International Strategy for Disaster Reduction

Towards a Culture of Prevention: Disaster Risk Reduction Begins at School

Good Practices and Lessons Learned

2007

United Nations

Acknowledgements

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Foreword

The World Disaster Reduction Campaign for 2006-2007 has been under way for a year, under the theme *"Disaster Risk Reduction Begins at School"*. Various initiatives have been taken worldwide to make school buildings safer and have disaster risk reduction taught in school.

The World Campaign is in its second and last year, so it is time to measure the progress made and devise the way forward.

Some of the initiatives made immediate impact; others laid the foundations for future successes. But all helped school children fulfil a role envisioned for them: to serve as agents of disaster risk reduction.

Such a role played by the children could not be thought of a few years ago. Children were - and still are - among the most vulnerable to disasters; they were - and still generally are - perceived as "passive victims".

But it has now been proved that children can play an active part in disaster risk reduction.

The present publication, entitled "Towards a Culture of Prevention: *Disaster Risk Reduction Begins at School - Good Practices and Lessons Learned"*, highlights many instances where school children played a role, where adults finally welcomed their contributions.

Interestingly, such a change may also prompt bigger changes. For it conveys the following signal - a very strong signal: if children can do it, then every one can do it.

If children can do it, then youths can do it. If children can do it, then adults can do it. If children can do it, then some elderly people can do it.

I hope this publication will highlight the message - teaching our children today is empowering the next generation to address disaster risk more effectively tomorrow.

Sálvano Briceño
Director
UN/ISDR secretariat

Preface

As we progress into the implementation of both the Hyogo Framework for Action 2005-2015 and the United Nations Decade of Education for Sustainable Development (2005-2014), it is widely agreed that education for disaster reduction and for global climate change must become an integral part of any educational strategy aimed at promoting and creating thriving and sustainable societies. The World Disaster Reduction Campaign *"Disaster Risk Reduction Begins at School"* has given a worldwide impulse to efforts aimed at encouraging the integration of disaster risk education in school curricula in countries vulnerable to natural hazards and the safe construction and retrofitting of school buildings to withstand natural hazards. This publication provides an encouraging account of initiatives carried out during the Campaign.

The Campaign has paved the way for pursuing Hyogo Framework Priority for Action 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels (HFA 3). The follow-up to the Campaign must consolidate the partnership and commitments made and identify existing challenges in order to propose the way forward to accelerate the implementation of the HFA 3. The momentum created by the Campaign must help stimulate information sharing and identification of focus areas for collectively advancing the implementation of HFA 3 and enhancing the issue of education and disaster risk reduction at the national level. We are beset by many questions, most of which revolve around the issue of translating theory into practice. For example, having designed appropriate disaster reduction initiatives, how can they be implemented effectively in actual communities and how can they become elements of a culture of safety? How, in practice, are educators on the ground finding viable ways to sensitize on problems arising from natural hazards? Is a culture of risk prevention being fostered in the world's danger spots? What are the best methods for merging disaster management education into the broader agenda of education for sustainable development?

The ISDR Thematic Cluster/Platform on Knowledge and Education brings together a number of international organizations, United Nations agencies, regional organizations, states, non-governmental organizations and networks interested in disaster risk reduction education. It can serve as an open platform to pursue further the messages of the Campaign. UNESCO is proud and energized to join the ISDR secretariat and other stakeholders in playing a pivotal role in promoting the work of the Cluster. It is hoped that readers of this publication will find it useful and will use it as source material for the further elaboration of how education for disaster reduction and school safety can be promoted.

Badaoui Rouhban
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UNESCO

Introduction

This publication is part of ongoing efforts made under the theme *"Disaster Risk Reduction Begins at School"*, a theme selected for the World Disaster Reduction Campaign 2006-2007, coordinated by the UN/ISDR secretariat in cooperation with UNESCO.

Schools are the best venue for sowing collective values, the World Campaign, therefore promotes two major initiatives: (1) making school buildings safer; and (2) mainstreaming disaster risk reduction into school curricula.

Since the World Campaign was launched in June 2006, many activities have been carried out in all parts of the world: some as part of some established practice, others as pioneering initiatives, but all with some impact - nationally or locally, immediate and less immediate. It is gratifying to remark that many of the activities illustrated in this publication are part of longstanding projects initiated before the Campaign.

The present *Good Practices* provide an indication of the major successes achieved so far and, therefore, an idea of what could be achieved in the future. Indeed, they have been selected primarily for their potential for replication. But attention was also paid to geographical balance.

The following good practices are arranged under the issues of: 1) raising awareness within school communities; 2) building a culture of prevention; and 3) making school building safer. They all involve school children, teachers and non-academic staff and, in some cases, even surrounding communities.

For ease of reference, an abstract is provided at the beginning of each good practice and each good practice is presented in a reader-friendly way based on straightforward answers to questionnaires sent to (and, in some instances, interviews with) institutions and organizations participating in the World Campaign. Brief contact details are given at the end of each case study for any further information.

We hope it helps draw the attention of all current and potential disaster risk reduction actors and stakeholders - including community mobilizers, community leaders, parents, school teachers and school administrators - on the utmost importance of disaster resilience *in* schools and *through* schools.

