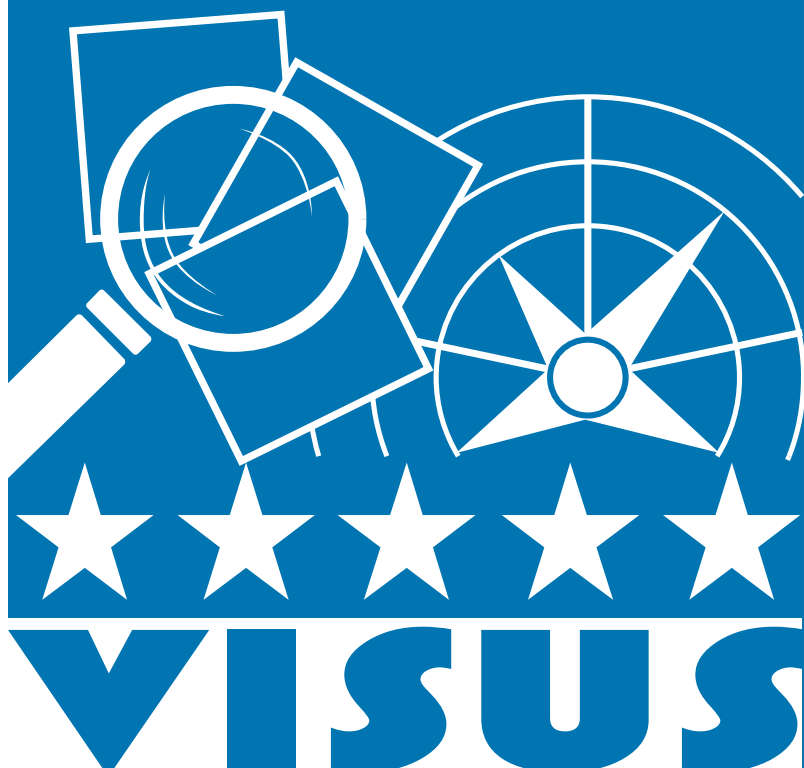




United Nations
Educational, Scientific and
Cultural Organization



UNESCO-VISUS MULTIHAZARD METHODOLOGY



Mitigating the Impact of
Natural Risk in Africa
23-26 October 2017,
Cairo, Egypt



The new Agenda:

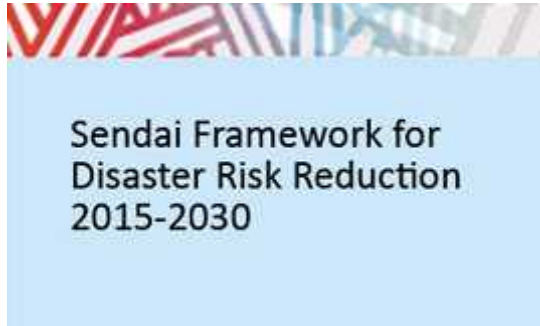
25. (...) We will strive to provide children and youth with a nurturing environment for the full realization of their rights and capabilities, helping our countries to reap the demographic dividend, including through **safe schools** and cohesive communities and families.

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.a:

Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all





Priority 1: Understanding disaster risk

Priority 2: Strengthening disaster risk governance to manage disaster risk

Priority 3: Investing in disaster risk reduction for resilience

Priority 4: Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

It calls among others to:

the strengthening of disaster resilient public and private investments, particularly through structural, non-structural and functional disaster risk prevention and reduction measures in critical facilities, in particular schools and hospitals and physical infrastructure.



Worldwide Initiative for Safe Schools



Prof. Stefano Grimaz – Università di Udine, Italia
Jair Torres - UNESCO HQ

VISUS: A SUPPORT FOR DECISION MAKERS



41 Countries



Global Alliance for Disaster Risk Reduction & Resilience in the Education Sector



United Nations
Educational, Scientific and
Cultural Organization



UNISDR

The United Nations Office for Disaster Risk Reduction



GFDRR

Global Facility for Disaster Reduction and Recovery

INEE



Save the Children

RET



risk reduction education for disasters

World Vision®



Prof. Stefano Grimaz – Universidad de Udinese, Italia
Jair Torres - UNESCO HQ

VISUS: A SUPPORT FOR DECISION MAKERS

THE THREE PILLARS OF THE COMPREHENSIVE SCHOOL SAFETY



Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector (GADRRRES)



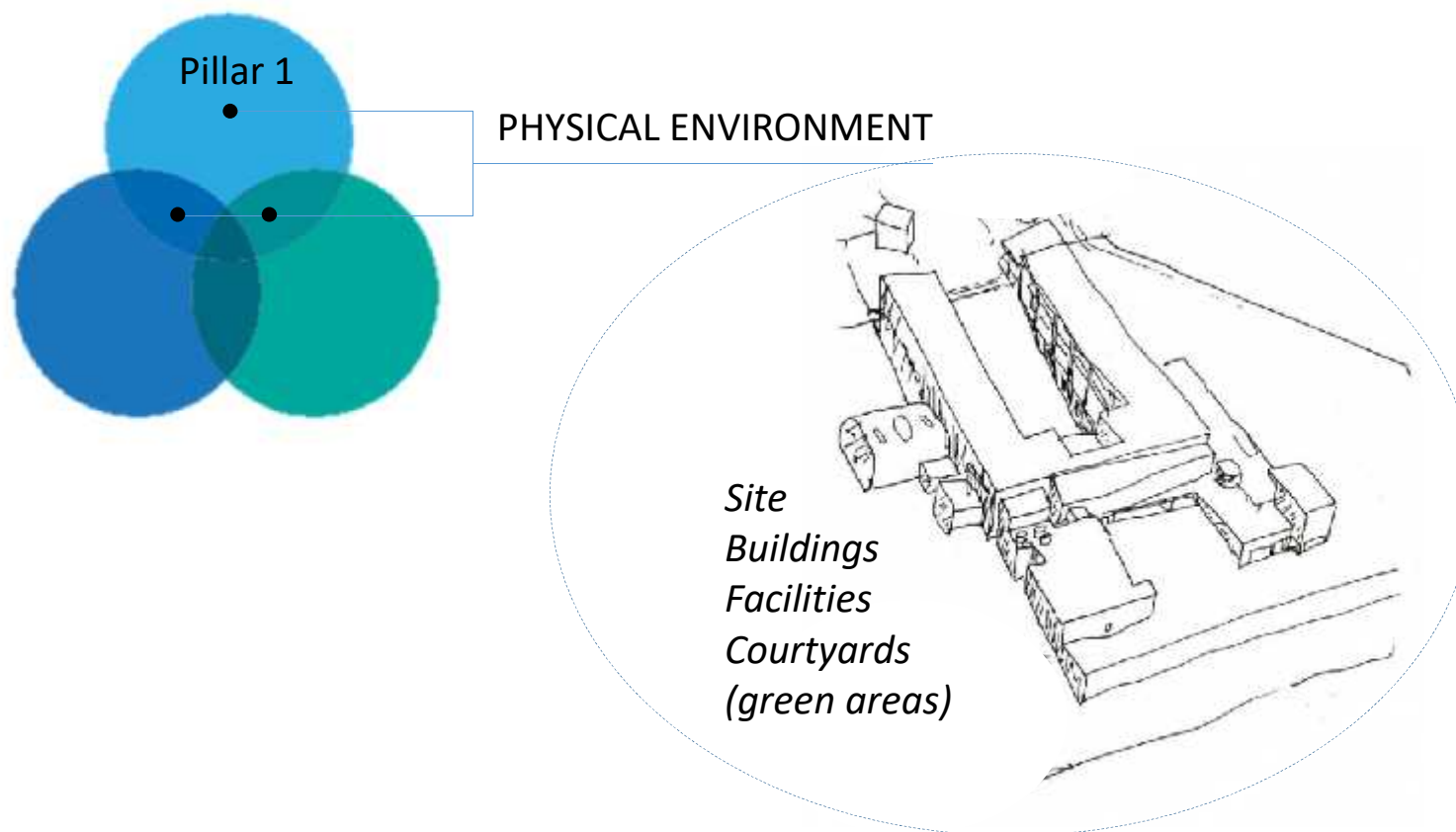
1. To protect learners and education workers from death, injury, and harm in schools
2. To plan for educational continuity in the face of all expected hazards and threats
3. To safeguard education sector investments
4. To strengthen risk reduction and resilience through education

SAFETY GOALS





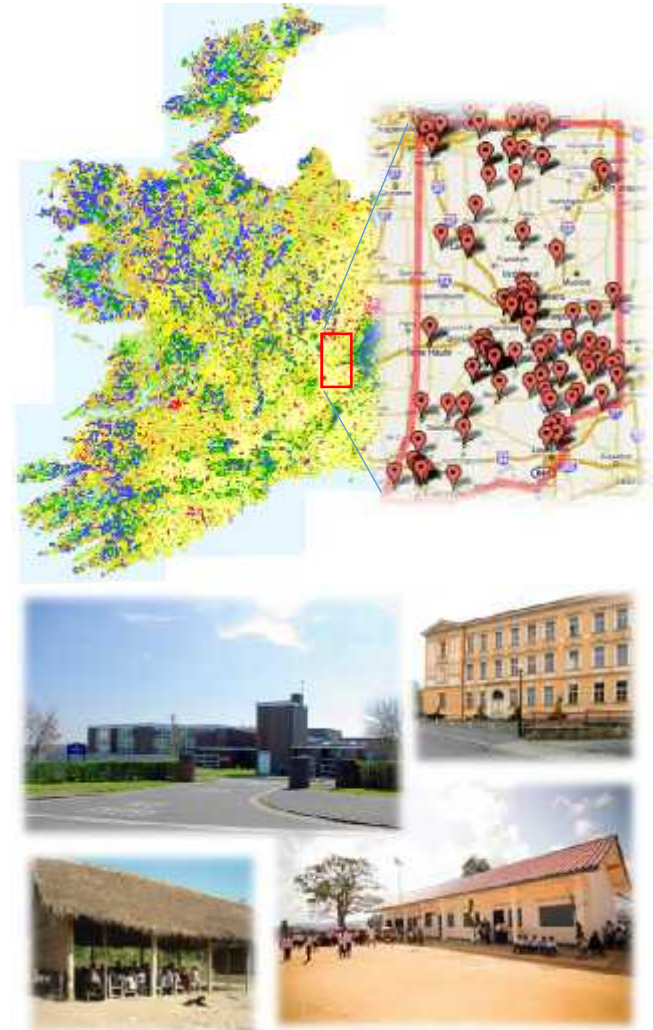
The components of the physical environment



CONCERNS OF DECISION-MAKERS

- **WHAT** IS THE ACTUAL SAFETY SITUATION?
- **WHICH** SCHOOL SHOULD BE PRIORITIZED?
- **WHY?**
- **WHAT** INTERVENTIONS ARE NECESSARY (4Rs)?
- **HOW MUCH** WOULD THE INTERVENTION COST?
- **HOW MANY** INTERVENTIONS ARE FEASIBLE GIVE THE AVAILABLE RESOURCES?
- **HOW** SHOULD WE COMMUNICATE THE RISK LEVEL TO THE COMMUNITY?

