United Nations
Educational, Scientific and
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Disaster Risk Reduction in Regional Science Bureau for ASPAC

UNESCO Office Jakarta

Professional Officer and
Head of IOTIC– IOC/UNESCO
Ardito M Kodijat
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DRR in UNESCO Jakarta

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Education

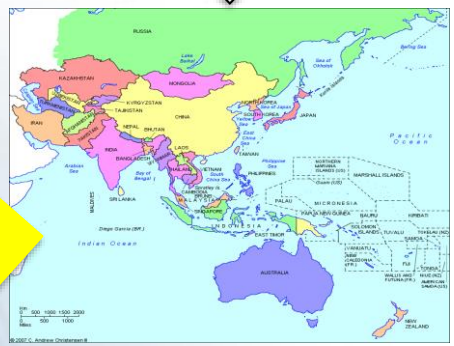
Culture

Science
Earth Sciences and
Geo-hazards
Risk Reduction

IOC
Tsunami Unit

5 Countries

Disaster Risk Reduction
and
Tsunami Information Unit
UNESCO Office Jakarta



Regional Bureau for
ASIA and the PACIFIC
49 Countries

INDIAN OCEAN
28 Countries

INDIAN OCEAN TSUNAMI INFORMATION CENTRE
iotic.ioc-unesco.org

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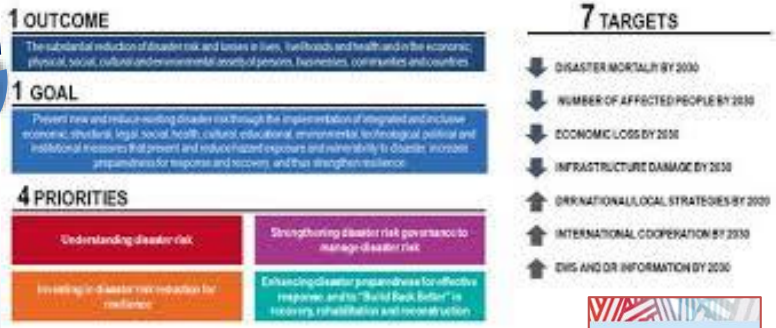
DRRTIU and the Global Frameworks

Sustainable Development Goals

Sendai Framework for Disaster Risk Reduction



(i) Understanding disaster risk; (ii) Strengthening disaster risk governance to manage disaster risk; **(iii) Investing in disaster reduction for resilience** and; **(iv) Enhancing disaster preparedness for effective response**, and to "**Build Back Better" in recovery, rehabilitation and reconstruction**.

Comprehensive School Safety Framework

STEP - A

UN Decade on Ocean Science 2021-2030

Indian Ocean Tsunami Information Centre

IOTIC of IOC – UNESCO / UNESCO Office Jakarta

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United Nations Educational Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

BMKG

The IOTIC is an IOC UNESCO entity housed in UNESCO office Jakarta that serve to support the Indian Ocean member states in capacity building, education, awareness and preparedness for an effective tsunami warning and mitigation system in the region.

INDIAN OCEAN TSUNAMI INFORMATION CENTRE PROGRAMME OFFICE

iotic.ioc-unesco.org
www.iotsunami.net
www.iotsunami.info
www.iotsunami.org

facebook.com/iotsunami

@iotsunami

youtube.com/iotsunami

IOTIC Programme 2017-2021

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Publications

Annual Indian Ocean Regional Workshop (IO-RW)

IOWave Exercise Lessons Learnt

Indian Ocean Tsunami Ready: community performance-based programme

Education, Awareness, and Preparedness (IO- EAP)

Annual Indian Ocean Capacity Building (IO-CAP)

