



United Nations
Educational, Scientific and
Cultural Organization

Bangkok Office
Asia and Pacific Regional Bureau
for Education

Paving the way to resilience through lifelong learning: micro-planning and community learning centres for disaster management

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- **VISUS (Visual Inspection for defining the Safety Upgrading Strategies)**
- **Community Learning Centers (CLCs)**
- **Mobile Game Applications on DRR**

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Disasters in Asia and the Pacific region

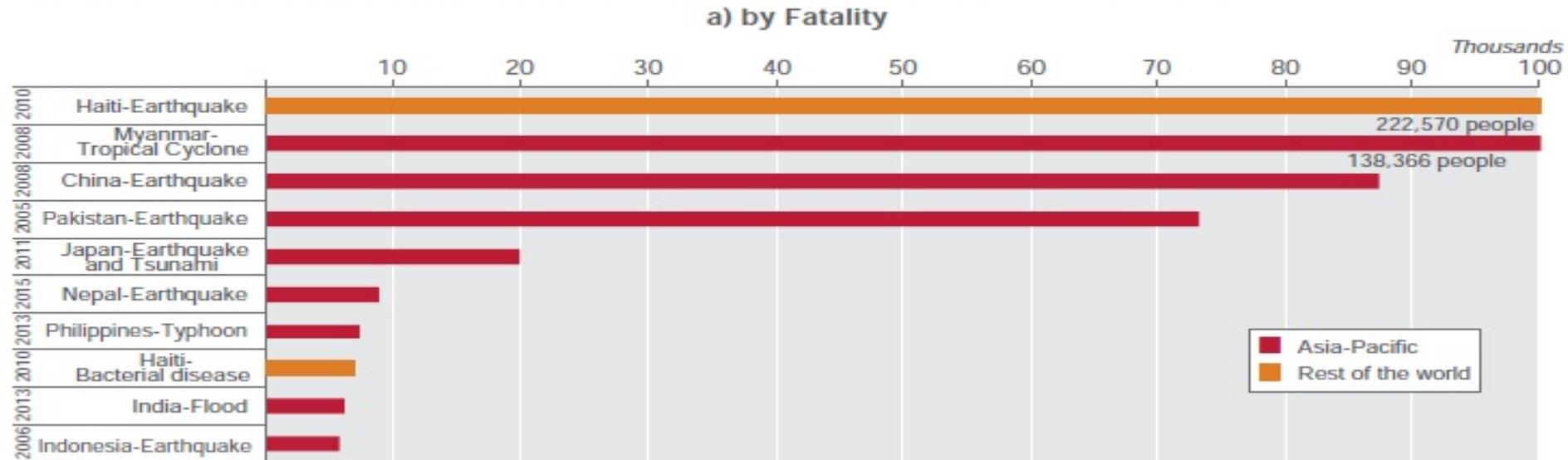
1,625 reported disaster events (2005-2014) among 3,979 globally

Approximately **500,000 people** lost their lives (accounting for 60% of global total)

Around **1.4 billion people** were affected (accounting for 80% of global total)

\$523 billion worth of economic damage (accounting for 45% of global damage)

World's worst natural disasters occur in Asia and the Pacific, 2005-2015



Human impact of disasters in Asia and the Pacific, total 2005-2014

	Lives lost	People affected (millions)
Earthquakes and tsunamis	199,418	74
Storms	166,762	321
Floods	43,800	771
Others	73,772	199
Total	483,752	1,366

Source: ESCAP based on data from EM-DAT: The OFDA/CRED International Disaster Database. Available from <http://www.emdat.be/> (Accessed April 2015).

Disasters in Asia and the Pacific region

**Great East Japan
Earthquake in 2011**



**Ayutthaya Flood in
Thailand in 2011**



**Nepal Earthquake
in 2015**



**Typhoon
Haiyan in the
Philippines in
2013**



Why Education and Disaster Risk Reduction?



United Nations
Educational, Scientific and
Cultural Organization

“What people know is more important than what they have when it comes to saving lives and reducing loss”

UNESCO Policy Brief on DRR in Education



Reducing risk and vulnerability to disasters requires people to understand how they can best protect themselves, their property and their livelihoods



Hyogo Framework
for Action 2005-2015:
Building the Resilience of Nations
and Communities to Disasters

“Use knowledge, innovation and education to build a culture of safety and resilience at all levels.”

One of the top 5 priorities for action of the Hyogo Framework for Action (HFA)

