

A young child with dark hair, wearing a light green shirt and a blue headband, is sitting on the ground. The child is focused on writing in a notebook with a yellow pencil. Another notebook is open in their left hand. The ground is covered with dry, brown leaves and some twigs. The entire scene is framed by a red border.

Mainstreaming Disaster Risk Reduction into Education Sector

- Integrating disaster risk reduction into school curricula
- Safe school construction
- School emergency planning & management
- Education & awareness raising on disaster
- Tools for risk reduction

In this issue...

editor's note



Dear Readers,

ADPC's Asian Disaster Management News, September-December 2007 issue comes to you highlighting Mainstreaming Disaster Risk Reduction (DRR) into the Education sector. The issue specifically focuses on integrating DRR into formal & informal school curriculum, safe school construction and school emergency planning & management.

Increasing number of sudden on-set large scale disasters in Asia and the Pacific region over the past few years have led to the understanding that education and awareness on natural hazards could contribute to reducing and mitigating their impacts. Emphasizing further, Koichiro Matsuura, Director General of UNESCO stressed that "anticipating, educating and informing are the keys to reducing the deadly effect of natural disasters" and regretted that "such activities have not been given priority".

Education and knowledge for disaster risk reduction are gradually recognized as priority areas of focus of world development processes. Priority 3 of the "Hyogo Framework for Action: Building the Resilience of Communities and Nations to Disasters, 2005-2015" (HFA) specifically focuses on the use of "Knowledge, innovation and education to build a culture of safety and resilience at all levels". The 2006-2007 World Campaign on Disaster Reduction by UN/ISDR on "Disaster risk reduction begins at school", aimed at enhancing a shift in mentalities and behavioral change towards a more proactive preventative approach to disasters.

In the Asia and Pacific region, the regional offices of UN/ISDR, UNESCO, UNICEF, IFRC and ADPC have come together to form an Education Task Force (ETF) to capture, recognize and duly reflect the wealth of expertise, knowledge and initiatives in education on disaster risk reduction and school safety in the Asia and Pacific region.

Education and raising awareness has been one of ADPC's key priority areas. For the last 15 years, working with partners we have implemented various programs related to the Education sector. Lessons learned from these various initiatives includes working in partnership with National Department of Curriculum, technical agencies and Disaster Management Offices to integrate disaster risk reduction into school curriculum, using local material, technology and capacity to construct safe schools and lastly working with teachers and the children to raise awareness on disaster risk reduction.

The importance of integrating DRR into Education Sector has also been prioritised by Regional Consultative Committee (RCC) on Disaster Management under its program on mainstreaming DRR into development. As the secretariat of the RCC, ADPC have been developing Guidelines and implementing Priority Implementation Partnerships in various RCC member countries to take forward the agenda of mainstreaming DRR into the Education sector.

Acknowledging and thanking all the invited contributors with special mention to the Disaster Management Systems (DMS) Team of ADPC in the production of the last issue in 2007, I present the Newsletter for your perusal.

A handwritten signature in black ink, appearing to read "L. Perez-Calderon".

Dr. Luis Jorge Perez-Calderon
Deputy Executive Director
Asian Disaster Preparedness Center

Mainstreaming disaster risk reduction (DRR) into education sector

A priority under Regional Consultative Committee (RCC) program on mainstreaming DRR into development policy, planning and implementation in Asia

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Why mainstream disaster risk reduction in Education sector?

The Education sector consists of the structural, functional and pedagogical aspects of an education system and each of the components has a vital role to play in order to reduce risk from natural disasters. If the death of over 400 children in the 2001 Gujarat earthquake in the old town of Anjar could be blamed on the improper town planning which led to the collapse of the buildings and burying the children alive, the recent construction of the Tambis National High school in Southern Leyte, Philippines in 2006, on floodplain less than 500m from the edge of the February 2006 Guinsaugon landslide, which killed over 1000 people¹, certainly has no excuse. So too, numerous examples from Bangladesh, where 25-30% students were dropped out in the eastern part of capital Dhaka when schools were closed for more than three months during 1998 floods. This kind of situation certainly sets progress back from achieving the Millennium Development Goal (MDG) 2; *Universal Education For All*. Similarly, the past years expenditure by the Department of Education of the Philippines shows the annual expenditure of US\$ 8.6 million during FY 2006 for repair and reconstruction of the schools damaged by typhoons; and at the same time the impact of one single event like the 2004 Indian Ocean tsunami on the Education sector of the affected countries was as high as US\$ 230 million², the question remains; is it not imperative to add 'safety' to the overall education sector envelope?

Recognizing this, the Regional Consultative Committee (RCC) on Disaster Management brings together National Disaster Management Offices (NDMO) from 26 Asian countries, which ADPC acts as the secretariat, has been implementing the program since 2004 on Mainstreaming Disaster Risk Reduction

into Development (MDRD). RCC member countries has rightly identified Education as a priority sector to initiate mainstreaming of DRR at its fifth meeting in Hanoi, Vietnam 2005. The *Hanoi RCC 5 Statement on Mainstreaming DRR into development and enhancing regional cooperation* laid down the path for initiating mainstreaming DRR in all priority sectors (Box 1).

Box 1: Hanoi RCC 5 Statement on "Mainstreaming Disaster Risk Reduction in Development (MDRD) and Enhancing Regional Cooperation" (2005)

Adopted by 26 RCC member countries, the statement "calls upon every RCC member country to Mainstream Disaster Risk Reduction into Development over the coming decade", and identifies Agriculture, Urban planning and infrastructure, Housing, Health, Education and Financial services as priority sectors to initiate mainstreaming.

Within each sector, it calls upon the RCC member countries "to undertake Priority Implementation Partnerships (PIPs) in specific thematic areas".

The statement "requests ADPC in its capacity as secretariat of the RCC mechanism to continue to be the support agency of the RCC MDRD program through following actions:

- Developing a set of guideline documents for mainstreaming DRM, and
- Supporting implementation of PIPs in member countries and developing a set of milestones to track the progress of the program.

It also "calls on other agencies and donors and countries to partner with the RCC and its member countries in the implementation of its MDRD program."

¹ IDS, *Plan International and RMIT University*

² ADPC, 2005

How to mainstream disaster risk reduction in the Education sector?

In the Education sector, the RCC recognizes that it is essential to mainstream DRR into both the soft and hardware component of the system and accordingly, the MDRD program has identified the following specific themes to initiate mainstreaming:

- Integrating DRR modules into the school curriculum in RCC member countries;
- Constructing all new schools located in hazard-prone areas in the RCC member countries to higher standards of hazard resilience;
- Adding features, such as facilities for water, sanitation and cooking in schools in hazard prone areas for use as emergency shelters.

For each of the above mentioned themes, the RCC has initiated or has plans to initiate mainstreaming of DRR by working closely with partners in developing Guidelines and undertaking Priority Implementation Partnerships to demonstrate the process of mainstreaming.

RCC guidelines on integrating disaster risk reduction into school curriculum

The RCC Guideline on the said theme aims to guide the Ministry of Education and NDMO's in the RCC member countries to initiate mainstreaming of DRR into school curriculum. The Guideline which is

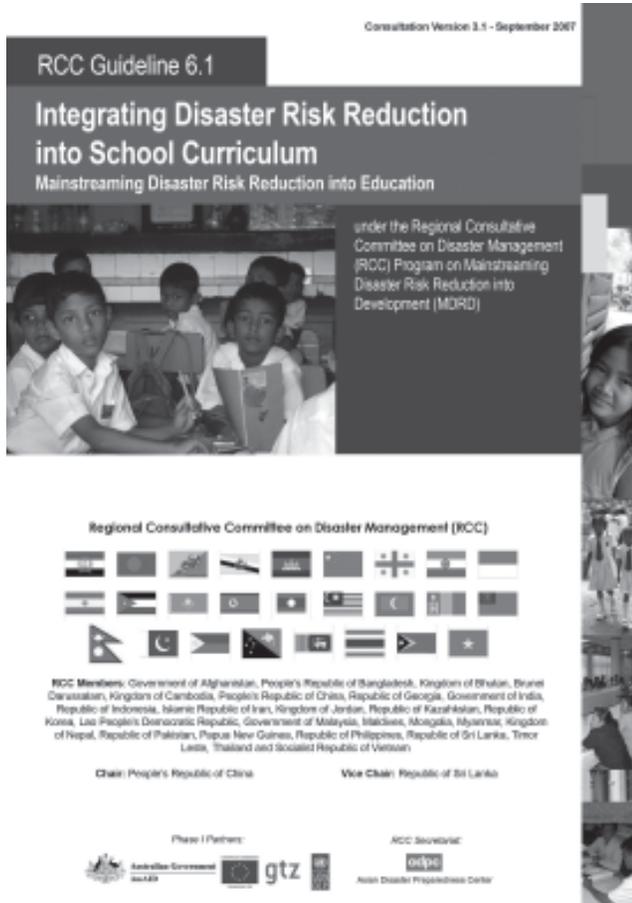
essentially a process document, lays out the key approaches to initiate the process and which includes; planning in advance of the national curriculum development cycle, establishing partnerships between Ministry of Education and NDMOs, adopting a consultative process and linking the process of mainstreaming of DRR with the Education sector programs funded by the multilateral and bilateral agencies. The Guideline provides examples from the RCC member countries which have successfully mainstreamed DRR into school curriculum and suggests steps on initiating the process. The document also highlights the long term activities essential for institutionalizing this process which includes among others, building capacity, collaborating and developing partnerships between various stakeholders, monitoring and evaluation and ultimately linking the initiative to the National Education Sector Development Plan.

The RCC Guideline on safe school construction is currently under development.

Priority Implementation Partnerships for mainstreaming disaster risk reduction into Education sector

The program realizes that the objective of mainstreaming of DRR into the education sector cannot be achieved simply by engaging the concerned sector alone, or by implementing occasional projects. While developing school curriculum is the mandate of the Department of Pedagogy within the Ministry of Education, its approval often depends on the overall priorities of the Education Sector Plan which is largely developed by the Department of Planning and Finance and its content more effective if linked with other sectors, for example health for nutrition and hygiene and environment for life sciences. Similarly though budget for constructing new schools is allocated from the budget of the Ministry of Education, the implementation of the school construction is often carried out by the Department of Public Works. Hence, to attain this long standing outcome of mainstreaming, the core of the RCC MDRD program stands on the base of demonstrating partnership, by undertaking Priority Implementation Partnerships (PIPs) in member countries.

Currently the RCC, in partnership with UNDP and ECHO is implementing three PIPs on the said theme in Cambodia, Lao PDR and Philippines. The PIPs are being implemented by a partnership of the Ministry of Education and NDMOs of each of the project countries along with active involvement of other stakeholders, namely government departments, UN agencies, NGOs etc. As part of the PIPs, country specific DRM modules have been developed by the project partners, teachers trained and currently being



upholding Government responsibility to ensure public safety.

Focusing on primary implementation

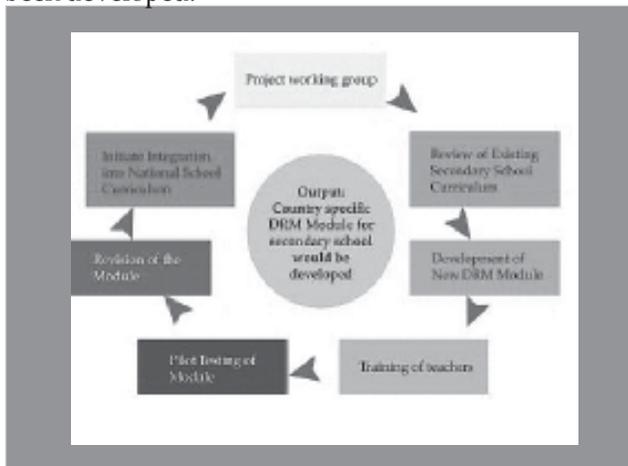
The primary focus is to assist the Ministry of Education in three countries working with the National Disaster Management Organization (NDMO), to undertake a Priority Implementation Project on integrating DRR into the secondary school curriculum and promoting resilient construction of new schools using research on the past impact of disasters on Education sector. Results from these initiatives would be used to build consensus and commitment to mainstream disaster risk reduction in education sector in these three countries, and identify further activities for mainstreaming. Results from the project will include:

- Consensus for Mainstreaming of disaster risk reduction in the Education sector;
- Identification of additional mainstreaming opportunities in education sector and related ministries;
- DRR module developed, tested and taken up by the Ministry of Education for integration into the Secondary School Curriculum.

The experience of the project would also serve as a good example for drawing lessons on how to mainstream disaster risk reduction into development policy and planning which can also be used in other countries and in other sectors. The project has four primary activities.

Activity 1: Initiating Mainstreaming of Disaster Risk Reduction into Secondary School Curriculum

A project working group has been established in each country to implement the project activities. Project working group members are from the NDMO, Ministry of Education, Pedagogical Research Department, ADPC, UNDP and other Government and non-government agencies with a stake in the education sector. All three countries have already drafted a curriculum, a manual for training of teachers has also been developed.



Activity 2: Study on Impacts of Disasters on Education Sector

This activity would include a study on the physical and socio-economic impacts of disasters on education sector.

Physical impacts of disaster on education sector: Damages to the structure and access to the school buildings in past disasters and the current practices of design, planning and construction of school buildings, in relation to their vulnerability to hazard and resilience will be studied.

The end product of this activity would be country papers with analysis on the impact of disasters, with specific recommendations for safer construction of school buildings and integration of DRR in the education sector.

Activity 3: Advocacy for mainstreaming disaster risk reduction into education sector

This activity involves awareness raising and building consensus and commitment of the Ministry of Education and other related Ministries in Mainstreaming Disaster Risk Reduction into the Education Sector. The national advocacy workshop would raise awareness on how investment in risk reduction education as well as in Disaster resilient construction can help in minimizing financial losses incurred by Ministry of Education in the aftermath of a disaster. This activity would culminate with a National Advocacy Workshop in each country. This workshop would pave the way for future DRR activities in the education sector.

Activity 4: Stakeholder consultation as follow-up to the advocacy workshop

The study papers would help set the agenda for the development of the education sector in the three countries in the next 5-10 years. Follow up action would be taken to coordinate country and donor interactions. The implementation of the Mainstreaming DRR in the Education Sector project will be completed in Cambodia, Lao PDR and the Philippines in March 2008. While the project has addressed gaps in the implementation of the HFA in the three countries, it has also exposed some critical deficiencies. The country governments have expressed the need for expansion and continuation of the activities under the MDRD Education project.

The gaps that need to be addressed include both non-structural and structural methods of mitigation for the education sector. The non-structural measures that need to be covered include:

1. Integration of DRR in the primary school curriculum.
2. Integration of DRR in the senior secondary school curriculum. (2008-09)
3. Integration of DRR in the university curriculum, especially in the curriculum for courses in architecture and engineering. (2009-10)
4. Development of curriculum for students and teachers with disabilities, especially for those who are visually, hearing impaired and mentally challenged. This is a major gap. Some work has been done in Indonesia, but there are glaring deficiencies in other countries. (2008-09)
5. Development of extra curricular activities for students which complement the DRR curriculum e.g. games (board and CD), quizzes, etc. (2008-09)
6. Development of training modules: This will also involve capacity building of the teachers training institutes and development of master trainers and resource persons. (2009-10)
7. Development of guidelines for emergency planning in the schools. (2009-10)

The structural measures that need to be addressed by new programs include:

1. Development of guidelines for the construction of safe school buildings. (2008-09)
2. Development of training modules and capacity development of training institutes for training in safe construction practices which integrate DRR. (2009-10)
3. Development of guidelines for assessment of vulnerability of school buildings and retro-fitting of the buildings based on the results of the assessment. (2010-11)
4. Guidelines for design of schools so the buildings can be used as emergency shelters. (2010-11)

These activities will help in the mainstreaming of DRR in the education sector in the region. These activities will build upon the achievements of the Regional Consultative Committee of ADPC on mainstreaming. The phasing of the activities will facilitate the implementation of the HFA requirements for the education sector by the year 2011.

AHMEDABAD ACTION AGENDA FOR SCHOOL SAFETY

The Ahmedabad International Conference on School Safety held in January 2007 adopted the Ahmedabad Action Agenda for School Safety with the goal of achieving, "Zero Mortality of School Children from preventable disasters by the year 2015". To achieve this goal, the following action plan is outlined:

DISASTER RISK REDUCTION EDUCATION IN SCHOOLS

Top Priority

- Include disaster risk reduction in the formal curriculum at both primary as well as secondary levels.
- Promote disaster risk reduction through co-curricular activities in schools acknowledging that school children need to develop "survival skills" first, along with "life skills" as well as "academic inputs."