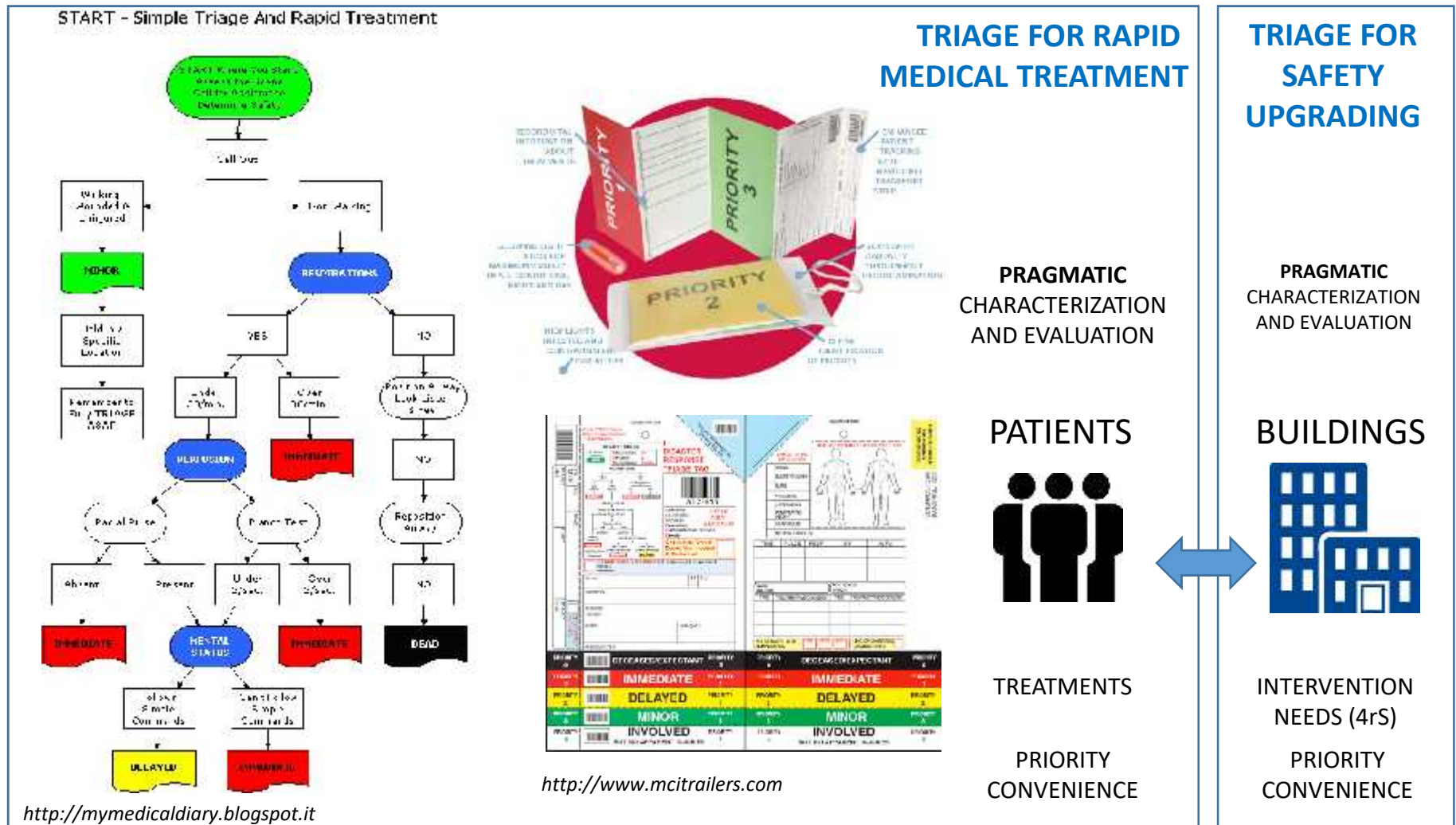
AT REGIONAL LEVEL



PRIORITIZATION OF THE TREATMENTS FOR A COST-EFFECTIVE RESOURCES ALLOCATION

DISASTER MEDICINE

PLANNING





TRIAGE FOR PLANNING

VISUAL INSPECTION

INPUT

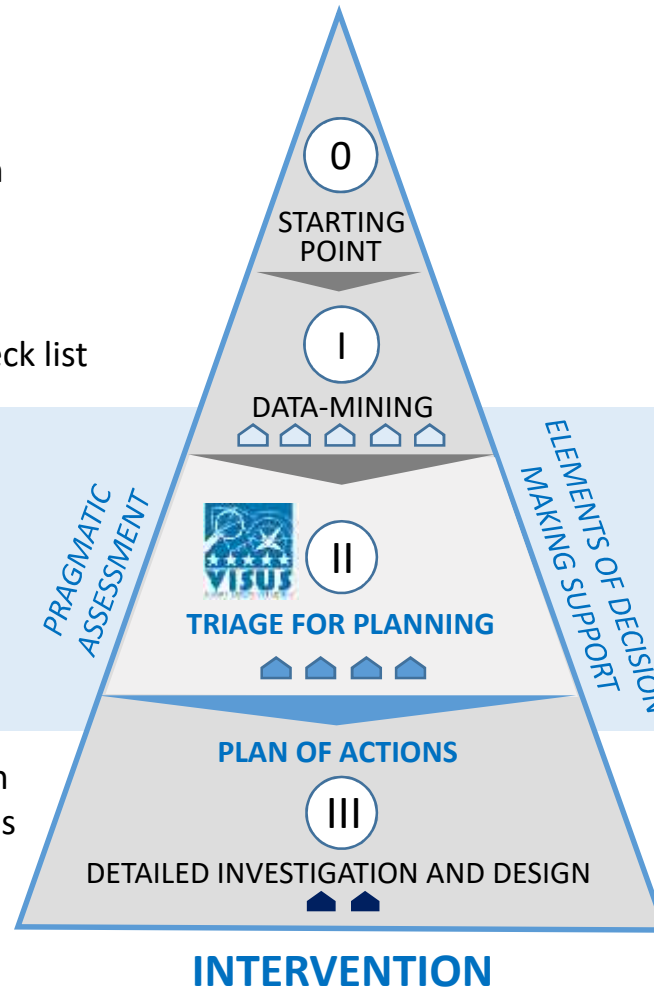
data-approach

- Desk analysis of available documentation
- Collection data
- Questionnaire/form/check list

- Visual inspection by trained surveyors

- Detailed data acquisition and quantitative analyses

Level of knowledge



OUTPUT

decision making information

- Preliminary classification

- Class or index of risk
- Priority ranking for deepening/intervention

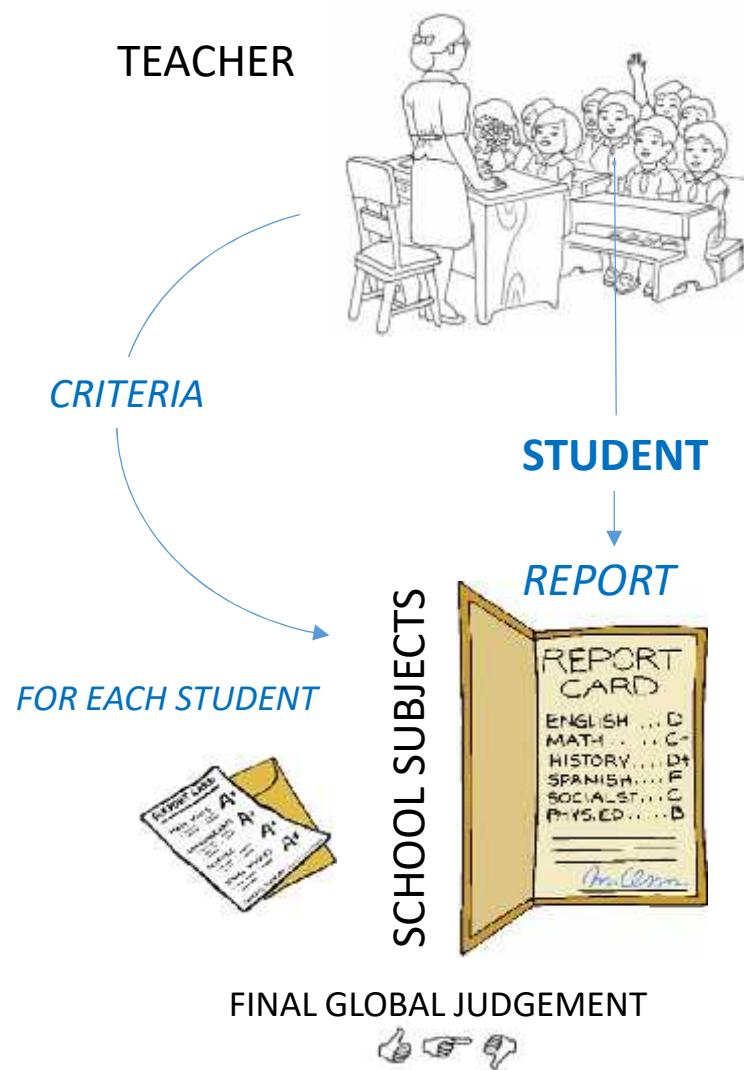
- *Safety-weaknesses characterization*
- *Intervention-needs identification*
- *Budget allocation estimation*
- *Decision support for multicriteria definition of intervention strategies*