Feng Min Kan
Senior Coordinator
Advocacy & Outreach Unit
UN/ISDR secretariat

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1 Section

Raising Awareness Within School Communities

Prevention begins with information. Awareness is the first step toward action. Awareness can trigger interest, interest can lead to attention, and attention can prompt action. As schools are the best venue for sowing collective values, school students and teachers can serve as vehicles for building a culture of Prevention. This Section describes diverse ways awareness has been raised among school students, teachers and their communities in some regions of the world. These include training of teachers, bringing disaster risk reduction into the classroom, organizing disaster quiz competitions, school contests on disaster risk reduction knowledge, campaigning for disaster safety, and turning school students into catalysts and initiators. Some initiatives described in the other sections of the present publication also include "awareness" components. The awareness-raising activities described in this Section are carried out by disaster risk reduction practitioners and/or school teachers or students themselves.

Armenia

School Students, Teachers, and Principals as Disaster Risk Reduction Trainers

From Knowledge to Awareness and Action

Armenian National Survey for Seismic Protection, Armenia and Asian Disaster Reduction Center

Duck and cover practice

Abstract

Armenia is an earthquake-prone yet densely populated country. The 1988 earthquake in Spitak, northwestern Armenia, resulted in the loss of 25,000 lives, left 514,000 others homeless, and prompted the evacuation of almost 200,000 people. More than 5,000 young students were crushed to death while in school during the event.

Investing in formal education is a tenous enterprise when the safety of school students is not ensured. Resilient construction techniques, building codes, land-use planning and zoning can help minimize human and material losses. The Spitak earthquake revealed that the seismic resistance of schools, for instance in the southeastern city of Kapan, was considerably lower than the level of seismic hazard. It seems that although abundant knowledge about seismic hazard risk and vulnerability exists, it is not accessible to those who need it most.

In the light of the above, the Armenian National Survey for Seismic Protection (Armenian NSSP) has initiated a seismic risk reduction project for schools, as school students who know how to react in the event of a disaster can make a difference in protecting others.

The Project helped turn hundreds of students, teachers and school principals into seismic risk reduction trainers; school hazard mapping was conducted; and a damage and loss assessment was completed.

The Initiative

This Initiative was a collaboration between the Armenian National Survey for Seismic Protection (Armenian NSSP) and the Japan-based Asian Disaster Reduction Center (ADRC). Its objectives were: (1) to promote the integration of earthquake risk reduction into school curricula; and (2) to strengthen capacity building for school seismic safety through comprehensive knowledge dissemination, systematic education and training, and school building vulnerability assessments.

The Project was implemented in the city of Kapan, Syunik Region, southeastern Armenia, from July 2006 to the end of March 2007. The next phase will involve communities in other regions of Armenia.

The main stakeholders were: the Armenian NSSP, the Armenian Search and Rescue Service, the Ministry of Education and Science, the Ministry of Health, the Ministry of Nature Protection, local government authorities, self-governing communities and high-level NSSP professionals engaged in multi-disciplinary activities aiming to reduce earthquake risk.

A reconnaissance team was also involved, comprising four highly qualified Armenian hazard and disaster experts. The Project targeted 250 secondary school students and 125 school principals and teachers.

The implementing agency was the Armenian NSSP. Also involved in the implementation were the above-mentioned high-level professionals and experts as well as local practitioners. The Project was funded by ADRC and the Japanese government.

Impacts & Results

Concrete results achieved were: (1) 250 school students and 125 school principals and teachers were turned into qualified trainers following training-of -trainers courses. (2) Seismic hazard mapping was completede. (3) Damage and loss assessments were conducted.

Audience is eager to get involved.

The Good Practice

The Project can be considered a good practice because it sought to implement two major priorities of the Hyogo Framework for Action 2005-2015: Priority for Action 2, identify, assess and monitor disaster risks; and Priority for Action 3, use knowledge, innovation and education to build a culture of safety; thus providing an innovative approach to school safety. The approach combined school hazard mapping and vulnerability assessment with earthquake risk reduction knowledge. Protecting children against earthquake hazards simply requires two distinct yet inseparable priorities: reducing earthquake risk and building a culture of safety in schools.

The Project involved sensitizing school children, teachers, parents, policy/decision makers and practitioners at community and national levels, and civil society bodies to advocate for safer schools and disaster risk reduction education. Interactive, child-to-child and modern teaching methods were adapted to the general principles of disaster risk reduction.

The following messages were conveyed until understood: (1) safe school facilities save lives and protect generations of children against earthquake hazards; (2) reducing earthquake risk empowers students and teachers and helps schools and the community at large prepare against earthquake disasters; (3) earthquake-safe school facilities help the community progress toward sustainable development; and (4) central and local governments should invest in safer school facilities and mainstream earthquake risk reduction into school curricula.

Lessons Learned

Two key lessons were learnt from the Project are:

1. Strengthening and retrofitting school buildings and facilities are an urgent and important matter in Armenia.
2. Teachers and students are not adequately protected against major potebtial earthquakes in Armenia; necessary measures to secure their safety and livelihoods should be a priority.

The Project faced some challenges due mainly to an initial lack of information on school safety, and because of the discrepancy between the actual level of seismic hazard and the level of seismic resistance of existing school buildings and facilities.

To improve similar projects in the future, the reconnaissance team should include Search and Rescue and emergency medicine experts or professionals.

Potential for Replication

This Project can be replicated with adequate human resources and skills in both disaster education and earthquake engineering. Efforts should be made to win the commitment of local government authorities to increase public awareness and provide necessary support to school hazard mapping and risk assessment.

The Project can be replicated in other earthquake-prone countries provided that proper consideration is given to local cultural contexts.