By 2015

- Promote special projects among school children that make them leaders in risk reduction in the community.
- Promote healthy competition among schools so that schools make special effort to achieve higher levels of safety.
- Develop customized material to cater to the needs of special schools in both curricular as well as co-curricular streams.

DISASTER RESILIENCE OF SCHOOL FACILITIES

Top Priority

- All new school buildings being sited safely, and designed and built to a minimum standard equivalent to the Uniform Building Code standard of 1.5 x normal performance.

- Carry out safety audit of all existing school buildings with respect to their location, design and quality of construction and prioritizing them for demolition, retrofit or repair.

By 2015

- Develop, implement and enforce codes with the performance objective of making all new school buildings ready for immediate occupancy following disasters to serve as shelters or safe havens for the community as well as to restore educational functions in the shortest possible time.
- Demolish unsafe school buildings and replace them.
- *Implement a systematic plan to retrofit and/or repair existing schools to meet minimum standards for life safety in the event of known or expected hazards.
- Implement non-structural risk mitigation (for example, fastening down building contents and non-structural building elements so that they cannot injure and kill occupants during earthquake shaking) in schools where necessary.
- Implement routine maintenance of school facilities so that safety measures are not undermined.

SAFE SCHOOL AND COMMUNITY ENVIRONMENTS

Top Priority

Mobilize parent, student, and staff champions of school safety.

By 2015

- Schools to prepare and implement school safety plans including measures to be taken both within school premises and in the immediate neighborhood. This shall include regular safety drills.
- Promote active dialogue and exchange between schools and local leaders including police, civil defence, fire safety, search and rescue, medical and other emergency service providers.
- School children shall practice safety measures in all aspects and places of their lives.

Sri Lanka's approach to disaster risk education and school safety

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The tsunami of December 2004, as well as the flood and landslides in 2003 and 2006 have had a dramatic impact on the education sector of Sri Lanka. In response it was recognized that there was an urgent need for a systematic approach to disaster risk education and school safety. This approach integrated aspects such as the need for disaster resistant school buildings and emergency equipment; how to prepare students and teachers for emergencies; cooperation between schools, communities and other stakeholders.

School children are a very vulnerable group and therefore, should learn to protect themselves against disasters and to act in the proper manner during emergencies. The teachers are also very effective in their capacity to raise awareness and encourage changes in the families and communities. Together they can help to educate their families and the community about natural disasters, ways to reduce risks and to be prepared for emergencies.

Sri Lanka faces various natural disasters which affect life and economy. The country is prone to natural hazards such as floods (bi-annually in some regions), droughts, landslides and cyclones. Sri Lanka Disaster Management Act No. 13 of 2005, which was enacted in May 2005, requires the Ministry of Disaster Management and Human Rights to implement disaster management related activities in collaboration with all relevant ministries and agencies covering relevant sectors. The Education sector has been identified as a very important sector in mainstreaming disaster risk reduction under the current policy of the ministry.

Disaster risk management was not a part of school or teacher education in Sri Lanka. Therefore, the Ministry of Education in Sri Lanka together with National Institute of Education, the National Science Foundation and the GTZ embarked on a project to integrate disaster risk management into teacher training and school curricula. In this endeavour, new syllabi and Teacher Information Guides were prepared by the

Social Sciences Faculty of the National Institute of Education. The GTZ supported the training on the new DRM topics for Train-the-Trainers and In-Service Advisors and the development and production of input kits containing all the material and supplementary aids to be used by the teachers.

At present, educational staff, teachers and sizeable portion of teacher trainers have undergone disaster safety education. The integration of disaster risk management in junior and senior secondary education has already started and expected to be completed by 2010. Regarding the Science syllabi, a spiral curricular reform has been started and already integrated into the grade 6 and grade 7 syllabi.

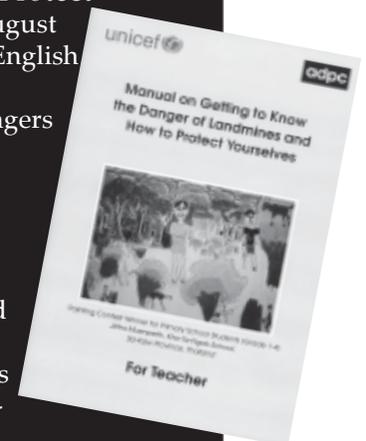
The major objective of the syllabus under integration is to provide basic competencies to ensure safety and well-being of children in a disaster emergency. To achieve the above objective, the syllabus is divided into five modules: basic concepts of disaster safety education, school based disaster safety management, disaster safety practices, disaster psycho-social care services, and post-disaster health care practices. The module on disaster safety practices which includes topics such as village hazard mapping, identification of evacuation routes, school vulnerability assessment, mitigation processes, and traditional disaster safety practices is conducted as a co-curricular activity.

In Sri Lanka, the mainstreaming of disaster risk reduction into the education sector has already begun. The commitment and enthusiasm of all the partners is overwhelming. The results achieved so far, gauged in terms of disaster awareness of school children, show that this program will go a long way in building a culture of prevention and disaster resilience in Sri Lanka.

ADPC's Mine Risk Education (MRE) Program

The manual on "Getting to Know the Danger of Landmines and How to Protect Yourself" was published in August 2004. The manuals, in Thai and English are guidelines for teachers in disseminating knowledge on dangers of mines to students and communities living in mine contaminated areas. With the support from UNICEF, ADPC provided MRE training to school teachers and administrators, and distributed mine awareness materials and manuals to schools and communities along the Thai-Myanmar border.

Visit www.adpc.net for the online versions of the publications.



What's the plan, Stan?

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New Zealand has a reputation for beauty that has long impressed visitors to this country—volcanic peaks and snow-tipped mountain ranges, rolling bush-clad hills, river plains, sandy bays and long surf beaches. However, this stunning landscape is as rugged and dangerous as it is beautiful.

The monumental forces that created it are an ever-present reminder to New Zealanders of the capability of nature. The constant movement of the Australian and Pacific tectonic plates, responsible for the elevation of mountain ranges, cause earthquakes and potential tsunami. New Zealand's high density of active volcanoes also pose the threat of volcanic eruptions and lahars. And, as New Zealand lies in the 'Roaring Forties', temperate latitudes between 40 S and 50 S, the country is prone to severe storms and flooding.

While disasters cannot be prevented, it is important for New Zealanders to understand the causes and risks, and know the steps to take to ensure they remain safe. Worldwide experience has shown that where people are aware of the risks around them and plan their response, injuries, damage and subsequent trauma are significantly reduced.

Since its establishment in 1999, the fundamental driver of the New Zealand Ministry of Civil Defence and Emergency Management has been to work with its stakeholders to increase the capability of communities and individuals to prepare for, respond to and recover from disasters.

In 2005, the Ministry set out to develop an emergency management resource to be supplied free-of-charge to all primary schools in New Zealand. This resource, along with other public education programmes, helped fulfil the Ministry's strategy to create "increased individual and community awareness and acknowledgment of all hazards, and improved preparedness to cope in an emergency."

Surveys show that New Zealanders need encouragement to get ready for emergencies or

disasters. While many are partially prepared, too many are familiar with the advice but have not taken action. Involving students in an educational programme that focuses on disaster preparedness has a good flow-on effect—to educate their parents and families, prompting them to be better prepared.

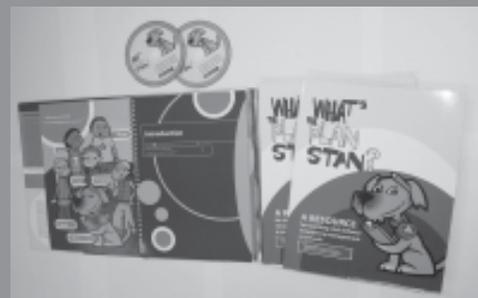
The Ministry contracted Educating NZ, an educational consultancy with experience developing resources in New Zealand, Vietnam and Cambodia, to develop the resource. From the outset, the project involved both teachers and Civil Defence Officers (CDOs) in planning and development. This ensured that the resulting resource, *What's the Plan Stan*, was both teacher-friendly and conveyed the appropriate emergency management messages.

What's the Plan Stan features Stan the dog and five children who model what to do before, during and after six types of emergency events: earthquakes, tsunami, volcanoes, storms, floods and non-natural disasters. It can be used to incorporate civil defence emergency contexts and activity-based learning across all areas of the New Zealand national curriculum for students aged 8–12 years.

The resource consists of several different components, each of which can be used independently or in conjunction with each other:

- teacher's handbook, containing unit plans, activities, simulations and information for school emergency planning
- CD-ROM for teachers and students, including stories, interactive games, map of regional disasters, research material, tips for teachers, and electronic versions of the handbook resources
- storybook and accompanying audio-CD
- poster promoting *What's the Plan Stan*
- website with information, interactive activities and templates:

www.whatstheplanstan.govt.nz



What's the Plan Stan teachers' guides and CD-Roms, are sent to all primary and intermediate schools in New Zealand by the Ministry of Civil Defence & Emergency Management



What's the Plan Stan CD-Rom includes information and activities for both teachers and students

To further encourage use of the resource, the Ministry ran a series of workshops with schools around New Zealand. Teachers and principals were given the opportunity to familiarise themselves with *What's the Plan Stan*, identify ways it could be implemented into teaching programmes and to meet members of their community who could assist with emergency preparedness. These workshops were so popular that a second series was held during 2007.



Presentation at a workshop for teachers and principals to familiarise themselves with the What's the Plan Stan resource

Further recognition of the quality of the resource was evident in its nomination as a finalist in the Telecommunications Users' Association of New Zealand (TUANZ) Innovation Awards 2007.

In 2008, the Ministry will launch a version for schools that teach in the language of New Zealand's indigenous Māori people.

For further information on the New Zealand civil defence emergency management schools programme, please contact emergency.management@dia.govt.nz or visit www.civildefence.govt.nz

Asia-Pacific Regional Workshop on School Education and Disaster Risk Reduction

8-10 October 2007
Bangkok, Thailand

IN BRIEF

The UNISDR, at the regional level led the development of an Education Task Force (ETF) comprising of UNESCO, UNICEF, UNCRD, IFRC, ADPC and UNISDR to develop a regional strategy on Disaster Risk Reduction (DRR) education advancement along the lines of the Hyogo Framework for Action (HFA) and in the context of the Decade on Education for Sustainable Development (DESD) led by UNESCO. To mark the International Day for Disaster Reduction (IDDR) and the conclusion of the above two-year campaign on education, a three-days workshop on Asia-Pacific Regional Workshop on School Education and Disaster Risk Reduction, was jointly organized by UNESCO, UNICEF, UNESCAP, UNCRD, UNOCHA, IFRC, ASEAN, ADRC, ADPC, ASB and UN/ISDR Asia and Pacific on 8-10 October 2007 in Bangkok, Thailand.

The overall goal of the workshop was towards reducing vulnerability of school children to disasters and to improve the resilience of school communities struck by disasters, or in hazard-prone areas through an increased knowledge, awareness and formal education on DRR at all levels. The main axes of reflection were twofold: 1) to review the progress made in the Asia and Pacific region in advancing the Disaster risk Reduction education component of HFA and 2) to promote political commitment to facilitate effective integration of disaster risk reduction and safer school construction programmes into school curricula.

The regional workshop welcomed approximately 300 participants, including Ministers of Education, Government representatives, UN Agencies, representatives from technical institutions, universities, schools and the media. The discussions were articulated around the following key thematic areas: integrating DRR into school curricula, mainstreaming DRR into education sector, DRR educational materials, making school building safe from disasters, non-formal education and DRR, addressing the special needs of deaf school children, education as an essential component in reducing the socio-economic impact of disasters and Children's voices-Let Our Children Teach Us.

Following a rich debate, and building on the wealth of valuable initiatives and key networks already existing at the regional level, the participants adopted the Bangkok Action Agenda.

Bangkok Action Agenda, available at <http://www.adpc.net/v2007/Download-ADPC/Bangkok%20Action%20Agenda-Final.pdf>

Good practices on disaster education and preparedness¹

Testing appropriate methods and tools in teaching earthquakes to preschoolers

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Earthquake education from the early ages can be an appropriate mean for increasing children's knowledge on earthquakes. In addition, the transfer of this knowledge to the family and the wider community seems feasible and promising in the development of a future seismic safety culture. Various methods and activities have been designed and used in different parts of the world for educating the preschool children for disasters. This article shares experiences when 257 Iranian children (118 girls and 139 boys) of ages 5 and 6 were taught about earthquakes through various methods shown below (sources such as learning through drawings by working in groups, dialogues between children and teachers, role-playing and games) in two weeks and were tested to evaluate their degree of knowledge and retention of the earthquake information and safety measures after two weeks. Observations revealed the high interest of the children towards learning about disasters as shown in Figure 1 (a-c), that is songs, board games, and maquettes, respectively.

Forms were developed and distributed to children's parents to ensure that the taught messages reached the parents as well. In addition, interviews were conducted with the instructors in the kindergartens.

Observations made from the study are highlighted, as follows:

- Teaching about earthquakes in the kindergartens played an important role in providing a base knowledge of disasters in children.
- Teaching by glove puppets proved to be the most effective method in this study, since the children explained the narrated story in detail to their peers and families with puppets. They learned the simple definition of earthquake and retained it in their mind too.
- Role-playing was also very popular. In this method, children thought of tangible situations and felt it naturally. This method stimulated their interest and made them feel involved in the allocated roles and responsibilities and helped to provide correct reactions and made them reach a certain level of self-confidence in confronting earthquakes.
- In general, performance activities received more attraction from the children. Children were asked to demonstrate correct sheltering at the time of an earthquake as shown in Figure 2. They were all interested to imitate the teacher or their peers and demonstrate their learning.
- There were no sign of fear in children on earthquake issues when taught using amusing methods.
- Due to the rhythmic nature of the earthquake song, it remained in the minds of the children for a long time and with the main message being repetitive (safety against earthquakes), it is expected to be transferred to their families.
- A majority of children transferred their learning about earthquakes to their families.
- The number of children in a session made a difference on their performances in their classes, however teaching in small groups was found to be more effective than individual learning.
- The degree of retention on taught earthquake issues was high among most of the children. It

Figure 1. Examples of testing children with appropriate methods and tools



¹ For full version of this article, please refer to "Applicable Methods in Teaching Earthquakes to Preschool Children", Izadkhah, Y.O. and Heshmati, V. SEE-5 Conference, May 2007.

was interesting to see that a majority of the children still deeply remembered what they had learned about earthquakes after two weeks.

- The interest of teachers in using elective methods would make a difference in the way children learned about disasters.
- The role of parents to motivate children in learning about earthquake measures was important. Therefore, there is a need to strengthen the perception of the parents toward earthquakes and to learn about them.
- There were no sign of fear in children on earthquake issues when taught using amusing methods.
- Due to the rhythmic nature of the earthquake song, it remained in the minds of the children for a long time and with the main message being repetitive (safety against earthquakes), it is expected to be transferred to their families.
- A majority of children transferred their learning about earthquakes to their families.
- The number of children in a session made a difference on their performances in their classes, however teaching in small groups was found to be more effective than individual learning.
- The degree of retention on taught earthquake issues was high among most of the children. It was interesting to see that a majority of the children still deeply remembered what they had learned about earthquakes after two weeks.
- The interest of teachers in using elective methods would make a difference in the way children learned about disasters.
- The role of parents to motivate children in learning about earthquake measures was important. Therefore, there is a need to strengthen the perception of the parents toward earthquakes and to learn about them.
- The degree of motivation of the kindergarten's administrators had a great effect on the way teachers became interested in teaching these materials. It is important for a teacher to create a clear picture of earthquakes for the children to consider earthquakes as a natural and an unpredictable phenomenon.

Based on the observations made, following are the recommendations:

- A simulated earthquake with prior permission from parents should be conducted for children to evaluate their reactions when in a real situation.
- Teachings about earthquakes need to be initiated from early ages. This helps in shaping the knowledge of children on the issue as they grow. It is worth noting that learning at a young age has a very deep and sustainable impact. Children can also easily transfer what they learn to their families.

