

## Helpdesk Report: The Role of Education in Responding to Natural Disasters

Date: 6th May 2011

**Query:** What role can education play in responding to natural disasters? India is the immediate interest but broader continental examples also helpful.

**Enquirer:** DFID India

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#### 1. Overview

The role for education in natural disaster management that appeared most frequently in the literature is teaching children risk reduction and management material. A document from the Central Board of Secondary Education in India (2006) discusses integrating a short course on disaster preparedness and management into the curriculum. Children often spread learning to their families and communities, the board believes that 'educating a child is educating a family'. However, disaster preparedness education can be set up for communities also and not just restricted to the school environment (UNESCO, 2006).

The safety of school buildings is also a major consideration in looking at education and natural disaster linkages. Children spend up to 50 percent of their waking hours in school facilities and it is often the case that schools are not constructed or maintained to be disaster resilient. Additionally school buildings are often used by the wider community as a shelter in the event of a disaster. Section 5 includes school design notes and retrofitting information.

Section 6 has information on child-centred approaches to disaster management. This includes education and other participatory activities. Findings show that children play an important role both in reducing disaster risks and helping their communities become more resilient.

#### 2. India

**Towards a Safer India....Education in Disaster Management**

Central Board of Secondary Education, 2004

<http://www.ndmindia.nic.in/WCDRDOCS/Towards%20A%20Safer%20India-CBSE.pdf>

The government of India, Ministry of Human Resource Development in its Tenth Five Year Plan emphasised the need for integrating disaster management in the existing education system in India. In addition, the government of India launched a set of nation-wide *disaster risk mitigation* initiatives that address larger aspects of development in order to safeguard the developmental gains. One of the important initiatives, *disaster management in the curriculum of school and professional education*, has been recommended to the Boards. Empowering the younger generation on the preventive aspects, the types of services to be rendered in a disaster situation and the need for a humane approach form part of the curriculum.

In a first ever attempt by any educational institution in the country, the Central Board of Secondary Education (CBSE) has integrated a short course on Disaster Management into the school curriculum. With nearly 85 per cent of the land area prone to disasters it is high time the younger generation became prepared to combat disasters.

The CBSE has introduced the subject on Disaster Management as a frontline curriculum in Social Science for Classes VIII in the year 2003, for Class IX in 2004 and for Class X in the next academic year. Frontline curriculum is an innovative initiative by means of which obsolete and old content in the existing syllabus is replaced to the extent of ten per cent by incorporating emerging, relevant and current topics after every two of three years. The units on the Disaster Management will carry a weight-age of ten per cent of the total marks allotted to the subject of Social Science. The Board has developed the curriculum, course content and the pedagogy with support from the Ministry of Home Affairs, Government of India and UNDP. CBSE has also developed textural materials in this regard. A lot of care has been taken in the development of instructional materials.

The curriculum on Disaster Management contains the following topics:

- the nature and types of hazards
- natural and man-made disasters and the need for their management
- efforts made in various regions for disaster preparedness and mitigation
- the role of community and schools in Disaster Management
- partnership with various government and non-government agencies
- the use of modern and scientific technologies to combat disasters
- survival skills.

The curriculum transaction on disaster management in schools intends to cross the boundaries of the curriculum, classrooms and schools and make the learning local-specific involving families and the community at large. The CBSE strongly believes that “educating a child is educating a family”. It intends to generate awareness in the form of painting, debate and essay competitions, skits and exhibitions.

In these two years of its journey in the field of Disaster Management, the CBSE has been able to achieve the following objectives:

- development of textbooks for standard VIII and IX on Disaster Management in Hindi (an Indian language) and English mediums
- development of training modules
- two Master Trainer’s training programmes
- training of more than 2,000 teachers on Disaster Management across the country in more than 26 training programmes
- guidelines given to the schools to ensure school safety against natural and manmade disasters
- initiating and ensuring the preparation of School and Community Disaster Management Plans

- the schools have started organizing competitions, project and exhibitions on Disaster Management.

Apart from these tangible achievements the CBSE has been able to achieve a major breakthrough in the mindset of the teachers. At the initial stage of the training programmes, the teachers' come with a preconceived notion about the subject as an additional teaching and learning burden. But, by the end of a two-day training programme, they start considering disaster management as an essential tool for building the knowledge, aptitude and skills not only for students but also for each and everyone in the school.

### **Disaster Management Education in India**

Gajbhiye, A., Disaster Risk and Vulnerability Conference, 2011

[http://disasterresearch.net/drvc2011/paper/fullpaper\\_15.pdf](http://disasterresearch.net/drvc2011/paper/fullpaper_15.pdf)

Education is a fundamental human right and it is essential to ensure that all are able to realise their potential. A key aim of education is to give all citizens the necessary skills and values to improve their quality of life. To achieve this aim, we need to improve access to education and to increase the quality of educational facilities in an equitable manner. The physical environment in which learning takes place has a large impact on the outcomes of education. It is important to create safe learning environments for our nations children. Recent events of children deaths due to building collapse, fire accidents and stampedes bring to light the need to be continually vigilant to ensure for the safety of students and staff in schools. The event that unfolded in the Kumbhakonam fire tragedy which took the lives of 93 children, reiterate the need to have school level emergency preparedness and response plans, and schedule time in the busy school day to practice drills to respond effectively and efficiently to disaster situations.