- In-depth/specific assessment
- Safety design
- Detailed cost quantification

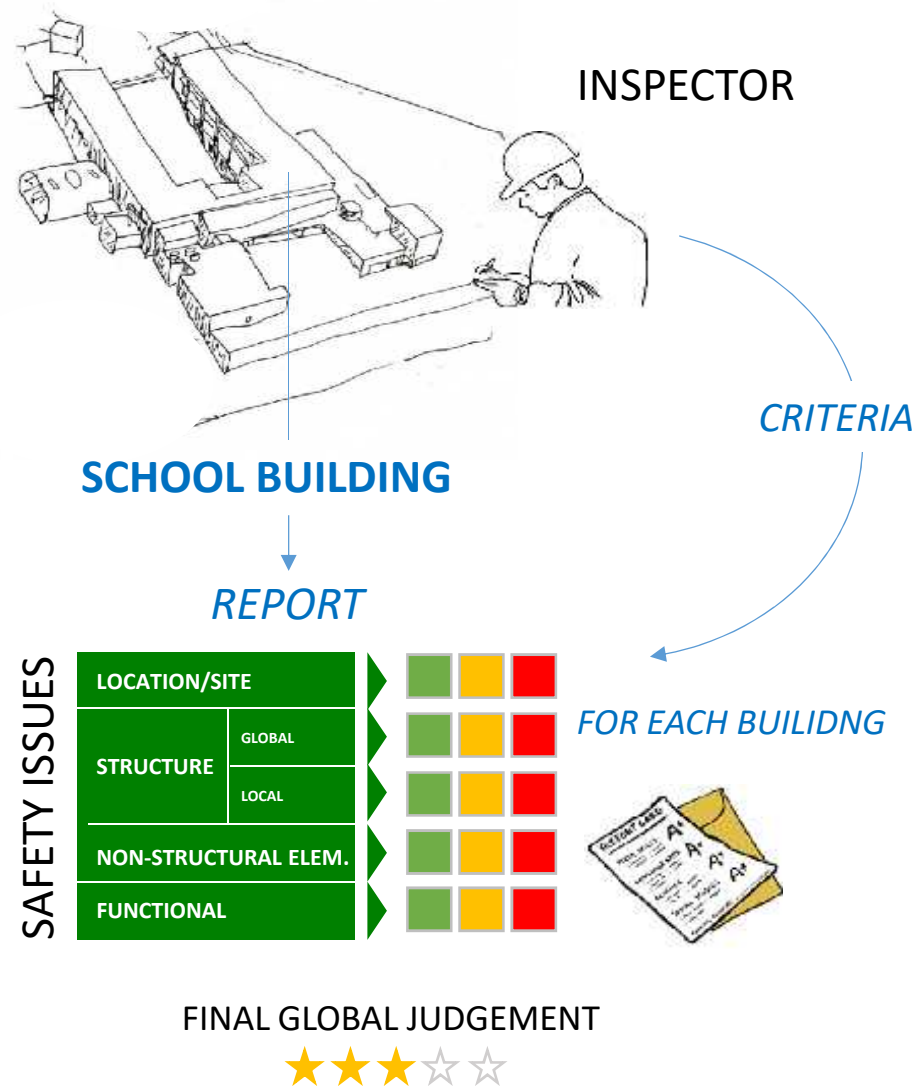
JUDGE THE PERFORMANCES

THE ANALOGY

CLASS



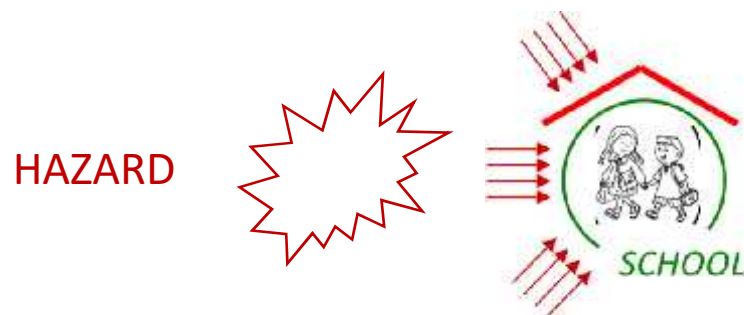
SCHOOL COMPLEX





SAFETY - HAZARD OR HAZARDS?

INTEGRATED APPROACH



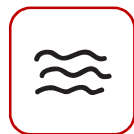
EARTHQUAKES



WINDSTORMS



FLOODS



FIRE



ORDINARY USE



VISUS WORLDWIDE

COUNTRIES

Peru – 60
El Salvador – 100
Haiti – 100



Italy – 1022
Laos – 10
Indonesia – 160
Mozambique – 100

Indonesia III, El Salvador II, Honduras, Guatemala, St. Kitts and Nevis, Guyana, Saint Lucia, Antigua and Barbuda, Monserrat, Turks and Caicos Islands, and Mongolia.



Under negotiation for 2018

Institutions that have peer-reviewed the method and that recommend it:

1. UNESCO-IHE (The Netherlands)
2. Beijing Jiaotong University (China)
3. Catholic University of Chile (Chile)
4. El Salvador University (El Salvador)
5. Building Research Institute (Japan)
6. Institute of Seismology (Kazakhstan)
7. Istanbul Technical University (Turkey)
8. Bandung Institute of Technology (Indonesia)
9. National Center for Disaster Prevention (Mexico)
10. Japan International Cooperation Agency (Japan)
11. Technical University of Civil Engineering (Romania)
12. Research Institute for Human Settlement (Indonesia)
13. National Research Institute of Astronomy and Geophysics (Egypt)
14. International Institute of Seismology and Earthquake Engineering (Japan)
15. Japan-Peru Center for Earthquake Engineering and Disaster Mitigation (Peru)
16. Tokyo Polytechnic University - School of Architecture & Wind Engineering (Japan)



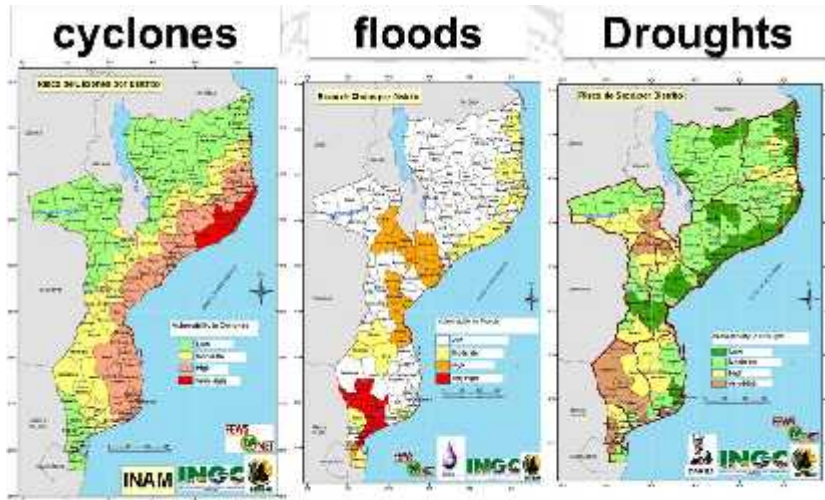


IMPLEMENTATION PHASES

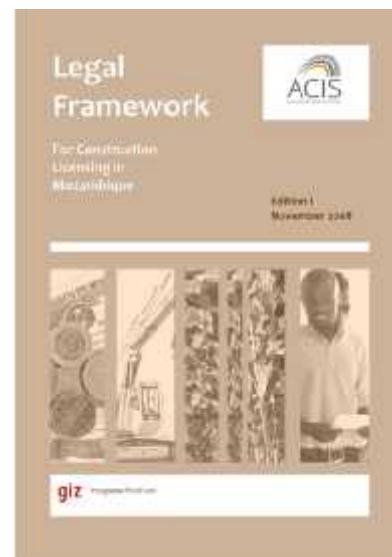
KEY PHASES

1. Methodology Adaptation to the country and local realities and particularities
(Risk profile [V+E] and building typologies)
2. Capacity building and strengthening of local and national capacities for the assessment of critical infrastructure
3. Development of the assessment
4. Reporting (Collective and Individual per school)
5. Planning for intervention