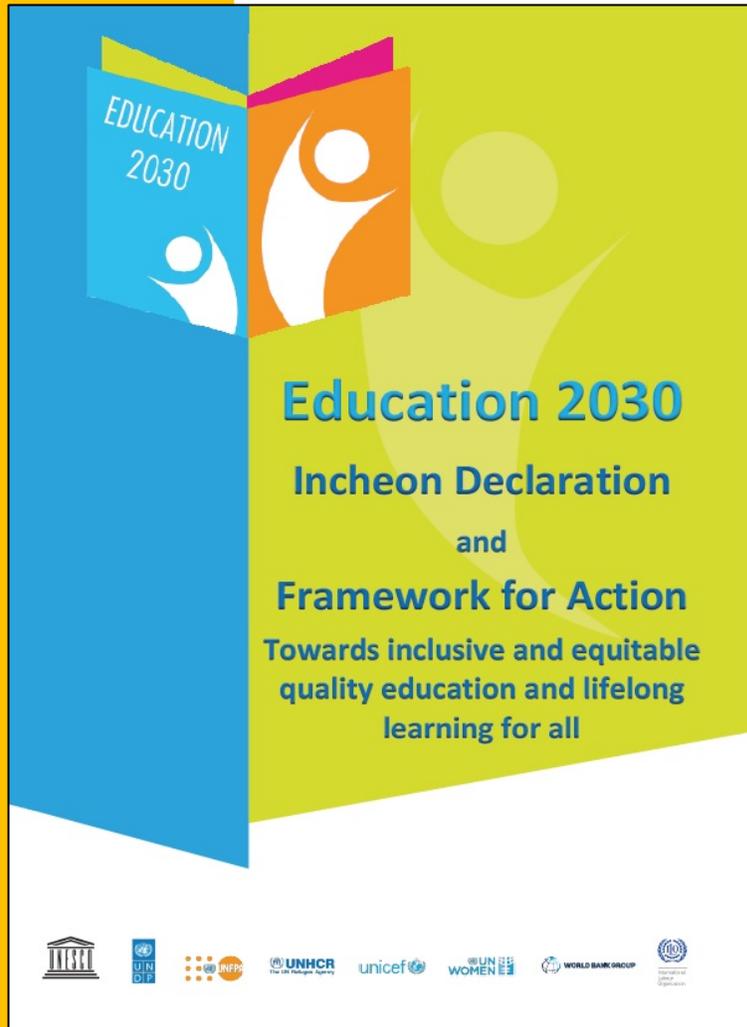


Sendai Framework
for Disaster Risk Reduction
2015 - 2030

Education as cross-cutting issue for Disaster Risk Reduction

Relevant descriptions are embedded in the four priorities for action

Why Education and Disaster Risk Reduction?



- **Crisis such as natural disasters, pandemics and conflict and the resulting internal and cross-border displacements is a major barrier to access to education**
- Education in emergency contexts is immediately **protective**, providing **lifesaving knowledge and skills and psychosocial support to those affected by crisis**. Education also **equips children, youth and adults for a sustainable future, with the skills to prevent disaster**, conflict and disease.
- **Countries must, therefore, institute measures to develop inclusive, responsive and resilient education systems**
- **Education sector plans and policies should anticipate risks and include measures to respond to the educational needs of children and adults in crisis situations**
- **The capacity of governments and civil society for disaster risk reduction, peace education, climate change adaptation and emergency preparedness and response should be strengthened at all levels to ensure that risk is mitigated and education maintained during all phases, from emergency response to recovery.**

The Role of Communities in DRR

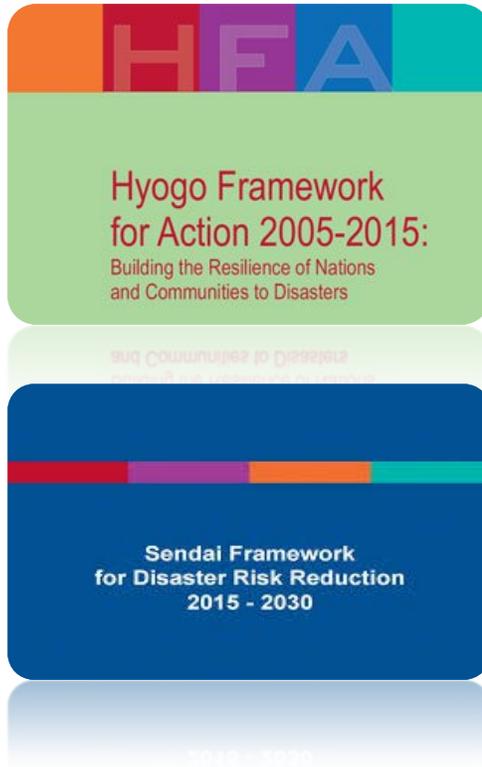
- During the Great Hanshin Earthquake in Japan, **ap**
peop
in rubble w
by their neighbors.

No matter how well a country/society is prepared for disasters, it takes time to function when a disaster hits, sometimes making the difference between life and death

Communities are the ones that can provide critical support during the first 72 hours after a disaster



The Role of Communities in DRR



Both communities and local authorities should be empowered to manage and reduce disaster risk by having access to the necessary information, resources and authority to implement actions for disaster risk reduction

It is necessary to empower local authorities and local communities to reduce disaster risk, including through resources, incentives and decision-making responsibilities, as appropriate

A number of initiatives carried out by international as well as national organizations in order to empower and engage local communities in recognition of their importance

The Role of Communities

***“Disaster Risk
Reduction is
everybody’s business.”***

*“We all have a moral, social and economic
obligation to act now in building resilient
communities and nations”.*

UN Secretary-General



The Role of Communities and Life-long Learning



© UNESCO / Bernardo Aliaga
2014 Simulation exercise for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions.

A widespread agreement in the literature including Haigh and Amaratunga (2010), Warfield (2004), and Wisner, (2003)

the **continuous** point.