Early Warning and Emergency Response SOP

Tsunami Evacuation Map, Plans, and Procedures

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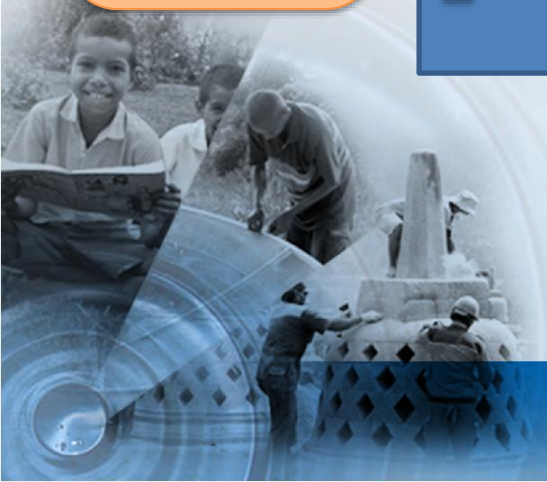
Study / Research (IO-SEARCH)

Preserving Past Tsunamis for Future Preparedness in Indonesia and the Philippines



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REGIONAL SCIENCE BUREAU SUPPORT STRATEGY FOR ASIA AND THE PACIFIC

Science, Engineering, Technology, and Innovation for Disaster Risk Reduction 2017 - 2021

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Mission

to advance the use of science, engineering, technology, and innovation (SETI) to mitigate disaster risks and strengthen the resilience of societies through better understanding the hazard and risk, prevention and risk reduction, preparedness, and early warning.

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Regional and Global Drivers

UNITED NATION SDGs

UNISDR Science & Technology Roadmap

Regional DRR Frameworks

- Asia Regional Plan for implementation of SFDRR
- Pacific Framework for Resilient Development

Global DRR Frameworks

- Sendai Framework for DRR (2015-2030)
- UN Plan for Action on DRR for Resilience

Regional Development Frameworks

- Asean Vision 2025
- Strategic plan for SDF
- SAMOA Pathway

Global Development Frameworks

- Paris agreement on Climate Change
- New Urban Agenda
- UNESCO Sites: BR, WHS, GP

UNESCO MEDIUM-TERM STRATEGY (2014-2021)

