazard analysis in Pakistan agencies

B. Technical studies to promote strengthening of cooperation with Indus river basin countries for transboundary flood management and transboundary data sharing

C. Capacity building and education to community on flood management for proper utilization of flood hazard information and tools



C. Tsunami Programme (IOC)

The IOC Tsunami Programme aims at reducing the loss of lives and livelihoods that could be produced worldwide by tsunamis. In order to accomplish this, the IOC Tsunami Unit supports IOC Member States in assessing tsunami risk, implementing Tsunami Early Warning Systems (EWS) and in educating communities at risk about preparedness measures.

In order to implement effective preventive measures, communities need to be aware of the risk they face. Tsunami risk assessment includes the evaluation of the hazard and the levels of vulnerability of coastal communities. Hazard assessment encompasses the identification of the probability of occurrence of a tsunami based on the identification of possible tsunami sources and the evaluation of historical data. On the other hand, vulnerability assessment aims at identifying the pre-existing physical, social, economical and environmental conditions that make a zone susceptible of suffering important losses and damages. This information is essential for setting up disaster management strategies.

Session 3 : Water-disaster Related Initiatives in UNESCO - IFI and IDI

Tsunami IOC: Remote Presentation

Ardito Kodijat, Intergovernmental Oceanographic Commission of UNESCO Jakarta (IOC-UNESCO), Indonesia

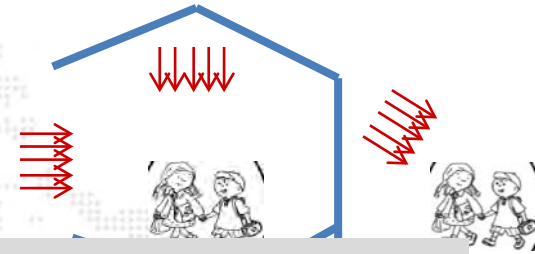
<http://www.ioc-tsunami.org/>

D. School Safety (DRR)

VISUS (Visual Inspection for defining the Safety Upgrading Strategies). Multi-hazard school safety assessment methodology and tools through science-based information



The VISUS methodology is based on a technical engineering approach that can be used by engineering students and building construction vocational students to assist the government



Session 4 : UNESCO disaster risk reduction initiatives

Remote Presentation

VISUS methodology (Visual Inspection for defining the Safety Upgrading Strategies) for school safety (Remote Presentation)

Ardito Kodijat, Intergovernmental Oceanographic Commission of UNESCO Jakarta (IOC-UNESCO), Indonesia

scientific-evidence information.





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E. Disaster Risk Reduction in UNESCO designated sites (MAB, WH)