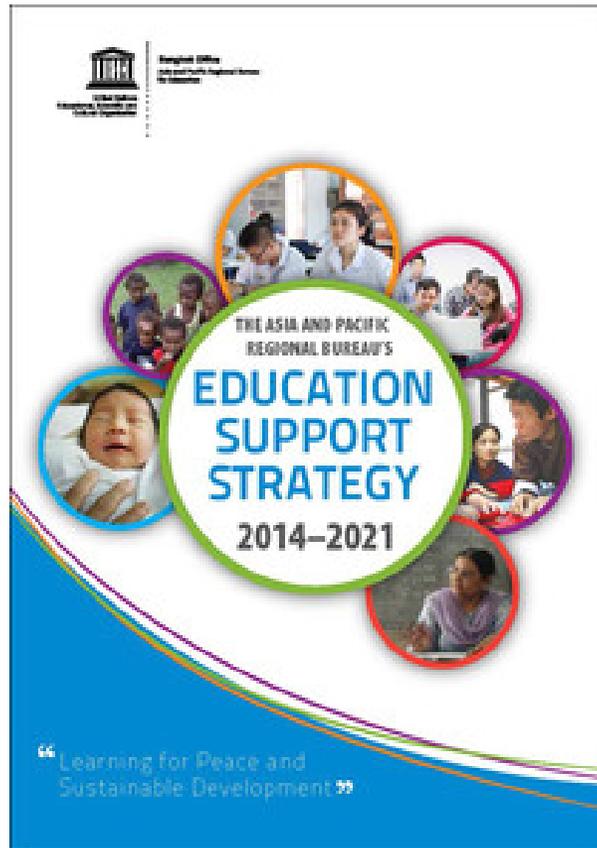
How do we support continuous community empowerment??

in the context of education will be solution **to update the knowledge and skills.**

Lifelong Learning needs for Disaster Management Education in the Built Environment, the University of Salford

UNESCO's Priorities in Asia-Pacific (Education)

- UNESCO Bangkok is **UNESCO's Asia-Pacific Regional Bureau for Education**, coordinating UNESCO's activities in 47 Member States through a network of 13 Field Offices



UNESCO's Activities in Asia-Pacific

- **Micro-Planning Toolkit**
- **VISUS** (Visual Inspection for defining the Safety Upgrading Strategies)
- **Community Learning Centers (CLCs)**
- **Mobile Game Applications on DRR**

UNESCO's Activities Micro-Planning Toolkit

Local level educational planning toolkit

Developed to support education planning at the local level in response to increased decentralization of education systems, emphasizing four main aspects of planning and change:

- 1) Increasing access,
- 2) Improving learning outcomes,
- 3) Enhancing community participation; and
- 4) Supporting open and informed decision-making.

A training tool to equip individuals (staff from central, regional or local offices and schools) to:

- 1) Assess local educational needs
- 2) Develop a local implementation strategy for national policies
- 3) Monitor implementation progress and
- 4) Evaluate implementation outcomes

EDUCATION
MICROPLANNING
TOOLKIT

INTRODUCTORY MODULE



UNESCO's Activities Micro-Planning Toolkit

Structure of the Toolkit

5 basic planning modules

1. Principles of decision-making for communities
2. Getting started with microplanning
3. Conducting a needs assessment and data collection
4. Enhancing curriculum to improve student learning
5. Data and information for microplanning

Because disaster risk reduction cannot exist in isolation – it must be an integral part of local education development plans for scaling up, sustainable funding, and proper monitoring

Thematic modules

School Finance
Assessment Literacy
**Conflict/Disaster
Reduction**

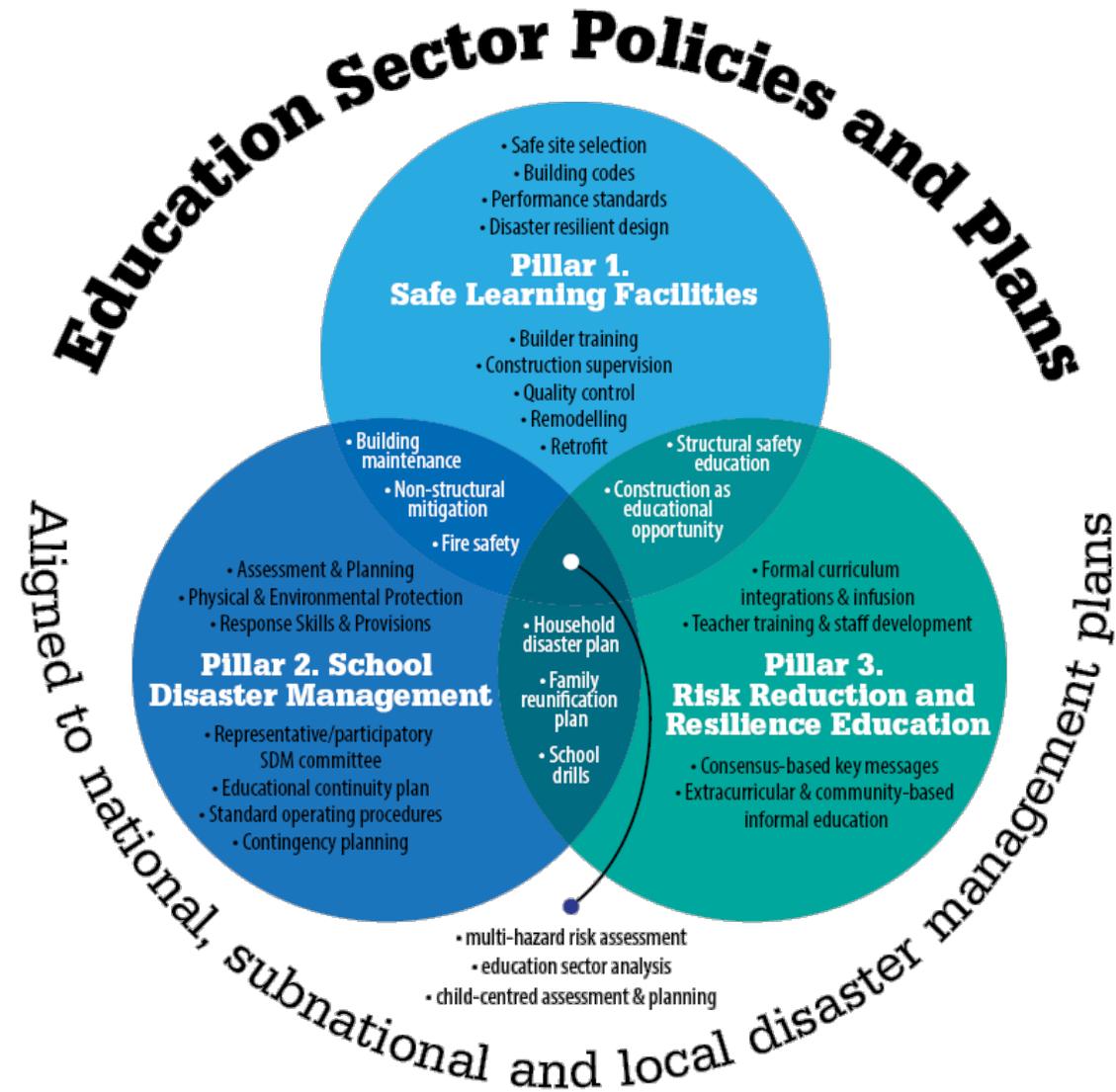
UNESCO's Activities Micro-Planning Toolkit