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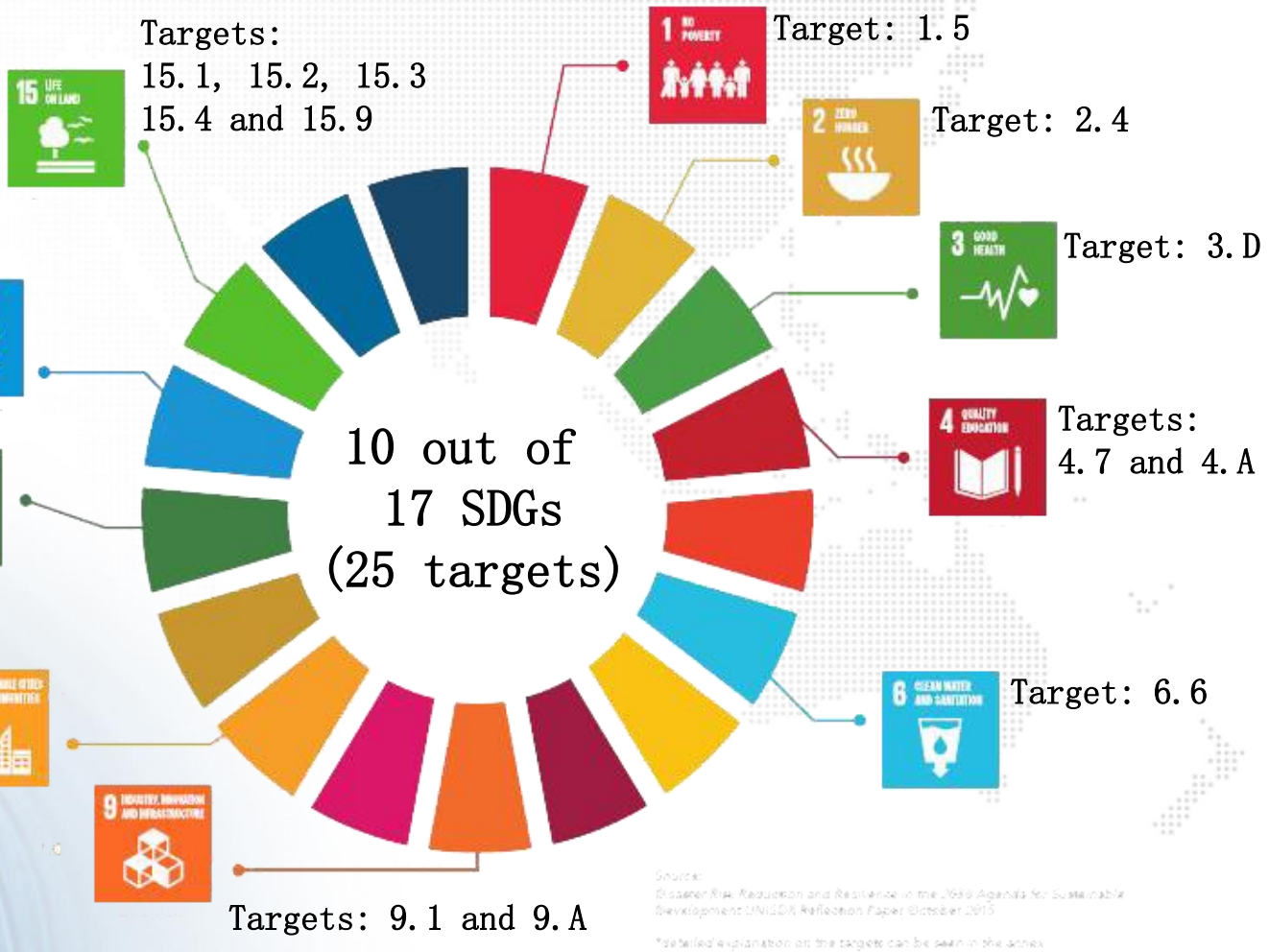
DRR in SDG Targets



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Strategic Direction

Science, Engineering, Technology and Innovation for

Risk Assessment

Science, Engineering, Technology and Innovation for

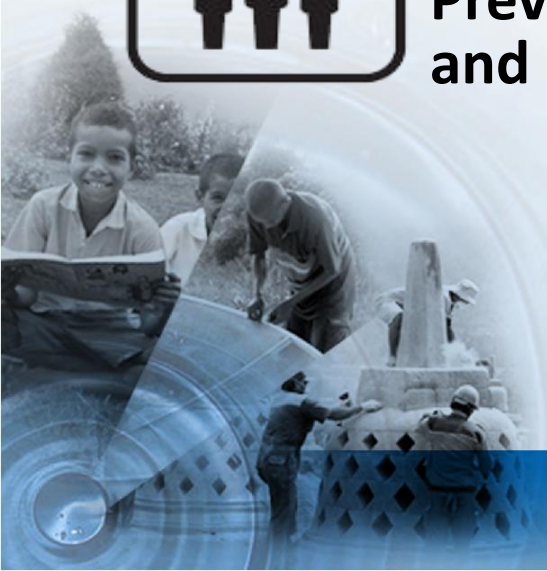
Early Warning System

Science, Engineering, Technology and Innovation for

Prevention, Preparedness and Risk Reduction

Science, Engineering, Technology and Innovation for

Resilience and Sustainable Development



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Prioritizing

- Youth and Young Scientist
- Gender
- SETI Application for DRR
- Transboundary
- UNESCO Competitive Advantage
- Resource (Funding)
- Partnership
- Cross Cutting and Inter-sectoral Issues
- Contribution to Global Frameworks

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Means of Implementation

- Development and Implementation of Tools and Guidelines
- Technical Assistance and Capacity Building
- Advocacy, Promote, and Communicate
- Regional Cooperation Projects, Studies, and Research
- Establish and Strengthen Cooperation with Partners
- Linking to National and Stakeholders' Programme
- Coordination with Scientific Community