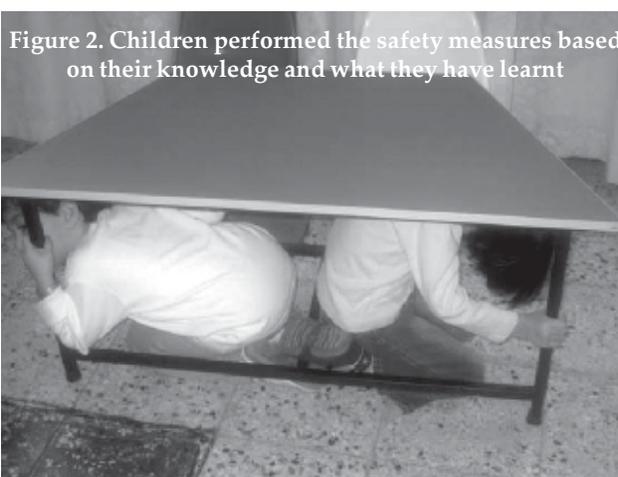


Figure 2. Children performed the safety measures based on their knowledge and what they have learnt

- Teachings about earthquake need to be included in the preschool children formal and informal curriculum. There is a section called "Earth" in the preschooler's teaching syllabus that earthquake issues can be inserted.
- Holding educational workshops for kindergarten teachers and administrators is essential. This helps in creating a positive perception on earthquakes as well as to familiarize children with various educational methods effectively.
- Earthquake drills that are held annually for the kindergarten children in Tehran can be expanded across the country. This is a good opportunity for children to perform what they have learned on earthquakes in the form of various activities such as practical performance, songs, drawings, etc. Additionally, as noted earlier, this helps in the transfer of the acquired knowledge to a wider group of the society.
- Using a combination of various elective methods and tools prevents children from getting bored. For example, the basic teaching can be done with a specific method such as using puppet gloves. Then at the repetitive and practice stage, other educational activities such as role-play can be introduced to stimulate the interest of the children.

To conclude, children can play key role in the promotion of a safety culture, leading to disaster prevention and risk reduction. In this regard, educating the children, as the future assets of any community at risk, can be regarded as an effective strategy to communicate safety messages to the entire community. This also helps in disseminating the vital information to most of the population via the knowledge, skills and enthusiastic motivation of children. They convey messages throughout society, starting with their parents. Therefore, using effective methods and tools in teaching about disasters can facilitate the process of learning and sharing the information and experiences widely.

Communicating disaster risk reduction education for children with disabilities

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Arbeiter-Samariter-Bund (ASB), the Workers' Samaritan Federation, is one of Germany's largest, and longest established, social welfare organizations. With support from the German Ministry of Foreign Affairs, ASB is implementing a School Earthquake Preparedness project in the province of Yogyakarta, Indonesia. The project formed part of ASB's response to the May 2006 Yogyakarta and Central Java earthquake. Following the earthquake ASB adopted a Disaster Risk Reduction (DRR) framework as its key implementation strategy for Indonesia. As part of this response ASB has recently completed DRR training for teachers in all of Yogyakarta's 2,047 primary schools (*Sekolah Dasar, SD*).

During the school trainings it rapidly became apparent that there was a strong, and unfulfilled, need for DRR activities and materials targeted to the specific needs of disabled children and their teachers. ASB has since, with ongoing support from the German Federal Government, developed tailored trainings and targeted materials for all 60 of Yogyakarta province's special needs schools (*Sekolah Luar Biasa, SLB*). The project is being coordinated closely with the Yogyakarta Provincial Department of Education to ensure all disabled schoolchildren, and their teachers, in the province are equipped to respond in the event of an earthquake. This article, however, focuses on our experience of creating and delivering innovative DRR materials and trainings for teachers specifically of deaf children.

The number of disabled people in the world is estimated to be 10% of the world's population or 600 million people.¹ Current DRR efforts seem to have largely neglected this fact. Within a DRR context that actively seeks to engage with individuals' and

¹ UN Millennium Project, 2005. *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*, p. 120. Report to the UN Secretary-General. Earthscan, London and Sterling, Virginia.

communities' capacities and vulnerabilities it is perhaps all the more surprising that some of society's most vulnerable individuals are commonly excluded. While within the education sector there have been a range of initiatives directed towards school based disaster preparedness for non-disabled children, how best to assist and prepare disabled children for potential emergencies has drawn very little attention.

Within Indonesia, assisting in preparing deaf children for emergencies is further complicated as sign language is not widely taught in schools. Many able-hearing teachers and educational experts believe that it is better to train children in oral methods from an early age. This emphasis on teaching deaf children how to lip read and practice the pronunciation of sound-based vocabularies is also common in other Asian countries. However, the training of deaf children using oral methods is an extremely time consuming and labour intensive process. Many teachers report that they feel they have not received the degree of training necessary to communicate effectively with their deaf pupils. A large number of teachers continue to speak normally to deaf pupils as if the pupils can hear and while some teachers will slow and more clearly pronounce their sentences many others do not. In short, the onus often ends up being placed on the children to ensure they understand rather than the teacher ensuring they are understood. As a consequence it is often the reality that many deaf children do not acquire the skills they require to understand and benefit from their formal education; let alone to achieve their personal potential.

ASB's first priority was to design an effective delivery system for our existing disaster preparedness content. Our remit was materials need to be delivered visually and dynamically and, as with other ASB materials, ease of use was paramount. The approach also had to be action rather than knowledge oriented. While ASB does not distribute any materials without related trainings, it was important that the materials could 'stand alone' and be able to be used and understood directly by deaf children if required. During the process of developing the materials ASB teamed up with deaf colleagues at *Matahariku*, a Yogyakarta based local NGO. This facilitated the development of a film based teacher's pack including, and supported by, game cards, visual prompts using simple sign language, and clear teachers' guidelines. The materials are centred around a 30 minute educational drama. This was filmed using local deaf students as the main actors. A local production company was commissioned to film the drama and also to assist with providing intensive acting training to the students prior to filming. Involving deaf students directly in the production of materials was essential

in assuring the materials were relevant and effective. Working with local deaf students also ensured the film reflected local variations and 'accents' in sign language.

In practice, the film is shown to students by their teachers. This helps gain pupils initial interest and provides a general understanding of what to do and what not to do in the event of an earthquake. While the film is an important medium, it is at times not enough alone. There is a great variation in how, and how well, deaf students in the SLB can communicate either orally or through using sign language. Small children in particular often require extra clarification on an individual basis. In order to maximize effective communication, teachers are encouraged and trained by ASB to use a combination of gestures, simple signs and mime to further check students' understandings. This Total Communication Mime (TCM) approach has proven very effective and efficient when used with the supporting materials and visual prompts. Allowing students to have an opportunity to raise queries and engage with the materials beyond the passive medium of film is central to the project.

Teachers are trained to use mime and gestures to explore key points introduced in the film. This is supported by visual prompts and 'true or false' game cards and also the use some simple signing. Once students are comfortable with the content the students then act out scenarios to their peers who decide if the scenario they are acting is correct or incorrect in terms of what they should do in the event of an earthquake. Involving pupils in miming out the scenarios further checks their understandings in an interactive and memorable way. The children themselves are often better equipped to more clearly communicate information about earthquake preparedness to their peers. During trainings children's, and also teachers, understandings and level of interactions have been seen to increase dramatically in a short space of time.

Trainings are completed with teachers conducting evacuation drills with their students. Whole school evacuation drills are also completed following participatory planning with teachers to ensure the school has an effective strategy to ensure all students, particularly physically disabled students, can be evacuated safely. These evacuations complete the training with a tangible and relevant action and ensure that teachers and children are better prepared in a far more effective way than classroom based activities alone. ASB's trainings do not deal in-depth with the causes of earthquakes, although all trainers are prepared to deal with all eventualities and queries, but are rather targeted towards ensuring an effective

response in the event of an emergency by communities and individuals.



A teacher showing concept check cards for deaf students to choose the right action for earthquake. Sekolah Luar Biasa (SLB) are Special Needs School, Mardi Mulyo Kretek, Bantul, Yogyakarta

ASB is not promoting the TCM method to teachers to replace more established sign language and oral methods in deaf education. However, based on the reality of deaf education in many developing countries, this method is proving to be a very efficient way of training trainers, teachers and children. The approach is direct, cost effective and high impact, particularly when combined with other visual media, and enables activities to be rapidly scaled up and to be potentially more sustainable. This is clearly important in a highly disaster prone area like Indonesia that also faces obvious resource limitations. It should also be noted that the project as a whole lends support to the Biwako Millennium Framework on Disability for the Asia Pacific and the Hyogo Framework on Disaster Risk Reduction. Most importantly, it is also clear that we cannot wait until sign language is widely standardized and accepted, or teachers receive fuller training in oral methods, before we in the DRR community act.

The ASB project is still on-going in Indonesia. However, upon completion we would like to share more of our experiences of DRR education for disabled children with ADPC and its readers. We hope that our experience inspires colleagues working in the field of DRR to more fully involve people with disabilities in DRR activities and programmes.

The above article is based on an ASB presentation to the UNISDR Asia-Pacific Regional Workshop on School Education and Disaster Risk Reduction 8-10 October 2007, Bangkok, Thailand.



Integrating disaster risk reduction in school curriculum or school emergency-experiences & lessons learnt

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Tsunami and its impact on education

The 2004 Tsunami had a dramatic impact on education. According to the UN, basic education had to be secured for 200,000 students. 182 schools were destroyed or damaged. 287 schools were used as temporary camps for Internally Displaced People. Some 4,000 children lost one or both parents and many were traumatized by their experiences. Sri Lanka faces various other natural events such as floods, landslides, cyclones and drought which affect life and economy. Thus, an urgent need for a systematic approach to disaster risk education and school safety was recognized. This had not been part of education in Sri Lanka. Therefore, the Ministry of Education (MoE) requested assistance from the German Government in the field of disaster preparedness in schools.

The Disaster Risk Management & Psycho-social Care Programme (DRM&PC) was designed to specifically address the needs of teachers and school children. The project is part of the Education Sector Development Framework and Programme (ESDFP) of the Ministry of Education (MoE). It is integrated into Sri Lanka's strategy for the peace and reconciliation process and crisis-preventive reconstruction after the tsunami. The overall objective of the programme is the planning and implementation capacities of the education authorities are improved in respect to disaster prevention in schools and to psycho-social counselling of children and young people affected by the tsunami. The programme supports the educational authorities in improving and expanding their range of services by intensive sector policy advising and training of management and specialist staff. Guidance is given on how to prevent, mitigate and cope with natural disasters in the country. At macro level the interventions are policy and strategy development, curriculum and didactic material development and quality assurance. At meso level they are training of trainers, capacity development and research. At micro

level, concepts and material are piloted and interventions are, in-service training of teachers and awareness campaigns in schools.

Project partners are the MoE, the National Institute of Education and the Basic Education Sector Unit of the Provincial Education Departments of the Northern and Eastern Provinces. The strategic plan is implemented by the teacher educators and teacher trainees of the 17 National Colleges of Education, 100 Teacher Centers as well as the teaching staff of the primary and secondary schools. The Ministry of Disaster Management and Human Rights is the leading institution of the national DM policy and strategy ('Road Map') and has appointed GTZ as the lead agency for integrating DRM in education. DRM&PC project is aware of leading the coordination and collaboration with partners in the country as well as at regional and international level. The project also cooperates closely with expert institutions such as ADPC and NIDM¹. This cooperation supports the transfer of knowledge and skills within the South Asian region (South-South cooperation). The target groups are the students and teachers of the primary and secondary schools. The programme covers the whole country and is scheduled from 10/2005 to end of 2008.

Results achieved

The programme has achieved the base line and impact surveys on disaster safety education and school safety in National Colleges of Education and schools were conducted to clarify the current situation on the colleges' and schools' capacity for disaster safety measures. The results of the surveys are also used to modify and fine-tune interventions and to evaluate the impact of activities. Educational staff, teachers and about 6,000 student teachers have acquired relevant survival skills and knowledge on natural disaster in Sri Lanka. They are practicing emergency exercises

¹ National Institute for Disaster Management, Delhi, India

such as mock drills, evacuation, fire fighting and first aid. Previously, teacher educators and curriculum developers had been trained in DRM and School Safety during the "First International Training Course DRM and Schools" in New Delhi/India, organized by NIDM. Disaster Safety Education has been integrated in the curricula and co-curricular programmes of the National Colleges of Education. DRM and School Safety is also being integrated in school curricula (Geography, Life Competencies, Civic Education, Science subjects) and respective Teacher Guides. Furthermore, guidelines for school projects on DRM are being developed and pilot projects implemented. Supplementary teaching and learning material on disaster safety for schools and teacher training has been collected, adapted and produced to support the teaching of the new curricula. In close cooperation with the national Disaster Management Centre (DMC), school children from all over Sri Lanka have been made aware of natural hazards, participating in an "All Island Essay and Art Competition for Disaster Preparedness" in 2006. The event was publicized via children's radio educational programmes, as part of the National Disaster Safety Day 2006.

The programme contributes significantly to the introduction and consolidation of disaster safety education into the formal education system in Sri Lanka, using its broad know how and lessons learned from other countries in the area to develop capacities in Sri Lanka. The national DM strategy is being implemented in the education sector and results fed back to the DM Ministry. The holistic approach of the project ensures that disaster safety education is being integrated at all levels and sub-sectors of the system.

A large number of people has already benefited from the project: 25 master trainers from MoE, NIE and National Colleges of Education have benefited from the above mentioned DRM and Schools Training Course with NIDM/India. These trainers have implemented DRM and School Safety Workshops at the Colleges for academic and non-academic staff and for teacher students. 45 education managers have participated in a School Safety and Emergency Management workshop and are involved in this programme during their 1 year post-graduate training course in education management. All secondary schools will receive didactic and awareness material in the form of tool kits for their libraries in 2007-about 10.000 schools. School children from all over Sri Lanka have been made aware of natural hazards through participation in an All Island Essay and Art Competition for Disaster Preparedness in 2006, organized by the DMC.

Challenges and lessons learnt

Commitment and enthusiasm of project partners is prevailing, but the set up of task forces for continuous follow-up, documentation and monitoring of the implemented programmes and activities is still insufficient, facing challenges in terms of availability of human resources and time. Coordination within the education system and with external partners is a challenge, because different sub-systems are traditionally separated and work isolated from the others as well as operational connections with other ministries or organizations are not sought for. Due to the prevailing tense security situation and the demerger of the North and the East as separate provinces, access to and communication with partners in the North and East is limited, causing delays and limitations for project activities. To overcome these challenges, a local DRM expert has been contracted to support the activities. It became clear that more resources should be allocated for the process of coordination with internal and external partners. Local education staff has been trained and prepared to support the implementation, monitoring and evaluation of DSE programmes in the North and East. Mechanisms of sharing information, feed back and monitoring still have to be tested and improved.

To introduce a new concept and project successfully in the education sector, it is necessary to inspire key persons who will then spread the spark and facilitate the change process. In Sri Lanka the exposure of education staff to Indian resource persons and their rich experience in disaster safety in schools has done the trick and started the integration process, which is now carried out from within the system. The active support and participation of the relevant stakeholders from the MoE and other authorities is also a main success factor for the new project. The legal framework has to be consolidated to accommodate new education strategies and programmes (i.e. curriculum review).

The overall strategy could be adapted to other countries and contexts, some tools (i.e. curricula matrix) could also be useful, but the locally adapted and developed didactic material can hardly be transferred. As the process of contents, methods etc. development is successful as long as it is participatory and determined by the local players, these cannot easily be transferred either. The survey tools which have been developed and tried out can be easily transferred to other countries. This would also help to compare the status of disaster safety in schools and education in different countries of the region. Translating the tools into the local languages would help increase the use and usefulness of it. Local resource persons can be valuable for creating awareness and train the trainers in the region.

The need to ensure safety of children in unsafe school buildings

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Asia is annually impacted by several disasters. Powerful typhoons causing flood and landslides hit the region, earthquakes strike almost with the same frequency, volcanic eruptions threaten life and property, and droughts severely impact livelihoods. These natural calamities strike the region frequently and bring indescribable devastation and suffering. People, communities and even governments are badly affected. Children are one of the most vulnerable groups. Disasters constitute not only a threat to the life of the children but also to the education of millions of children across the region.

