



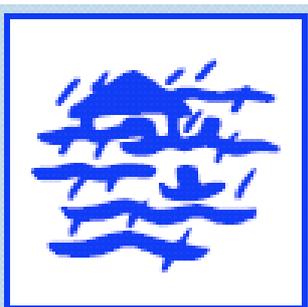
United Nations Educational,  
Scientific and Cultural Organization



United Nations Environment Programme



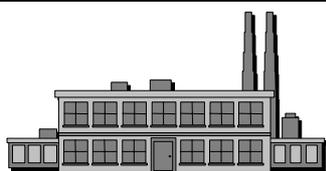
EARTHQUAKES



FLOODS



TROPICAL  
STORMS



INDUSTRIAL  
ACCIDENTS

Drawings from the International Strategy for  
Disaster Reduction (ISDR) website, at:  
<http://www.unisdr.org>

Awareness and Preparedness for Emergencies at the Local Level (APELL)



**APELL for Schools  
and Educational Buildings**  
A community-based approach for school  
safety and education for disaster reduction



26 children and 1 teacher were killed after an earthquake hit the Molise region in Italy and destroyed the local school - October 2002

Source: *comitato vittime della scuola*

Photo: *XI Reggimento Genio Guastatori di Foggia*

<http://web.tiscali.it/vittimedellascuola/vittimedellascuola/>

Knowledge management and education can help communities located in hazard-prone areas gain a better grasp of the ways to cope with risks. Education has been recognized as an essential element in sustainable development and is entirely linked with disaster risk reduction strategies, since it accelerates the progress of societies toward disaster resilience.

Furthermore, safe schools and educational buildings, well known as potential 'safe havens' against industrial and natural hazards, have proven effective in saving lives; their importance therefore needs to be emphasized in disaster risk management.

Even countries with limited financial resources can serve their populations well by providing them with schools that are resistant to natural and technological disasters. The types of disasters shown on the left can either damage school-building structures or have lethal consequences for students and teachers.

This brochure describes the APELL process. APELL, standing for Awareness and Preparedness for Emergencies at the Local Level, is a community-based, participatory process designed to create public awareness of hazards and to ensure that communities are adequately prepared to respond. As will be seen in the following pages, it applies equally well to schools.

## What preparedness for schools and educational buildings means in practice

- The school structure is safe enough to withstand any type of hazard to which it is exposed
- Teachers know what to do in case of disaster
- Children are aware of the risks and can recognize the warning signs
- Students' parents know that the school is a safe place and that school staff are prepared to take proper action in case of disaster
- The school has a preparedness plan compatible with the hazard(s) it faces
- The community emergency plan is connected to the school preparedness plan
- Disaster education is part of the school curriculum
- At least once a year there is an emergency drill in which teachers, students and parents participate
- If disaster strikes, once the emergency is over, the school can re-open quickly and continuity of education is guaranteed

### Recommended books & websites

- *OECD School Safety and Security – Keeping Schools Safe in Earthquakes and Educational Facilities and Risk Management*
- International Strategy for Disaster Reduction (ISDR) on-line educational resources for kids: [www.unisdr.org](http://www.unisdr.org)
- Caribbean Disaster Mitigation Project - Organization of American States - School/Shelter Hazard Vulnerability Reduction: [www.oas.org](http://www.oas.org)
- Federal Emergency Management Agency (FEMA) – USA FEMA for KIDS: [www.fema.gov/kids/](http://www.fema.gov/kids/)
- United Nations Children's Fund – (UNICEF): [www.unicef.org](http://www.unicef.org)

## What is a safe school?

A safe school is either a school that is located in a hazard free area, or one that has been constructed so as to withstand the hazards to which it is exposed. A safe school will not collapse if a disaster happens.

A safe school can be achieved through several complementary measures that begin with land use planning, and pass through structural reinforcement (for earthquakes, landslides, hurricanes, explosions, toxic releases), flood proofing (for floods and tsunamis) and preparedness plans, amongst others.

## Why a safe school is important

**The upgrading and construction of schools that will be relatively safe during the occurrence of disasters should be part of a nation's long-term planning.**

A safe school is important first, and most importantly, because of **safety**—a safe school building can save lives and spare children and school staff from death and injury.