Educational Institutions can contribute towards the generation of knowledge in the area of disasters, develop expertise in specific types of disaster and impart training in different fields. Disaster awareness education in educational institutions has the following advantages:

- It provides contemporary and relevant information about local environments.
- It prepares for participation in both pre and post disaster activities of the affected/vulnerable community on a wider scale.
- It contributes past experience with recent developments in technology to combat disaster.
- It helps to develop effective domain abilities for collective work as successful disaster management efforts involve effective teamwork and spirit.
- It promotes informed decision-making in the event of a disaster.

### **Natural Disaster Preparedness and Education for Sustainable Development**

UNESCO, Bangkok, 2007

<http://www2.unescobkk.org/elib/publications/103/disaster.pdf>

The goal of this project was to develop the preparedness of local marginalised stakeholder groups towards natural disaster prevention, recognition and preparedness. The project focused on improving planning for relief and recovery using a bottom-up approach that highlights the importance of coordination and communication among stakeholder groups at all levels.

The principle objectives of this initiative were:

- Communication and dissemination of information to inform education and policy formulation for natural disaster prevention, recognition and preparedness.

- Production of locally relevant educational materials in natural disaster prevention, recognition and preparedness that integrate important principles of ESD and are adaptable to different sectors and stakeholders.

The document is made up of country reports from the Maldives, Thailand, Indonesia, India and Bangladesh.

The India report, from the University of Madras, states that in order to address the complexities of natural hazards, India needs to develop a vigilant, quick and disciplined response. It is the community that has to respond immediately to any disaster, and hence, a culture of preparedness needs to be inculcated in the minds of citizens. Thus, a community based disaster preparedness (CBDP) education programme is a priority. For the successful implementation of a CBDP education programme, cooperation of the *panchayat* (village community) leaders, community leaders and the facilitating groups are very important. In view of this, three categories of stakeholders have been involved for the project, i.e., village communities, village functionaries and the facilitators. This report goes on to describe the development of a CBDP model.

### 3. Case studies

#### **Mainstreaming Disaster Risk Reduction in the Education Sector in Cambodia**

Economic Institute of Cambodia, Asian Disaster Preparedness Centre (ADPC), 2008

[http://www.preventionweb.net/files/8196\\_Cambodia.pdf](http://www.preventionweb.net/files/8196_Cambodia.pdf)

Having seen the importance of mainstreaming disaster risk reduction (DRR) into students and people in Cambodia more generally, partnerships between the Ministry of Education and National Disaster Management Office have been established. This comes under the ongoing Priority Implementation Partnerships (PIP) on Mainstreaming DRR into the Education Sector of the Regional Consultative Committee (RCC) Mainstreaming Disaster Risk Reduction into Development (MDRD) programme. This is being implemented by the Secretariat in partnership with UNDP and European Commission Humanitarian Aid (ECHO) in Cambodia, Lao PDR and the Philippines.

A case study of Bunrany Hun Sen Peam Raing Secondary School (p 69) addresses the importance of DRR into a study programme piloted in a flood vulnerable school of Kandal province. At the same time, it also raises a bad practice of previous school construction, which did not include proper flood resistant features. Two other case studies highlight site selection issues.

Part D of the report, p 77, give recommendations for:

- strategic and sector development planning
- structural measures
- non-structural measures
- emergency planning and response.

#### **Mainstreaming Disaster Risk Reduction in the Education Sector in the Philippines**

Philippines Center for Disaster Preparedness, Asian Disaster Preparedness Centre (ADPC), 2008

[http://sheltercentre.org/sites/default/files/Mainstreaming%20drr%20in%20the%20education%20sector.Ph\\_.pdf](http://sheltercentre.org/sites/default/files/Mainstreaming%20drr%20in%20the%20education%20sector.Ph_.pdf)

Curriculum development and DRR in the Philippines context is discussed. A new module could be developed or DRR concepts could be integrated into existing subjects. Both require funds to train all the teachers nationwide to become familiar with the material. A more

effective way of integrating the concept is by having a DRR subject in the teachers' training at the tertiary level. This means that the DRR subject will become a requirement in the Elementary and Higher Education in all colleges and universities. Thus, all teachers would then be familiar with the DRR and would have the capability to teach it among high school or elementary students.

Five case studies are presented, p 96, that show good practices in integrating disaster risk reduction in the education sector:

- proposed policies for disaster risk reduction in the education sector
- building safe learning environments; safe schools project of UNICEF
- school building design for disaster reduction; the learning and public use school (LAPUS) building
- NGO involvement in education; child centred disaster risk reduction
- Education as a strategy for psychosocial recovery for children in emergencies.

Recommendations and suggested next steps are given for:

- The school and community-based disaster risk reduction programme
- Enhancing disaster risk reduction in the curriculum
- Mainstreaming safer construction of school buildings
- Policy development and advocacy for DRR in education.

### **Mainstreaming Disaster Risk Reduction in the Education Sector in Lao PDR**

Lao Urban Research Institute, Asian Disaster Preparedness Centre (ADPC), 2008

<http://sheltercentre.org/sites/default/files/Mainstreaming%20dr%20in%20the%20education%20sector.pdf>

This study describes the institutional arrangement for disaster mitigation and education in Lao PDR.