Module on Conflict/Disaster Risk Reduction

Learning Objectives

- 1) Understand the importance of mainstreaming C/DRR in the education micro-planning,
- 2) Define the purpose and function of mainstreaming C/DRR in education micro- planning process,
- 3) Gain basic knowledge and skills in mainstreaming C/DRR in education micro-planning,
- 4) Learn lessons and adapt relevant practices from selected countries contributing to local needs

Comprehensive School Safety + Strategic Planning Cycle



UNESCO's Activities Micro-Planning Toolkit



UNESCO's Activities Micro-Planning Toolkit

Comprehensive School Safety + Strategic
Planning Cycle

1. Analysis: situation/ assessment



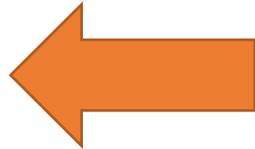
a. Safe Learning Facilities

- Hazard and Vulnerability Mapping, Local Risk Profiling
- Structural Safety
- Non-structural Safety: equipment, facilities and measures

b. School Disaster Management

- Education Contingency Plan
 - Ensuring safety
 - Ensuring continuity of learning
- Coordination Mechanisms

c. Risk Reduction and Resilience Education



- Curriculum Integration
- Capacity Building
- Community/ Stakeholder Awareness and Engagement

Following
the
Strategic
Planning
Cycle

Following the
Comprehensive
School Safety
Framework

UNESCO's Activities Micro-Planning Toolkit

Case Studies

Cases at smaller scale taken from communities (particularly from ASEAN and South Asian countries)

Cases at country level captured during the Capacity Development on Integrating Conflict and Disaster Risk Reduction (C/DRR) into Education Sector in 2015

Being finalized through consultation with experts in the region such as SEAMEO INNOTECH

Future Activities

- Receiving comments and feedback from local stakeholders to improve existing modules
- Organizing trainings for local level planners including government officials on micro-planning toolkit

UNESCO's Activities

VISUS (Visual Inspection for defining the Safety Upgrading Strategies)



A team of lecturers, researchers, practitioners and student are conducting school safety assessment by field survey as part of their training in the VISUS methodology for school safety. Bandung, Indonesia (2015).

Collaboration between UNESCO and SPRINT-Lab researchers of the University of Udine in Italy

Initially developed to assess schools in a seismic scenario



It has evolved into a **'holistic and multi-hazard approach'**

Response to **the need for a quick but reliable assessment methodology** which allows administrators and policy makers to **characterize the initial situation** and to support them with **concrete information for the decision-making process**, particularly when resources are limited

VISUS's two fundamental elements: 1) **technical triage assessments** and 2) **expert judgement pre-codification processes**

Piloted in Indonesia and El Salvador

UNESCO's Activities

VISUS (Visual Inspection for defining the Safety Upgrading Strategies)