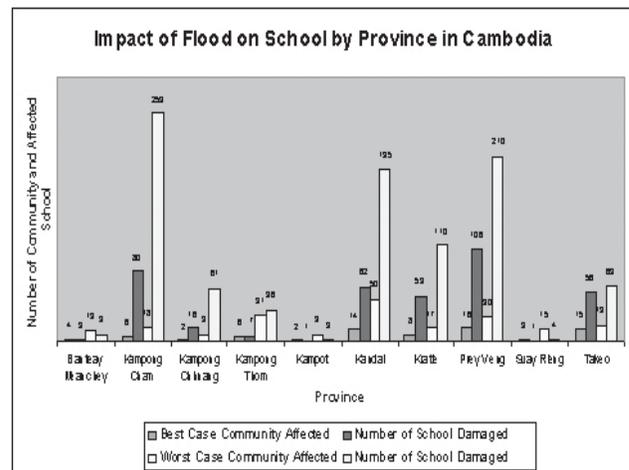
Impact on school buildings in Asia

As a result of the earthquake that hit Pakistan and India in 2005, as children attended morning classes, at least 17,000 school children died when 6,700 school buildings in North-West Frontier Province and 1,300 school buildings in Pakistan-administered Kashmir were destroyed. During Bhuj-India earthquake in 2001, 971 students and 31 teachers died, about 1884 school buildings collapsed, there was a loss of 5950 class rooms, 11761 school buildings suffered major damages and 36,584 rooms became unfit for teaching activities. In Bangladesh, during the 1998 floods, 1718 school buildings were damaged. Similarly, during the 2004 floods, 1259 buildings were lost. In addition, about 12,000 and 24,236 school buildings were partially damaged during the 1998 and 2004 floods, respectively. The devastating cyclone that hit Bangladesh on 15 November 2007 has totally destroyed 496 and partially damaged 2110 school buildings.

Damage of school buildings in Cambodia and Philippines

Cambodia is a disaster prone country in South East Asia. The country has been prone to natural disasters, especially floods and droughts over the

past decades. In some cases, both the disasters have occurred in the same year. According to ADRC (2003), many Cambodian communities situated along the two major watersheds; Tonle Sap and Mekong Rivers, have proven to be extremely vulnerable to the effects of natural hazards. There were severe floods in 1996, and in 2000, when the country saw the worst flooding in 70 years.



Source: "Rehabilitation of Flooded Primary and Secondary Schools: Cambodia" <http://www.moeys.gov.kh/details-directions01-02/Flood/main.htm>

Ministry of Education Youth and Sports (MoEYS) of Cambodia estimated that between 0.3-0.4 million primary school students were directly affected during the severe flood in 2000. If the figure 1. of secondary school students are included, the estimate would be around 0.5 million in about 1000 schools. The United Nations (UN) estimated the school population affected was as high as 0.9 to 1.0 million students. The most affected provinces were Kandal, Kompong Cham, Kompong Chnnang, Kratie, Pousat and Banteay Meanchey. Based on UN statistics, the number could double to around 2000 schools which constitute roughly half of the school system. In other words, the

overall disruption to the education sector was significant.

Super Typhoon Reming (international codename Durian) hit the Philippines on 30 November 2006. According to the National Disaster Coordinating Council, the death toll in the aftermath of the typhoon was 543, with over 2,000 people reported injured or missing in Albay province. About US\$ 22 million value of school buildings and facilities in Southern Luzon and Bicol were damaged. According to the Department of Education, Bicol registered the highest cost of damages to schools and facilities valued at US\$ 20.07 million. The break down of damage in Bicol was Camarines Sur at US\$ 10.36 million, Albay at US\$ 9.74 million, Iriga City at US\$ 5.72 million and Sorsogon at US\$ 1.6 million. All 49 schools in Iriga City were damaged. About 90 percent of the school buildings in Albay and Catanduanes were also damaged. Schools in Sorsogon and Camarines Sur were damaged at the rate of 60 percent and 50 percent, respectively. The typhoon had also affected 497,035 students in Bicol, 173,169 in Calabarzon and 34,482 in Mimaropa.

Why are the school buildings vulnerable?

School buildings are vulnerable to disasters because of ignorance of safe building construction practices and lack of integration of Disaster Risk Reduction in the education sector. Initiatives have been taken in each of the countries regarding rebuilding and repair of the school buildings after disasters. In the Philippines, the government has allocated 8.63 million USD in 2006 for repair and reconstruction of school buildings. In Cambodia, 487 school buildings will be constructed by 2009 under Second Education Sector Development Project (ESDP II) funded by Asian Development Bank. Moreover, 300 new school buildings will be constructed from funds from the World Bank.

The Ministry of Education Youth and Sports of the Government of Cambodia provides guidelines for school building construction in different provinces of Cambodia. The school construction guidelines followed by the Provinces of Svay Rieng, Prey Veng, Kratie, Monduliri, Ratanakiri and Kandal under the World Bank funded projects in 2004 had some shortcomings. These

shortcomings include lack of proper specification on the elevation (height) of the earth filling to ensure protection from flood waters, elevation of school sites are not specified etc. Similarly, Disaster Risk Reduction issues have not been considered for the ADB funded ESDP project where 487 new school buildings would be constructed. In the Philippines, the National Building Code does not provide proper guidelines for disaster risk free school building construction.

Initiatives should be taken to develop proper guidelines for safe school building construction to save the lives of children as well as to protect the investment in the education sector. ADPC has taken initiatives in this connection to study the impact of disasters on school buildings in Cambodia, Lao PDR and the Philippines under the MDRD-Education project.

The recommendations of the study will help to develop guidelines which can be followed for disaster proofing school building construction. These guidelines are being developed for the Regional Consultative Committee and will be showcased at the next meeting of the RCC at Colombo in 2008. The RCC member countries would benefit from these guidelines as they can be applied for the better construction of schools in the region.

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Institutionalization of school earthquake safety into government program

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Introduction

Under its *School Earthquake Safety Initiative*, the United Nations Centre for Regional Development (UNCRD) is implementing a program “Reducing Vulnerability of School Children to Earthquakes” in Asia-Pacific region since 2005. It aims to ensure that school children living in seismic regions have earthquake safe schools and that local communities build capacities to cope with earthquake disasters. The program entails a holistic approach of school safety making school buildings safe against earthquakes to impart knowledge and skill of earthquake resistant construction to the local institutions and earthquake preparedness education to the pupils. Currently, the program activities of school building retrofitting, development of safe school construction guideline, training on earthquake technology and disaster education and awareness are being carried out in the Fiji islands, Indonesia, India and Uzbekistan. It is observed that the process of making safer schools can be used as an entry points to the at risk communities to facilitate implementation of a training and capacity-building programme for earthquake disaster mitigation technology besides its prime objective of ensuring the safety of school children against future earthquakes. It is achieved by demonstrating how schools can be used as community centres for earthquake disaster prevention and mitigation.

Emphasis is made on use locally applicable and affordable *earthquake-safer construction technology*. The national and local government institutions are involved in program formulation and implementation ensuring the ownership of the concept and activities lies with those institutions.

Program components

Seismic retrofitting of school buildings

It includes seismic vulnerability analysis of some selected schools incorporating the prominent construction typologies in each country and the retrofitting of them. This led to the development of country-specific guidelines on earthquake safe school construction which incorporates solutions to the practical problems experienced during school retrofitting. Following are the schematic diagram of the process of assessment of school and intervention to upgrade for seismic resistance.

- (1) Criteria development for school selection, guideline development for preliminary assessment/evaluation
- (2) Preliminary evaluation of school buildings
- (3) Detail seismic analysis and retrofit design of selected Schools
- (4) Retrofitting of School Buildings and retrofitting Guideline Development

Retrofitting of schools in local communities can act as a demonstration of proper earthquake technology to residents. Masons in these communities get on-the-job training during the retrofitting of schools. In addition, technicians in each project city get training on earthquake design and construction of houses. Consideration is given to local practices, material availability, indigenous knowledge, and affordability of earthquake technology during trainings.

Disaster education and awareness

The program includes the development and wide distribution of educational booklets, posters and guidebooks on teachers’ training and students’ drills for earthquake disaster preparedness and response. The guidebooks gain verification and are updated through training and mock drills. In order to integrate disaster risk reduction (DRR) education into school

Figure. Seismic retrofitting of SD Ciratoun school in Bandung, Indonesia



Earthquake resistant school buildings in Uttar Pradesh, India

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Safe schools in Uttar Pradesh (UP)

A large portion of Uttar Pradesh is located in seismic zones III & IV where there is moderate to severe risk of earthquakes. There are in all 125,000 government primary & upper primary schools catering to about 23.5 million children. In the last two years 21,000 school buildings have been constructed, averaging about 30 new buildings per day. In such a large civil works program no earthquake resistant measures were so far incorporated in the design of school buildings. The configuration, construction material and technology did not provide for protection from even shaking during moderate earthquakes and thus, buildings are likely to collapse endangering lives of children. The UNDP Disaster Risk Management Program and the Government of UP decided to place paramount importance on the safety of children in schools. However, the challenges are three-fold:

- to ensure new school & classroom buildings are safe
- to improve safety of existing buildings by retrofitting
- to put in place safety measures and drills to be used in emergencies

Planning and developing new designs

- UP Disaster Management Authority in 2005 took the initiative to integrate earthquake resistant measures in government buildings. Various departments were requested to consider taking up this activity on a pilot scale during 2006-07.
- The Elementary Education Department of Government of Uttar Pradesh put forward a proposal to integrate earthquake resistant design for all new buildings to be constructed under *Sarva Shiksha Abhiyan* (SSA) in 2006-07. This involved the mammoth task of constructing 6,850 school buildings and 82,000 additional classroom buildings with earthquake resistant measures.
- The Annual Work Plan of each of 70 districts under SSA was under preparation. Consequently, to incorporate earthquake resistant measures, the existing designs of school buildings and additional classrooms had to be changed. New designs were prepared in consultation with state and UNDP experts.

These designs incorporated modifications in the configuration, construction material and use of reinforcing measures including :

- doors and windows were shifted at least 60 cms from vertical joints.
- a steel rod was provided from the foundation to the slab at each vertical joint.
- three horizontal bands with steel rods were made to run across the building walls at the plinth, sill and lintel levels to bind the structure.
- jambs were provided at each door & window from sill band to lintel band.
- ratio of cement in the RCC foundation and slab was increased. A mixture of cement, sand & stone blast in the proportion of 1:4:8 was provided instead of 1:5:10 used earlier in the foundation. In the slab the proportion was changed to 1:1.5:3 in place of 1:2:4 used earlier.
- One design of primary school building, two designs of upper primary school building and three designs of additional classrooms were prepared. Based on each design, a detailed construction manual was prepared. Designs, estimates and construction manuals were made available to District Magistrates and *Basic Shiksha Adhikaris* of all 70 districts.

Financial provisions

- The estimates were revised accordingly after vetting by the state Public Works Department and Expenditure Finance Committee (EFC) of the state government. Approval of the new drawings and estimates were also obtained from the National Seismic Advisor, Ministry of Home Affairs, Government of India through the Relief Commissioner, Government of UP. Revising the unit cost of construction of school buildings and additional classrooms making provision for earthquake resistant inputs increased the unit cost of buildings by about 8 %.
- The modified earthquake resistant designs were then incorporated in the district plans under SSA and approval obtained. As a result, the Annual Work Plan for 2006-07 for civil works increased.
- Construction of about 7000 school buildings and 82000 additional classrooms with earthquake resistant designs were taken up in 2006-07. Dissemination of new designs, orientation of officers of the Education Department involved in construction activities and training of engineers and masons involved in construction are some of the key activities along with quality assurance efforts including technical assistance and monitoring.

Capacity building of personnel

- Two departmental engineers of the Education Department, involved in revising drawings and estimates, were trained by UNDP.
- *Basic Shiksha Adhikaris* (BSAs) of all 70 districts were sensitized on special provisions for construction of earthquake resistant school buildings.
- Considering the vast scale of construction activity involved, a cascade approach to capacity building was adopted. Six training workshops were organized at UP Academy of Administration & Management, Lucknow to prepare master trainers for each district. These workshops were organized and funded by the UNDP.
- 4 persons for each district- 2 Junior Engineers of Rural Engineering Service and 2 *Assitant Basic Shiksha Adhikari* (Primary Education Officers) of Education Department (Block Education Officers)- were imparted training in theoretical as well as practical aspects of designing and constructing earthquake resistant school buildings. These training workshops were facilitated by experts from Orissa Development Technocrat's Forum. These 280 master trainers formed the core resource team in the 70 districts.
- The master trainers were assigned the role of conducting similar training programmes for other functionaries in districts. 20 divisional training workshops were organised in which 1100 Junior Engineers and *Assitant Basic Shiksha Adhikaris* were trained to carry out actual construction work. Technical assistance for this training was also provided by Orissa Development Technocrat's Forum.
- Buildings under SSA in UP are constructed by the Village Education Committee (VEC) and the head masters were in charge of the construction activity. Headmasters and masons were trained at the district level for school buildings and at block level for construction of additional classrooms.
- Funds for construction work were released to all districts. The readiness of various districts to take up this activity was one of the items reviewed by the Chief Secretary and Secretary, Elementary Education in a video conference with all Divisional Commissioners and District Magistrates.
- Having built capacity in all districts, the construction work of 6,800 school buildings and 82000 additional classrooms started in September 2006.
- Training of 10,000 masons was conducted in districts with technical assistance of UNDP. The State Government provided funds for the training programs.

Monitoring and quality assurance

- Designs of new school buildings/classrooms under construction were made available at construction sites. Each building was constructed by trained masons and trained junior engineers supervised the laying of foundation, casting of bands and placing of the roof and also monitor the quality of construction.
- A construction monitoring cell was set up to implement the quality assurance program during the construction. This cell is supported by a junior engineer in each district office of SSA.
- A system of third party monitoring of construction activity involving NGOs and other independent institutions is also in place.

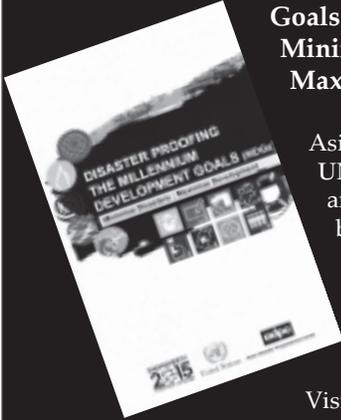
Retrofitting existing buildings

- While provisions have been made for incorporating earthquake resistant measures in the design of new school buildings and classrooms and the funding for the same tied up under SSA, there is a stock of about 125,000 existing school buildings which need retrofitting to make them safe. No line of funding is available for this activity under SSA. The Disaster Management Unit of Government of India and UNDP are requested to fund this activity in phases.
- One school was retrofitted as a pilot with technical inputs and funds from UNDP.

School safety committees

- With technical input from the Elementary Education Department of the Government of UP set up District Safety Committees and School Safety Committees and oriented about 500,000 teachers and *shiksha mitras* (para teachers) to essential safety measures and drills for emergencies.

The activities described above helped the Government of UP mainstream DRR for safer schools.



Disaster Proofing the Millennium Development Goals (MDGs)- Minimizing Disasters: Maximizing Development

Asia Regional Office of the UN Millennium Campaign and ADPC developed the brochure as the first step under the joint advocacy on "Disaster Proofing the Millennium Development Goals". Visit www.adpc.net to read more.

Gujarat school safety initiatives

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Gujarat State Disaster Management Authority

School development agencies do not always take into consideration the natural hazards prevalent in the recipient state and the schools, therefore, may not be built with specific hazard vulnerability criteria in mind. In addition, schools are often built on marginal pieces of land owned by the government that are unsuitable for commercial or agricultural use. All too often, school buildings are situated in vulnerable areas because proper site-selection criteria were not applied. Disaster threatened communities need disaster-resistant schools for the following reasons:

- Children are the most vulnerable sections of the society
- Safety of school children is an emotive issue often having political implications
- Schools in urban areas are often located in congested areas, vulnerable to various hazards like fire, flash floods etc
- Lack of repair & regular maintenance of schools housed in old buildings causing deaths due to building collapse
- Improper sitting of schools without considering the hazard profile of the area
- Lack of budget provision for meeting operation and maintenance costs in schools
- Lack of awareness of school safety issues & dimensions

Gujarat State Disaster Management Authority (GSDMA) with the assistance of the World Bank initiated the pilot program for promoting a culture of disaster safety in schools and reduce risk through structural and non-structural corrections in the schools of the state. The initiative was launched in January 2005 for a period of two years under **Gujarat School Safety Initiative-I**.

Progress made

Gujarat School Safety Initiative-I, school based activities have been completed in 152 schools in Ahmedabad, Vadodhara and Jamnagar cities and 152 school based disaster management plans have been prepared in the process. 86,000 students and 1,500 have been trained.