The case study in this report describes a school that is testing a new DRR module into the existing natural and social science subjects. The objective of the module is to make students aware and understand the causes and effects of disasters on lives and property in general, and understand the prevention methods and mitigation measures from disasters. This will help them to be ready to cope with disasters which may occur in the future and to help the community in planning for disaster prevention and mitigation measures. The module is composed of nine chapters focusing on disasters such as landslide, flood, drought, earthquake, fire, pollution, road accident and social violence. Evaluation of the module found most students were able to understand the subject and examination results were good. Students were very interested and enthusiastic during the lessons; many students raised examples from their home and experiences. Most of the teachers have limited experience and knowledge about disasters so most teaching followed textbooks. Teachers need more training and more visual materials for teaching such as coloured posters or video would be useful.

### **Reducing Vulnerability of School Children to Earthquakes**

United Nations Centre for Regional Development School Earthquake Safety Initiative, 2009

<http://www.hyogo.uncrd.or.jp/publication/pdf/Report/SES1%20Outcome/SES1%20Outcome%20all%20final.pdf>

This report describes the project on "Reducing Vulnerability of School Children to Earthquakes" that took place in four countries – Uzbekistan, Fiji, India and Indonesia. The project aimed to ensure that school children living in seismic regions have earthquake resilient schools and that local communities build capacities to cope with earthquake

disasters. The project had the following key components: school retrofitting; disaster education, capacity building and raising awareness. It summarises the good practices and lessons learned from the project countries and also highlights the task ahead to up-scale from model projects to countrywide activities on school safety.

### **Good Practices and Lessons Learned: Disaster Risk Reduction through Schools**

ActionAid and DFID, 2010

[http://www.preventionweb.net/files/18705\\_18696actionaidrrgoodpracticesbook1.pdf](http://www.preventionweb.net/files/18705_18696actionaidrrgoodpracticesbook1.pdf)

In early 2006, the 'Disaster Risk Reduction through Schools Project (DRRSP)', project was designed to run for three-and-a-half years with funding from DFID. This multi-country project was designed by ActionAid International to reduce people's vulnerability to natural disasters and to contribute to the implementation of the Hyogo Framework for Action (HFA) by making schools in high-risk areas safer, enabling schools to act as a locus for disaster risk reduction, and engaging the education sector in the HFA. This report carefully documents ten good practices and lessons learnt from the project in Nepal and gives a clear overview of how they evolved.

## **4. Disaster risk reduction**

### **Let our Children Teach Us! A Review of the Role of Education and Knowledge in Risk Reduction**

Ben Wisner, UNISDR, 2006

<http://www.unisdr.org/eng/task%20force/working%20groups/knowledge-education/docs/Let-our-Children-Teach-Us.pdf>

This review covers the key activities relative to the Priority 3 of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, broadly: knowledge management, education and risk awareness.

Among the many topics ranging from university research and training to primary school curricula and the media's treatment of risk reduction, three subjects are most urgent and central:

- teaching about hazards and risk reduction in schools
- schools as centres for community based disaster risk reduction
- physical protection of schools from natural hazards.

At all levels, pupils and students, from primary school to post-graduate study, can actively study the safety of their own schools and work with teachers and community members to find ways to protect them. They can also spread the methods of participatory vulnerability and capacity assessment and hazard mapping to the broader communities surrounding schools and other institutions of education and research.

However, there are constraints on such a strategy for rapidly accelerating public consciousness of risk and school protection:

- The Education Millennium Development Goal is not being met.
- Teachers receive low pay and are poorly supported.
- Schools themselves may be in dangerous locations, and unprotected from high wind, flash flooding, landslides, storm surges and earthquakes.

The Kashmir earthquake in 2005 killed 17,000 school children. There have also been many 'near misses', when earthquakes have destroyed schools when children were not inside.

There are other constraints on school based vulnerability and capacity assessment:

- Brain drain and brains down the drain [Unemployment/mal-employment, HIV/AIDS , violence, declining life expectancy and disability-adjusted life years (DALYs)].
- Scientific dominance by most developed countries and transitional countries (heavily-indebted poor countries and Africa left behind).
- Information and communications technology imbalances ('digital divide').
- Persistent natural science/social science split (the 'two cultures').
- Gap between research and action (the 'last mile').

School curricula today often focuses on earth science and many focus on preparedness and drills. Few schools integrate the two. Also, few develop their own local curriculum and few go outside and study the school's hazards and the communities. But this is where the potential lies!

There are also gaps and opportunities in research and higher education:

- All levels of education and research can be better linked with each other.
- Available science and local knowledge can be applied.
- South-South networking can improve.
- Bottom up (students, teachers and communities) and top down (government, United Nations, international organizations, NGOs) can be better connected.

The review finds a great deal of good practice around the world and much sharing of experience; however, gaps and unrealised opportunities are also documented.

The review ends with a section on strategy that should provide the basis for a concerted effort on the three priority areas identified: promotion of more and better teaching about hazards and risk reduction, development of schools into models and centres of participatory risk reduction in their communities, and the protection of schools against multiple hazards.