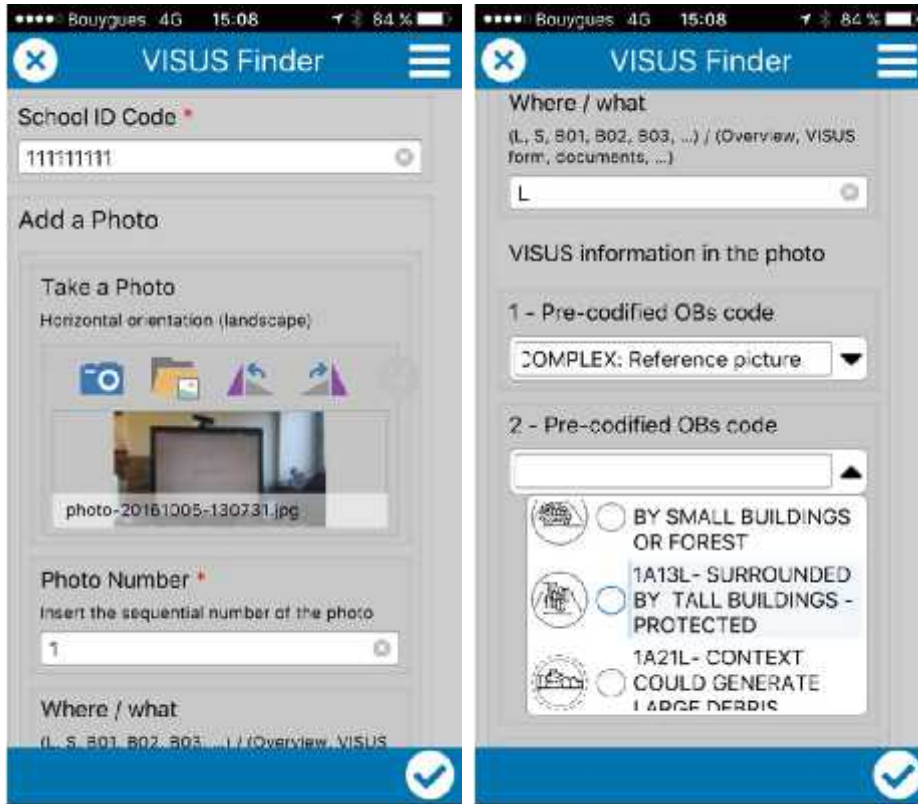




Earthquakes



MATERIALS



POLICY MAKERS



VISUS: A CAPACITY BUILDING TOOL

TRAINERS



SURVEYORS





REPORTING

REPORTS

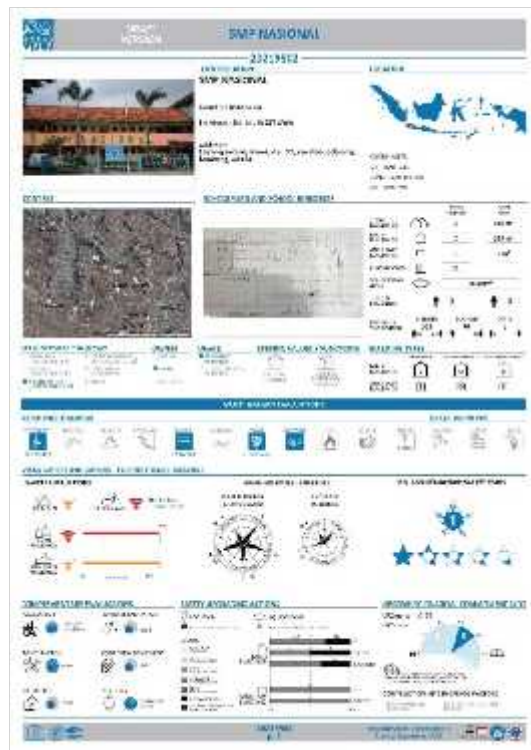


Prof. Stefano Grimaz - University of Udine (Italy)
Jair Torres - UNESCO HQ

VISUS: A SUPPORT FOR DECISION MAKERS



School complex



*Location and schoolyard
and photo reportage*



*School building
and photo reportage*





Ecole nationale de Parrois



HT312-02100010

IDENTIFICATION

Ecole nationale de Parrois

Country: Haiti

Province, district: Quartier-Morin

Address: Pont Parrois

LOCATION



COORDINATES

LATITUDE: 19 41'19.36" N

LONGITUDE: 72 08'28.90" W

ALTITUDE: 18 m m

CONTEXT



SCHOOLYARD AND SCHOOL BUILDINGS



	TOTAL NUMBER	TOTAL AREA
TOTAL BUILDINGS	6	1379 m²
MAIN BUILDINGS	4	1314 m²
ANCILLARY BUILDINGS	2	65 m²
CLASSROOMS	15	
SCHOOLYARD AREA		4718 m²
TOILETS (NUMBER)	2	2
PEOPLE IN THE SCHOOL	STUDENTS: 143	TEACHERS: 6
	OTHER: 2	

EDUCATIONAL TYPOLOGY

☐ PRESCHOOL (TYPICAL AGE: 3-6)

☒ FUNDAMENTAL (TYPICAL AGE: 6-14)

☐ SECONDARY SCHOOL (TYPICAL AGE: 14-18)

☐ OTHER

OWNER

☒ PUBLIC

☐ PRIVATE

☐ RELIGIOUS

USAGE

☒ CURRICULAR ACTIVITIES

☒ EXTRACURRICULAR ACTIVITIES

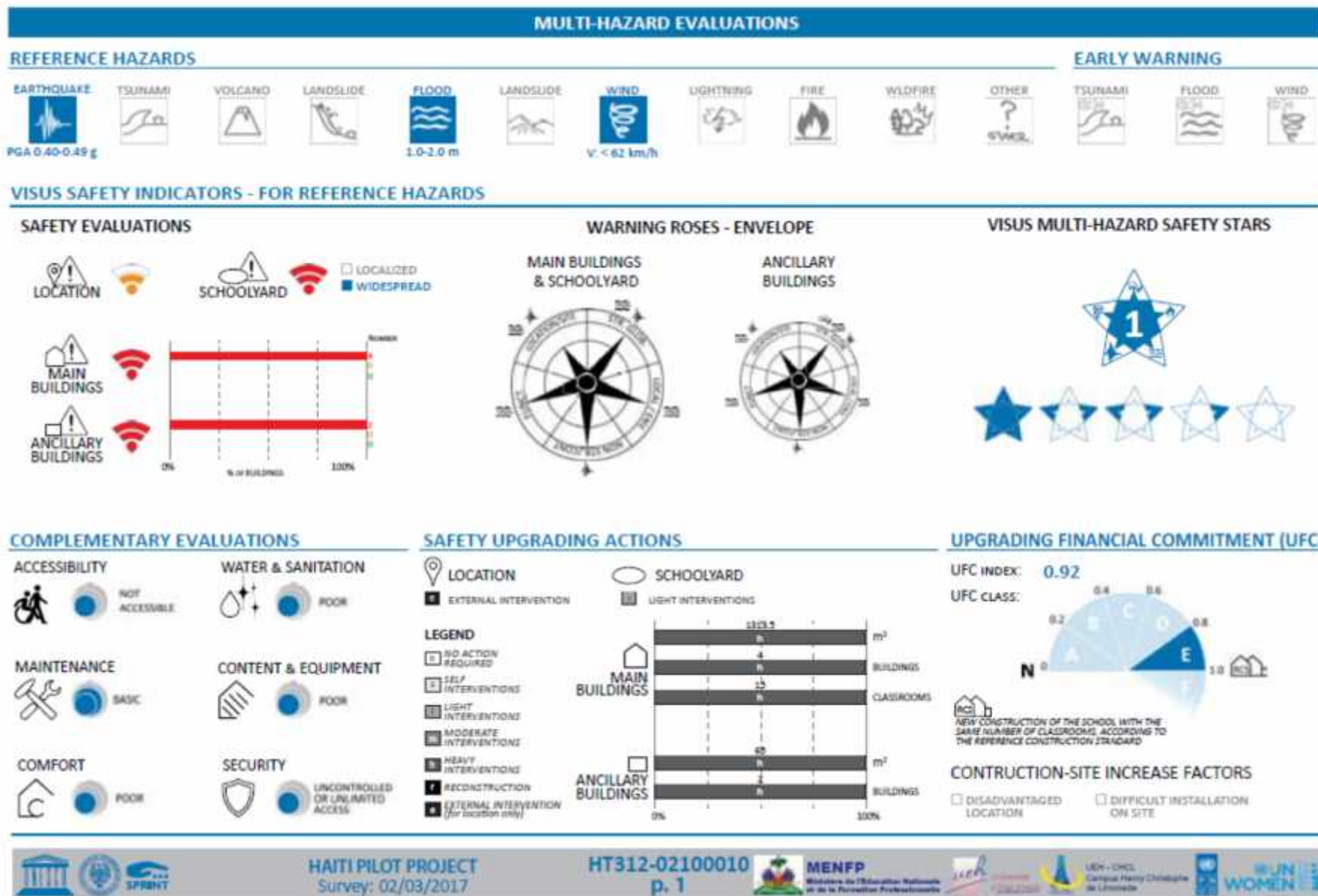
SPECIFIC VALUES / FUNCTIONS

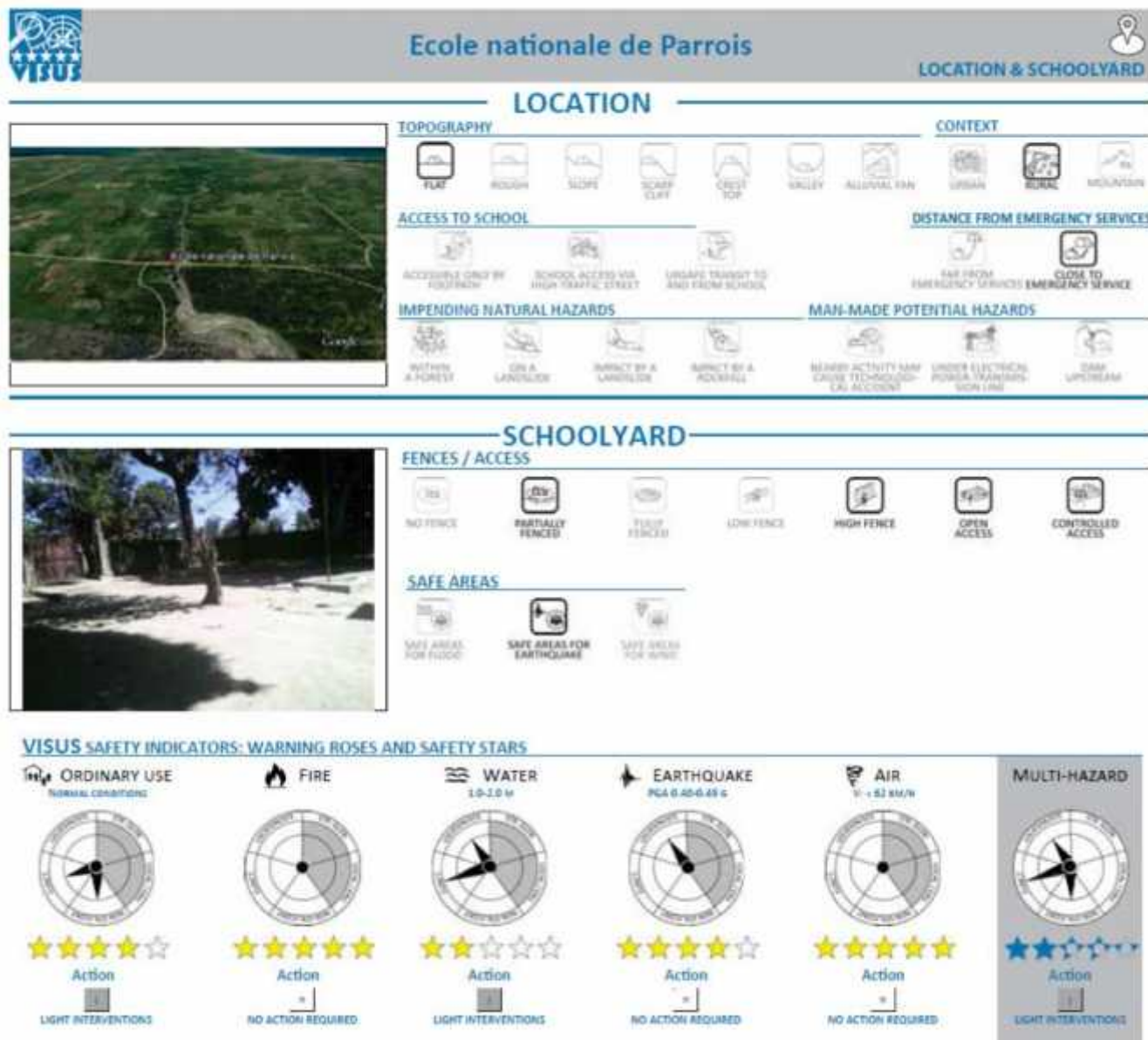
☐ CULTURAL HERITAGE

☒ USED FOR EMERGENCY PURPOSES

BUILDING TYPES

	PERMANENT	SEMI-PERMANENT	NON PERMANENT
MAIN BUILDINGS	4	-	-
ANCILLARY BUILDINGS	2	-	-





COMPLEMENTARY EVALUATIONS

ACCESSIBILITY



COMFORT



WATER & SANITATION



SECURITY



VISUS CHARACTERIZATION PROFILE: PROFILE QUALIFIERS (PQs)



Ecole nationale de Parrois



PICTURES REPORTAGE

LOCATION & SCHOOLYARD



Obs: representative picture of the school.