The three-day detailed program comprised of orientation sessions, formations and mobilization of task forces and conduction of mock drills. Earthquake drills have been conducted in 80 schools attended by around 40,000 students and 640 teachers. As part of the long-term sustainability of the program, school safety clubs have been opened in all the project schools. A short play on disaster awareness has been organized in 68 schools.

Sustainable Environment and Ecological Development Society (SEEDS), which have been selected to implement the programs in the state is conducting the following detailed tasks in each of the project schools.

- School management are approached and presentations are made about why and how the concerned school can work on school safety
- School administration were approached to form school safety committee
- School Safety programs (3 days)-Orientation of the school disaster management committee on school disaster management planning
- Orientation about basic disaster awareness to coordinators and members of the school task forces
- Detail training of the task force members on task force skills such as activities to be done for search and rescue, first aid etc
- Imparting lessons on emergency response in each classroom
- Conducting mock drill and a debriefing meeting held to evaluate the mock drill and the school program

For dissemination of disaster awareness, GSDMA in association with M/s SEEDS have formulated three basic modules namely,

- **Module 1:** Introduction about the program and discussion about the need of initiating school safety activities in the schools. Inculcating the objectives of the program to each and every student of the school.
- **Module 2:** Training the members of the school disaster management committee about elements/components of a school disaster management team and method of preparing a plan for the respective school. All doubts and queries are cleared in the training program.
- **Module 3:** Training the members of the task forces and the coordinators of the task forces about information about disaster management, safety tips, mapping, techniques of evacuation, first aid and other aspects of school disaster planning.



Besides the training sessions, posters and games, other IEC materials have been prepared for distribution. In each school, *task forces* have been constituted in a) Disaster Awareness b) Search and Rescue, c) Warning, Evacuation d) First aid treatment & e) Fire Safety. Task force badges were distributed.

The programs have been largely attended by school children of age less than 16 years both in private and municipal schools.

Under the **Gujarat School Safety Initiative-II** program, district level trainings (in 25 districts) and trainings in the model schools selected in all the districts were completed. 25,543 students and 861 teachers have been trained in the 25 model schools apart from 593 teachers trained at the district level by the 86 master trainers created by GSDMA earlier. In total 679 teachers have been trained throughout the program. The program has also prepared the draft school syllabus for comprehensive inclusion of basics of disaster.

Coinciding with the closure of the two school safety initiatives and the UN/ISDR's campaign for 2006-07 "Disaster Reduction Begins at School", an International Conference on School Safety took place at Ahmedabad, India from the 18-20 January, 2007. The Conference was organized by the Gujarat State Disaster Management Authority (GSDMA) and SEEDS India with active support from the UN/ISDR, Coalition of Global School Safety, The World Bank, the National Disaster Management Authority (NDMA), United Nations Development Program (UNDP), United Nations Educational Scientific and Cultural Organization (UNESCO), Christian Aid and Save the Children. Over 150 national and international delegates, and over 1500 children, school teachers and parents took part in the event. The various presentations and deliberations in the course of the conference have led the way to the drafting of the Ahmedabad Action Agenda for School Safety that sets the goal of achieving "Zero Mortality of Children in Schools from Preventable Disasters by the year 2015".

The third phase of the program, **Gujarat School Safety Initiative - III** intends to upscale the first and 2nd phases to the taluka or sub-district level and reach out to all schools in Gujarat. The program is under implementation and proposes to attain the following objectives:

- To strengthen districts institutions with resources and materials on school safety.
- To take school safety initiative to taluka level (sub-district level).
- To promote "school safety club" in schools in Gujarat.

- To provide continued awareness to schools that participated in GSSI-I & II projects and sustain their interest in school safety
- To ensure structural safety and non-structural safety in schools
- To develop disaster response skills in teachers
- To promote disaster planning in schools

The program shall cover two broad components,

a) Structural Component-Undertaking a detailed safety audit of all private and government schools in the state over the next three years and b) Non Structural Component-Undertaking school specific disaster preparedness, capacity building and mitigation measures in schools across the state. State has already provided a budgetary allocation from its own funds for implementation of the program in the state.

Long-term Gujarat perspective on school safety

With a view to up-scale school safety initiatives across the state the following actions have been planned by State of Gujarat:

- Formulation of a comprehensive policy on school safety. The implementation of which will be supported by a strong programme of action.
- Setting up a Center for promoting and monitoring School safety in the Gujarat Institute of Disaster Management. This Center will take up research and training programmes in this area also.
- Undertaking a detailed safety audit of all private and government schools in the State. The results of which will enable taking effective steps to increase school safety in Gujarat. This will be done through the public private partnership approach. This will also help schools to prepare school level disaster management plans.
- Setting up a mechanism of reward system for those schools who perform the best in the area of school safety.

ADPC poster competition to help raise awareness among youth

Devastating effects of the 2004 Tsunami was re-lived. To commemorate, a **Poster Competition**, an event for school & graduate student communities in Bangkok was held on **16 December 2005** at Chulalongkorn University, Bangkok.

The aim of the event was to help raise awareness among the youth to enhance disaster risk reduction knowledge.



Building capacities of educators and children on school flood safety in the Mekong Delta

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Introduction

The School Flood Safety Program (SFSP) is under the DIPECHO 5th Action Plan being supported under the MRC-ADPC ECHO III "Support to Implementation of Flood Preparedness Programs at Provincial, District and Commune Levels in the Lower Mekong Basin" in Tien Giang province in Vietnam. This is an innovative flood safety public awareness program involving primary and secondary school teachers and the students. The activities include orientation sessions for school teachers and school children on flood hazard, means of protection and what to do before, during and after floods, learning to conduct the flood risk of the schools by themselves and awareness campaigns by the schools.

Enhancing knowledge and awareness

The SFSP orientation sessions in Cai Be, Cai Lay and Chau Thanh districts in Tien Giang province in Vietnam enhance knowledge on flood hazards, means of protection and necessary actions before, during and after floods. In these sessions, the schools develop a basic flood risk assessment based on a questionnaire. Schools are provided with assistance to complete the initial flood risk assessment and the results are analyzed and consolidated in a report for each school. At the end of the sessions, the teachers develop public awareness action plan to educate children about instructions on flood safety such as food security, disease prevention and safe shelters for children during floods. Thus, after being trained, teachers facilitate training for children and discuss and plan activities in the school. The program has involved 180 primary and secondary schools with nine 1-day sessions in the three project districts. During these sessions, so far, 170 schools have been helped to complete



Teachers at training on School Flood Safety Programme

the initial flood risk assessment and the flood risk assessment report. The program has so far oriented about 340 school principals and teachers.

The tool used in the orientation session is the "Information Kit for Teachers" or "School Flood Safety Program (SFSP) Kit". It was developed as the key reference material. The kit contains a flood booklet, handouts, teaching aids on flood safety and a set of audio-visual CDs and DVDs on "Living with Flood" and the "Puppet show on Flood Hazard". They are vivid materials providing simple and easy to understand information on flood hazards, their impacts and basic preparedness, response and recovery measures. The user-friendly handouts give out information on should-do things before, during and after floods for both family and schools, on health and hygiene for schools, and the how to disseminate flood early warning to the local community. The teaching aids on flood safety are pictorial activity cards on flood hazard and means of protection to be used by teachers.

This initiative helped the teachers to conduct simple flood risk assessments of their school. It has utilized the existing knowledge and capacities of teachers on their immediate environments to find solutions by formulating activities in educational settings. Knowledge is provided through orientation sessions, but the practical outcomes are through school reports and toolkits.

The wide dissemination of knowledge and the increase in understanding of various issues for disaster preparedness, response and recovery is a direct impact of this programme. Children, their parents and the community have a reliable channel of information and guidance through the school system. Lessons, training courses and IEC materials convey the messages for both a safe school and a safe community.

In addition, the programme promotes a new role on disaster preparedness for the education system and increases its social responsibility.

The SFSP focuses on the school community and strengthens its role in connection with family and the community, at large. Teachers and children make a direct contribution to their own environment. Learning from orientation sessions facilitated by the local (Mekong Delta) Disaster Management Practitioners and trainers from Department of Education and Training and then disseminating to their own students gradually built a sense of ownership for the school. Both teachers and students are interactive participants when they practice the knowledge acquired in and outside of the school.

The lead implementer of this program is the Provincial Department of Education and Training, with

Department of Education and Training, with involvement of the Committee for Population, Family and Children, Department of Labor, Invalid and Social Affairs (DOLISA), and the Women's Union. The agencies engaged in this activity are also members of the Flood and Storm Control Committee at the province, district and commune levels. This consolidates the crucial roles of each agency and highlights the compounded impact of coordinated efforts of various stakeholders. The multi-stakeholder involvement approach also encourages replication of such activity through pooling of internal resources from various agencies.

Teachers and students play the role of information agents. Thus, after several initial orientation and training sessions, the information of disaster preparedness spreads to the community with little project interference, such as training for the whole community. School children are one of the key players in raising public awareness in this programme. The campaign contains activities at school level such as painting competitions on related themes of flood and reduction of its risk, quiz programs and performances by students for the community. This draws parents' attention and mobilizes support for flood safety in their communes.

The activity involves local experts from member agencies of the District Committee for Flood and Storm Control during the orientation sessions for educators. These experts, together with the already oriented teachers and students work together to conduct similar sessions at the schools in other districts or even the schools in the neighboring provinces. In the design, each district forms groups of 4 to 5 schools. One school is equipped with a master trainer and they then become trainers for other schools in the group.

Currently, similar activities are being implemented in An Giang (Chau Thanh and Tan Chau districts) and Dong Thap (Tan Hong and Thanh Binh districts) provinces under the "Flood Emergency Management Strengthening (FEMS)" project of ADPC with funding support from GTZ- German agency for Technical Cooperation.

ADPC has planned to expand the project in the next phase 2008-2012. On 30 August 2007, in a workshop, the Tien Giang People's Committee, Vietnam Mekong Committee (NMC), ADPC, Mekong River Commission Secretariat (MRCS), Tien Giang Provincial Committees for Flood and Storm Control (PCFSC), DOET and teachers from the project districts and other stakeholders gathered to share lessons learnt, experiences and discussed the outline program and Action plan for Child Safety from Floods and Storm programme in 2008-2012.

Basic disaster awareness education reaches five million children in 50 high-risk provinces of Turkey

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Bitter experience is the catalyst for community impact program

The 1999 Kocaeli earthquake hit the densely populated industrialized Marmara region in Turkey, killing more than 18,000 people and seriously injuring at least 100,000. Homes, schools, businesses and communities were destroyed. Nearby Istanbul, with a population of at least 10 million, were jolted into realizing that they would be next. Still it was not clear what was to be done. There had been no significant public education programs to help citizens to recognize the hazards they faced, their vulnerabilities to risk, or the many small steps that could be taken to reduce future hazard impacts.

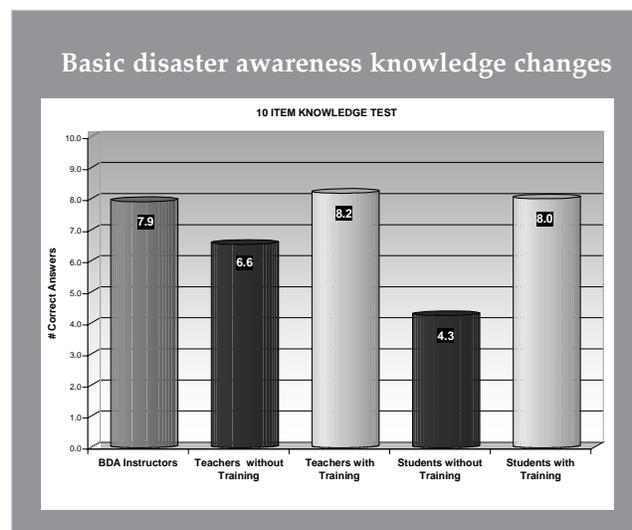
In 2000, Bogazici University, Kandilli Observatory and Earthquake Research Institute with support from the USAID, Office of Foreign Disaster Assistance launched the Istanbul Community Impact Project. The three-year project successfully developed curriculum and outreach materials and trained trainers in basic disaster awareness (BDA), community disaster volunteers (CDV), non-structural mitigation (NSM) and structural awareness for seismic safety (SASS).

Urban disaster risk reduction education through schools

Curriculum materials developed for BDA include an Instructor's Handbook and CD, an audio-visual slide presentation (3 versions for different age levels and attention spans) with instructor notes, instructor-skills guide, and guidance materials for monitoring and evaluation. Classroom activities and fun sheets are included. Public outreach materials are based on a two-sided Family Disaster Plan Worksheet. A small fold-up "Information Card" and 32-page "ABC Basic Disaster Awareness Handbook" cover the material in more depth and for all hazards.

In partnership with the provincial directorate of education and with support from local and international organizations and volunteers in 2002 and 2003, BDA reached more than 1.2 million school children and 66,000 school teachers in and around Istanbul. A women's outreach campaign reached thousands of families door-to-door in one district. Six thousand were trained in two-day CDV training in partnership with local businesses, and NSM and SASS was piloted on a small scale.

Evaluations indicated very positive impacts in both student and teacher knowledge gains, and dramatic increases in family household hazard adjustments, and school hazard adjustments in the curriculum areas: *assessment and planning, physical protection and response capacity development*. Students and teachers with training had taken 33-38% more mitigation and preparedness measures and have many more measures that they intend to take compared to those without training. Similarly, schools with trained instructors took 30% more mitigation and preparedness measures. These promising results provided justification for massive scaling-up. Unlike many similar programs, this one did not jump from hazard awareness to response capacity development, but tried to empower the general public in taking physical risk reduction measures and in being responsible consumers of housing.



Scaling-up

Nationwide, some eight million school children in first and second-degree seismic risk zones remained at risk in 34,000 schools. A scaling-up project called "BDA in Turkish Schools" was undertaken in 2004 and 2005 to reach teachers and school children in the most seismic risk-prone of Turkey's 80 provinces. A "cascading" model of instruction featured a distance-learning program to reach out to potential instructor trainers. This rich multi-media program has text, illustrations, animations, videos, games, and activities embedded.

With minor assistance from newspapers, and the Ministry of Education's own outreach, more than 700 teachers in 50 provinces found the program online and successfully completed the self-study curriculum, passed the post-test with a score of 80% or better, earned access to a certificate of completion and completed an online application letter to compete to become a master-trainer for their province.

Master instructor training began with selection of 118 applicants (2 each from 41 provinces and 4 each from the 9 most populous provinces). Divided into 4 groups, each completed a 5-day Basic Disaster Awareness Instructor-Trainer program in Istanbul. Returning home, and facilitated by provincial directorates of education, these committed instructor-trainers subsequently reported more than 1,000 days of training yielding 24,000 school-based basic disaster awareness instructors.

Monitoring was to be achieved through a sophisticated management information system (MIS) portal that allows web-site visitors and instructors to register, affiliate with one of several dissemination partners, track delivery of and participation in various training programs, complete a family disaster plan, take tests, use distance learning curriculum, and see dissemination reports for affiliated groups.

More than 5,500 school-based trainers became active users of the portal and reported 13,500 school-based BDA seminars to 2.4 million children, 91,000 teachers, 25,000 school personnel, and 444,000 parents in 2005. When the unreported trainings are extrapolated from a random sample of non-reporting teachers, we have a more accurate estimate of real impact: BDA education reached more than 5 millions students and 1 million adults in three years. By 2006 more than 7,000 individuals had registered for the distance-learning training and 2,000 had completed the five-hour self-study program, more than 25,000 people were registered users of the site.

Structural and Non-Structural Awareness curricula were further developed and seeded in Istanbul's trade high schools. Twenty-three SASS instructors trained more than 2,500 students and staff, and eighteen NSM instructors trained more than 3,200 students and staff in non-structural mitigation. Post-tests showed significant growth in knowledge of structural and non-structural safety and overwhelmingly, students and staff believed that "everyone" should receive this training.

Strengths & opportunities

The Basic Disaster Awareness in Turkish Schools Project is the first project to attempt to disseminate

basic disaster awareness nationwide in Turkey. It is based on a cooperative model developed between a well-respected university-based center for scientific research and training, and a leading government department, with support from international, national and local non-governmental organizations.

The strengths were in the high level of commitment from the Turkish Ministry of Education, the strong spirit of voluntarism and dedication shown by the Instructor-Trainers, and the vision and dedication of the thousands of teachers who have begun to convey BDA education to their school communities. Eighty-five percent of these teachers are committed to continuing the program annually. High quality curriculum materials and instructor training, and a sophisticated MIS are foundations for the program's sustainability.