### **Disaster Risk Reduction Begins at School: What Can Be Done**

ISDR, 2006-2007

[http://ineesite.org/uploads/documents/store/doc\\_1\\_87\\_what-can-be-done.pdf](http://ineesite.org/uploads/documents/store/doc_1_87_what-can-be-done.pdf)

*Based on Wisner (2006)*

Suggestions on what can be done include:

- All governments should commit to teacher training and curriculum development to support large-scale teaching of disaster risk reduction.
- All governments should review the safety of their schools and develop a comprehensive policy toward school safety by taking all locally relevant hazards into account and using the location of schools, maintenance of buildings, design and construction methods as risk reduction tools.
- The UN and other international organisations can work with professionals, educators, communities, children and youth to develop a short list of 'quick win' actions that can rapidly increase the safety of schools and raise risk awareness among all those concerned with schools.
- The UN and other international organisations can dynamise coalitions and partnerships, facilitate the creation of knowledge networks including South-South exchange, build capacity and guide others to existing resources for training.
- Donors can link these issues to all MDGs not just the education MDG.
- Donors should pick a dozen 'fast track' countries that have considerable numbers of schools in dangerous locations or otherwise at risk and show the potential for the rapid scaling up of school protection.

- Private sector schools can provide guidance and resources for student safety and work with governments to establish and enforce strict building codes of conduct.

### **Building a culture of safety and resilience to disasters through schools**

Campbell, J. & Yates, R., Action Aid International Briefing Paper, 2006

[http://www.unisdr.org/eng/public\\_aware/world\\_camp/2006-2007/iddr/docs/UK-actionaid-report.pdf](http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/iddr/docs/UK-actionaid-report.pdf)

*Based on Wisner*

This briefing paper sets out evidence that proves governments cannot ignore the opportunity that schools and education offer in reducing the risk of hazards and disasters. The paper then sets out practical recommendations to help governments meet their commitment. These recommendations aim to facilitate government dialogue with citizens and guide the creation or integration of national policy on disaster risk reduction.

Practical recommendations to integrate teaching on local risk and hazards into the curriculum are:

- Set targets on teaching on disaster risk, defining ages to be taught, time dedicated, etc. and ensure targets are transparent and monitored by citizens.
- Incorporate teaching on local hazards into existing subjects such as earth science or geography. Community vulnerability assessment tools can be used to develop teaching methods.
- Provide adequate teacher training.
- Involve teachers' unions to ensure widespread understanding and commitment from teachers.

Recommendations to increase the physical safety and resilience of school buildings:

- Ensure all new school buildings adhere to building codes that incorporate disaster resilience (design, location, construction materials and methods, inspection, monitoring and maintenance).
- Conduct a safety review of existing school infrastructure in the context of local hazards.
- On the back of a safety review, set timebound, transparent targets for the repair, refitting and rebuilding of schools.
- Develop a legal and institutional framework for systematically implementing, monitoring and evaluating school protection, involving stakeholders from all levels.

### **Integrating Disaster Risk Reduction into School Curriculum: Mainstreaming Disaster Risk Reduction into Education**

Regional Consultative Committee on Disaster Management, Asian Disaster Preparedness Center, 2007

<http://www.ineesite.org/assets/ADPCIntegratingDRRIntoSchoolCurriculum.pdf>

Lessons learnt at school are often transmitted to the home.

The method of integrating DRR into the school curriculum differs from country to country. Sometimes DRR is integrated as an independent subject. Often, the concepts of DRR are taught by combining with portions and specific chapters of other subjects such as environmental studies, geography, science, etc. The report describes the case in India, Lao PDR, Pakistan and Sri Lanka.

The following key approaches to mainstreaming DRR into school curriculum are discussed with country examples:

- 1) Plan in advance of the National Curriculum Development Cycle.
- 2) Establish Partnerships between the Ministry of Education and the National Disaster Management Office
- 3) Adopt a consultative process
- 4) Link with processes of the education sector programmes funded by the multilateral and bilateral agencies; and the Education sector Working Group led by the Ministry of Education.

The document also includes:

- Suggested steps for undertaking Priority implementation Partnerships (PIPs) for mainstreaming DRR into school curriculum.
- Essential long term activities on the PIP for institutionalisation.

### **Towards a Culture of Prevention: Disaster Risk Reduction Begins at School: Good Practices and Lessons Learned**

Valency, R. A. (ed), UN International Strategy for Disaster Reduction, 2007

[http://www.ineesite.org/uploads/documents/store/doc\\_1\\_DRRBeginsSchool.pdf](http://www.ineesite.org/uploads/documents/store/doc_1_DRRBeginsSchool.pdf)

Good practices are presented under 3 issues: raising awareness within school communities; building a culture of prevention; making school buildings safer. Each section gives examples from different countries.

Prevention begins with information. Awareness is the first step toward action. Awareness can lead to interest, interest can lead to attention, and attention can prompt action. As schools are the best venue for sowing collective values, school students and teachers can serve as vehicles for building a culture of prevention.