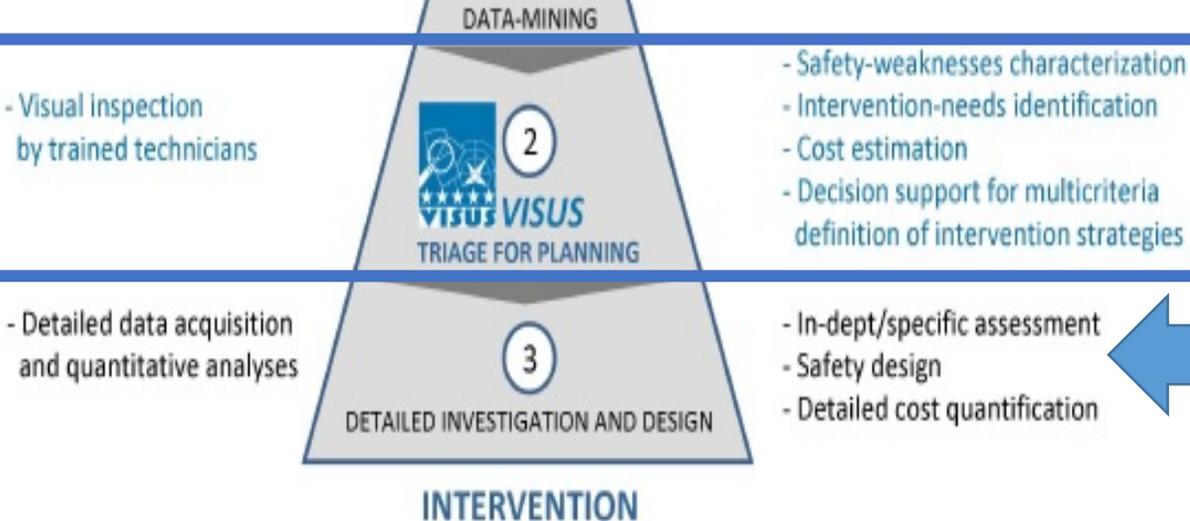
1) Technical triage assessments

INPUT
data-approach

Level of
Assessment

OUTPUT
decision making information

Able to target a large number of schools/targets providing uniform and comparable evaluations, thus facilitating the planning of intervention strategies



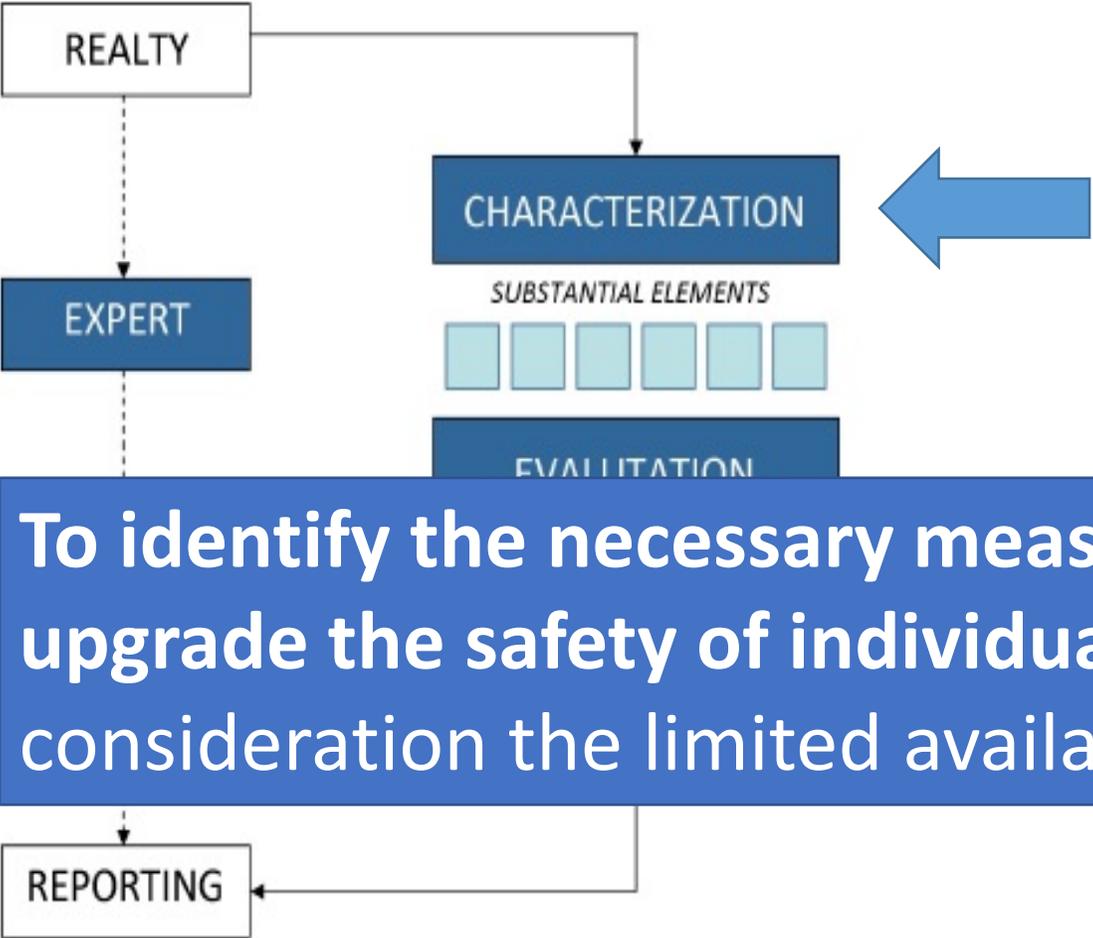
Adopting an intermediate level of assessment, **founded on visual expert-based inspections and technical triage assessment**

- In-depth/specific analysis
- **Costly and time-consuming**
- Limiting the number of facilities that could be inspected

UNESCO's Activities

VISUS (Visual Inspection for defining the Safety Upgrading Strategies)

2) expert judgement pre-codification processes



- **Identification of information and the collection**
- For instance, VISUS considers information on site, structure, non-structural elements or on the organization of emergency system
- Carried out by a **trained VISUS surveyor**

To identify the necessary measures to take in order to upgrade the safety of individual schools/targets, taking into consideration the limited available resources

- Experts also use their experience as a knowledge to formulate evaluation.