The Ministry of Education has recently taken steps to integrate earthquake hazard awareness and risk reduction education into the compulsory curriculum.

Weaknesses and threats

In order for basic disaster awareness to become the foundation for a culture of safety, in a country as large and populous as Turkey, both scale and institutionalization must be fully addressed. Recommendations included maintaining capacity by using the Ministry's ongoing in-service education system, however, it is not yet clear whether there will be follow-through to use the capacity developed to make this an annual program for all children. There remains a danger that the BDA training will turn out to be a one-time event. Important groups have not been reached at all: preschools, high schools and private schools.

In order to become a dynamic part of the fabric of every child's education into future generations it will need to be conveyed to teachers during their teacher-training education, and woven formally into both formal curriculum and co-curricular activities.

These results can be replicated wherever there is a large educational authority, professional teachers, and the funds to leverage the expertise needed to jump-start the project. Future projects can use existing educational materials now available from a variety of sources worldwide, as a starting point, shortening the development time. Long-term success depends upon vision and sustained leadership from the education community.

Resources

Association & Networks

Coalition for Global School Safety (COGSS)

The **Coalition for Global School Safety (COGSS)** is dedicated to fostering, supporting and encouraging disaster risk reduction in the education sector. COGSS supports global, regional, national, and sub-national, local and grassroots efforts to bring together expert and local knowledge in order to:

- a) reduce the vulnerability of school infrastructure
- b) integrate risk knowledge concepts into formal education curriculum at all levels
- c) educate the public at large and promote public participation in disaster risk reduction

<http://www.interragate.info/cogss>

Disaster Risk Reduction Education Network (ENDRR-L)

The **Disaster Risk Reduction Education Network** listserv informs of key research, meetings, publications, discussions, initiatives and achievements in this important emerging field with the goal to increase the quality and effectiveness of disaster risk reduction education leading to fewer disaster losses of all kinds.

To subscribe, send mail to
listserv@groups.preventionweb.net

International Network for Education in Emergencies

The **Inter-Agency Network for Education in Emergencies (INEE)** is a global, open network of non-governmental organizations, UN agencies, donors, practitioners, researchers and individuals from affected populations working together within a humanitarian and development framework to ensure the right to education in emergencies and post-crisis reconstruction.

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

INEE Minimum Standards: A tool for bridging the risk reduction, relief and development gaps

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The Inter-Agency Network for Education in Emergencies (INEE) is a global, open network of UN agencies, NGOs, donors, practitioners, researchers and individuals from affected populations working together within a humanitarian and development framework to ensure the right to quality education in emergencies and post-crisis reconstruction. As of 2007, INEE has over 2,200 individual and organizational members.

INEE facilitated a global consultative process in 2003 and 2004, involving over 2,250 individuals from more than 50 countries to develop global education standards. The INEE Minimum Standards, launched in December 2004, are the first global tool to define a minimum level of educational quality in order to provide assistance that reflects and reinforces the right to life with dignity. In addition to reflecting rights and commitments, the standards reflect consensus on good practices and lessons learned across the field of education and protection in emergencies and early reconstruction situations.

The INEE Minimum Standards cover five categories:

- **Minimum standards common to all categories:** focuses on the essential areas of community participation, the use of local resources, initial assessment, appropriate response and continued monitoring and evaluation, which are required when applying any other standard within the handbook
- **Access and learning environment:** focuses on partnerships to promote access to learning opportunities and essential inter-sectoral linkages with protection, health, water and sanitation, nutrition and shelter to enhance security and physical, cognitive and psychological well-being
- **Teaching and learning:** focuses on critical elements that promote effective teaching and learning: curriculum, training, instruction and assessment
- **Teachers and other education personnel:** focuses on the administration and management of human

resources, including recruitment and selection, conditions of service, and supervision and support

- **Education policy and coordination:** focuses on policy formulation and enactment, planning and implementation, and coordination

The standards were designed to be an immediate and effective tool to promote protection and coordination at the start of an emergency while laying a solid foundation for holistic, quality education and disaster preparedness during reconstruction.

Since the launch, INEE Minimum handbook has been translated into twelve languages (Spanish, French, Arabic, Dari, Japanese, Bahasa Indonesian, Portuguese, Bangla, Thai, Urdu, Khmer) and they are being used in over 80 countries around the world for programme and policy planning, assessment, design, implementation, monitoring and evaluation as well as advocacy and preparedness. They are being used as a training and capacity-building tool. Over 200 educational, protection and emergency trainers have been trained on the standards, and they in turn are training others through a cascade training model. The standards are also being used to promote holistic thinking and response and to frame and foster inter and intra-agency policy dialogue, coordination, advocacy and action for the provision of quality education in emergencies, chronic crises and early reconstruction.

In a global evaluation in 2006-2007, almost a third of the 200 respondents reported that the use of the INEE Minimum Standards has led to achievements in project outcomes or improvements in the quality of educational services provided in their projects. They also indicated that they were able to better motivate the community, better advocate for needed facilities and more effectively train teachers.

Disaster risk reduction

While the INEE Minimum Standards cover preparedness, response and recovery programming and policy, the holistic disaster risk reduction cycle is currently not strongly enough articulated in the standards, especially mitigation. Nonetheless, the standards can and are being used to enhance disaster preparedness and contribute to risk reduction through areas such as providing essential survival, school safety and life skills information and establishing a safe and secure environment.

There are particular standards, including a range of indicators and guidance notes for each, that directly relate to disaster risk reduction objectives, particularly the standards on community participation, analysis (initial assessment, monitoring and evaluation), protection and well-being, safe learning environment and using a relevant curriculum, as shown in Table 1.

In a future revision of the INEE Minimum Standards, risk reduction will be made explicit. In the meantime, INEE is focusing more on natural disasters and the risk reduction cycle in its materials and practices through reaching out and linking with ISDR and the risk reduction community as well as through using a natural disaster lens to generate case studies and good practices. In particular, INEE is emphasizing the need to:

- Teach about hazards and risk reduction in non-formal learning environments, include disaster risk reduction in the formal curriculum and promote disaster risk reduction through co-curricular activities in schools.

- Promote schools as centres for community disaster risk reduction, mobilizing a culture of safety through mobilization and organization and promoting initiatives among children in and out of schools that make them leaders in risk reduction in the community.
- Protect schools: prepare and implement school safety plans; taking steps to assess the hazards to schools and to address/strengthen and properly maintain them with a multi-hazard approach; and ensure that new schools are designed, sited, and constructed with hazards in mind.

INEE is also developing a CD-Rom Toolkit for the INEE Minimum Standards, containing the standards, advocacy and training materials in all languages as well as a toolkit of practical field-friendly tools, guidelines, checklists, case studies and good practices to help educationists and Ministry of Education officials to contextualize and implement the standards. INEE has been working with the disaster risk reduction community to infuse DRR tools and resources into this toolkit in order to help users to mainstream risk reduction into their programmes and policies. These toolkits will be widely distributed and also utilized in the UN education cluster as well as four INEE Regional Capacity-Building workshops (2007-2008), which seek to strengthen regional and national capacity of education and humanitarian workers in order to ensure the effective application of the INEE Minimum Standards. Moreover, INEE continues to collect, develop and make available adaptations of training materials (scenarios for case studies and role plays) which emphasize and teach disaster risk reduction concepts.

INEE's website www.ineesite.org

Table 1: Curriculum

Access and Learning Environment Standard 2: Protection and Well-being

Learning environments are secure, and promote the protection and mental and emotional well-being of learners.

Access and Learning Environment Standard 3: Facilities

Education facilities are conducive to the physical well-being of learners

Teaching and Learning Standard 1: Curricula

Culturally, socially and linguistically relevant curricula are used to provide formal and nonformal education, appropriate to the particular emergency situation.

Community Participation Standard 1: Participation

Emergency-affected community members actively participate in assessing, planning, implementing, monitoring and evaluating the education programme.

Analysis Standard 1: Initial assessment

A timely education assessment of the emergency situation is conducted in a holistic and participatory manner.

Analysis Standard 3: Monitoring

All relevant stakeholders regularly monitor the activities of the education response and the evolving education needs of the affected population.

Analysis Standard 4: Evaluation

There is a systematic and impartial evaluation of the education response in order to improve practice and enhance accountability.

Disaster risk reduction in the education sector

Lessons learned from 15 years of experience of ADPC in Asia

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Over the past 15 years, ADPC has been working in Asia on various disciplines and sectors, and Education and awareness raising has always remained one of its key priority areas. Working with the partners, ADPC has been germinating the seeds of innovative ideas on disaster risk reduction in education and implementing various programs related to the Education sector, be it school curriculum or safe school construction. The accompanying box shows the broad range of involvement of ADPC in various aspects of the education sector. The key learning from the various involvements are articulated below under the following headings:

- The School earthquake safety program in Kathmandu Valley, Nepal
- Promoting earthquake preparedness in schools in Indonesia
- Educating children on technological hazard risk reduction in Ahmedabad, India
- Mine risk education program in Thailand
- School Curriculum development in Lao
- Capacity building in Asia using Information Technology applications; University partnerships for education on urban risk mitigation
- Flood safety programs in lower Mekong basin countries as part of flood preparedness programs at provincial and district levels
- RCC program on mainstreaming disaster risk reduction into development policy, planning and implementation in Asia; with focus on education sector

Build Safer Schools working with local capacity, material and technology

As early as 1997, ADPC in partnership with National Society for Earthquake Technology - Nepal (NSET) and with support from USAID/OFDA began implementation of the School Earthquake Safety Program in Katmandu Valley. The program highlighted the need to involve the community from the very beginning in building safer schools and transferring the ownership of the program to beneficiary community as early as possible in the project cycle. This was recognized as an essential component towards sustainability of any program. Involvement of communities in school retrofitting contributed resources, built up local capacity among masons, using local material and technology, thus school safety programs being channels for improved livelihood options.

Education sector portfolio is largely handled by the Government and the private sector, hence it is essential to develop partnership between various stakeholders involved in the education sector; Government, NGOs, private sectors and the communities. This is demonstrated by the formation of the provincial partnership on School Flood Safety Program in Tien Gieng, Vitenam under the ECHO supported Mekong River Commission (MRC) and ADPC implemented program on Planning and implementation of flood preparedness programs at provincial and district level. This partnership is led by the Provincial Department of Education and Training; a member of the Provincial committee of Storm and Flood Control; and involves the Vietnam Red Cross and other NGOs working in the province namely Save the Children and Oxfam and the Private sector. Of course the partnerships should also expand and be linked with the education sector programs funded by multi lateral and bi lateral agencies which could play a vital role in adding the 'extra bit' of resilience in their programs.

Engage actively with national pedagogical and disaster management experts as well as community based NGOs to integrate disaster risk reduction concepts into school curriculum

It is important to integrate DRR in both formal and

non formal school curriculum. Experiences of the ongoing Priority Implementation Partnerships being implemented jointly by ADPC and UNDP with support from DIPECHO in Cambodia, Lao PDR and Philippines, shows that the process of integration of DRR modules into formal school curriculum is a long process and requires active involvement of the pedagogical departments of the Ministry of Education and can only happen through the process of curriculum revision. Hence it is essential to be aware of the National Education Policy and the curriculum revision cycle, and plan ahead, so that necessary steps can be taken to introduce disaster risk reduction concepts to the curriculum development board before or during the actual revision phase.

Another key issue is that any change in curriculum has budgetary implications. Change in the curriculum

results in increase in teaching time and increase in corresponding costs of teaching and printing of textbooks. An ideal plan would provide the curriculum revision board with sufficient time to place the revisions in forthcoming education sector plan, so that budgetary arrangements are in place to cater for the increase in teaching costs necessitated due to the revision of the curriculum.

The NGOs working with the communities can play a vital role in integrating DRR in the non formal school curriculum and their efforts need to be supported by the government and other stakeholders.

Work with teachers and community to raise awareness on disaster risk reduction with a focus on locally specific hazards and locally relevant measures

With the already burdened syllabi, the national curriculum can only include the overall concepts of disaster risk reduction and not include knowledge on very local disasters specific to particular communities. The local governments and the NGOs can play a vital role in this case in adapting the national curriculum to their local needs. They could also add to the sustainability by building capacity of local teachers, mobilizing support from local private sector and communities to demonstrate long term commitment towards disaster risk reduction. The Flood Emergency Management Strengthening program, component 4 of the MRC Flood Management and Mitigation Program implemented by MRC and ADPC with support from GTZ is working with the provincial and district departments of education to increase awareness on flood risk reduction among the teachers and students.

Similarly the Indonesian Urban Disaster Mitigation Project of the Asian urban disaster management program implemented by Center for Earthquake Engineering studies, Center for urban and regional development studies at the Bandung Institute of Technology and ADPC with support from USAID/ OFDA focused on training teachers on earthquake preparedness by developing teacher's training module, training manuals, teacher's resource book and student workbook.

Most important... work with the children

Learning from many of the documented occasions when the safety of a family, or the protection of an important element of the household, have been traced back to a "safety lesson" learned at school; ADPC strongly believes that teaching children in school raising their awareness on risk reduction, would foster better understanding among the children and the teachers about the immediate environment in which they and their families live and would thus help to reduce the risk faced by the community.

Announcements

7th Regional Consultative Committee (RCC) for Disaster Management 8-10 May 2008 Colombo, Sri Lanka

The 7th meeting of the Regional Consultative Committee (RCC) for Disaster Management is being co-hosted by the Government of Sri Lanka and ADPC with support from the Government of Australia.

The special theme of the 7th RCC meeting will be on *rights based, community led disaster risk management*. The meeting will also have sessions on lessons learnt from recent disasters, progress made on the implementation of the *RCC Program on Mainstreaming disaster risk reduction into development (RCC MDRD)*, the ongoing global campaign on *Hospitals Safe from Disasters* and on progress on implementation of the Hyogo Framework for Action (HFA) in Asia in light of the Delhi Declaration on Disaster Risk Reduction in Asia, adopted at the Second Asian Ministerial Conference on Disaster Risk Reduction, New Delhi, October 2007.

International conference on school safety 14-16 May 2008 Islamabad, Pakistan

The Aga Khan Planning and Building Service, Pakistan-an Aga Khan Development Network (AKDN) Institution in collaboration with FOCUS Humanitarian Assistance is organizing an International Conference on School Safety.

Building upon various global and regional initiatives on safe schools, the conference will provide an opportunity to policy makers, practitioners, and users of safe schools in the regions to meaningfully interact and commit to an Action Agenda on school safety, with recommendations for immediate and practical follow-up at the national and the regional level. The conference is expected to be a catalyst of change, exhibiting 'consolidation of awareness', and expected to influence policy and broader level understanding of how to effectively address school safety risks in the country and in the region.

NEWS & EVENTS**First meeting of ECO Heads of Meteorological Organizations, 3-5 Sep, Iran**

ADPC participated in the first meeting of the heads of meteorological organizations in Economic Cooperation Organization (ECO) member states. The meeting was convened to discuss and agree on the details of the cooperative agreement among ECO member states on the establishment of the ECO Regional Center for Risk Management. Nine countries from Central and West Asia and international organizations participated in the meeting, which was hosted by the Islamic Republic of Iran Meteorological Organization (IRIMO) in Mashhad, Iran. ADPC's participation was supported by UNDP Iran under the Strengthening Capacities for Disaster Risk Management in Iran, a joint program between UNDP and the Iranian Government from 2005 to 2009.

Study tour for senior health officials from the Democratic People's Republic of Korea (DPRK), 18 Sep-12 Oct, Thailand

ADPC together with the World Health Organization (WHO) conducted a 4-week study visit for four senior health officials from the Democratic People's Republic of Korea (DPRK). The aim of the study tour was to support the efforts of the Ministry of Health in DPRK and WHO Country Office in DPRK to strengthen health emergency preparedness and response in DPRK.

7th IIASA-DPRI Forum on Integrated Disaster Risk Management, 19-21 Sep, Italy

ADPC participated in the 7th IIASA-DPRI Forum on Integrated Disaster Risk Management at Stresa. The theme was, "Coping with disasters: Global Challenges for the 21st Century and Beyond". In a panel session, ADPC discussed disaster preparedness and mitigation in urban secondary cities and showcased good practices in Disaster Risk Reduction (DRR) governance in Asia.