Case studies of raising awareness from Asia include:

- adapting an existing learning kit on disaster risk reduction to the national context and language in Bangladesh
- teaching disaster reduction in primary schools in Indonesia
- integrating Disaster Risk reduction into education through teacher training curricula in Sri Lanka
- school children as disaster risk reduction catalysts and initiators in Thailand.

Disaster risk reduction is everyone's business. For this to become reality and part of everyone's daily life, a culture of disaster safety should prevail within the society. Case studies from this section from Asia include:

- school children as disaster risk reduction catalysts and initiators in India
- students and teachers develop school disaster management plans in India
- training teachers in tsunami-stricken Aceh province, Indonesia
- children assess their own vulnerabilities, plan risk reduction in the Philippines
- seeking 'sustainable' disaster education in schools in Sri Lanka
- disaster preparedness education for primary school teachers and students in Vietnam.

Schools are a path to a better life, but they can take the lives of children if they are vulnerable to disasters. A single event can kill thousands of school children in class. Safe school buildings make school children safer. They are also durable development investments.

Case studies from Asia on making schools safer include:

- school earthquake safety in mountain areas in India

- guidance on school retrofitting, seismic resistance helping to boost school safety in Japan
- students and masons as ‘ambassadors’ of school seismic safety in Nepal
- making school buildings safer, helping children and teachers to reduce risk in the Philippines.

### **Safe Schools in Safe Territories: Reflections on the Role of the Educational Community in Risk Management**

Central American Educational and Cultural Coordinator, United Nations Children’s Fund & the International Strategy for Disaster Reduction (ISDR), 2008

<http://www.ineesite.org/uploads/documents/store/Safe%20Schools%20in%20Safe%20Territories.pdf>

The document is aimed at authorities, teachers, technicians and co-operating institutions working on the issues of risk reduction in the educational sector. It aims to prompt reflection on what exactly constitutes a safe school: offering a resistible infrastructure in the event of a disaster or one that will also ensure the child’s right to education in an emergency situation.

The document is divided into five chapters.

- 1) The first refers to the World Campaign for Disaster Reduction 2006-2007 *Disaster Risk Reduction Begins at School*, promoted by the UN/ ISDR Secretariat and its partners. This campaign seeks to inform and mobilise governments, communities and individuals on the importance of disaster risk education and the need for safer school buildings, providing some key activities and messages to be implemented.
- 2) Chapter two presents the conceptual tools, providing definitions of the terms used, and explaining how they have developed over the years. This section explains the meanings of the terms used in the document, including: school, safety, territory, hazard, vulnerability, risk and disaster as well as listing the types of hazards and their main causes.
- 3) Chapter three offers a broad reflection on factors that determine the degree of safety and security of a territory, where the term ‘territory’ is defined as the outcome of the ongoing interaction between human communities and the ecosystems of which they form a part of, or with which they are related to in some way.
- 4) Chapter four deals with the school itself and the structural factors, described here as the ‘hardware’ of education – this includes the buildings where school is held, the furniture and equipment, and, of course, the quality and regularity of maintenance given to the various elements. The non-structural factors are also discussed, that is, the education ‘software’ – including the school’s perspective on the world, on human beings (especially its own students and teachers), on the teaching and learning process, relationships between the community and the school itself.
- 5) Chapter five, the last chapter, discusses some other issues that are generally overlooked or those where very little action has been implemented: the school as a promoter of territorial safety. There are reflections on the importance of a continued quality education in disaster situations, the potential contribution of the school to the post-trauma normalisation process and the implications of using the school as a shelter in the event of a disaster.

The document closes with important reflections on cultural belonging in ethnic communities and on ethno-educational processes built on the basis of there being no separation between the daily life of the community and school life. Children’s learning is viewed as an exercise in direct and ongoing communication with members of the community who are considered wiser because of their knowledge, their age or their function within the group.

## **Disaster Resilience Starts with the Young: Mainstreaming Disaster Risk Reduction in the School Curriculum**

Reyes, M.L. et al., ASEAN knowledge sharing workshop, 2011

[http://www.adpc.net/2011/Category/Documents/DocumentDB/18743\\_disasterresiliencyoung\\_lowresfinal.pdf](http://www.adpc.net/2011/Category/Documents/DocumentDB/18743_disasterresiliencyoung_lowresfinal.pdf)

This report is the culmination of an intensive Knowledge Sharing Workshop conducted among ASEAN Member States on Mainstreaming Disaster Risk Reduction in Education held in Malacca, Malaysia on 18-19 February 2011.

The overarching theme, background, and main goals of the Workshop are discussed in the overview section of the report. It cites the collaborative work of the ASEAN, UN-ISDR, ADPC and the representatives from the Ministry of Education of each ASEAN Member State together with their respective national disaster management organisations in assessing the status of DRR mainstreaming in education, particularly in the school curriculum. It also includes benchmarking the good practices and lessons learned that various Member States have experienced through the years of implementing the mainstreaming process.

The first part of the Workshop Report discusses the importance of developing a culture of resilience at an early age, and underlines the importance that schools and educators play to achieve a disaster resilient society. It also tackles the key concepts of DRR, disaster, and resilience. This section sets the foundation for a clearer understanding of why benchmarking good practices on mainstreaming DRR in education, particularly in primary and secondary education, is a significant endeavour.