PQs:



Obs: pot. falls due to uneven floor or tripping hazards; pot. hits with protruding objects or sharp objects.



Obs: unrestricted waste collection or noxious area.



Obs: representative picture of the schoolyard.

PQs:



Obs: upstream highly erodible soil; open land - upstream; gentle or no slope - upstream; potential scour could impact the school complex.



Obs: location; view of the school.

PQs:



Ecole nationale de Parrois

MAIN BUILDINGS



B01

BUILDING TYPE



PERMANENT



SEMI-PERMANENT



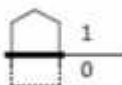
NON-PERMANENT

CONSTRUCTION DATE: 2007

STANDARD: -

GEOMETRY AND DIMENSIONS

NUMBER OF FLOORS ABOVE AND UNDERGROUND



PLAN SHAPE:
SIMPLE, COMPACT
ELEVATION SHAPE:
SIMPLE

NUMBER OF STRUCTURAL UNITS: 1

AREA [m²]: 455

VERTICAL STRUCTURAL MATERIAL AND SYSTEM



CONFINED MASONRY



R.C. FRAME

ROOF STRUCTURE



OTHER

ROOF COVERING



SHEETS

UTILIZATION

- ☒ CLASSROOMS: 3
☐ MALE TOILETS
☐ FEMALE TOILETS
☐ OFFICES
☐ LABORATORY
☐ KITCHEN
☐ CANTEEN
☐ GYM
☐ AUDITORIUM
☐ LIBRARY
☐ ARCHIVE
☐ STORAGE
☐ BEDROOMS
☒ OTHER USES
☐ TECHNICAL ROOM
☐ UNUSED
☐ UNDER CONSTRUCTION

VISUS SAFETY INDICATORS: WARNING ROSES AND SAFETY STARS

ORDINARY USE
Normal conditions



Action



LIGHT INTERVENTIONS



FIRE



Action



NO ACTION REQUIRED

WATER
1.0-2.0 m



Action



HEAVY INTERVENTIONS



EARTHQUAKE
PGA 0.40-0.49 g



Action



LIGHT INTERVENTIONS



AIR
v: < 62 km/h



Action



LIGHT INTERVENTIONS

MULTI-HAZARD



Action



HEAVY INTERVENTIONS

COMPLEMENTARY EVALUATIONS

WATER & SANITATION



MAINTENANCE



ACCESSIBILITY



COMFORT



SECURITY



CONTENT/EQUIPMENT



VISUS CHARACTERIZATION PROFILE: PROFILE QUALIFIERS (PQs)

	SALUBRITY PRESENCE OF DISCOMFORTS WITH POT. CONSEQUENCES ON HEALTH	DANGERS PEOPLE COULD FALL WITH CONSEQUENT DIFFICULT SITUATIONS	EGRESS SAFE EGRESS FROM BUILDING				
	TRIGGER / SOURCE NO TRIGGERING SOURCES	EXPECTED FIRE SCENARIO PREDISPOSED TO SMALL FIRE, NO TRIGGER	PROPAGATION SLOW PROPAGATION OF SMOKE AND/OR FIRE IN THE BUILDING	PROTECTION SYSTEM NO PROTECTION SYSTEM	STRUCTURAL BEHAVIOUR NO FIRE EFFECTS ON STRUCTURE	EGRESS MULTIPLE EGRESS PATHS (MORE ALTERNATIVES)	
	HAZARD INTENSITY WATER DEPTH - HIGH	HAZARD INTENSITY WATER VELOCITY MODERATE	HAZARD MODIFIERS POTENTIAL AMPLIFICATION OF THE ACTION	PROTECTION FROM HAZARD NO PROTECTION	HAZARD MODIFIERS POTENTIAL PRESENCE OF DEBRIS	HAZARD INTENSITY EXTREME ACTION	INDUCED DANGERS FLOOR SUBMERGED
	CONNECTION TO GROUND LOCAL ANCHORAGE, FIXED	WATER LOAD BALANCE BALANCED WATER LOAD	STRUCTURAL ROBUSTNESS CLASS MODIFIED CLASS: HIGH CLASS FOR FLOOD	UNDERMINING UNDERMINING NOT CREDBLE	LOCAL STRESS LOCAL STRESS CONCENTRATION	EGRESS IMPOSSIBLE TO REACH THE SAFE ZONE OR NO SAFE ZONE	STRUCTURAL ROBUSTNESS CLASS REFERENCE CLASS: HIGH CLASS FOR FLOOD
	HAZARD INTENSITY HIGH HAZARD	HAZARD MODIFIER HAZARD AMPLIFICATION	INDUCED HAZARD POTENTIAL AGGRAVATION	STRUCTURAL ROBUSTNESS CLASS REFERENCE CLASS: VERY HIGH CLASS FOR EARTHQUAKE	ROBUSTNESS MODIFIERS REGULAR HORIZONTAL BEHAVIOUR	ROBUSTNESS MODIFIERS REGULAR VERTICAL BEHAVIOUR	ROBUSTNESS MODIFIERS MASS MODIFIER, UNIFORM
	ROBUSTNESS MODIFIERS GOOD CONSTRUCTION AND MATERIAL QUALITY	STRUCTURAL ROBUSTNESS CLASS MODIFIED CLASS: VERY HIGH CLASS FOR EARTHQUAKE	LOCAL CRITICAL ISSUES NO LOCAL CRITICAL ISSUES	POTENTIAL FALL OF ELEMENTS NO CRITICAL ISSUES	EGRESS SAFE PATH TO SAFE ZONES		ROBUSTNESS MODIFIERS ADEQUATE RESISTANCE IN BOTH DIRECTIONS
	HAZARD INTENSITY HAZARD NEGLECTABLE/TRIVIAL	INDUCED HAZARD MODERATE INDUCED HAZARD	STRUCTURAL ROBUSTNESS CLASS REFERENCE CLASS: HIGH CLASS FOR WIND	CONNECTION TO GROUND ANCHORED TO GROUND	INCREASE OF STRESS FLOW INSIDE THE BUILDING CAUSING POTENTIAL DIFFICULTIES	STRUCTURAL ROBUSTNESS CLASS MODIFIED CLASS: HIGH CLASS FOR WIND	LOCAL CRITICAL ISSUES NO LOCAL CRITICAL ISSUES
	INCREASE OF LOCAL STRESS STRESS INCREASE IN CORRESPONDENCE OF EXTENSIONS	POTENTIAL FALL OF ELEMENTS FALL OF ELEMENTS: EXTERNAL, HEAVY, LOCALIZED	EGRESS SAFE ZONE EASY TO REACH				INCREASE OF LOCAL STRESS UPLIFT FORCE



Ecole nationale de Parrois



PICTURES REPORTAGE

B01



Obs: false ceilings.

PQs:



Obs: unprotected and accessible raised area; medium openings (windows, doors) always open; small openings always open; protected foundation (e.g. rip rap); limited access to building.

PQs:



Obs: roof of veranda is extension of main roof; low slope; pitched roof.

PQs:



Obs: roof covering poorly anchored to structure.

PQs:



Obs: combustibles isolated; low light; moderate amount of books or wood-based furniture.

PQs:



Obs: View of the building; pot. fall of trees or poles.

PQs:



Obs: Representative picture of the building; medium openings (windows, doors) always open; small openings always open; sheets; permanent building; multiple exits in the building allowing the separation of people flows; main building; shallow foundation; free flow of water into building; limited access to building; confined masonry.

PQs:





Ecole nationale de Parrois

☐

ANCILLARY BUILDINGS

B06



BUILDING TYPE

☒ PERMANENT
 ☐ SEMI PERMANENT
 ☐ NON PERMANENT

CONSTRUCTION DATE: 2007
 STANDARD: -

GEOMETRY AND DIMENSIONS

NUMBER OF FLOORS ABOVE AND UNDERGROUND: 

PLAN SHAPE: SIMPLE, COMPACT
 ELEVATION SHAPE: SIMPLE

NUMBER OF STRUCTURAL UNITS:
 AREA [m²]:

VERTICAL STRUCTURAL MATERIAL AND SYSTEM

☒ UNREINFORCED MASONRY

ROOF STRUCTURE

☒ WOOD STRUCTURE

ROOF COVERING

☒ SHEETS

UTILIZATION

☐ CLASSROOMS
 ☐ MALE TOILETS
 ☐ OFFICES
 ☒ KITCHEN
 ☐ GYM
 ☐ LIBRARY
 ☐ STORAGE
 ☐ OTHER USES
 ☐ UNUSED

☐ FEMALE TOILETS
 ☐ LABORATORY
 ☐ CANTEEN
 ☐ AUDITORIUM
 ☐ ARCHIVE
 ☐ BEDROOMS
 ☐ TECHNICAL ROOM
 ☐ UNDER CONSTRUCTION

VISUS SAFETY INDICATORS: WARNING ROSES AND SAFETY STARS



ORDINARY USE
Normal conditions



★★★★★

Action

 HEAVY INTERVENTIONS



FIRE



★★★★★

Action

 NO ACTION REQUIRED



WATER
1.0-2.0 m



★★★★★

Action

 HEAVY INTERVENTIONS



EARTHQUAKE
PGA 0.40-0.49 g



★★★★★

Action

 HEAVY INTERVENTIONS



AIR
V: < 62 km/h



★★★★★

Action

 LIGHT INTERVENTIONS



MULTI-HAZARD



★★★★★

Action

 HEAVY INTERVENTIONS

COMPLEMENTARY EVALUATIONS

WATER & SANITATION



POOR

MAINTENANCE



POOR

ACCESSIBILITY



NOT ACCESSIBLE

COMFORT



BASIC

SECURITY



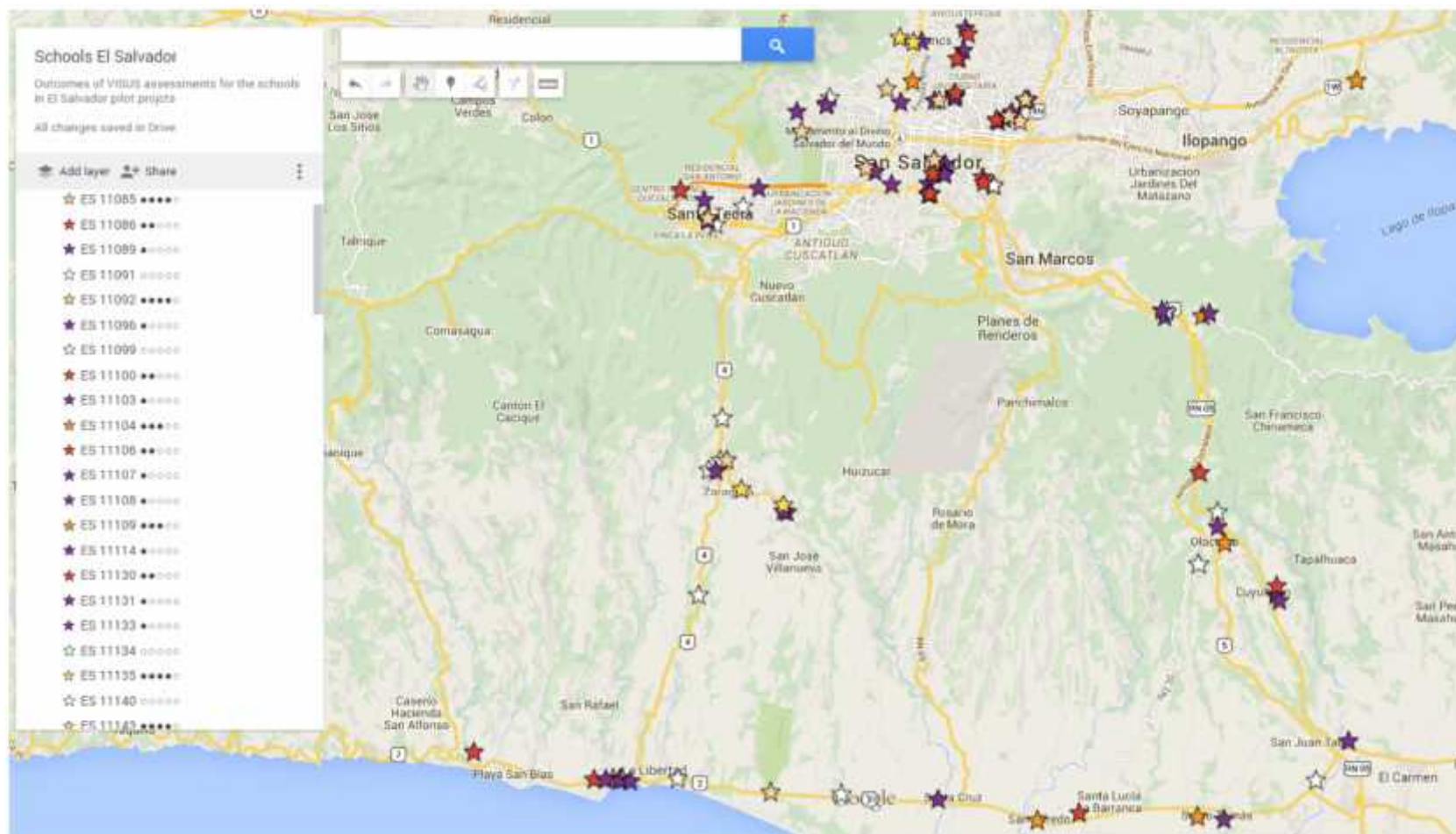
UNCONTROLLED OR UNLIMITED ACCESS

CONTENT/EQUIPMENT



BASIC

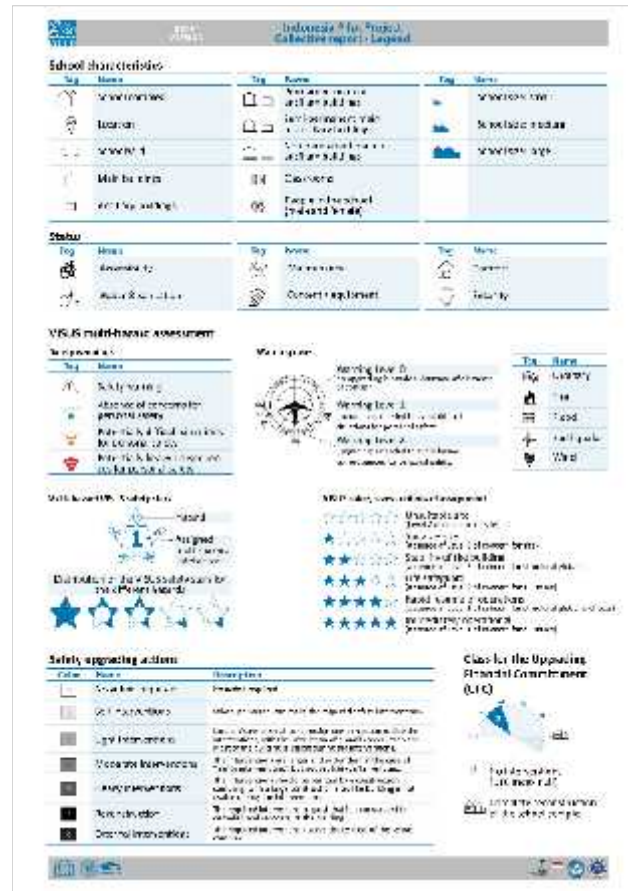
[Link](#) to google maps of El Salvador Pilot project schools.





VISUS MULTHAZARD OUTCOMES

COLLECTIVE REPORT



IDENTIFICATION

ID 20219502
SMP NASIONAL
West Java
Sadang serang street, no. 17, sekeloa, coblong, bandung, 40134
MIDDLE SCHOOL

DECIPTION

SCHOOL CHARACTERISTICS		
SCH-DOLYARD AREA		3000 m ²
MAIN BUILDINGS		637 m ²
ANCILLARY BUILDINGS		8 m ²
CLASSROOM'S		11
PEOPLE IN THE SCHOOL		653

STATUS

	PARTIALLY ACCESSIBLE
	POOR
	GOOD
	BASIC
	BASIC
	CONTROLLED ACCESS

VISUS MULTHAZARD ASSESSMENT INDICATORS



VISUS SUGGESTED ACTIONS



RESOURCES



Prof. Stefano Grimaz - University of Udine (Italy)
Jair Torres - UNESCO HQ

VISUS: A SUPPORT FOR DECISION MAKERS

VISUS COLLECTIVE REPORT


SUMMARY

ID 20211XXX SDN KAPAS NO 1000 Jawa Barat Jl. KAWACI GUGUR NO 1000 PRIMARY SCHOOL	SCHOOL CHARACTERISTICS SCHOOLYARD AREA: 1725 m ² MAIN BUILDINGS: 1 0 0 600 m ² ANCILLARY BUILDINGS: 1 1 1 75 m ² CLASSROOMS: 6 SIZE PEOPLE IN THE SCHOOL: 98	STATUS NOT ACCESSIBLE POOR BASIC BASIC POOR UNIMPROVED LOTS (UNIMPROVED ACCESS)	VISUS MULTI-HAZARD ASSESSMENT 	SAFETY UPGRADING ACTIONS NO ACTIONS REQUIRED LIGHT INTERVENTIONS UPGRADED SITUATION LEGEND: NO ACTION REQUIRED, EXTERNAL INTERVENTIONS, LIGHT INTERVENTIONS, UPGRADED SITUATION	BUDGET ALLOCATION UPGRADING FINANCIAL COMMITMENT INDEX: 0.48 CLASS: 1 ESTIMATED RANGE: 54-66 K\$
ID 20219XXX SMK 1000 NO 1000 Jawa Barat Jl. Sekeloa-keloa (Kampung Sekeloa-keloa) Cidre Raga VOCATIONAL	SCHOOL CHARACTERISTICS SCHOOLYARD AREA: 43000 m ² MAIN BUILDINGS: 20 0 0 27832 m ² ANCILLARY BUILDINGS: 1 1 1 0 m ² CLASSROOMS: 94 SIZE PEOPLE IN THE SCHOOL: 2534	STATUS NOT ACCESSIBLE POOR GOOD BASIC POOR CONTROLLED ACCESS	VISUS MULTI-HAZARD ASSESSMENT 	SAFETY UPGRADING ACTIONS EXTERNAL INTERVENTIONS LIGHT INTERVENTIONS UPGRADED SITUATION LEGEND: NO ACTION REQUIRED, EXTERNAL INTERVENTIONS, LIGHT INTERVENTIONS, UPGRADED SITUATION	BUDGET ALLOCATION UPGRADING FINANCIAL COMMITMENT INDEX: 0.46 CLASS: 1 ESTIMATED RANGE: 2003-2448 K\$
ID 20219XXX SMK 1000 NO 20 Jawa Barat Gedung sekolag smp no. 17, sekolag no 1000 Bandung NO 154 UPPER SECONDARY SCHOOL	SCHOOL CHARACTERISTICS SCHOOLYARD AREA: 11297 m ² MAIN BUILDINGS: 3 0 0 3387 m ² ANCILLARY BUILDINGS: 1 1 1 150 m ² CLASSROOMS: 34 SIZE PEOPLE IN THE SCHOOL: 1449	STATUS NOT ACCESSIBLE POOR GOOD BASIC BASIC LIMITED ACCESS	VISUS MULTI-HAZARD ASSESSMENT 	SAFETY UPGRADING ACTIONS NO ACTIONS REQUIRED NO ACTIONS REQUIRED UPGRADED SITUATION LEGEND: NO ACTION REQUIRED, EXTERNAL INTERVENTIONS, LIGHT INTERVENTIONS, UPGRADED SITUATION	BUDGET ALLOCATION UPGRADING FINANCIAL COMMITMENT INDEX: 0.21 CLASS: 1 ESTIMATED RANGE: 116-142 K\$
ID 20219XXX SMK 1000 NO 1000 Jawa Barat Jl. Yogyakarta, A. A. A. A. A. MIDDLE SCHOOL	SCHOOL CHARACTERISTICS SCHOOLYARD AREA: 5000 m ² MAIN BUILDINGS: 4 0 0 3700 m ² ANCILLARY BUILDINGS: 1 1 1 100 m ² CLASSROOMS: 23 SIZE PEOPLE IN THE SCHOOL: 1288	STATUS NOT ACCESSIBLE POOR GOOD BASIC BASIC CONTROLLED ACCESS	VISUS MULTI-HAZARD ASSESSMENT 	SAFETY UPGRADING ACTIONS NO ACTIONS REQUIRED NO ACTIONS REQUIRED UPGRADED SITUATION LEGEND: NO ACTION REQUIRED, EXTERNAL INTERVENTIONS, LIGHT INTERVENTIONS, UPGRADED SITUATION	BUDGET ALLOCATION UPGRADING FINANCIAL COMMITMENT INDEX: 0.68 CLASS: 1 ESTIMATED RANGE: 404-494 K\$
ID 20219XXX SMK 1000 NO 1000 West Java Gedung sekolag smp no. 17, sekolag no 1000 Bandung NO 154 MIDDLE SCHOOL	SCHOOL CHARACTERISTICS SCHOOLYARD AREA: 3000 m ² MAIN BUILDINGS: 2 0 0 1274 m ² ANCILLARY BUILDINGS: 1 1 1 8 m ² CLASSROOMS: 11 SIZE PEOPLE IN THE SCHOOL: 653	STATUS NOT ACCESSIBLE POOR GOOD BASIC POOR CONTROLLED ACCESS	VISUS MULTI-HAZARD ASSESSMENT 	SAFETY UPGRADING ACTIONS EXTERNAL INTERVENTIONS LIGHT INTERVENTIONS UPGRADED SITUATION LEGEND: NO ACTION REQUIRED, EXTERNAL INTERVENTIONS, LIGHT INTERVENTIONS, UPGRADED SITUATION	BUDGET ALLOCATION UPGRADING FINANCIAL COMMITMENT INDEX: 0.52 CLASS: 1 ESTIMATED RANGE: 104-127 K\$