ASEAN Day for Disaster Management (ADDM), 24-25 Sep, Thailand

Dr. Bhichit Rattakul, ADPC's Executive Director, a.i. was a panelist on challenges ahead and the way forward for ASEAN in achieving a disaster resilient community by 2015. The ASEAN Day for Disaster Management (ADDM) is one of the annual regional events of ASEAN.

Climate Field School Graduation ceremony, 3 Oct, Philippines

The Climate Field School in Dumangas, Iloilo Province- the first in the Philippines-graduated its first batch of 73 farmers. The Climate Field School sessions were facilitated by agricultural extension technicians from Iloilo Office of Provincial Agriculture (OPA) and Dumangas Office of Municipal Agriculture (OMA). The Climate Field School is one of the flagship projects under the Climate Forecast Applications (CFA) for Disaster Mitigation Program in the Philippines and Indonesia. The CFA Program is supported by the United States Agency for International Development Office of Foreign Disaster Assistance.

Regional meeting on revisiting community-based health workers and community health volunteers, 3-5 Oct, Thailand

ADPC participated in the Regional Meeting in Chiang Mai on revisiting community-based health workers and community health volunteers, organized by the World Health Organization, Regional office for South-east Asia, together with the National Health Foundation of Thailand and the Ministry of Public Health, Royal Government of Thailand.

Designing Early Warning System, 9-16 Oct & 8-15 Dec, Seychelles

ADPC undertook a consultancy assignment for the Department of Risk and Disaster Management and United Nations Development Program (UNDP) Seychelles at Mahe, Seychelles. The ADPC team presented initial designs of Seychelles's early warning system (EWS) and command center, and participated in the Contingency Planning Simulation Exercise. EWS procedures for tsunami and other hazards would be developed and tested through simulation exercises over the coming months.

WHO fellowship from Department of Medical Research, Myanmar to ADPC, 29 Oct-21 Dec, Thailand

Together with WHO, ADPC conducted an 8-week fellowship program for health officers from the Department of Medical Research, Myanmar, to ADPC. The fellowship program aimed to support the efforts of the Ministry of Health in Myanmar and WHO Country Office in Myanmar to strengthen health emergency preparedness and response in Myanmar.

Updates from capacity building for planning and implementation of flood preparedness program in the Lower Mekong Basin (Phase III), Sep-Dec 07:**Lao PDR**

Trans-boundary flood preparedness and cooperation meeting was held between Khammouane province, Lao PDR and Nakorn Phanom province, Thailand.

Vietnam

Orientation sessions of School Flood Safety Programme (SFSP) for school children was held in selected schools in Cai Be, Cai Lay and Chau Thanh districts in Tien Giang province. Training of Trainers (ToT) was conducted in Tien Giang Province, Vietnam. Emergency Kindergarten Management (EKM) training courses were held in Cai Be and Cai Lay districts, Tein Giang Province, Vietnam.

Cambodia

District level Flood Preparedness Program (FPP) completion workshop was held in Sambour and Chullong district in Cambodia. Some key activities included developing resource inventory, public awareness by Commune Committees for Disaster Management (CCDM), developing brochures on the impacts of flood on Women Headed Households (WHHs), improvements for facilities in the safe areas, among several other interventions.

Disaster proofing the Millennium Development Goals (MDGs), Nov, India, Thailand

ADPC and United Nations Millennium Campaign (UNMC) launched an advocacy campaign on "Disaster Proofing the Millennium Development Goals". They aimed to promote better understanding among policy makers in governance and disaster risk reduction (DRR) community of the linkages of disasters with poverty reduction to better

plan for actions required to see progress in the MDG indicators and help accelerate the MDG agenda and to raise public awareness and collaborative action through partnerships between decision makers in development, governance and DRR.

Partnership for Disaster Risk Reduction Southeast Asia (PDRSEA Phase IV), Nov, Vietnam, Philippines, Indonesia

A series of workshops to enhance participation of key national stakeholders were held to establish a community risk reduction fund, to set up a community-based Early Warning Systems, to set up a community level information center with strong linkages to the local Early Warning Systems and to identify possible areas of integrating Community-based Disaster Risk Management (CBDRM) into local development planning activities. In Philippines, Bicol in Albay Province was identified as the pilot project Area in a similar activity. The local authorities in Bicol were trained on CBDRM and DRR in Land Use Planning. Activities in Indonesia included CBDRR country mapping to identify the good practices done by several organizations in promoting Community-based Disaster Risk Reduction (CBDRR). For more updates on the PDRSEA program, pls visit: <http://www.adpc.net/v2007/Programs/CBDRM/PROGRAMS/PDRSEA4/index.html>

Climate Risk Management: Monsoon Forum, 23 Nov, Myanmar

ADPC supported holding the second Monsoon Forum in Nay Pyi Taw, Myanmar. The regular Monsoon Forum aims to enhance the uptake of seasonal climate forecasts for disaster mitigation activities by encouraging a constant dialogue between the Department of Meteorology and Hydrology (DMH) and forecast users. ADPC's support to the Monsoon Forum in Myanmar dovetails with its broader goal of building the capacity of countries to mitigate disaster risks by linking national hydro-meteorological agencies to sectors that are vulnerable to climate risks, notably agriculture, water resources, health, and disaster management.

Climate Risk Management: Winter Forum, 28 Nov, Mongolia

ADPC supported the first Winter Forum in Ulaanbaatar, Mongolia. Mongolia's Winter Forum in Ulaanbaatar was organized and hosted by the National Agency for Meteorology, Hydrology and Environment Monitoring of Mongolia (NAMHEM), in partnership with the National Emergency Management Agency of Mongolia (NEMA), Ministry of Food and Agriculture (MOFA), Ministry of Nature and Environment (MNE), and ADPC. The Winter Forum ensured that forecast products, including their uncertainties and limitations are understood by and communicated to users; encouraged climate forecast applications for mitigating risks in various climate-sensitive sectors; and provided a platform for inter-agency coordination of policies and programs for dealing with potential impacts of climate-related hazards during the winter season.

Updates from mainstreaming disaster risk reduction into education sector in Cambodia, Lao PDR and Philippines-Priority Implementation Project under the RCC MDRD Program, Sep-Dec 07:

Cambodia

About 48 teachers from Kratie, Kandal and Prey Veng provinces were trained to teach the disaster risk reduction (DRR) module.

Lao PDR

Pilot testing of DRR module in two selected schools at Prey Veng and Kandal province, Cambodia was undertaken. H.E Chae Se inaugurated the pilot test and ADPC invited other international organizations to join the 1st pilot test. Evaluation on the teaching methodology of the DRR module in schools in Sayaboury province was conducted. Additional TOT will be conducted in Vientiane or Bolikhamsay province. Pilot testing will be administered in other schools. About 52 teachers from Khammoune province and Vientiane will be trained to teach DRR module.

The Philippines

TOT and pilot testing of the DRR modules was conducted in schools at Southern Leyte, Visayas, Philippines. Teachers from private and public schools were trained. An evaluation on the teaching methodology of the DRR module in class rooms were facilitated at St. Bernard National High school, Southern Leyte.

4th National Health Emergency Management Convention, 2-5 Dec, Philippines

ADPC participated in the 4th National Health Emergency Management Convention organized by the Health Emergency Staff of the Department of Health in the Philippines (HEMS-DOH) with funding support from the World Health Organization (WHO) in Manila, Philippines.

Strengthening disaster preparedness in agriculture sector, 7-21 Dec, China

ADPC conducted site profiling and assessment of existing institutional system for disaster risk management in Shandong Province, trained county, township, village committee and farmers cooperatives' representatives on CBDRM, facilitated CBDRM process in one pilot village; and discussed and initiated disaster risk management plan preparation for 2008 in all pilot sites. These activities were undertaken under a Technical Cooperation Program of the Food and Agriculture Organization (FAO) of the UN and China.

Meeting on research policy and management of risks in Life Science Research for Global Health Security, 10-12 Dec, Thailand

At the request of the WHO, ADPC provided the local arrangements for the WHO meeting on Research Policy and Management of Risks in Life Science Research for Global Health Security. Representatives of Ministries of Health from Cambodia, China, India, Indonesia, Japan, Korea, Lao PDR, Malaysia, New Zealand, Philippines, Singapore, Thailand and Vietnam participated in the meeting. Objectives of the workshop were to present and discuss the public health risks posed by the advances of life science research; exchange knowledge and experience of policies and best practices related to the risks posed by life science research; to discuss the different risk management options; to learn about the needs and priorities of countries; and to draft recommendations of research policy and risk management for further action.

Strengthening community-based approaches to the management of Avian and Human Influenza, 11 Dec, Cambodia

ADPC's mission to Phnom Penh, Cambodia were to raise awareness of the above-named project among stakeholders in Cambodia and to seek their guidance on identifying case studies for inclusion in project outputs, such as a regional workshop and regional toolkit which will be implemented in 2008.

Launching of CBDRR Training and Learning Circle (TLC) in the Philippines, 14 Dec, Philippines

As part of the program, Capacity Development for Trainers and Learners on CBDRR in Asia, implemented by ADPC in collaboration with UNDP South-South Cooperation, a workshop launched the CBDRR Training and Learning Circle (TLC) in the Philippines at the Asian Institute of Management (AIM) Conference Center in Makati City. Representatives from Center for Disaster Preparedness (CDP), UNDP Bangkok, All India Disaster Mitigation Institute (AIDMI), the Provention Consortium and ADPC participated in the different workshop dialogues. Community leaders who are involved in various CBDRR programs and training workshops also gave meaningful inputs on learning and training methodologies.

ADPC enters Laos-Australia NGO Cooperation Agreement (LANGOCA), 2007-2008, Laos PDR

The Laos-Australia NGO Cooperation Agreement (LANGOCA) Program builds on maximizing the unique strengths of NGOs; particularly in relation to their long-term experience, capacity and linkages with partner organizations and communities in Lao. The Program will include a range of activities that aim to directly address Laos-Australia Development Cooperation Strategy 2004-2010 (LADCS) Strategic Objectives to reduce the vulnerability of the poor, with specific focus on reducing the impact of natural disasters, and to reduce the impact of unexploded ordinance (UXOs). Under the LANGOCA Program, AusAID is supporting the implementation of the three projects, namely the Sayaboury Integrated Hazard Mitigation Project (SIHMP), Disaster Risk Education for Children (DREC), Tools for Disaster Risk Assessment (TDRA) by Save the Children Australia (SCA) and ADPC.

TRAINING

Regional training on GIS-Based Hazard Risk Information Systems with NOAA and ESRI, 10-13 Sep, Thailand

ADPC organized a "Regional Training and Capacity Building Workshop on GIS-Based Hazard Risk Information Systems" in Bangkok. This unique event was jointly collaborated with ADPC, Environmental Systems Research Institute (ESRI), National Oceanic Atmospheric Administration (NOAA) Pacific Services Center and US IOTWS program. The training aimed at developing capacity of regional and national targeted professionals in web-based GIS using the ESRI ArcIMS software and newly developed the US IOTWS Hazard Analysis Tools by NOAA centers. Professionals from Sri Lankan national agencies such Disaster Management Center Sri Lanka, National Building Research Organization (NBRO), EMSO and regional agencies such as ADPC and AIT were

trained on this technical training. The training was sponsored by NOAA Pacific Services Center and US IOTWS program.

Regional training on Governance and Disaster Risk Reduction, 17-21 Sep, Thailand

The Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE) organized the second regional course on Governance and Disaster Risk Reduction in Bangkok. The course developed local government's understanding to issues through recurrent hydro-meteorological hazards including urban governance, risk management, vulnerability reduction, and mainstreaming risk reduction as a component of governance.

Asia-Pacific Regional workshop on School Education and Disaster Risk Reduction, 8-10 Oct, Thailand

ADPC was the co-organizer of the Asia-Pacific Regional Workshop on School Education and Disaster Risk Reduction. Other partners were UNESCO, UNCRD, UNICEF, UN/ISDR Asia and Pacific with support from IFRC. ADPC organized a session on mainstreaming education in disaster risk reduction and a joint session on safe schools. More details on the workshop on page 30.

Regional training on Flood Disaster Risk Management (FDRM), 8-19 Oct, Thailand

The 8th ADPC Regional Training Course on Flood Disaster Risk Management successfully concluded with 32 participants from 14 countries in Asia, two from Sudan and one from Denmark. The participants successfully completed after meeting the essential requirements of the course. ADPC's FDRM course is an integrated approach to the development of flood risk reduction strategies that involve engineering, settlement, development, public administration, community-based strategies and land use planning with environmental consideration. The course intends to impart the information and skills in flood problem analysis, understanding and appreciation of the various approaches to flood risk reduction, determination of appropriateness of the strategies and/or measures to achieve the desired goal of flood risk/damage reduction.

Hospital Emergency Preparedness and Response Course (HEPR-5), 15-19 Oct, Thailand

ADPC through its Public Health in Emergencies team conducted a five-day Hospital Emergency Preparedness and Response Course designed to assist health personnel, both administrative and medical, to prepare health care facilities and personnel to respond effectively to internal or community emergencies that involve large numbers of casualties. The course enabled participants to develop well designed facility-specific plans to respond to emergencies. Fifteen participants from Myanmar, Nepal, South Africa, Sudan and Thailand working in government, hospitals and various international organizations participated in the course.

Regional workshop on Innovative Approaches to Flood Risk Reduction in the Mekong Basin, 17-19 Oct, Thailand

ADPC and the Mekong River Commission (MRC) jointly organized the regional workshop on Innovative Approaches to Flood Risk Reduction in the Mekong Basin,

as one of the key activities under Component 4 of the Flood Management and Mitigation Program (FMMP), with funding support for Die Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH and the European Commission Humanitarian Office. The workshop provided an opportunity for the disaster risk reduction practitioners in the Mekong countries and the wider region to share experiences and lessons learned, identify emerging trends, issues and strategies and develop partnerships to promote flood risk reduction.

National training on Landslide Risk Management, 17-19 Oct, Philippines

The program for the Regional Enhancement of Capacity for Landslide Impact Mitigation (RECLAIM II) held a national training course on Landslide Risk Management in Baguio City, Philippines. The course developed capability and resilience of communities at risk from landslides by promoting local awareness, training, and the introduction of effective alternatives, low-cost and indigenous measures for monitoring and mitigating landslides. The course was organized by the University of the Philippines in cooperation with ADPC, the Norwegian Geotechnical Institute (NGI), and St. Louis University.

National training on Disaster Management, 28-31 Oct, China

ADPC facilitated a four-day Disaster Management Course in Kunming, China. The course was funded and organized by Oxfam Hong Kong to develop the capacities of their staff involved in disaster management activities.

Early Warning System (EWS): UN-SPIDER Workshop, Bonn, 29-31 Oct, Germany

ADPC with support from the United Nations delivered a presentation on "Incident Command System (ICS) for faster disaster responses in the Indian Ocean countries" at the UN International UN-SPIDER Workshop in Bonn, Germany.

Coastal Community Resilience training, 29 Oct-12 Nov, Vietnam

Under the Enhancing Community Resilience to Natural Disasters in Southeast Asia project (ECR-SEA), ADPC conducted a coastal community training in Quang Tri (29 Oct-2 Nov) and Thanh Hoa Province (5-9 Nov). The activity aimed to build the capacity of local working groups in ECR-SEA pilot communes in the two provinces to understand and assess their resilience to disasters. It was conducted in partnership with the National Hydrometeorological Service of Vietnam. The ECR-SEA project is funded by the Danish International Development Agency (DANIDA).

Strengthening community-based approaches to the management of Avian and Human Influenza (AHI) in Asia, Nov 2007–Aug 2008

ADPC in partnership with CARE, the International Federation of Red Cross and Red Crescent Societies (IFRC) and the International Rescue Committee (IRC) is implementing a project to strengthen community-based prevention and control of Avian and Human Influenza (AHI) in Asia.

The project is funded by the Asian Development Bank (ADB). The objectives of the project include developing a regional tool-kit for community-based management of AHI from the experiences of countries in the Asian region, conducting regional training workshops and study tours to build capacity and share experience of community-based control and prevention of AHI in Asia, strengthening communication with and coordination of community level organizations in the management of AHI in Asia and institutionalize community based strategies and interventions in prevention and control of avian and human influenza.