The second part highlights selected good practices as reported by education ministries of the ASEAN Member States. These are then grouped into four performance areas, namely, Enabling Environment, Curriculum Review and Development, Teacher Training and Professional Development, and Assessment of Learning Outcomes in DRR. Drawing from good practices and lessons learned from various experiences in the region, this section describes levels of progress based on the four abovementioned areas and guide the target users of this report in planning and implementing their initiatives in mainstreaming DRR in education.

School safety is a key factor in understanding disaster risk reduction. One way to ensure school safety is by building a disaster resilient culture at an early age. This strategy involves raising awareness among elementary school children about disasters and the dangers they pose to lives and properties. Children are taught by educators or experts not only of the appropriate response when confronted with a life-threatening event, but also of the proper measures that children can take to reduce the risks in their immediate localities, whether at home or in school.

## **Disaster Prevention for Schools, Guidance for Education Sector Decision-Makers**

Petal, M., UNISDR, 2008

[http://www.preventionweb.net/files/7344\\_DPforSchoolssm.pdf](http://www.preventionweb.net/files/7344_DPforSchoolssm.pdf)

This document includes information on:

- creating safe learning environments
- maintaining safe school environments
- teaching and learning disaster prevention and preparedness
- educational materials and teacher training
- developing a culture of safety.

## 5. Infrastructure

### **Safer School Construction Initiative**

INEE & the Global Facility for Disaster Reduction and Recovery, 2009

[http://www.ineesite.org/index.php/post/safer\\_school\\_construction\\_initiative](http://www.ineesite.org/index.php/post/safer_school_construction_initiative)

In January 2009, the Center for Research on Epidemiology of Disasters highlighted a spike in the number of people killed in natural disasters: the 2008 death toll of 235,816 was more than three times the annual average of the previous eight years. Moreover, it noted that the biggest losses, from Cyclone Nargis and the Sichuan earthquakes, could have been substantially reduced had schools been built more disaster resilient. Worldwide, approximately 1.2 billion students are enrolled in primary and secondary school; of these, 875 million school children live in high seismic risk zones and hundreds of millions more face regular flood, landslide, extreme wind and fire hazards. Although these children spend up to 50 percent of their waking hours in school facilities, all too often schools are not constructed or maintained to be disaster resilient. The death of children and adults in these schools causes irreplaceable loss to families, communities and countries and lifelong injury to millions of children around the world. The time to say NO MORE to these preventable deaths is NOW; every new school must be constructed as a safer school and existing unsafe schools must be retrofitted to be disaster resilient. The EFA goals and the MDGs will not be achieved without the construction of safer and more disaster resilient education facilities.

The *Guidance Notes on Safer School Construction* present a framework of guiding principles and general steps to develop a context-specific plan to address this critical gap to reaching EFA and the MDGs through the disaster resilient construction and retrofitting of school buildings. The guidance notes consist of four components:

- general information and advocacy points
- a series of suggested steps
- a compilation of basic design principles
- a broad list of references to resources

The *Guidance Notes on Safer School Construction* should be used by policymakers and planners of local, regional and national government bodies and all other organisations interested or engaged in enhancing the safety of school populations through improved hazard resistant construction and retrofitting of schools buildings. They can be used to guide discussion, planning and design, implementation, monitoring and evaluation of school construction and should be utilised to strengthen Education Sector Plans and to develop National Action Plan for Safe Schools.

### **Design Guide for School Safety against Earthquakes, Floods, and High Winds**

The Federal Emergency Management Agency (FEMA), US Department of Homeland Security, 2010 edition

<http://www.fema.gov/library/viewRecord.do?id=1986>

This manual is the updated version of the original FEMA 424 published in January 2004. The original manual was the first of a series of publications (FEMA 577 – *Design Guide for Improving Hospital Safety in Earthquakes, Floods, and High Winds: Providing Protection to People and Building* and FEMA 543 – *Design Guide for Improving Critical Facility Safety from Flooding and High Winds*) to provide guidance for the protection of various types of structures from natural disasters. FEMA P-424 addresses the protection of schools and their occupants against natural hazards (earthquakes, floods and high winds.) Its intended audience is design professionals and school officials involved in the technical and financial decisions of school construction, repair and renovations.

This manual introduces two core concepts: multihazard design and performance-based design. Neither of these is revolutionary, but represent an evolution in design thinking that is in tune with the increasing complexity of today's buildings and also takes advantage of developments and innovations in building technology. It also outlines the steps necessary in the creation of a specific risk management plan for protection against earthquakes, floods, and high winds.

The focus of this manual is on the safety of school buildings and their occupants, and the economic losses and social disruption caused by building damage and destruction.

The chapters focus on the following areas:

- An Overview of the School Design and Construction Process.
- Performance-Based Design.
- Multihazard Design.
- Making Schools Safe From Earthquakes.
- Making Schools Safe From Flooding.
- Making Schools Safe From High Winds.

### **Incremental Seismic Rehabilitation of School Buildings (K-12)**

Krimgold, F., Hattis, D. & Green, M., US Federal Emergency Agency, 2002  
<http://www.eric.ed.gov/PDFS/ED475271.pdf>

This manual provides school administrators with the information necessary to assess the seismic vulnerability of their buildings, and to implement a programme of incremental seismic rehabilitation for those buildings.