UNESCO's Activities

VISUS (Visual Inspection for defining the Safety Upgrading Strategies)

Example from El Salvador

In February 2014, VISUS was applied in La Paz, La Libertad and San Salvador by a group of 15 engineering university students who was trained on VISUS through 40 hours of lessons

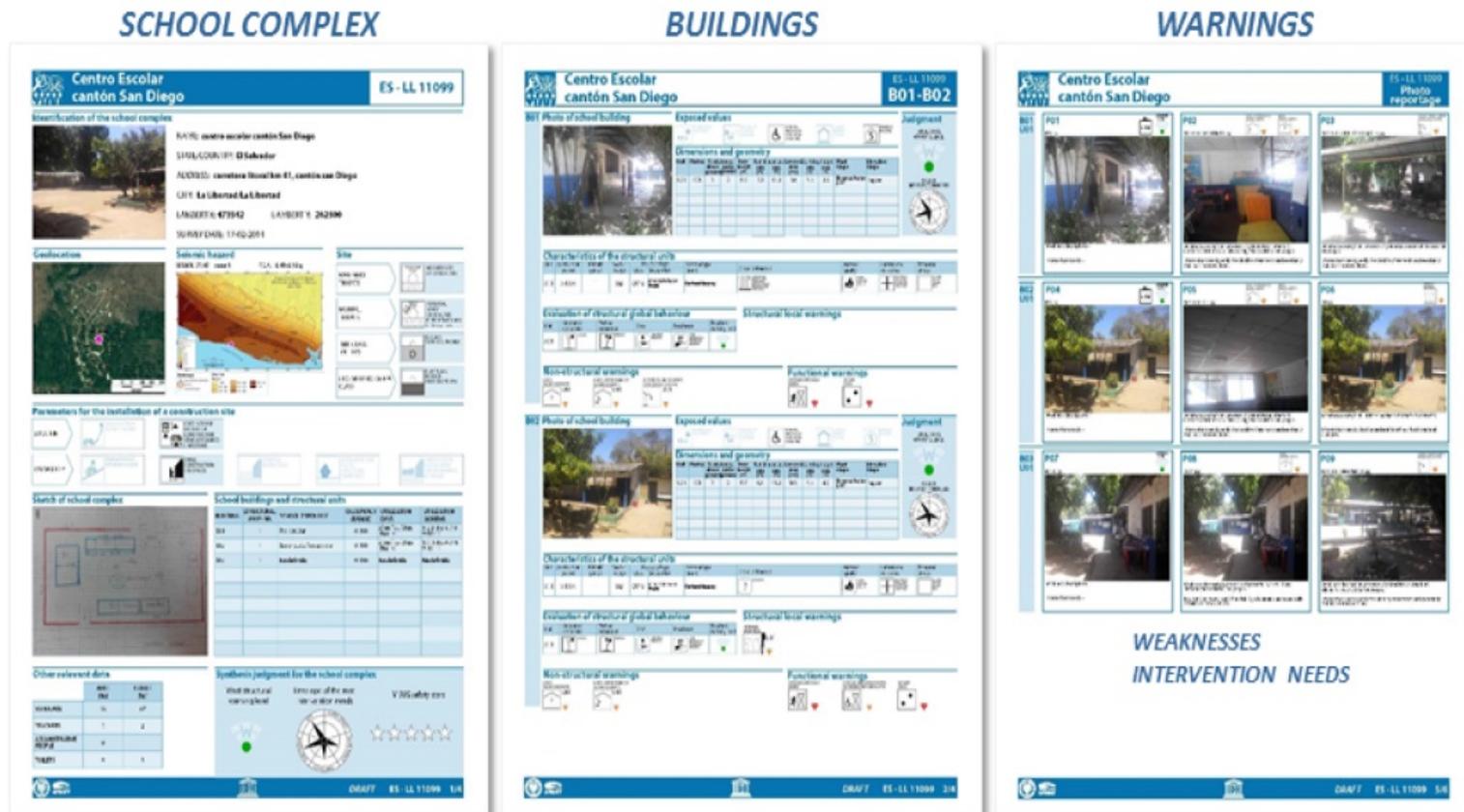
A mobile application for VISUS was developed to simplify the characterization process and the collection of data

These students were **able to inspect the 100 schools** of the selected areas – **almost 300 buildings and about 450 structural units in 10 days**, collecting both data and photos (characterization)

The acquired data was automatically processed (evaluation process) to produce a final assessment report

UNESCO's Activities

VISUS (Visual Inspection for defining the Safety Upgrading Strategies)



Future Activities

- Adopting the methodology in different local contexts
- Training and involving more local/community actors in the VISUS programmes (VISUS Surveyors)

Example of final report of VISUS assessment. The report is automatically produced using as data input collected by trained VISUS surveyors.

UNESCO's Activities Community Learning Centers (CLCs) in Ayutthaya



- **Flood in 2011 damaged 106 CLCs** in Ayutthaya province in Thailand
- In collaboration with Thailand's Office of Non-formal and Informal Education (ONIE) under the Ministry of Education (MOE), UNESCO Bangkok **supported the restoration of flood-affected CLCs in Ayutthaya by providing new equipment, teaching and learning materials and stationery.**

UNESCO's Activities Community Learning Centers (CLCs) in Ayutthaya



- The DRR knowledge and capacities of the Non-formal Education sector were also strengthened through the implementation of a **province-wide capacity development programme** in cooperation with the Thai Department of Disaster Prevention and Mitigation (DDPM) under the Ministry of Interior (MOI).
- **CLC facilitators, managers, learners and community members were trained on the concepts of DRR, preparedness and response.**

UNESCO's Activities

Mobile Game Application on Disaster Risk Reduction

Children/
Youth as
vulnerable group

Children/Youth as
“Change Agents”

- **Global Action Plan on Education for Sustainable Development (GAP-ESD)**
 - Youth as one of the priority action areas
“Support youth in their role as change agents for sustainable development”