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Bangladesh

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Adapting Existing Learning Kit on Disaster Risk Reduction to the National Context and Language

Disaster Risk Reduction Begins at School Campaign - "Know Risk = No Risk"

ActionAid in Bangladesh

School teachers trained in using learning kit

Abstract

Bangladesh is prone to frequent and severe natural hazards such as floods, tropical storms, cyclones, tidal surges and tornadoes. Earthquakes and tsunamis are also potential threats. These hazards, combined with various socio-economic and other vulnerability factors, expose the majority of the population to high risk.

Children face such calamities almost on a regular basis, and millions of them suffer with their families from their impacts. Learning about natural hazards, their likelihood, and preparedness and response measures could help them and their communities cope with risks better.

It is with this consideration in mind that the Bangladeshi government emphasizes the development and implementation of awareness and education programmes as a strategy for community empowerment at the national level. This position is expressed in both government policy and in an institutional framework entitled "Corporate Plan 2005-2009: A Framework for Action", which also reflects the government's commitment to disaster management and reduction.

At the international level, the Hyogo Framework for Action 2005-2015 (HFA) calls for "the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information…."

Recognizing and responding to these needs and commitments, the Bangladesh disaster risk reduction campaign entitled *"Know Risk = No Risk"* embarked on promoting disaster reduction education. The esxisting Learning Kit for Children on Disaster Risk Reduction (DRR) was adapted to local contexts and language. The learning kit was the first DRR learning material in the Bangla language that aimed at helping children learn about disaster risk and take actions for risk reduction.

The Initiative

The Initiative sought to develop a learning kit for school children in the Bangla language to help them help other community members build disaster-resilient communities. The learning kit, which was the first of its kind in the Bangla language and was adapted to local contexts, helped children learn about natural disasters and risks and take actions for risk reduction. More specifically, the learning kit, when utilized in a community setting, served as an effective entry point for raising awareness on climate-related risks in general, and demonstrating how risks can be addressed and managed.

This initiative started in 2005 with ActionAid funds and in partnership with the Sustainable Development Resource Center (SDRC), who helped in translating the learning kit for school children in to the Bangla language. Since 2005 we have been working with the Disaster Management Bureau (DMB) of Bangladesh Government on the campaign "Disaster Risk Reduction Begins at School". As part of the campaign, ActionAid launched a participatory and interactive approach to enable children to play a part in the community under the theme *"Know Risk = No Risk"*. Since early 2006 the kit has so far been introduced by ActionAid partners in 26 Primary and Secondary Schools.

At present ActionAid is committed to working with the government to endorse the learning kit as part of the curricula of the primary and secondary schools in high risk areas and to promote it in all our disaster risk reduction projects.

Following a series of consultations at community level in different contexts, an approach that built on people-centred governance evolved within the Campaign. The approach built on principles such as participation, accountability, decentralization, freedom and access to information, legally enforceable obligations, access to justice, cooperation and collaboration.

The learning kit begins with a message to the educational community, where the importance of the kit is underscored. The next section is then dedicated to introducing basic disaster concepts and knowledge, and describing nature as the source of life. Then, the concept of 'hazard' is explained, different types of hazards are identified, and the role of nature and humans in causing disasters is discussed.

The following pages address vulnerability, risk, disaster prevention and mitigation. Following simple definitions and examples, the issue of disaster prevention is taken up and ways of raising awareness among one's family and community are explained. An entire section follows where the utility of community risk maps is explained and guidelines for developing community risk map are provided for project work. A family plan for disaster preparedness is also described with guidelines on how to get an emergency kit ready. Children are also encouraged to express their experiences during a disaster through essay and poem writing as well as through art.
A special section on earthquake risks was developed and included in the Bangla version following piloting in several schools in Chittagong, southern Bangladesh. Also, as the December 2004 tsunami struck southern and south-eastern Asia while the Bangla version was prepared, a section on tsunami risk and response was included so that children know how to identify a tsunami and respond adequately. The last section contains a glossary on key terms used in the kit.

Several games are provided throughout the kit to stimulate learning and action. The kit is vividly illustrated throughout with maps, drawing, photographs, signs and symbols as and where appropriate. The result is a 32-page publication with full colour layout on 21.5 x 28.5 cm and printed on glossy paper. Teachers and parents have been invited to use the kit in helping children learn about disaster risks and help reduce disaster risk.

To introduce the learning kit to children in high schools and obtain feedback from school children and teachers, a school event was organized at a high school under the theme "Risk Reduction Learning Goes to School: Playing Games, Learning Disasters Risk Reduction". The games in the learning kit were also explained to the high school students. Although at first the students needed guidance to play the games, once their doubts were clarified, the

pace of play increased. The students demonstrated strong interest in the games and were drawn into their interactive nature that stimulates ideas and messages on disaster risk reduction.

In every school where the Campaign was implemented, selected teachers and staff of local partner organizations participated in an orientation programme on the learning kit. It is important to allow teachers and local NGO representatives to have "hands on" experience on what the kit contains, and how to use it in practical and real-life contexts.

Impacts & Results

Positive feedback on the learning kit received from school children, which included the following: "I believe that playing this game can improve our lives; and playing this is really fun;" "With this game, it is possible to take steps toward disaster risk reduction;" "I learnt many things about natural disasters and risks;" "The game has a lot of interesting things which created much interest among us. The game has a lot of useful things to learn from;" "I found the game entertaining as well as providing very useful information to improve our lives;" "We could enjoy this even more after classes;" "I hope we have similar interesting ways of learning every day."