Second, because of **shelter**—the school can become a temporary safe place for members of the community to stay until relief aid can relocate displaced families.

Third, because of **educational continuity**—in emergency situations, whether caused by human or natural forces, education serves many purposes and the lack of it can cause serious problems for children. Educational continuity is important for normalizing the situation for the child and for minimizing the psychosocial stresses experienced when emergencies result in a sudden and violent destabilization of the child's immediate family and social environment. (Pigozzi, M. J. (1999). *Education in Emergencies and for Reconstruction*, UNICEF working paper).

Finally, because of **resource preservation**—a school building is a major local investment. Rebuilding it places a heavy financial burden on a community struck by a disaster.

**Disaster-proof educational buildings fulfil the dual purposes of withstanding potential damage and collapse over occupants in time of disaster, and of providing a place of refuge during and a relief centre after a disaster.**

## What does it take to have a safe school?

Each community that endeavours to be prepared for disasters will have to adopt and implement specific policies that are inherent to its cultural, social and economic concepts and practices. These policies often require changes in established practices. The protection of school buildings against disasters does not require enormous changes, nor mobilization of extraordinary resources. In the first instance, it requires political will.

## What is education for disaster reduction?

### Formal education

Is the formal inclusion in the basic school curriculum of issues and subjects related to: (i) identification and understanding of risks and its linkages with sustainable development; (ii) learning of risk reduction measures; and (iii) learning about disaster preparedness and response.

**Education for Disaster Reduction is an integral part of Education for Sustainable Development**

### Informal education or non-formal education

Is the development of awareness raising campaigns to reach out to the public at large (civil society, workers, decision-makers, etc.) with messages related to disaster reduction, better understating of how human activity can link to disaster and what can be done at the individual level to contribute to disaster reduction.

Technical education for local builders (including masons) and construction firms is extremely important to sustain risk reduction initiatives in the community.

## Why disaster education at school is important

Disaster reduction education for children fosters awareness and better understanding about the immediate environment in which they and their families live and work. Children are widely known to be influential and effective communicators, and lessons learned at school are later transmitted to the home.

Children who get disaster education, once they become adults, will have a greater understanding of disasters (man-made or natural), of the effects of human actions and of the consequences of poor environmental management, as well as of the need to promote a new kind of development path in greater harmony with nature (ISDR (2002). *Living with Risks*).

## What is APELL?

The APELL process is a managerial tool that helps local people develop the information and decision-making structures they need to address the hazards facing their community.

**APELL can be useful in any situation that requires joint planning for disasters by several parties**

UNEP developed the APELL programme in the 1980s, in association with the chemicals industry, with the intention of addressing public hazards from fixed industrial installations. It has since been widened to encompass port areas, transport, mining, industrial estates and natural disasters.

## Facts and Figures:

### Yangtze River Floods in China – 1998

More than nine million children were affected by the disaster, which damaged or destroyed 48 766 schools.

### Hurricane Mitch in Nicaragua and El Salvador – 1998

890 schools destroyed or severely damaged

### Bam Earthquake in Iran – 2003

131 schools were destroyed or severely damaged and 20 000 children died

### Train Accident and Explosion in North Korea – 2004

One school was completely destroyed and 76 children died immediately

## Case-Studies

### Bahia Blanca – Argentina

The APELL process was implemented in a petrochemical complex in Bahia Blanca, in the southern region of Argentina. Local schools received training on technological disasters followed by specific capacity-building courses. All schools in the area were adapted for confinement due to the potential risk of toxic releases of chlorine and ammonia from the nearby industries.

### The Community Based Program for Earthquake Disaster Mitigation in Nepal – National Society for Earthquake Technology (NSET)

The School Earthquake Safety Program developed has proved to be very useful for earthquake awareness. Its impact area is growing progressively—from the teachers to the children and through them to the parents, the community, and the village.

([http://www.adrc.or.jp/publications/TDRM2003Dec/30\\_MR.%20AMOD%20DIXIT.pdf](http://www.adrc.or.jp/publications/TDRM2003Dec/30_MR.%20AMOD%20DIXIT.pdf))

## How does APELL operate?

By engaging all stakeholders\* in a process of structured dialogue and coordination, APELL's safe-school approach leads to the development of a preparedness plan for the school that can be incorporated into the overall community response plan. Implementing the process not only develops the plan, it also fosters awareness raising and feedback within the school and the surrounding community.