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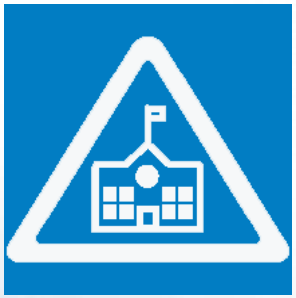
Programme 2018-2019

STRENGTHENING, EMPOWERING AND MOBILIZING CAPACITIES OF YOUTH AND YOUNG SCIENTIST IN SCIENCE, TECHNOLOGY AND INNOVATION FOR DISASTER RESILIENCE IN THE ASIA PACIFIC REGION



STRENGTHENING NATONAL AND REGIONAL CAPACITIES TO ASSESS SCHOOL FACILITIES FOR SAFETY AND DISASTER RISK REDUCTION

NATONAL AND REGIONAL COORDINATION AND CAPACITY BUILDING IN EARLY WARNING AND EMERGENCY RESPONSE WITH FOCUS ON INDIAN OCEAN TSUNAMI READY PROGRAMME

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"Youth" and "Young Scientist" in SETI for DRR

UNESCO Regional Workshop on SETI in DRR in the Asia and the Pacific:

"Strengthening, Empowering, and Mobilizing Youth and Young Scientists in SETI for DRR"

Jakarta – October 2019

- Discuss model and lessons learned of "Youth" and "Young Scientist" in SETI for DRR Platform at national level (Indonesian experience).
- Encourage and Initiate "Youth" and "Young Scientist" in SETI for DRR Platform in Asia and the Pacific
- Link with STAG-UNSIDR (WG 4 on Capacity Building), Global Platform on Young Scientist on DRR setting, landscape, networks, and programme, and with references to UN MGCY
- Develop concept and idea Youth and Young Scientist in SETI for DRR proposed to be initiated at the DRR Global Forum in 2019.

Proposed Partnership

- **STAG UNISDR**
- **IRDR**
- **Institutions with Young Scientist Programme / activity**

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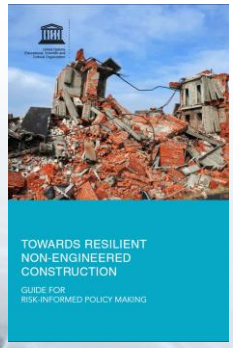
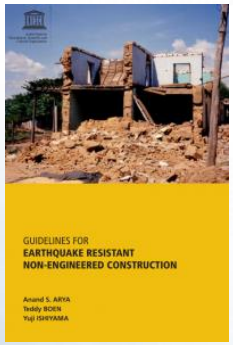
DRR and Build Back Better

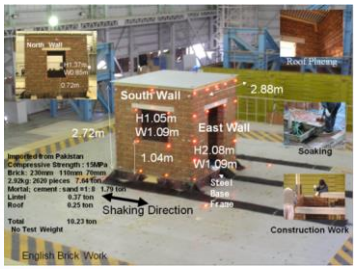
11 SUSTAINABLE CITIES AND COMMUNITIES

- *Together with the members of IPRED*, UNESCO published **technical and policy guidelines** to help member states to secure **the safety of non-engineered construction** and to support **science-based policy making**.*
- *a system to dispatch experts to earthquake stricken countries in order to carry out **post-earthquake field investigations** and draw lessons for future risk reduction.*

Policy/technical Guidelines on non-engineered buildings







Technical approaches for Structural Improvement of Non-Engineered Construction

Post-earthquake field investigations

IPRED missions have been carried out:
Van, Turkey in 2012
Bohol, Philippines in 2014.