### **Case Studies of Seismic Non-Structural Retrofitting in School Facilities**

Educational Facilities Research Center, National Institute for Educational Policy Research, Japan, 2005  
<http://www.nier.go.jp/shisetsu/pdf/e-jirei.pdf>

This document is intended for local authorities that establish schools, and for school teachers and staff. It introduces examples of seismic retrofitting on non-structural members that could be identified and implemented through daily inspections.

### **Seismic Retrofitting Quick Reference: School Facilities that Withstand Earthquakes, Examples of Seismic Retrofitting**

Ministry of Education, Culture, Sports, Science and Technology of Japan, 2006  
<http://www.nier.go.jp/shisetsu/pdf/e-taishinjirei.pdf>

Includes information on:

- the types and sizes of retrofitting
- costs of seismic retrofitting
- time involved in retrofitting
- the effects of retrofitting.

## **6. Child-centred approaches**

### **Child-Centred Disaster Risk Reduction. Building Resilience through Participation: Lessons from Plan International**

Antonowicz, L., Anderson, A. & Wetheridge, L., Plan UK, 2010

[http://www.crin.org/docs/CCDRR-Building\\_resilience\\_through\\_participation.pdf](http://www.crin.org/docs/CCDRR-Building_resilience_through_participation.pdf)

Given the escalation of disasters we are witnessing and their impact on children's rights and wellbeing, we are encouraged by the growing acknowledgement by development and humanitarian practitioners, donors and policymakers of the important role of children in reducing disaster risks and helping communities become more resilient.

Why working with children is valuable for DRR:

- Children are a vulnerable group.
- Children have a unique and holistic perception of risks.
- Children are effective risk communicators.
- Empowered children are innovative agents of change.
- Children can maximise the adaptive capacity needed to address climate change.
- Children can change behaviours for more sustained development.
- Children are the leaders and decision-makers of tomorrow.

The report, *Child-Centred Disaster Risk Reduction: Building resilience through participation*, presents information about Plan's child-centred approach to disaster risk reduction. It explains the achievements, lessons and recommendations for replication, demonstrating how child-centred DRR can provide an innovative approach for the delivery of the Hyogo Framework's Priorities for Action, reducing risks not only for children, but for whole communities. It also shows how child-centred DRR can contribute to the realisation of children's rights to education, health and participation.

The findings presented are primarily the result of the achievements of thousands of children on the front-line of disasters where Plan works. They are enthusiastically committed to building the resilience of their communities. Many of them stepped confidently well beyond the confines of their families, schools and communities to urge governments and international agencies to prioritise the needs and views of young people. Plan was privileged and humbled to support and learn from their initiative and enthusiasm.

### **Children and Disaster Risk Reduction: Taking stock and moving forward**

Back, E., Cameron, C. & Tanner, T., UNICEF, 2009

<http://www.unicef.org.uk/Documents/Publications/drr-takingstock.pdf>

This report characterises disaster risk reduction interventions involving children along a continuum from expanding Knowledge, to enhancing Voice, to taking Action. This is further delineated as Action to Protect, to Influence and finally to Transform. The report discusses case studies along this continuum. It finds that to date effort and success have focused more on the earlier part of this continuum, with much learning available from initiatives to expand and transfer Knowledge and enhance Voice and, to a degree taking Action to Protect. The report recommends that the balance of effort could now shift, to focus more on supporting children engaged in 'Action to Influence and to Transform'.

The report also finds that although much work has been done with local communities, and some with local and regional governments, as one moves up to national and international levels there is less activity. In particular, although there has been growing engagement of youth in national and international arenas, under-18s – who have specific needs as children as well as a right to determine the world in which they will live as adults – have been less engaged. To achieve influential and transformative change, more work at this level is required. If more DRR is focused on Action, the report also suggests that greater engagement with international processes and private sector interests could yield benefits, as illustrated in the mining case study on page 32. This approach to DRR is more challenging – for adults and children alike – and therefore currently under-explored.

### **Training Manual: Child-led Disaster Risk Reduction in Schools and Communities**

Vanaspongse, C. et al, Save the Children Sweden – Southeast Asia and The Pacific Regional Office, 2007

[http://seap.savethechildren.se/Global/scs/SEAP/publication/publication%20pdf/Disaster/DRR%20training%20manual%20\\_eng.pdf](http://seap.savethechildren.se/Global/scs/SEAP/publication/publication%20pdf/Disaster/DRR%20training%20manual%20_eng.pdf)

This training manual, Child-Led Disaster Risk Reduction in Schools and Communities, is produced as a guide for organising activities to strengthen children's capacity in disaster risk reduction in schools and communities.

### **Child-led Disaster Risk Reduction: A Practical Guide**

Benson, L. & Bugge, J., Save the Children

Part 1

<http://seap.savethechildren.se/upload/scs/SEAP/publication/publication%20pdf/Disaster/Child-led%20Disaster%20Risk%20Reduction-A%20practical%20guide-part%201.pdf>

Part 2

<http://seap.savethechildren.se/upload/scs/SEAP/publication/publication%20pdf/Disaster/Child-led%20Disaster%20Risk%20Reduction-A%20practical%20Guide-Part%202.pdf>

Save the Children empowers children and young people to become involved in their community's preparedness and mitigation plans. This guide illustrates the steps that have been taken in Asia to replicate a successful Child-led Disaster Risk Reduction programme, originally piloted in Cuba.