Involving the community in emergency prevention, preparedness and response is central to the APELL process. Community involvement in disaster planning has been used successfully in many places worldwide and many countries, communities and industries have used APELL and APELL-like processes to address local hazards.

\* Stakeholders in a school means participants representing different groups, namely, teachers, students, student's parents, builders and local construction companies; emergency services, local authorities, local industry, international agencies on site, hospital representatives, media services, etc

## UNEP and UNESCO

The mission of the **United Nations Environment Programme (UNEP)** in the field of disaster reduction is to address the immediate and long term human, social, health, economic and environmental impacts of natural and human-induced disasters, minimizing the resulting environmental emergencies that they cause. UNEP's approach is to promote disaster management to reduce vulnerability and enhance coping-mechanisms through capacity building, and activities in the field of early warning and assessment, prevention and preparedness, emergency response mechanisms, post-disaster assessment and post-conflict assessment, and environmental rehabilitation.

UNESCO is the **United Nations Educational, Scientific and Cultural Organization**. UNESCO's aims in the field of natural disasters are: to promote a better understanding of the distribution in time and space of natural hazards and of their intensity; to help set up reliable early warning systems; to support rational land use plans; to encourage the adoption of suitable building designs; to promote the protection of educational buildings and cultural monuments; to enhance preparedness and public awareness through education and training; and to foster technical post-disaster investigation, recovery and rehabilitation.

### UNEP - Division of Technology, Industry and Economics

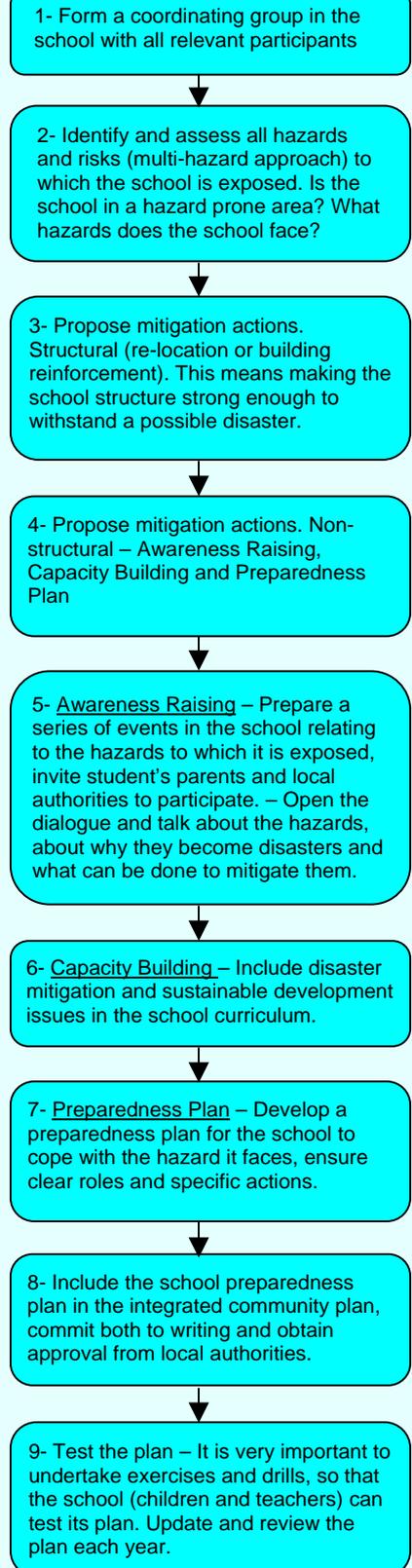
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## APELL's suggested safe-school approach



### Brochure Bibliography:

UNDP Publication (2004). *Reducing Disaster Risk: A Challenge for Development*  
Several publications from the Disaster Management Training Programme  
ISDR Publication (2002). *Living with Risk*  
UNESCO Environment and Development Briefs  
UNEP Publication (1988). *APELL Handbook*