*IPRED (International Platform for Reducing Earthquake Disaster)
- A platform for collaborative research, training and education in the field of seismology
- Aims to reduce disasters due to earthquakes with a focus on earthquake-resistant buildings and housings.
- Supported by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan.
- Center of the Excellence: UNESCO / IISEE of Japan
- Member: Chile, Egypt, El Salvador, Indonesia, Kazakhstan, Mexico, Peru, Romania, Turkey

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DRR and Build Back Better

11 SUSTAINABLE CITIES AND COMMUNITIES

Comprehensive guideline for post-disaster evaluations of damaged buildings.

Disaster occurs

(Response phase) (Recovery phase)

(Fire fighters/Police officers)

(Non Engineer) **#1 Categorization of Damage to Buildings**

→ *Emergency Response*

(Staff of local government)

#2 Damage Certification (For Subsidy Programme)

→ *Implementation of Rehabilitation/Reconstruction*

(Engineers assigned by local government)

(Building Engineer) **#3 Temporary Risk Evaluation**

→ *Prevention of After-quake human suffering*

(Engineers)

#4 Seismic Evaluation (For Rehabilitation)

→ *Secure Structural Safety*

(Researchers of National Institute (NILIM/BRI), etc.)

(Specialist for Seismic Codes) **#5 Field Investigation**

→ *Amelioration of Disaster Preparedness and Disaster Risk Governance*

*Typical case in Japan

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INDRA

INternational
Disaster
Resilient
Architecture

11 SUSTAINABLE CITIES AND COMMUNITIES

- *UNESCO promotes a **holistic approach** towards international disaster resilient architecture **by learning from vernacular construction**.*
- *Contemporary construction and vernacular construction techniques can be brought together to create buildings that are **resilient, sustainable** and **adapted to the local environment**.*
- *UNESCO supports Member States in capacity building of the local construction sector through **workshops, trainings and publication of guidelines** about the important role of construction to create a disaster resilient environment.*

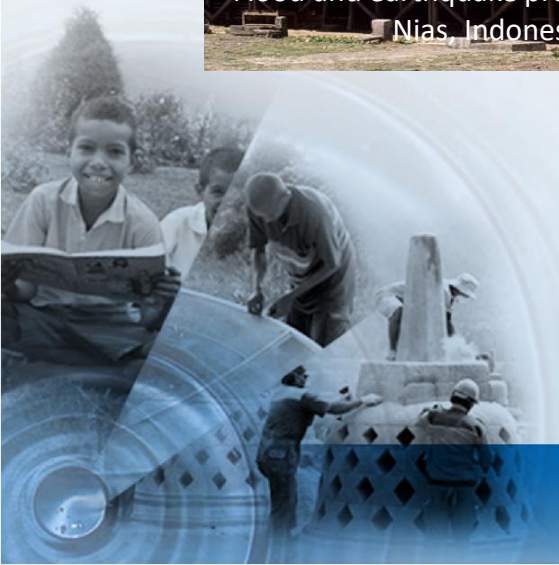
Flood and earthquake proof buildings in Nias, Indonesia

IKATAN ARSITEK INDONESIA

Impact:

- Climate change mitigation and adaptation
- Consideration of local culture and environment
- Business continuity
- Improve overall economy
- Reduce greenhouse gas emissions
- Build back better

New initiative



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Visual Inspection for defining the Safety Upgrading Strategies - VISUS

- *UNESCO facilitates and implements technical training workshops and research activities in disaster risk reduction to improve the capacities of countries to cope with natural hazards.*
- *Strengthening National or Regional Capacities for Assessing School Facilities, through the implementation of the UNESCO-VISUS methodology for assessing school facilities and providing critical information to decision-makers in a multi-hazard context.*

VISUS
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Peru – **60**
El Salvador – **100**
Haiti – **100**
Italy – **1022**
Laos – **10**
Indonesia – **160**