DRAFT
VERSION














INDONESIA Pilot Project
Collective report









DRAFT
VERSION























Indonesia Pilot Project
Collective report - Legend

School characteristics

Tag	Name	Tag	Name	Tag	Name
	School complex		Permanent main or ancillary buildings		School size: small
	Location		Semi-permanent main or ancillary buildings		School size: medium
	Schoolyard		Non permanent main or ancillary buildings		School size: large
	Main buildings		Classrooms		
	Ancillary buildings		People in the school (male and female)		

Status

Tag	Name	Tag	Name	Tag	Name
	Accessibility		Maintenance		Comfort
	Water & sanitation		Content / equipment		Security

ID 20219502			SCHOOL CHARACTERISTICS			STATUS		
SMP NASIONAL			SCHOOLYARD AREA		3000 m ²			PARTIALLY ACCESSIBLE
West Java			MAIN BUILDINGS	 2  0  0	637 m ²			POOR
Sadang serang street, no. 17, sekeloa, coblong, bandung, 40134			ANCILLARY BUILDINGS	 1  0  0	8 m ²			GOOD
MIDDLE SCHOOL			CLASSROOMS	 11	SIZE			BASIC
			PEOPLE IN THE SCHOOL	 653				POOR
								CONTROLLED ACCESS



VISUS multi-hazard assessment

Safety warnings

Tag	Name
	Safety warning
	Absence of concerns for personal safety
	Potentially difficult situations for personal safety
	Potentially heavy consequences for personal safety

Warning rose



Warning Level 0:
no upgrading is needed. Absence of elements of concern.

Warning Level 1:
upgrading is needed to avoid difficult situations for personal safety.

Warning Level 2:
upgrading is needed to avoid heavy consequences for personal safety.

Tag	Name
	Ordinary
	Fire
	Flood
	Earthquake
	Wind

Multi-Hazard VISUS safety stars



Hazard

Assigned multi-hazard safety stars

Distribution of the VISUS safety stars for the different hazards



VISUS safety stars - criteria of assignment



Unsuitable site
(Level 2 of concern for site)



Suitable site
(absence of Level 2 of concern for site)



Stability of the building
(absence of Level 2 of concern for structural global)



Life safeguard
(absence of Level 2 of concern for all issues)

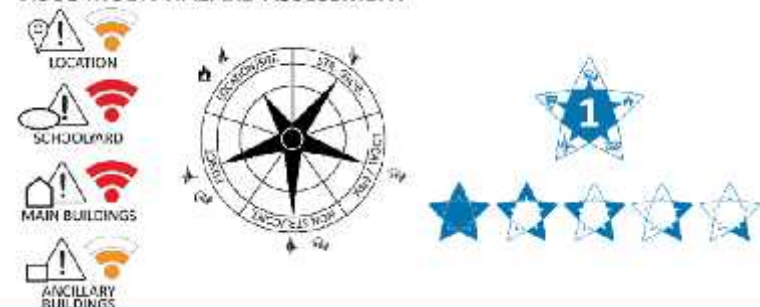


Rapid resume of operations
(absence of Level 1 of concern for structural global and local)



Immediately operational
(absence of Level 1 of concern for all issues)

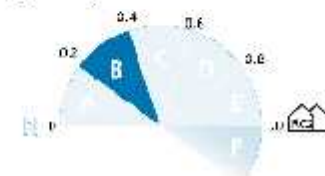
VISUS MULTI-HAZARD ASSESSMENT



Safety upgrading actions

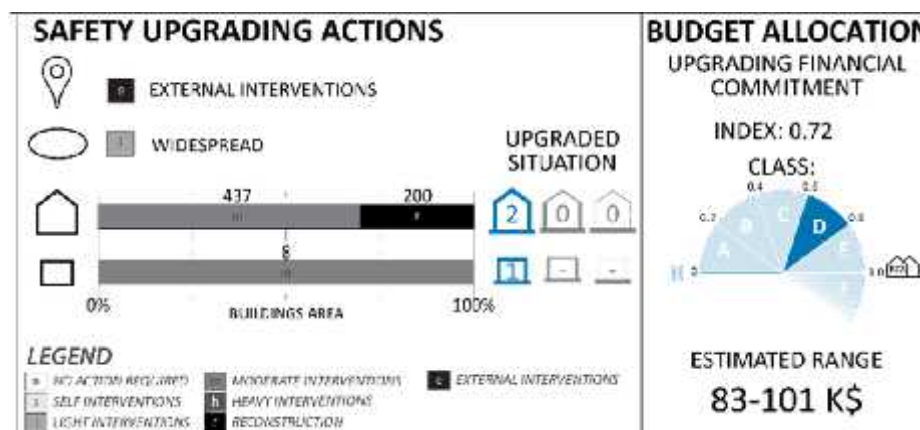
Color	Name	Description
	No action required	No action required
	Self interventions	School personnel can make the required safety interventions.
	Light interventions	Local artisans or small construction companies can realize the interventions, with the installation of a small construction site. Most of the building is usable during the interventions.
	Moderate interventions	The interventions are larger and wider than in the case of "minor interventions", but not yet heavy interventions.
	Heavy interventions	The interventions should be realized by a construction company, with a large construction site. The building is not usable during the interventions.
	Reconstruction	The required interventions suggest that it is convenient to demolish and reconstruct the building.
	External interventions	The required interventions involve the context of the school complex.

Class for the Upgrading Financial Commitment (UFC)



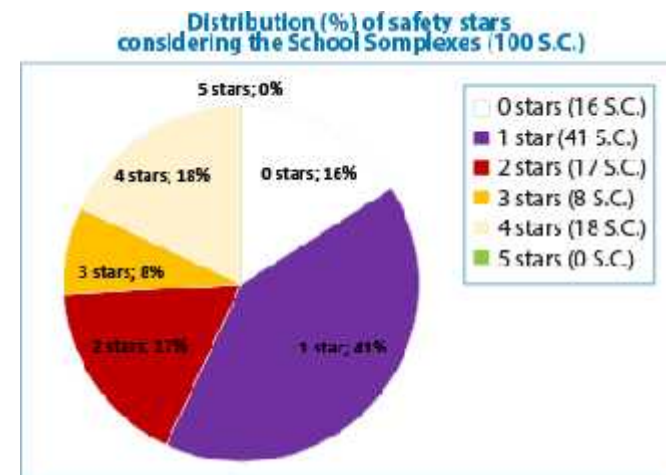
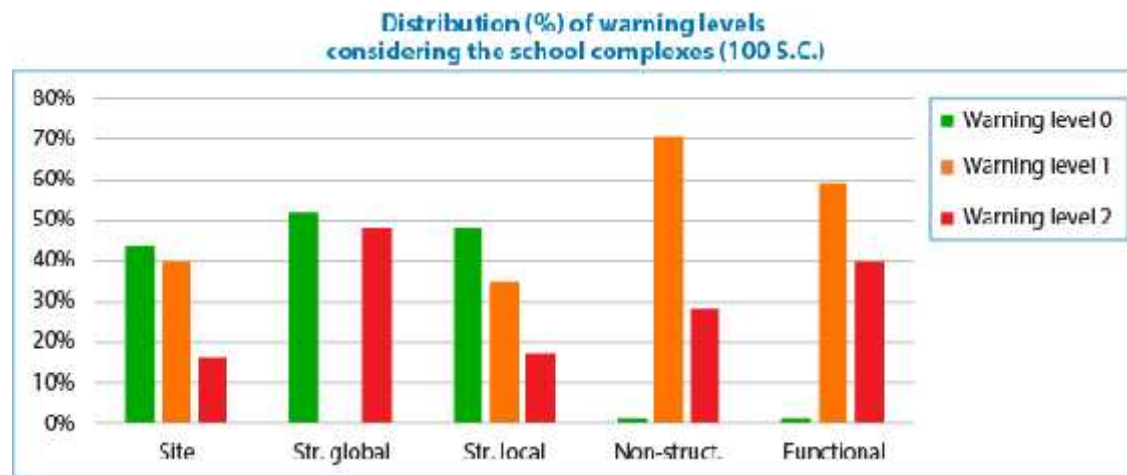
No Interventions (UFC index null)