Feedback from school teachers was extremely useful, especially for adapting the kit to other local risk contexts. Commenting on the kit, school teacher Shamima Akhter said: "The process of learning through the school kit will help develop a knowledge bank in each community; therefore it will help promote a culture of sharing knowledge and practical experience on disaster risk reduction."

The Good Practice

The Initiative can be considered a good practice because: (1) the learning kit was in the national language, which facilitated understanding and helped reach the largest number of people; (2) the kit, especially through the games, focused the students' attention in a fun and relaxed way, which made understanding and learning very easy (as reflected by students' comments above); (3) teachers and parents have been invited to use the kit to help children learn about disaster risks and help reduce disaster risk.

School girls show interest in the Bangla version of the "Riskland" game

The learning kit was adapted from a joint publication of the UN/ISDR secretariat and UNICEF/TACRO entitled "Let's Learn to Prevent Disasters! Fun Ways for Kids to Join in Risk Reduction". Original materials and permission to adapt and publish in Bangla and in Bangladesh were obtained from the UN/ISDR secretariat. The UN/ISDR game "Riskland" was also adapted as "Jhukipur theke Nishchintopur" (from Riskland to Land of Resilience).

The *Disaster Risk Reduction Begins at School Campaign - Bangladesh under the theme "Know Risk = No Risk"* was conducted in the following steps (in chronologic order): (1) with schools, and civil society: orientation on school awareness programme; implementation planning meeting; implementation; coordination and supervision; feedback; and consolidating learning; (2) schools, and civil society to community and local officials: organizing sharing of lessons (parents' meetings, local-level meetings) and promoting continuing learning through practice at community level.

The Campaign sought to build local capacity and awareness through: (1) development and enhancement of learning tools; (2) training of facilitators and teachers; (3) participatory extra-curricular activities; (4) organizing extra-curricular sessions/activities; (5) testing children's cognitive response; (6) drawing lessons for scaling up; and (7) school and community workshops.

The Campaign helped children: (1) understand and identify risks and communicate these to others, and explore ways to raise community awareness; (2) engage in participatory hazard risk mapping of their surroundings, community, village, etc.; and (3) engage in family and school risk reduction planning and management.

Lessons Learned

When education systems are highly centralised, school authorities tend to be anxious about the consequences they may have to face for taking up any proactive action without prior authorisation from higher authorities. To overcome this resistance ActionAid worked alongside partners that had a proven track record of working effectively with schools. Our partners were able to introduce the learning kit thanks to their solid relations with the school authorities.

The sustainability of a Disaster Risk Reduction in Schools initiative depends largely on mainstreaming disaster risk reduction in the national school curricula. One of biggest challenges for ActionAid has been to bring on board all relevant government departments to agree on a strategy and comprehensive plan of action. It has proven essential to work closely with the authorities at the national level to raise awareness of the key role of schools in building the resilience of the communities through disaster risk reduction.

Potential for Replication

Being an adaptation of successful outputs from other parts of the world, the Bangladeshi learning kit is itself a replication. In the light of this and of the success of the Bangladeshi experience, any other country should be able to adapt the same foreign outputs either in its own way or by drawing some inspiration from the methodology and approach adopted by ActionAid Bangladesh and the Sustainable Development Resource Center.

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Cape Verde

"Institutionalizing" Disaster Risk Reduction in Schools

School Outreach Project

National Civil Defence Service

Students participate in disaster evacuation exercise

Abstract

The Cape Verdean government has, over the last few years, paid special attention to public awareness and education on disaster risk reduction.

In 2005, after the World Conference on Disaster Reduction held in Japan in January 2005, the Cape Verde Serviço Nacional de Protecção Civil (SNPC - National Civil Defence Service) embarked on information and awareness-raising activities on potential disaster risks, together with a number of civil society actors.

As part of the activities, a project was launched the same year – that is before the launch of the ongoing ISDR World Disaster Reduction Campaign under the theme "Disaster Risk Reduction Begins at School" in 2006 - to increase public awareness on disaster risks among school children and help children contribute to disaster risk reduction. The initiative is still under way. It has helped enhance the safety of schools and school children.

The initiative is also a step toward mainstreaming disaster risk reduction into school curricula. More importantly, the SNPC seeks to "institutionalize" DRR in schools by carrying on with the Project even after the end of the ongoing ISDR World Disaster Reduction Campaign in 2007.

The Initiative

Entitled "School Outreach Project", the present initiative has been implemented since 2005 in a bid to implement the Hyogo Framework for Action (HFA) Priority for Action 3: "Using knowledge, innovation and education to build a culture of safety and resilience at all levels".

Its objective is to increase public awareness on disaster risk reduction (DRR), especially among school children - a vulnerable group - and equip the children with knowledge and tools for individual and collective protection against disasters. It is to be noted that "equipping children with knowledge and tools for individual and collective protection against disasters" includes mainstreaming DRR into school curricula – which is one of the objectives of the ongoing ISDR World Disaster Reduction Campaign under the theme "Disaster Risk Reduction Begins at School".

It has been implemented in most disaster-prone areas in Cape Verde. Launched in 2005 - that is before the launch of the ISDR World Disaster Reduction Campaign in 2006, the Project is still under way and there are plans to extend it to more schools.

The Project includes various activities such as a disaster evacuation exercise held 11 October 2006 - on the occasion of the International Day for Disaster Reduction. As the Project is considered very important by the Cape Verdean government, efforts are being made to "institutionalize" DRR in schools by carrying on with the Project after the end of the ISDR World Disaster Reduction Campaign in 2007. It is to be noted that mainstreaming DRR into school curricula too can be perceived as an effort toward such a desired "institutionalization".