Number of worldwide schools assessed through VISUS

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VISUS FINDER

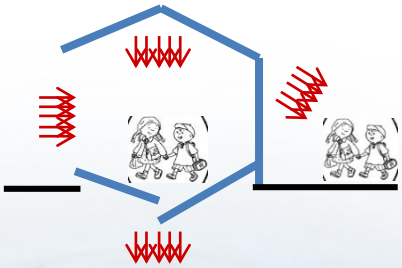
Mobile Application for Preparedness

11 SUSTAINABLE CITIES AND COMMUNITIES

4 QUALITY EDUCATION

VISUS (Visual Inspection for defining the Safety Upgrading Strategies)

Multi-hazard school safety assessment mobile application for survey of VISUS Methodology



Mobile application for a more effective and efficient assessment of VISUS methodology. An application based on survey tools for technical engineering approach that can be used by engineering students and building construction vocational students to assess school safety

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STEP-A

Mobile Application for Preparedness

11 SUSTAINABLE CITIES AND COMMUNITIES

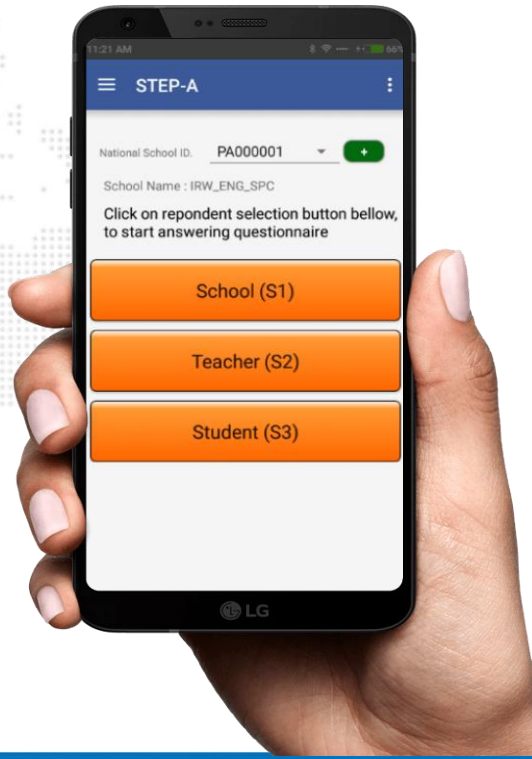
4 QUALITY EDUCATION

School Tsunami and Earthquake Preparedness Assessment Tool

STEP - A

STEP-A is a tool to assess school's preparedness level based on five preparedness parameters 1) Policy, 2) Knowledge, 3) Preparedness and Response Plan, 4) Early Warning System, and 5) Resource Mobilization Capacity.

STEP-A has 3 sets of questionnaire (coded as S1, S2 and S3). S1 requires the headmaster or school principal to respond; S2 requires a minimum of 20% of total teachers as the respondents (with gender balance criteria); S3 requires a minimum of 20% of the total students to respond with a gender balance criteria.



The result of the assessment will be given in almost real-time in the form of preparedness level index through 3 platforms: email (in pdf format), in the mobile application, and a dedicated website dashboard (still under development).

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Saifah & Tanah

Mobile Application for Preparedness

11 SUSTAINABLE CITIES AND COMMUNITIES

4 QUALITY EDUCATION

TANAH and SAI FAH are prime examples of educational gamification for disaster risk reduction. The mobile apps provide integral lessons on, and reinforces the importance of, disaster preparedness, through exploring potential situations that may occur. Offered as platform-based games with various levels, users are provided with key survival lessons for all phases of disaster in an interactive manner.

While SAI FAH disseminates information on flood preparedness and survival, TANAH teaches users how to prepare, respond to and recover from tsunamis and earthquakes. Both succeed in their underlying objectives of delivering quality, interactive, and accurate material in an organic way to a wide audience.