UNESCO's Activities

Mobile Game Application on Disaster Risk Reduction

Gamification

“the use of game elements and game design techniques in non-game contexts

Game elements/Design techniques

- Quests/Challenges (e.g. finding objects)
- Avatars
- Progression
- Level



Non-game context

- Raising Awareness on Flood Safety
- A real life case of the deluge in Thailand in 2011

UNESCO's Activities

Mobile Game Application on Disaster Risk Reduction

- ***Sai Fah: the Flood Fighter (2013)***

- Prepare young learners with key lessons on flood preparedness
- Adapted **real-life case from flood disaster in Ayutthaya**, Thailand in 2011 which affected 66 provinces and caused 680 human casualties
- **Officially recommended application by the Thailand Ministry of Education**
- **Available in Bahasa, English, French, Korean and Thai**
- Supported by Japanese government and Korean local government
- Downloaded more than 140,000 times in more than 140 countries



UNESCO's Activities Mobile Game Application on Disaster Risk Reduction

*Click to watch
a short video
clip*



UNESCO's Activities

Mobile Game Application on Disaster Risk Reduction

User/player's review



"So much fun! I learnt flood survival skills by doing the challenges. It's different from other internet games because this game teaches kids practical lessons. Will recommend to my friends!"

Natchalita Nilkeaw, 10 (The first player to complete all levels)

"It's a very fun game and the lessons I learnt can be applied to daily life."

Thamphitak Rakwiratham, 9

"Nice graphics and animation. Easy to understand. The challenges and mini-puzzles teach children to be more alert and aware of their surroundings during a flood situation."

Kritpipat Kritiananpat, Ministry of Education staff



"An awesome game that encourages you to think of creative solutions."

Phanisuan Inthamahan, 12



UNESCO's Activities

Mobile Game Application on Disaster Risk Reduction

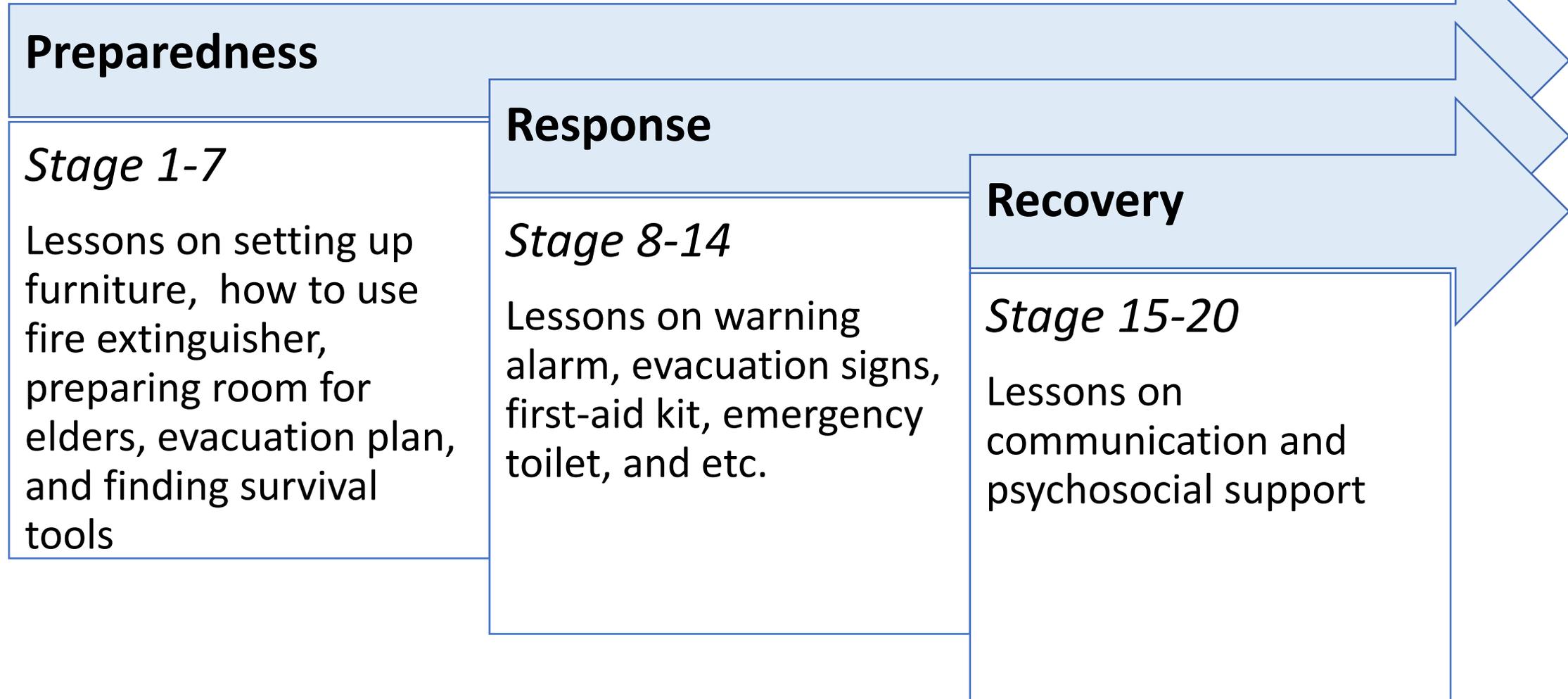
- ***Tanah: the Tsunami and Earthquake Fighter (2015)***
 - Providing learners with **key lessons on earthquake and tsunami safety covering all phases of disaster from preparedness to recovery**
 - Adapted real-life cases such as **Indian Ocean Earthquake and Tsunami in 2004 and Nepal Earthquake in 2015**
 - Available in **Bahasa Indonesia, English, Nepali, Spanish and Thai**
 - Supported by American Red Cross/USAID, UNESCO Country Offices (Kathmandu and Santiago)