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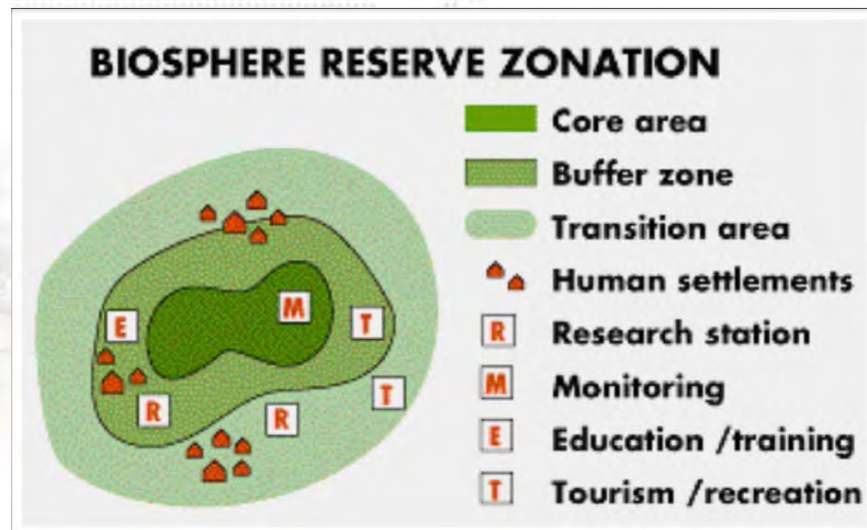
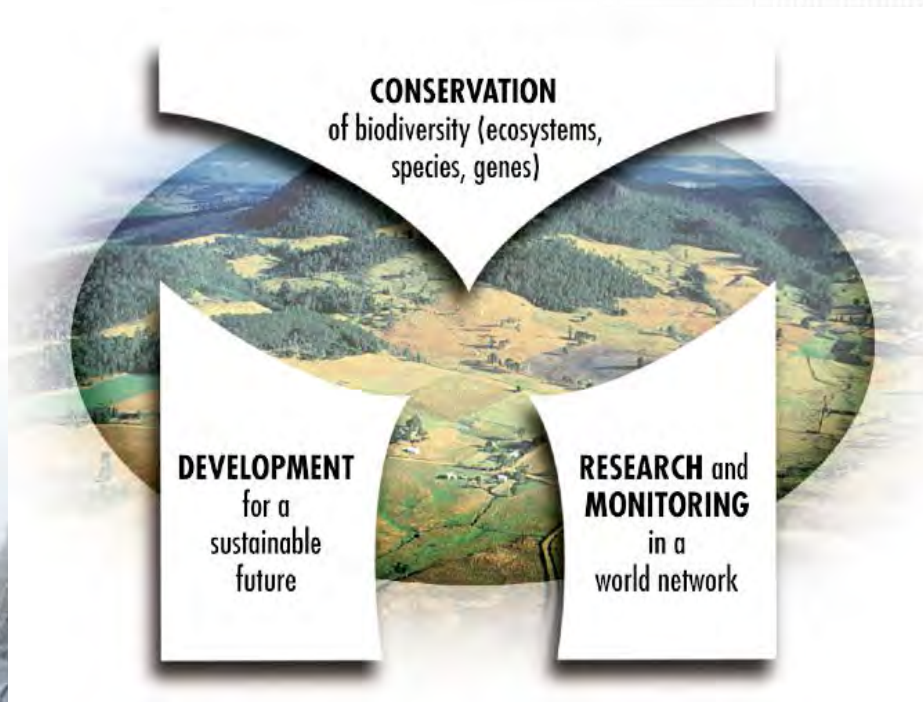


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Man and
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Programme

Man and the Biosphere Programme



China Biosphere Reserve Network (CBRN)
33 registered Biosphere Reserves

Man and the Biosphere Programme

Lima Action Plan (2016-2025)

Strategic Action Area A. The World Network of Biosphere Reserves consisting of effectively functioning models for sustainable Development

A1.4. Use BRs as priority sites/observatories for climate change research, monitoring, mitigation and adaptation, including in support of the UNFCCC COP21 Paris Agreement