Download on the App Store

GET IT ON Google Play

USAID FROM THE AMERICAN PEOPLE

Palang Merah Indonesia

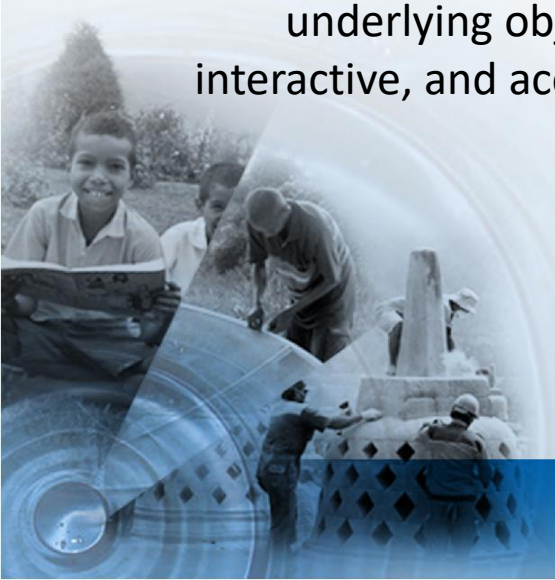
AHA CENTRE ASEAN Coordinating Centre for Humanitarian Assistance on disaster management

opendream

Global Disaster Preparedness Center

United Nations Educational, Scientific and Cultural Organization

From the People of Japan



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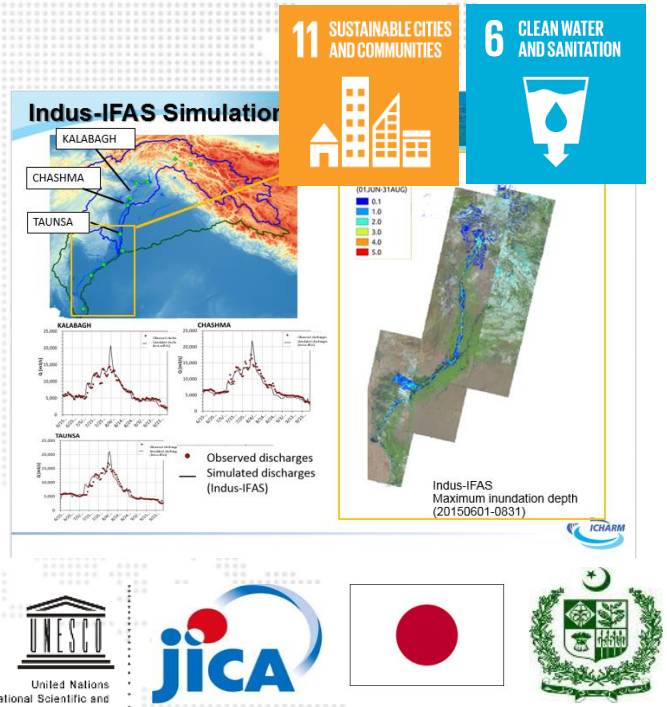
FLOOD TECHNOLOGY & DISASTER RISK REDUCTION



Strategic Strengthening of Flood Warning and Management Capacity in Pakistan

Following the 2010 Pakistan floods, UNESCO with the aid of the Government of Japan supported the Flood Warning and Management Capacity of Pakistan' project.

The project focused on strengthening the country's capacity to deal with floods and watershed management in a holistic manner by developing 3 inter-related pillars; strategic augmenting of flood forecasting and hazard maps; data sharing platforms; and capacity development.

- Establishment of the technical foundation for sustainable capacity development on the flood management, forecasting, early warning and flood hazard analysis in Pakistan agencies.
- Technical studies to promote strengthening of cooperation with Indus river basin countries for transboundary flood management and transboundary data sharing.
- Capacity building and education to community on flood management for proper utilization of flood hazard information and tools