Some 6,000 school students, teachers and other school staff in the capital, Praia, and 912 students in another town, Santo Domingos, have benefited through their participation in the Project and related drills.

The Project has been implemented by the Serviço Nacional de Protecção Civil (SNPC - National Civil Defence Service), a decentralized and integrative system that includes the government at national and community level and ensures - through its civil defence officers - appropriate coordination of forecasting, prevention, early warning and relief operations related to natural disasters and other emergencies, including severe accidents.

Implementing partners are the Ministry of Education, Ministry of Transport, government officials, city fire fighters, the National Police, the Cape Verde Red Cross Society, school teachers and students. The roles of the SNPC and the implementing partners are:

1. SNPC civil defence officers organize and initiate evacuation and mock drills and have developed a school course on road safety.
2. Government officials such as the Prime Minister and the Minister of Interior strengthen public awareness on the Project by attending launching ceremonies.
3. Civil society actors such as the National Red Cross Society and others contribute to the activities through their staff and technical assistance.
4. National Police officers and fire fighters contribute to successful implementation of drills.
5. School management staff members cooperate with the SNPC to ensure effective implementation of simulation and evacuation exercises and the development and implementation of school courses on DRR.

Impacts & Results

The Project has helped raise and promote awareness on safety and disaster risk reduction (DRR) in Cape Verde, and enhanced the safety of schools and school students by inculcating responsible and preventive behaviours in them.

More importantly, it is a crucial step toward mainstreaming DRR into school curricula. Last but not least, the Project serves as a pilot project for future extension to other schools.

The Good Practice

The Project can be described as a good practice because: (1) it has attracted enthusiastic participation from school students and teachers, as well as from the public; (2) it facilitated smooth transfer of DRR knowledge on specific disaster risks to the school students involved; (3) it helped the school students introduce DRR to some displaced persons – which confirms that children can play an important role in DRR; and (4) all the events were attended by government, civil society and NGO officials, which increased their visibility and boosted public awareness of the need to make DRR fully part of national education.

Evacuation exercises were organized and were carried out by SNPC civil defence officers in four pilot secondary schools in the capital, Praia. A sensitization exercise was also carried out in a technical school in another town, Santo Vincente. Students were advised on self-protection measures and collective safety by the SNPC.

A radio broadcasting system was also developed, including 10 amplifiers used as sirens and for a speaker, radio, CD and microphones. A radio programme was developed and it is on air once a week (on Fridays from 13:40 to 14:00 local times), disseminating preventive measures, awareness messages, sensitization on self-protective measures, and advice for the public - including school children as the main target of its news. Music is also aired to enrich the programme.

The students and the Red Cross Society also took part in SNPC response test exercises on relief provision to displaced persons, advising the displaced persons on self-protective measures.

In addition, a simulation exercise on road accidents was held for the secondary school in Santo Domingos. The town is located in a zone prone to road accidents and the road accidents had affected several students in the past.
Finally, in cooperation with the Directorate for Secondary School, the SNPC developed a course on road accident

Lessons Learned

Key lessons learned from the Project are: (1) the Project needs to be extended to more schools in Cape Verde, especially in high-risk zones; (2) the Project might benefit from cooperation with UN agencies represented in the country, such as the UNESCO, UNDP and UNICEF which will have to be contacted for future activities, and (3) continuity is needed to sustain the success of the Project.

It is to be noted that the project faced the following challenges: (1) experts/professionals and resource persons were – and still are - not readily available; (2) lack of funds sometimes compelled the SNPC to act on demand from schools – sufficient and stable funding is needed; and (3) mainstreaming DRR into school was not achieved.

Regarding the person resources, better publicity and public awareness might make it easier in the future to win experts' support to and participation in such a project. As far as lack of funding is concerned, it has not been solved yet. But on the need to mainstream DRR into school curricula, the Cape Verdean Ministry of Education has shown interest in the issue and discussions are under way on how to address it.

Potential for Replication

The Project can be replicated in Cape Verde in the future. To do so successfully, adequate funding should be available and more schools should be involved.

The Project can also be replicated in other countries. An institution has to take the lead and convince targeted schools that the Project will not negatively affect their curricula, but will give added value in terms of school safety and safety of school students, teachers, school administration staff and their respective communities. This might help win teachers' and headmasters' support easily. Cooperation with the Ministry of Education might also be advisable to convince the schools.

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Grenada

Teaching Guide and Quiz Competitions Help Enhance Preparedness

Disaster Preparedness among Primary School Teachers and Students

National Disaster Management Agency

Abstract

The Caribbean state of Grenada was devastated by Hurricane Ivan in September 2004. Poor preparedness and response at all levels indicated to the National Disaster Management Agency (NaDMA) that the awareness and understanding of risk were insufficient in all sectors of society.

A teaching guide on disaster preparedness was developed under the joint coordination of the Ministry of Education and UNICEF. The teaching guide was intended for primary school Grade 3, 4 and 5 students in the Grenada, Carriacou and Petit Martinique islands. Primary school teachers were trained to use the teaching guide, an information booklet jointly developed by UN/ISDR and UNICEF entitled "Let's Learn to Prevent Disasters![1]" and a workbook. In this way, awareness of risks and knowledge of disaster preparedness were raised among primary school teachers and students.

The teaching guide also helped improve the country's "National Disaster Awareness Week Primary School Quiz" competition held every year right before or at the beginning of the Atlantic Hurricane Season.

1 http://www.eird.org/toolkit/English/games/Booklet-english.pdf.