Complete reconstruction of the school complex



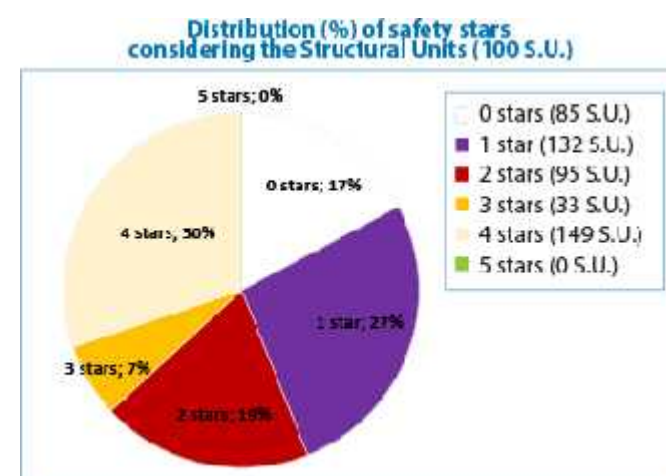
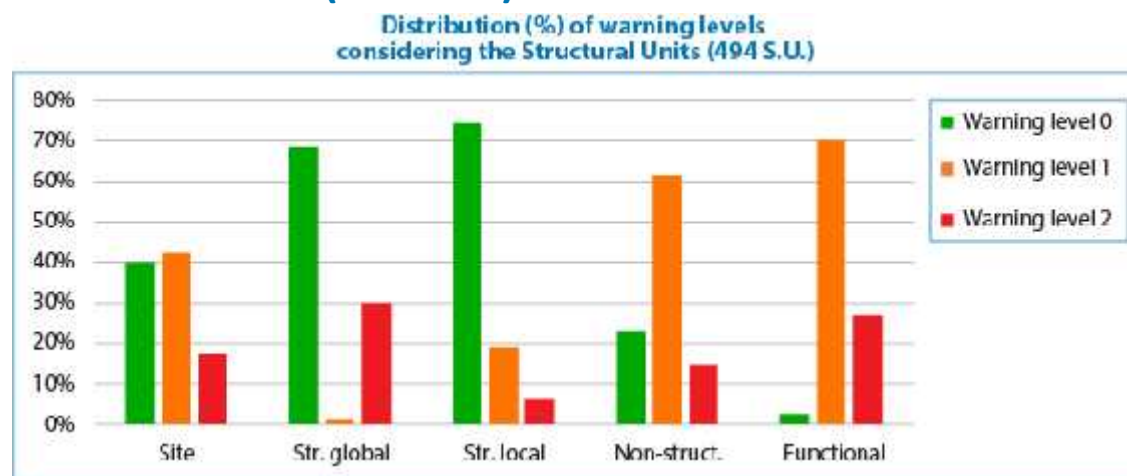


School complex (100 S.C.)



74% UNDER life safeguard performance

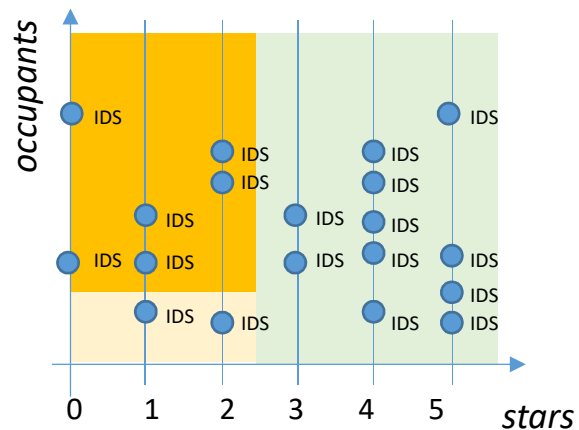
Structural units (494 S.U.)



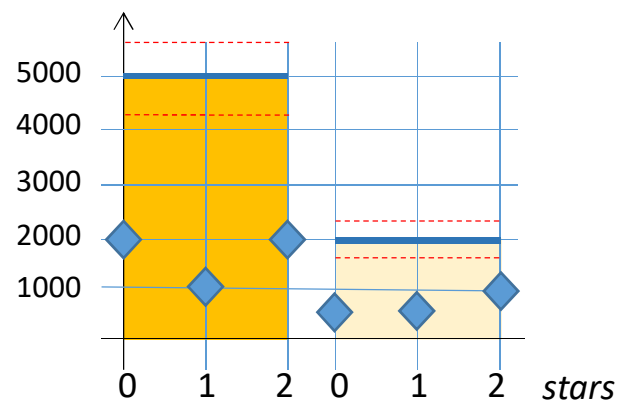
63% UNDER life safeguard performance



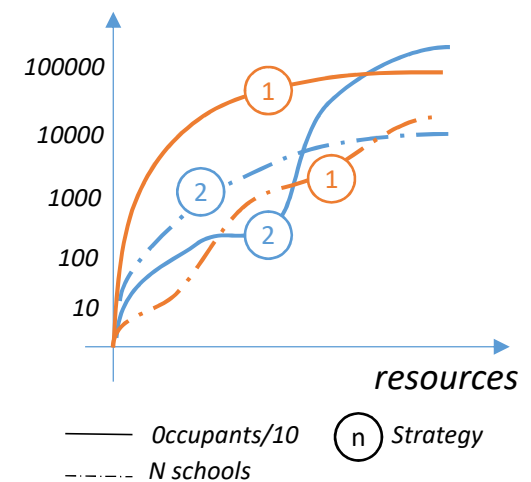
Prioritization for planning



Upgrading budget allocation

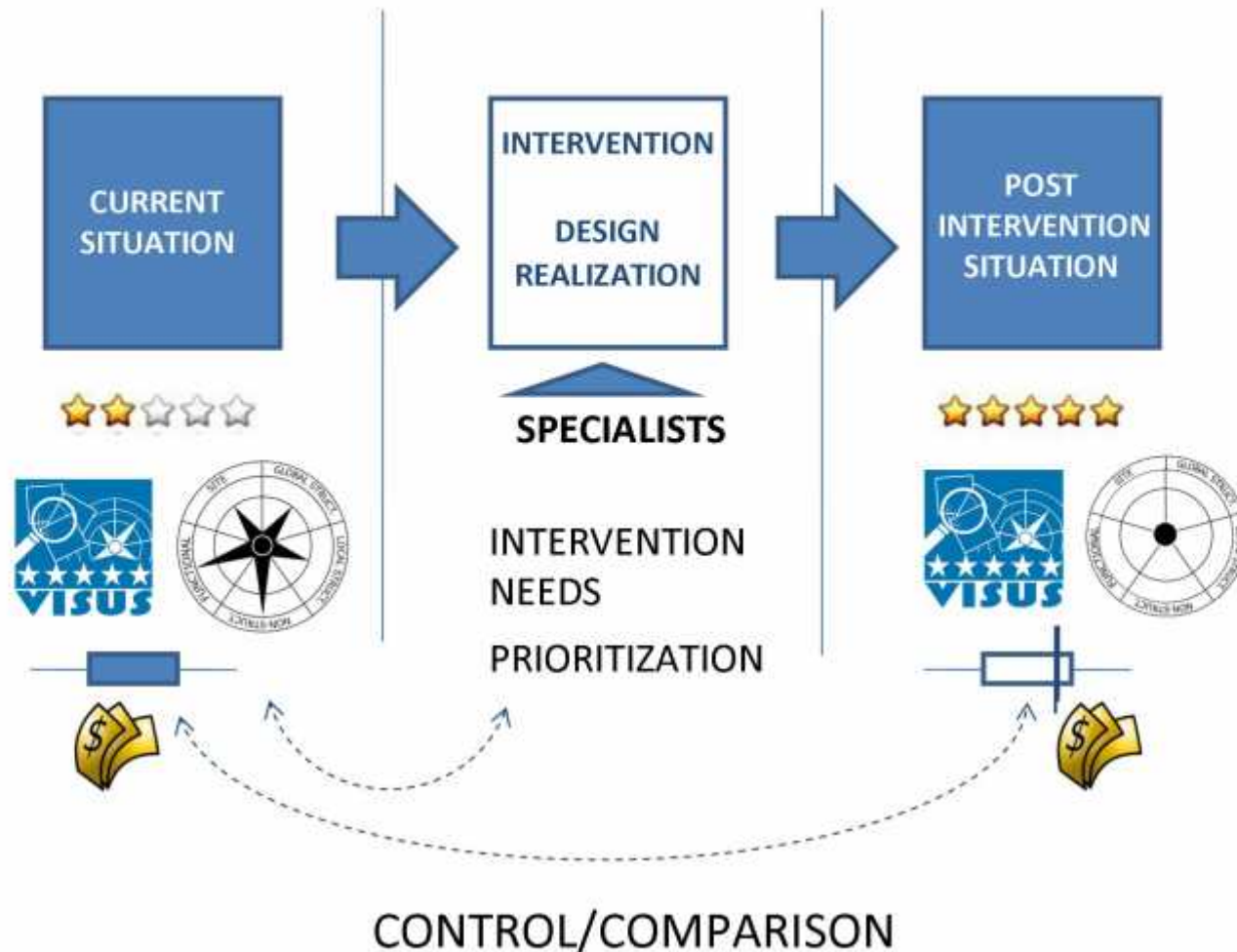


Strategies





VISUS: A TOOL FOR INDIVIDUATING, MANAGING AND CONTROLLING THE PROCESS OF ACTIONS OF RISK MITIGATION





VISUS POST-DISASTER



- After Hurricane Irma
- 3-day mission to Barbuda on 2-4 October 2017
- 2 trained experts from the Italian Fire Corps
- 51 sites assessed
- Part of the Post Disaster Needs Assessment
- In collaboration with UNESCO Kingston Office



THANK YOU!



Looking forward
to receive your comments



United Nations
Educational, Scientific and
Cultural Organization

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