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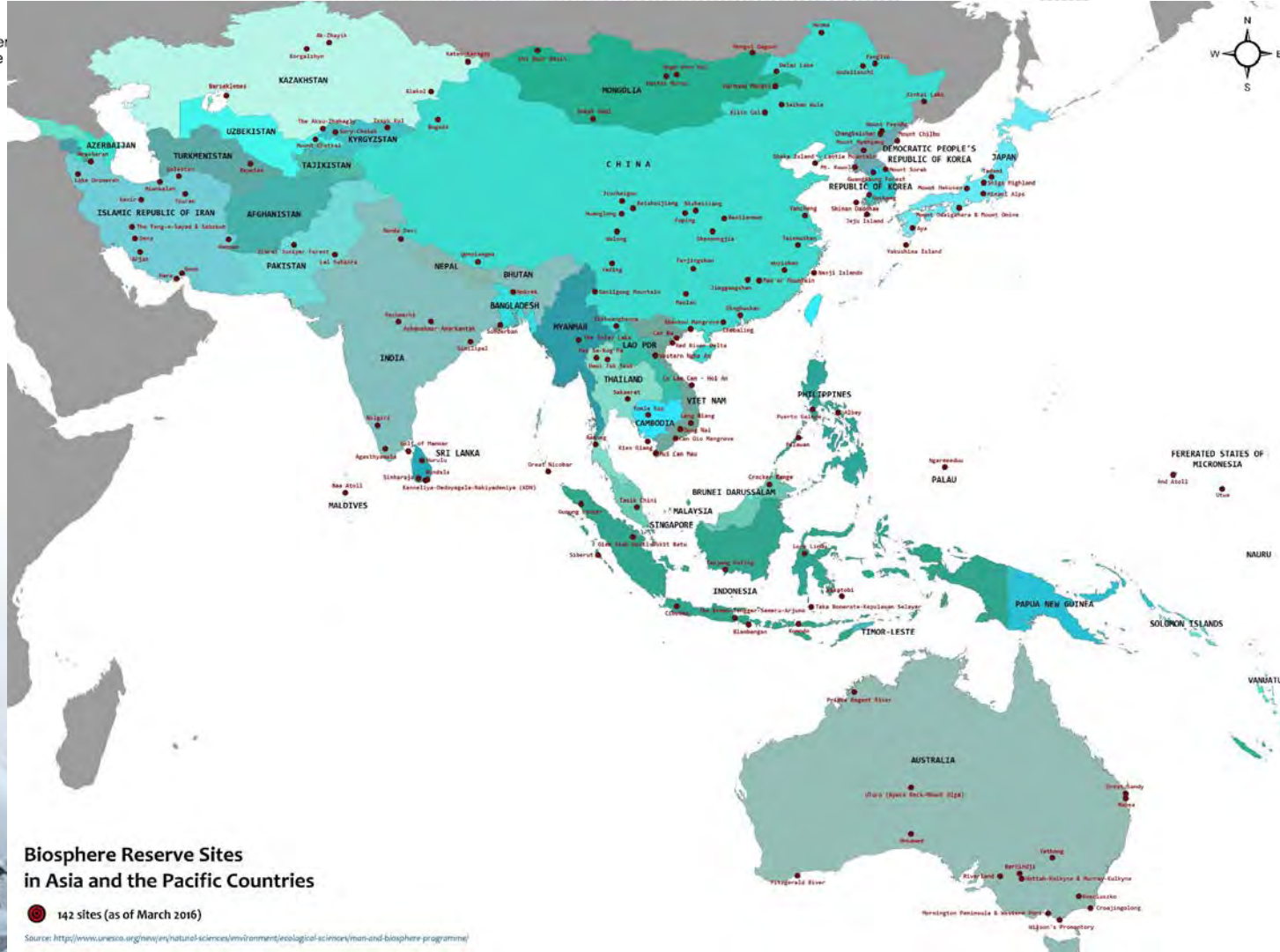
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Man and
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Programme

Man and the Biosphere – MAB – Programme

Asia Pacific Biosphere Reserves Network (APBRN)

- 142 BRs in 24 countries (2016)
- 4 Networks:
EABRN
SACAM
SeaBRnet
PacMAB



World Cultural and Natural Heritage



- Heritage is our legacy from the past, what we live with today, what we pass on to future generations.
- UNESCO seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.
- Embodied in an international treaty called the Convention concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972.
- **Outstanding Universal Value (OUV)** is the basis for a site's inscription on the World Heritage List. 3 pillars: Criteria, Integrity, Protection & Management
- World Heritage List: 1052 Properties in 165 State Parties

World Cultural and Natural Heritage

(cont.)

- **Outstanding Universal Value (OUV)** is the basis for a site's inscription on the World Heritage List.
- 3 pillars: **Criteria, Integrity, Protection & Management**



Natural WH properties

- vii. Superlative natural phenomena and exceptional natural beauty
- viii. Major stages of earth's history
- ix. Representing ecological and biological processes
- x. Natural habitats for threatened species

- World Heritage List 2016: **1052 Properties** in 165 Countries

1052

Properties

34

Transboundary

2

Delisted

55

In Danger

814

Cultural

203

Natural

35

Mixed



!

F. Crisis and Transition Responses with Education and Culture Sectors

- i. UNESCO in Post-Crisis situations
- ii. Post-Crisis coordination mechanisms
- iii. Supporting transition in the MENA region
- iv. Education in Emergencies
- v. Promotion of Gender Equality in Crisis Situations
- vi. Media in Post-Conflict and Natural Disaster Situations
- vii. Culture in Emergency Situations

<http://www.unesco.org/new/en/natural-sciences/special-themes/disaster-risk-reduction/crisis-and-transition-responses/>

Emergency Psychosocial Support for Secondary School-aged Students Affected by Typhoon Yolanda in the Philippines

SUPPORTING ENABLING and EMPOWERING STUDENTS

Manual on Psychosocial Interventions
for Secondary School-aged Students
During Disasters and Emergency Situations

Teachers' Manual

Education also enhances people's
resilience to climate-related risks.



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Jakarta Office Staff Retreat, Lombok, Dec 2016

Thank you very much,
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