The Initiative

The Initiative included the development and distribution of a disaster preparedness teaching guide, and then training teachers to use the guide to raise their students' awareness and knowledge.

The teaching guide was developed in 2006 under the joint coordination of the Ministry of Education's Curriculum Department and UNICEF. The teaching guide was intended for primary school Grade 3, 4 and 5 students in the islands of Grenada Carriacou, and Petit Martinique.

The teaching guide was developed using themes from two sources: (1) an existing primary school guide prepared in 2001 by the National Emergency Relief Organization (NaDMA) for adapting the Grade 5 curriculum and entitled "Hazards", and (2) a UNICEF booklet entitled "Let's Learn to Prevent Disasters".

NaDMA collaborated with the Curriculum Department to conduct teacher training and distribute the teaching guide and the UNICEF booklet. They were distributed to 59 primary schools in the Grenada, Carriacou and Petit Martinique islands.

NaDMA facilitated teacher training sessions for the parish of St. George from February to May 2006. At the training sessions, school principals received a handout containing information about crisis management involving children and psychological first aid, in addition to the other teaching material.

The training sessions were conducted at each of the St. George primary schools after school hours. The sessions were one to two hours long, depending upon the number of questions teachers asked regarding the teaching material and disaster preparedness. The teaching guide also helped the teachers organize the annual "National Disaster Awareness Week Primary School Quiz" competition and prepare their students for the event.

Direct beneficiaries of the Project were the teachers who attended the training sessions and the targeted Grade 3, 4, and 5 students. It was hoped that the disaster preparedness information would indirectly reach the friends and family members of the students and teachers who used the teaching guide and other material.

Impacts & Results

NaDMA observed an increase in the participation and level of knowledge of Grade 5 students in the "National Disaster Awareness Week Primary School Quiz". This means that a larger number of people have acquired knowledge on disaster preparedness, prevention, mitigation and response. Teacher training was conducted at 18 schools in the parish of St. George. A total of 157 female and 16 male teachers were trained to use the UNICEF Let's Learn to Prevent Disasters! booklet, a workbook, and the UN/ISDR Riskland board game in relation to the teaching guide.

As a direct result of the training, disaster-related discussions began in school, where teachers and school administrators shared their experiences of Hurricane Ivan and stressed the importance of psychological first aid resources. As a subsequence, NaDMA learned to incorporate psychological first aid into their presentations to schools and school groups.

The Good Practice

The Project can be considered a good practice because: (1) it raised awareness and knowledge of disaster reduction and response among school teachers and students; (2) it helped improve and reinforce existing arrangements such as the annual "National Disaster Awareness Week Primary School Quiz"; and (3) coupled with the quiz competition, the content and cost-effectiveness of the Project won the support of key stakeholders such as the Ministry of Education, UNICEF, individual schools, the media, and the private sector.

The media and business community generously promoted and supported the annual "National Disaster Awareness Week Primary School Quiz". This event would not have been received with such a level of interest in the schools without media promotion and the private sector's support in the form of prizes, transportation and refreshments. The annual event was coordinated every year by the same NaDMA staff member, ensuring focus, continuity, and the insight of an experienced person.

In 2007, 120 students from 40 schools participated in the quiz competition, with an estimated additional 500 quiz spectators who gained knowledge of disaster preparedness. The number of participating schools had increased in comparison with the previous year. Also, additional question rounds had to be organized for the quiz finals, because the participating students were so learned in the subject.

The principal of the winning school, the Paraclete Government School of St. Andrew, explained that his school held weekly general knowledge competitions to select their quiz participants. The quiz coordinator added that support from school principals and teachers made a major difference. Hailing the quiz competition, school principals and teachers expressed that they had come to understand the importance of disaster management, and recognized the urgency of teaching children preparedness measures that they can play a part in.

It is worth noting that NaDMA has, for several years, conducted the "National Disaster Awareness Week" as an annual public education campaign, shortly before or at the beginning of the Atlantic Hurricane Season. In 1999, the National Quiz was added to the list of activities developed to motivate and educate people about disaster preparedness, prevention and management at all levels. The National Quiz is an annual opportunity for primary school students to demonstrate their knowledge of hazards and disaster management. Grade 5 students from all primary schools in Grenada, Carriacou and Petit Martinique are invited to participate in the preliminary round of competition. In the semi-final round, representatives from 16 preliminary round winning schools competed for the chance to represent their parish in the national finals. In the final round, seven schools represent each of the seven parishes.

For example, this year the preliminary round was held during the week starting on 21 May 2007. The semi-final round was held the following week and the finals were conducted on 6 June 2007. Each school team was composed of three Grade 5 students. The teams were asked a variety of questions related to floods, hurricanes, volcanoes, earthquakes and general disaster management. The teams with the highest total score at the end of each round advanced to the next round of the competition.

The quiz venues, facilitators and prizes are organized every year by NaDMA. The Ministry of Education gives its approval for conducting the quiz within a given timeframe and informs school principals of the activity. School principals give permission to use their school as a venue and notify NaDMA if their students will participate. Grade 5 or Social Studies teachers at participating schools are in charge of preparing the students who will compete for the school.

Direct beneficiaries were the students who participated in the quiz. Indirect beneficiaries included quiz spectators (students and teachers), competing schools, as well as participating teachers and students' family relatives, neighbours, and friends, and eventually society at large.