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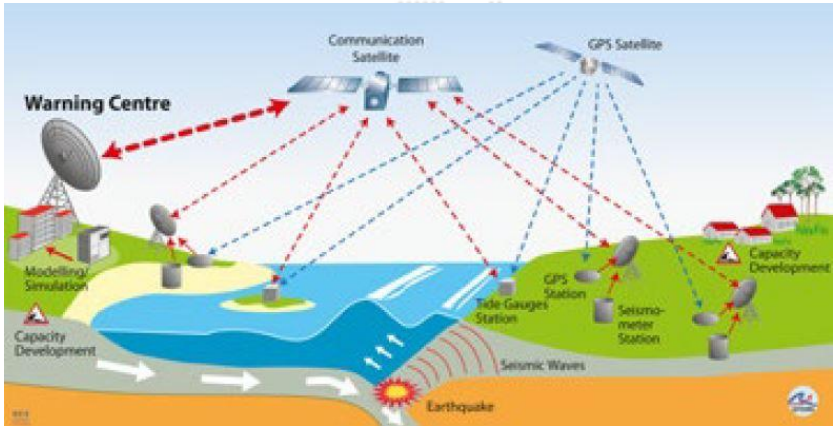
Protecting People from Marine Hazards: Tsunami

UNESCO, through the Intergovernmental Oceanographic Commission (IOC/UNESCO), works with the Member States to build sustainable tsunami early warning and mitigation systems.

- Tsunami risk assessment includes the evaluation of the hazard and the levels of vulnerability of coastal communities.
- Development and coordination of tsunami early warning and mitigation systems based in the Indian Ocean
- Tsunami Evacuation Maps, Plans and Procedures based on Tsunami Modeling and Inundation Modeling



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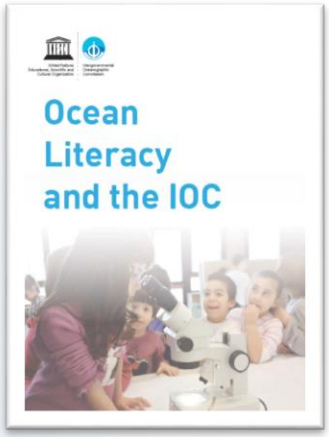
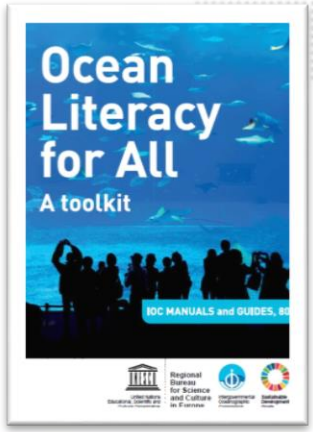
Upcoming programme (Indonesia)
OCEAN Literacy for All (OLA)

Connecting Ocean Science and education for sustainable development

- Bring maritime awareness to children and the general public.
- Bring knowledge about the importance of human beings' impact and that of their current and future actions to improve the health of the ocean and ocean hazards
- Bring a maritime conscience to people who had no opportunity to be educated to have such an awareness.
- Educate for people to know and appreciate the goods and services the ocean provides Ultimately, to protect the ocean





New initiative

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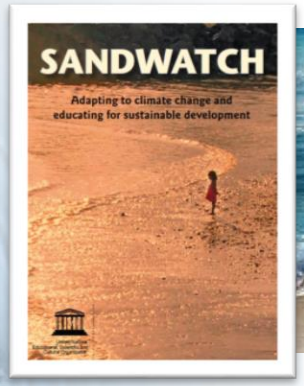
Upcoming Activity OLA (Indonesia)
Clean River 2 Clean Ocean

Connecting IOC, IHP, and Science (sandwatch programme) on ocean science and education for sustainable development

- Awareness on the conservation, restoration and sustainable use of the ocean and its resources and to build a public knowledge base regarding the global ocean.
- Understanding on the complex ocean processes and functions
- Alert the most urgent ocean issues.
- Provide educators and learners with innovative tools, methods, and resources of Ocean knowledge and Ocean Science.



https://kennorphan.com/2015/05/27/before-the-fall/ocean-pollution-source-marine-debris-info/

New initiative

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Xiè xie.
Thank you
Terima Kasih

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