Click to watch a short video clip

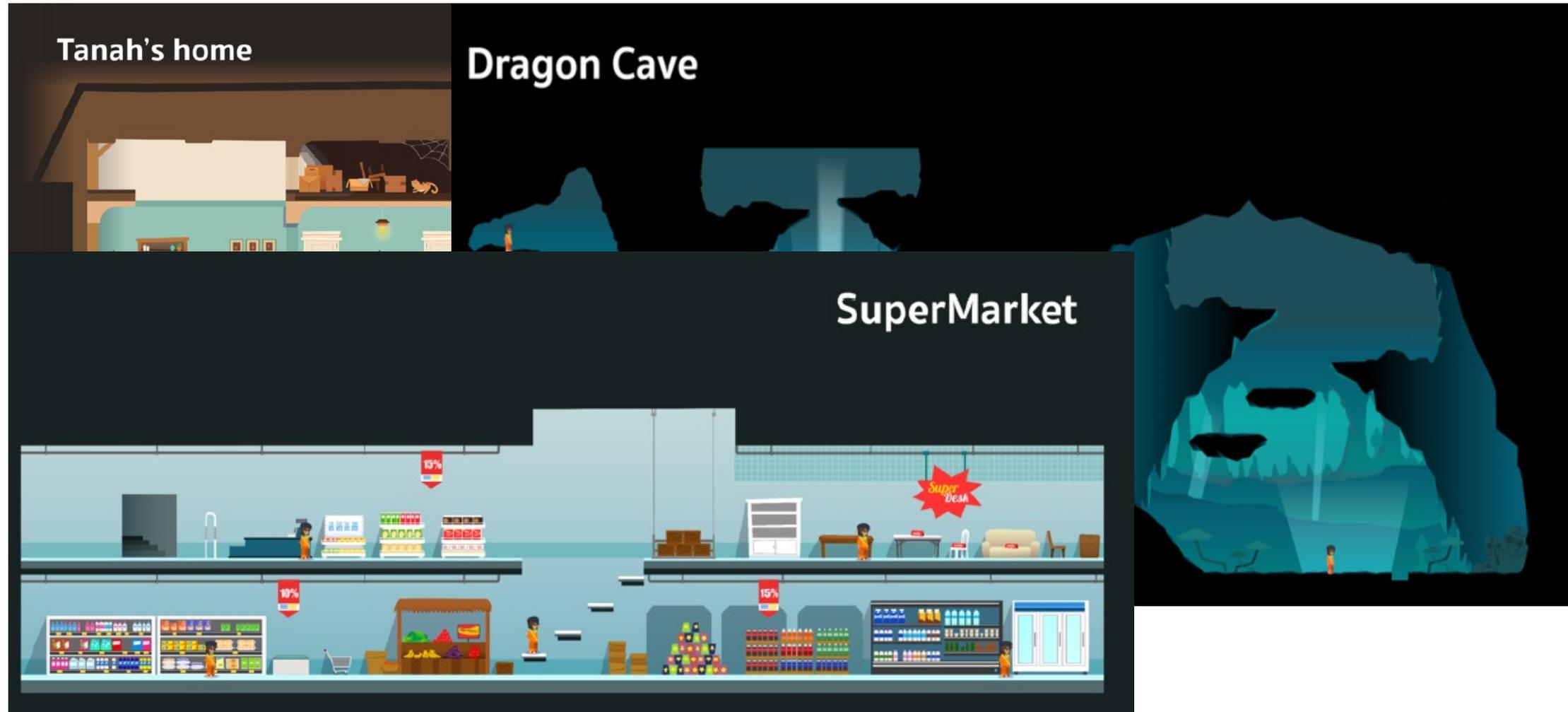
UNESCO's Activities Mobile Game Application on Disaster Risk Reduction

Game stages and Lessons



UNESCO's Activities Mobile Game Application on Disaster Risk Reduction

Settings and backdrops



UNESCO's Activities

Mobile Game Application on Disaster Risk Reduction

Promotion activities



World Conference on Disaster Risk Reduction in Sendai, Japan in March 2015

Madame Yoo Soon-taek, the wife of United Nations Secretary-General Ban Ki-Moon, expressed her enthusiasm for “Sai Fah” after visiting a booth featuring the app in the main exhibition area at Sendai Mediatheque

UNESCO Bangkok press release

UNESCO's Activities

Mobile Game Application on Disaster Risk Reduction

Promotion activities



Introduction activities in Latin
America – Quito, Ecuador

UNESCO's Activities

Mobile Game Application on Disaster Risk Reduction

Future Activities

- Developing game applications covering different types of hazards in different languages.
- Carrying out promotion activities to reach out to more users and players
- Developing mobile applications utilizing innovative technique such as Virtual Reality Simulation (VR) to provide more realistic/effective lessons for learners while they enjoy playing applications

Way forward and Suggestions

- Involving communities and local stakeholders is key to building and enhancing resilience
- Disaster Risk Reduction is everyone's business – actors/learners at all age should be actively engaged
- Life-long learning approach will enable continuous learning process to update knowledge and skills to be prepared for future disasters



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Thank you very much!

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