Lessons Learned

NaDMA first of all learned from the Project that a single teaching guide can make a difference in increasing awareness and knowledge of disaster reduction among school students, teachers and the public at large. Another key lesson is the importance of good timing for the National Primary School Disaster Preparedness Quiz within the school year. As the quiz is part of National Disaster Awareness Week, organizers had to be sensitive with regard to the competing schools' workload at that time of year, which includes school activities and commitments. For instance, in 2007 the organizers had to change the dates of the quiz because of the requirements of the secondary school Common Entrance Examination. Similar projects in the future could be improved by increasing the hours allocated to disaster preparedness in the regular school curriculum, and organizing sensitization and education presentations to be given by disaster management officials at schools. Lastly, the school quiz requires a coordinator with excellent organization skills to manage the scope of preparations necessary for a national-level activity. The Project needs to be given access to, communicate with, and receive support from the body which has control over primary schools. In Grenada, that body is the Ministry of Education.

The two major challenges associated with the implementation of the Project were: (1) scheduling training for all primary schools within one school year; and (2) replenishing supplies of teaching material and tools. In addition, two major challenges had to be overcome when organizing the National Quiz. The first was recruiting a sufficient number of quiz facilitators. For each competition, three persons are neede to act as quiz master, time keeper and score keeper. In previous years, NaDMA received feedback that it was unfair for quiz facilitators to be drawn from

hosting schools. It was difficult to find available appropriate facilitators, because the quiz was conducted during work hours and in locations often far from business districts. In response to this challenge, the quiz coordinator selected persons from district disaster committees, NaDMA and the Imani Programme, which is an initiative of the Department of Youth Development. The second challenge was gathering the full participation of schools over the years. The increase in participation in 2007 was not only the result of key inputs such as the teaching guide, but also of inviting private as well as government schools. In order to overcome this challenge, it was important to sustain constant communication for organizing quiz rounds to suit the needs of participating schools.

Potential for Replication

Similar projects in the future would benefit from feedback gathered from training participants and students. Lack of direct feedback from implementing teachers, meant NaDMA had to base its evaluation of the Project on the increase or decrease in quality of students' demonstrated knowledge of disaster preparedness.

In any case, the Project can be easily replicated, provided that the training facilitator has significant and applicable teaching tools to distribute. The teaching tools should focus on hazards affecting the country, region or area. This will make the information relevant and interesting to the teachers and students receiving the material.

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Indonesia

Teaching Disaster Reduction in Primary Schools

Disaster Awareness in Primary Schools,
Disaster Risk Management in Development Cooperation (a GTZ[1] project), Science and Education Quality Improvement Project and Good Local Governance

Abstract

Indonesia is prone to earthquakes, landslides, volcanic eruptions and flooding with devastating social and economic consequences even in the long run. The December 2004 tsunami in Aceh Province and the May 2006 earthquake in the city of Yogyakarta, Java Island, brutally reminded the country that children and women are most vulnerable to disasters. Despite this, no appropriate procedures were put in place.

In the light of these facts, and given that a large section of Indonesian society is lack of understanding of hazards and disasters, it was necessary to provide primary school students with some knowledge of natural hazards and risk reduction measures.

In addition, the importance of mainstreaming disaster preparedness into education was stressed in the "2006-2009 National Action Plan for Disaster Preparedness".

1 The German Technical Cooperation (GTZ).

The Initiative

The Project, entitled "Disaster Awareness in Primary Schools" (DAPS), was launched in high-risk primary schools in Indonesia in 2005 and is ongoing.

The DAPS Project first aimed to secure recognition and understanding of natural hazards, including the potential impacts these can have on personal environments and social development. The Project also aimed to develop disaster prevention and mitigation knowledge and skills among families, schools and communities, and knowledge of disaster response measures for extreme situations.

The 27 May 2006 earthquake in the city of Yogyakarta, Java Island, killed 6,000 people and injured an even larger number of others. It also wiped out people's livelihoods and inflicted heavy losses on infrastructure. But school students involved in the Project, initiated three months earlier, responded to the event with adequate behaviours.

The Project benefited some 50,000 school students, 2,200 school teachers and directors, and 500 members of school committees. The students' relatives as well as national and local school authorities also benefited to some extent.

Initiated by the Disaster Risk Management in Development Cooperation, an advisory project of the German Federal Ministry for Economic Cooperation and Development (GTZ), the DAPS Project was implemented by the Science Education Quality Improvement Project (SEQIP) and since 2006 supported by Good Local Governance (GLG). SEQIP has vast experience in the supervision and implementation of teacher training, and were capable of making good use of well-established structures and networks. On a sub-district level, school administrators supported and facilitated the introduction of training sessions by engaging personnel in preparatory activities and providing the necessary facilities.

Impacts & Results

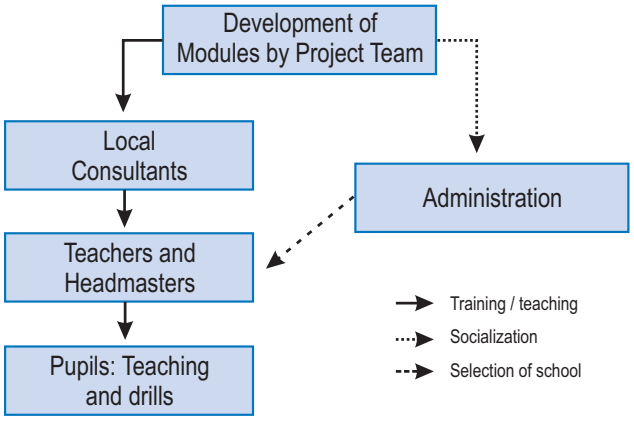
Three months before the May 2006 earthquake in Yogyakarta, the DAPS Project was introduced into three schools in what were to be the most affected areas. A survey carried out immediately after the earthquake revealed that even though the tragic event did not take place during school hours, around 40 per cent of school students involved in the Project responded with adequate behaviours and none of the school students were seriously injured. This was indicative of the effectiveness of the Project.