## **7. Networks and useful links**

### **Coalition for Global School Safety and Disaster Prevention Education (COGSS and DPE)**

<http://cogssdpe.ning.com/>

An online networking forum.

### **Asian University Network of Environment and Disaster Risk Management (AUEDM)**

<http://www.auedm.net/>

Aims are:

- to share and work together in promoting environment and disaster management in higher education
- to seek possibilities of mutual collaboration on field-based action research (focusing on, but not restricted to, climate change adaptation)
- to broaden the scope of education and learning in the environment and disaster management field through collaboration with other stakeholders like NGOs and local governments.

### **Global Platform for Disaster Risk Reduction**

8-13 May 2011 Geneva

<http://www.preventionweb.net/english/hyogo/GP/>

The main forum for continued and concerted emphasis on disaster reduction, providing strategic guidance and coherence for implementing the Hyogo Framework, and for sharing experiences and expertise among all its stakeholders.

### **International Strategy for Disaster Reduction, Thematic Cluster/Platform on Knowledge and Education**

<http://www.unisdr.org/eng/task%20force/working%20groups/knowledge-education/knowledge-education.htm>

The cluster is currently formed by the following members based on the actors that provided inputs for the matrix on Commitment and initiatives: ActionAid International, Council of Europe, FAO, IFRC, ITU, ProVention Consortium, UNCRD, UNDP/BCPR, UN/ECE, UNESCO, UNICEF, UNU/EHS, UNV, WMO Regional entities: ADRC, AU, CRED.

The work of the cluster is further enriched by exchanges and feedbacks by a number of national, regional and international actors that have shown an active interest in the subject. Exchanges and forums via e-mail are constantly running.

The cluster, is aiming among other things, at strengthening networking, creating new partnerships, identifying gaps/sharing of members' priorities; identification of focus areas and collectively advancing the implementation towards concrete results for the benefit of countries in achieving the Hyogo Framework goals through knowledge and education.

### **Disaster Risk Reduction, Inter-Agency Network for Education in Emergencies (INEE)**

<http://www.ineesite.org/post/drr/>

This section of the INEE website discusses the Hyogo Framework for Action 2005-15 and disaster risk reduction. It includes links to resources and networks.

### **Education in Emergencies, A Resource Tool Kit**

UNICEF Regional Office of South Asia, 2006

[http://ineesite.org/uploads/documents/store/doc\\_1\\_89\\_UNICEF\\_EiE\\_Toolkit.pdf](http://ineesite.org/uploads/documents/store/doc_1_89_UNICEF_EiE_Toolkit.pdf)

Re-establishing education after an emergency not only meets a fundamental right of children to education regardless of the circumstances, but also plays a critical role in normalising the environment for children and contributes significantly to helping children overcome the psychological impact of disasters. Equally important, education provides a protective environment for children, who are more vulnerable to exploitation and abuse in the wake of emergencies or armed conflict.

The planning for rebuilding the education system provides all opportunity to 'build back better'. This means not only for planning school construction with girl-friendly sanitation to increase girls' enrolment, but also for developing new strategies to meet the needs of all children to complete at least the basic cycle of education. These might include building full-grade schools close to home, or supplementing face-to-face education with forms of distance learning to ensure that children in remote areas have an equal opportunity to complete their education. In addition, investment is needed ahead of emergencies in order to create robust systems that respond better to the shocks of emergencies. If building codes are adhered to, damage, trauma and loss of life will be greatly reduced. Development is therefore part of the continuum before, during and after emergencies.

The Tool Kit has been developed for UNICEF officers, and presents information and tools to enable them to prepare for and respond to emergencies to comply with UNICEF's Core Commitments for Emergencies in the education sector.

The toolkit consists of three modules.

Module 1: Emergency Education Preparedness and Response:

- UNICEF Emergency Policy and Rationale for Education in Emergencies
- Framework for Rapid Education Response
- Rapid Education Assessment
- Temporary Learning Spaces
- Pre-packaged Kits
- Supplementary Packages and Emergency Curriculum Themes
- Teacher Mobilization, Identification and Training
- Supplies and Operations
- Framework for Emergency Education Preparedness

Module 2: Transition to Recovery and Reconstruction of Education Systems:

- Re-establishing Formal Education
- Reintegrating Students
- Rehabilitation and Construction of Schools
- Curriculum Development
- Teacher Reintegration and Training

Module 3: Cross-cutting Components of Emergency Education Preparedness and Response:

- Monitoring and Evaluation
- Coordination, Partnerships and Leadership
- Gender in Education in Emergencies
- Minimum Standards for Education in Emergencies

## 8. Additional information

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**About Helpdesk reports:** The HDRC Helpdesk is funded by the DFID Human Development Group. Helpdesk Reports are based on up to 2 days of desk-based research per query and are designed to provide a brief overview of the key issues, and a summary of some of the best literature available. Experts may be contacted during the course of the research, and those able to provide input within the short time-frame are acknowledged.

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