ADPC's 36th Regional training on Disaster Management (DMC 36), 5-23 Nov, Thailand

31 participants from INGOs, Government organization, UN agencies and Red Cross Societies from 16 countries namely the People's Republic of China, Lao PDR, Myanmar, Thailand, Malaysia, Indonesia, Papua New Guinea, Timor-Leste, Solomon Islands, Sri Lanka, India, Pakistan, Tajikistan, Kenya, Germany, United Kingdom attended the DMC 36 course. The course provided comprehensive disaster management knowledge and skills to enhance the capabilities of executive managers who have key disaster management responsibilities.



The participants with Dr. Bhichit Rattakul, Mrs. Tanti Widyastuti Hendratono

Workshop on advanced CBDRM, 11-13 Nov, Bangladesh

A workshop on advanced CBDRM for slum development committee members, volunteers, CARE staff and selected partner NGO staff was conducted in Cox's Bazar porushawa. This was under the Strengthening Household Abilities to Responding to Development Opportunities (SHOUHARDO) project of CARE Bangladesh.

Early Warning Systems: Training on Meteorological Station Observation, 12-14 Nov, Cambodia

The Department of Meteorology (DoM) of Cambodia and ADPC conducted a training in Phnom Penh on meteorological observation for DoM staff from 16 meteorological stations from all over the country. This was undertaken under the Enhancing Community Resilience against Natural Disasters in Southeast Asia project (ECR-SEA), which is funded by the Danish International Development Agency (DANIDA).

First National Public Health and Emergency Management in Asia and the Pacific (PHEMAP) course coordinators workshop, 12-16 Nov, Thailand

As one of the activities of PHEMAP program, the First National Public Health and Emergency Management in Asia and the Pacific (PHEMAP) Course Coordinator's workshop was conducted to familiarize PHEMAP Course Coordinators with concepts of the PHEMAP course curriculum and to provide guidance on conducting National PHEMAP Courses including administrative procedures and teaching methodologies. Representatives of seven member states of WHO-SEARO and eight member states of WHO-WPRO participated in the workshop. The PHEMAP program is designed to strengthen national capacities for managing health risks of emergencies in Asia and the Pacific regions. The Program is a partnership between WHO Regional Offices for South East Asia (SEARO) and Western Pacific (WPRO) and ADPC, and supported by the Royal Government of Norway.

SAARC workshop on Community-Based Disaster Preparedness in South Asia, 19-20 Nov, Bangladesh

ADPC participated in the South Asian Association for Regional Cooperation (SAARC) Workshop on Community-Based Disaster Preparedness (CBDP) in South Asia. The workshop shared interesting country experiences on Mainstreaming gender issues and poverty reduction into CBDP, the different roles of community based organizations in coordinating with government agencies, good practices in using local knowledge and up-scaling CBDP, and building community resilience and capacity.

Workshop on Concept of Operations and Tsunami Alert Rapid Notification System (TARNS), 21-22 Nov, Myanmar

ADPC and the Myanmar Department of Meteorology and Hydrology (DMH) in Nay Pyi Taw, Myanmar, held a back-to-back workshop on Concept of Operations (CONOPS) and Tsunami Alert Rapid Notification System (TARNS). Workshop participants discussed CONOPS, a tool that assists national tsunami warning centers (NTWC) in mapping the operational flow of hazard and non-hazard information between organizations, defines the intra-department reporting relationships within the NTWC, and develops a robust decision making process for the generation of tsunami warnings and TARNS, a set of protocols and procedures for quick and accurate dissemination of tsunami advisories or warnings from the NTWC to all relevant national and local officials and the public.

Regional experience sharing workshop on Exercise Management in ASEAN+3 countries, 27-28 Nov, Thailand

ADPC in collaboration with USAID, Ministry of Public Health of Thailand, and Kenan Institute Asia organized a Regional Experience Sharing Workshop on Exercise Management in ASEAN+3 countries. The primary objective of the workshop was to share experiences in conducting exercises for communicable disease emergencies in ASEAN+3 countries. Representatives of the Ministries of Health from Brunei, China, Indonesia, Japan, Malaysia, Philippines, Singapore, and Thailand participated in the workshop. The output of the workshop contributed to the process of developing an exercise management training package to enhance the knowledge and skills of people who have responsibility for conducting

exercises at regional, sub-regional, national and sub-national levels.

United Nations/China Regional UN-SPIDER Workshop, 3-5 Dec, China

ADPC participated in the United Nations/China Regional UN-SPIDER Workshop: "Building Upon Regional Space-based Solutions for Disaster Management and Emergency Response" at Shenzhen. The workshop was jointly organized by the UN Office of Outer Space Affairs and China National Space Administration to discuss the status of space technology for disaster management and emergency response within the region and to jointly discuss the implementation of specific UN-SPIDER activities within the region.

ADPC conducts Community Based Disaster Risk Management (CBDRM) course, 3-7 Dec, Kryrgyzstan

ADPC together with Centre for Comprehensive Disaster Reduction (CCDR) Tajikistan and UN-ISDR-Central Asia, organized a course on "Community Based Disaster Risk Management" at Bishkek, Kryrgyzstan. On the same subject, ADPC together with RedR UK organized a course in Colombo, Sri Lanka from 10-14 Dec.

National training on Landslide Risk Management, 4-6 Dec, Sri Lanka

The program for the Regional Enhancement of Capacity for Landslide Impact Mitigation (RECLAIM II) held a national training course on Landslide Risk Management in Kandy and Galle, Sri Lanka. The course developed capability and resilience of communities at risk from landslides by promoting local awareness and training, effective alternatives, low-cost and indigenous measures for monitoring and mitigating landslides. It was organized by the National Building Research Organization (NBRO) in cooperation with ADPC and the Norwegian Geotechnical Institute (NGI).

First National PHEMAP Adaptation Workshop 5-9 Dec, Mongolia

ADPC PHE team participated in the First National PHEMAP Adaptation Workshop. The objectives of the workshop were to introduce the PHEMAP Program and the different issues that a health emergency manager needs to address to effectively manage emergencies and disasters; and discuss how the materials developed in the Inter Regional PHEMAP Course can be adapted for a National PHEMAP Program in Mongolia. Participants representing the National Center for Health Development (NCHD), National Emergency Management Agency (NEMA), Ulaanbaatar Health Department, Emergency Department (103 Center), National Central Hospital, Trauma and Orthopedic Hospital, National Center for Communicable Diseases, Dornogobi Medical College, Gobi-Altai Medical College, and Darkhan-Uul Medical college attended the course.

For more on ADPC activities, please visit www.adpc.net.

2nd Asian Ministerial Conference on Disaster Risk Reduction (DRR) 7-8 Nov 2007, India

ADPC partnered the 2nd Asian Ministerial Conference on Disaster Risk organized by the Ministry of Home Affairs of the Government of India. The theme of the conference was 'Development without Disasters'. Goals were to review the implementation of the Hyogo Priorities of Action in Asia in the context of various initiatives taken by national, regional and international bodies and governments. Specifically, the objectives were to review the actions taken by the national governments and other stakeholders for the implementation of the Hyogo Framework for Action; take stock of initiatives taken in various sub-regions of Asia for promoting and enhancing cooperation among the nations for disaster risk reduction; share and exchange best practices and lessons learned in DRR; discuss the new international initiatives such as Global Platform and Global Facility for DRR; and develop a vision and roadmap for DRR in Asia. ADPC, represented by a high-level delegation led the conference Event on "Meeting the Challenges of Disaster Risk Reduction in Communities and Cities: Building on Good Practices in the Asian Region". Additionally, presentations were made on two sub themes: Lessons Learnt from Disaster Risk Reduction Programs and Strengthening Community Resilience in Asia and Promoting Urban Risk Reduction and Strengthening Resilience in Cities.

ADPC Regional Training Schedule for 2008, Bangkok

Sl. No.	Course Code	Course Title	Date
1.	EXMAN	Cross-Border Exercise Management workshop	18-22 Feb
2.	ADB-AHI-NGO	Regional Practitioners' Workshop on Strengthening Community-based Approaches to Avian and Human Influenza (AHI)	11-13 Mar
3.	DMC-37	Disaster Management Course	17 Mar-4 Apr
4.	EXMAN	ASEAN +3 Exercise Management workshop	31 Mar-4 Apr
5.	CRM	Climate Risk Management-Science, Institutions and Society	21 Apr-2 May
6.	GRSDM-2	Use of GIS and Remote Sensing in Disaster Risk Management	5-16 May
7.	PHEMAP-8	8th Inter-regional Course on Public Health in Emergency Management in Asia and the Pacific	12-23 May
8.	EVRC-7	Earthquake Vulnerability Reduction for Cities	9-20 Jun
9.	PHCE-7	7th Training on Public Health in Complex Emergencies	11-23 Aug
10.	GDRR-3	Regional Course on Governance and Disaster Risk Reduction	1-5 Sep
11.	FDRM-9	Flood Disaster Risk Management	6-17 Oct
12.	PHEMAP-9	9th Inter-regional Course on Public Health in Emergency Management in Asia and the Pacific	6-17 Oct
13.	HEPR-6	6th International Course on Hospital Emergency Preparedness and Response	20-24 Oct
14.	DMC-38	Disaster Management Course	10-28 Nov
15.	CBDRR-17	Community Based Disaster Risk Reduction	TBA

TBA – *To be announced*

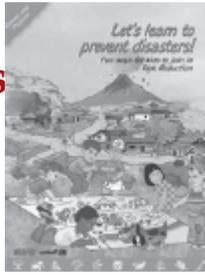
For more details, visit www.adpc.net



Games & activities

Let's learn to prevent disasters!

<http://www.eird.org/herramientas/eng/games/Booklet-english.pdf>



Riskland

<http://www.eird.org/eng/riesgolandia/riesgolandia-ing.htm>

Interactive Materials: Pizote

<http://www.eird.org/herramientas/esp/NT%20DE%20RIESGOS%20Archivos/NT%20DE%20RIESGOS.swf>



Interactive Game

<http://www.eird.org/herramientas/esp/juegos/cuento1/juego/juego%20Inundacion-Deslizamiento.swf>



ABC Disasters

<http://www.eird.org/fulltext/ABCDesastres/index.htm>



Videos

- The Power of Knowledge
- Riskland Video
- Beating the hurricane
<http://www.eird.org/herramientas/eng/games.html>

Education & awareness videos from ADPC

Enlightening the Future Generation: A case study of awareness creation focused on school children in Sri Lanka, produced by Sri Lanka Urban Multi-Hazard Disaster Mitigation Project, 2001

Of Creating Awareness: The case of public awareness creation on earthquake safety in Kathmandu Valley, Nepal, and

Building for Safety: The case of retrofitting schools in Kathmandu Valley, Nepal, produced by the Asian Urban Disaster Mitigation Program, 2002

Publications

Guides for Safe Schools

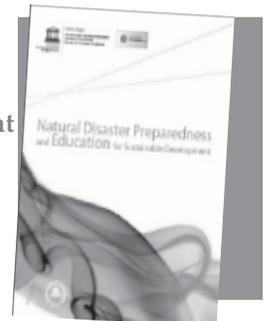
- **Pending Issues for the Vulnerability Reduction of the Education's Physical Infrastructure**
http://www.eird.org/herramientas/eng/documents/school_infraestructure.pdf
- **The school improvement program**
<http://www.eird.org/herramientas/eng/documents/school/schoolimprovementprogr1.pdf>

Guides for Emergency Planning

- **Crisis Counseling Guide to Children and Families in Disasters**
<http://www.eird.org/herramientas/eng/documents/emergency/education/crisisguide.pdf>
<http://www.eird.org/herramientas/eng/documents/emergency/education/crisisguide.pdf>
- **Protecting Children in Disaster**
<http://www.eird.org/herramientas/eng/documents/emergency/education/protectingchildren.pdf>
- **Guidness for education in Situations of Emergency**
<http://www.eird.org/herramientas/eng/documents/emergency/education/emergencyguide.pdf>
- **Technical Resource kit**
<http://www.eird.org/herramientas/eng/documents/emergency/education/technicalemergency.pdf>
- **Reference paper of Emergency Conflict**
<http://www.eird.org/herramientas/eng/documents/emergency/education/referencepaper.pdf>
- **Minimum Standards for Education**
<http://www.eird.org/herramientas/eng/documents/emergency/education/minimumstandars.pdf>

Materials for Lesson Planning/ Disaster Risk Reduction

- **Lessons for life**
<http://www.eird.org/herramientas/eng/documents/insersioncurricular/lessonforlife.pdf>
- **Lessons from tsunami**
<http://www.eird.org/herramientas/eng/documents/insersioncurricular/lessonpreparadness.pdf>
- **Let our Children Teach Us!**
<http://www.eird.org/herramientas/eng/documents/insersioncurricular/letourchildren.pdf>
- **Towards a Culture of Prevention: Disaster Risk Reduction Begins at School: Good Practices and Lessons Learned**
http://www.unisdr.org/eng/public_aware/world_camp/2006-2007/wdrc-2006-2007.htm
- **Natural Disaster Preparedness and Education for Sustainable Development**
<http://www.adpc.net>



Websites

- An on-line game to teach children how to save lives and livelihoods pdisastersgame.org/playgame.html
- The Interagency Network for Education in Emergencies www.ineesite.org/standards/default.asp
- Plan-International www.plan-international.org/action/disasters/
- 'Keeping children safe': an NGO child protection toolkit <http://www.plan-international.org/resources/protection/>
- Children and Disasters <http://www.redcross.org/pubs/dspubs/childmatls.htm>
- US Federal Emergency Management Agency <http://www.fema.com/kids/>
- The Caribbean Disaster Emergency Response Agency www.cdera.org/preparedness/index.php
- The Caribbean Disaster Mitigation Project www.oas.org/CDMP/bulletin/school.htm
- Links to community-based investment in school safety

Community-based school maintenance and seismic protection in Indonesia through the Asian Urban Disaster Mitigation Program of the Asian Center for Disaster Preparedness and UNCRD www.adpc.net/audmp/projectoutputs/indo/report-june-04-00-tr.html

Application of techniques developed in Nepal for school reconstruction in Gujarat, India (UNCRD- Kobe & SEEDS and other partners-Patanka New Life Plan) www.hyogo.uncrd.or.jp/publication/report.html

Design of earthquake and wind resistant primary school for Gujarat, India www.onlinevolunteers.org/relief/earss0315-school.html

Disaster resistant design guidelines for Afghanistan (UNCRD) www.hyogo.uncrd.or.jp/publication/guide.html

School seismic and wind safety surveys and pilot projects with USAID www.oas.org/CDMP/schools/schlrcsc.htm

Organization of American States (OAS) resource page for school natural hazard vulnerability reduction http://oas.org/nhp/schools_introduction.html#education

Manual for improved adobe construction, University of Technology, Sydney, Australia www.eng.uts.edu.au/~ddowling

UNESCO/ UNEP-APELL guidelines for safe schools www.uneptie.org/pc/apell/publications/

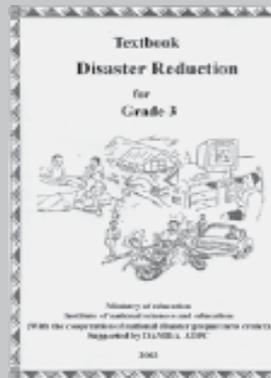
ADPC Publications

**Creating Earthquake Preparedness in Schools
Bandung, Indonesia (1997-2001)**



**Awareness raising on flood risk reduction of
school children through orientation of teachers-
Cambodia (2004-2007)**

**Disaster Reduction
Program, Lao PDR
(2001-2003)**



**Case studies on mitigating disasters in Asia
and the Pacific**

**Safer Cities 4: The School Earthquake
Safety Program in Kathmandu Valley-
building safer communities through
schools**

**Safer Cities 10: Creating Earthquake
Preparedness in Schools: A Case
Study of Mitigation Efforts in
Indonesia, August 2004**

**Safer Cities 11: Towards Technological
Hazards Risk Reduction in Ahmedabad:
School as effective institutions for
disaster awareness and preparedness,
December 2004**

**Visit www.adpc.net
to download the publications and
other ADPC information
resources**





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School Flood Safety Program

Building Capacities of Educators and Children on Flood Safety in the Mekong Delta



Main Activities

1. Orientation on flood hazard, means of protection and what to do before, during and after floods
2. Flood awareness campaign in schools
3. School flood risk assessment
4. Development of teachers and students information kit

Location

Vietnam: Tieng Giang, An Giang and Dong Thap Provinces

Cambodia: Kratie, Prey Veng and Kandal Provinces



Project activity under the Component 4 of MRC's Flood Management and Mitigation Program



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**Theme for the next issue of the
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**Disaster Risk Reduction and
Climate Change Adaptation**