The Good Practice

Bringing about fundamental changes in the traditional teaching approach was a challenging endeavour. The SEQIP team knew from past experience that teachers' behaviours could only be modified through a long-term and sustainable process. For this reason the training modules were designed so that they would not overstretch the teachers' capabilities.

Indonesian teachers were often poorly trained, possessed limited technical subject knowledge, and had a very narrow range of teaching methodologies at their disposal. Traditional curricula championned narrative methodologies, meaning the role of the student was reduced to that of an information receiver. Students were usually be expected to recite by heart facts presented by teachers to them. The objective were to accumulate facts; and to understand of processes but concepts were rarely sought out.

Figure1. The Project approach



The Project can be considered a good practice for teaching disaster risk reduction in schools because it took the teachers' capabilities into account in the following ways:

1. It enforced clarity, precision and perseverance by committing the Project team to the rules: Simplify but do not falsify! and Don't hope it works, make sure it works!
2. Information had to be noted down in great detail.

3. A learning-by-doing approach was applied in engaging participants in practical activities such as first-aid courses.
4. Some continuity with the traditional approach was pursued by writing training modules in narrative form.

The DAPS training system first targeted key persons such as local consultants. These were chosen from within the targeted provinces to limit travel cost and secure their availability both during and after the Project. They received training on the following topics: earthquakes, landslides, flooding and tsunamis. Then, they formed teams to disseminate what they had learnt to school teachers, school directors and all other school personnel - as it was agreed that it was essential to train as many people as possible on disaster preparedness. Specific training could be compiled and conducted depending on the risks and vulnerabilities of the schools (as shown by figure 2). The maximum number of participants in each training session was set to 20 - as it was found that the larger the group the more likely it was for the trainers to adapt a lecturing style and the less likely it was for participants to actively involve themselves.

At the time DAPS was initiated, the relevant Indonesian government authorities were reluctant to introduce new topics into the existing school curriculum. They rightfully believed the teachers' workload was already too heavy. This was taken into consideration when the Project was designed, as is reflected in the integrated approach that was chosen. Instead of creating a new subject exclusively dedicated to earthquakes, landslides, flooding and tsunamis, these topics were integrated into pre-existing subjects such as "Indonesian Language", "Science", "Social Studies", "Physical Education", and "Art". For example, some teachers managed to teach flood disaster preparedness in the "Indonesian Language" subject by introducing it within a curricular activity called "Reading a Report and Discussing its Contents"!

As a result, the teachers and students widened their knowledge, and the quality of the lessons was upheld with the help of lesson plans based on modern didactics. A child-centred methodology was adopted, which included group work and raising meaningful questions. Teaching aids were supplied in sufficient numbers, and lessons were jotted down in great detail to ensure that their objectives were attainable.

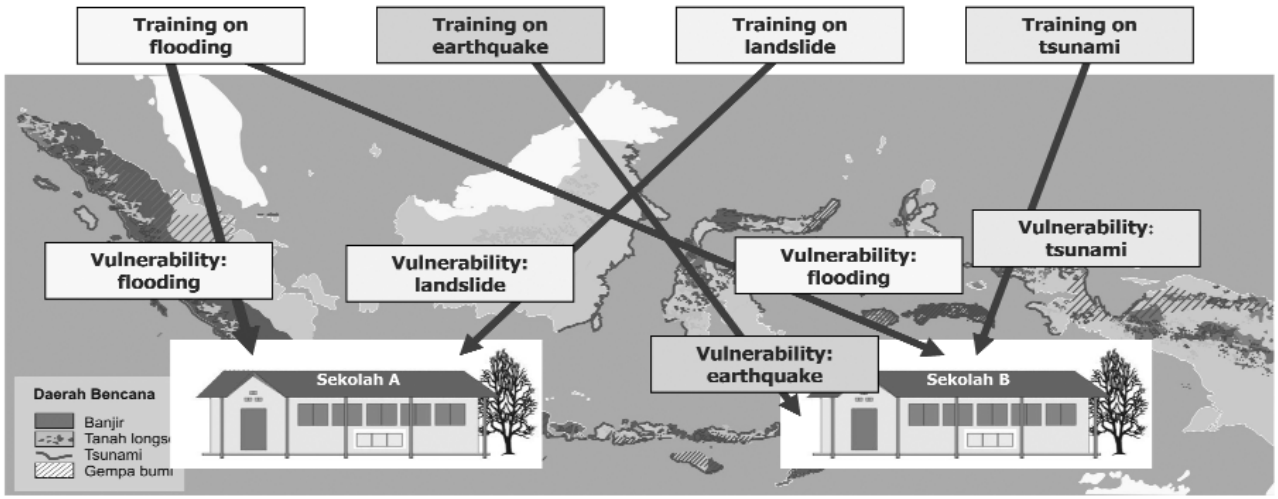


Figure 2. Training design based on specific vulnerability of school location

Lessons Learned

A key lesson learned from this Project was that disaster risk reduction material and plans must be fashioned by the teachers themselves. Providing teachers with information and procedures is not sufficient as they may, for example, follow evacuation procedures inadequately, or simply not follow them at all out of fear of doing something wrong. It was, however, found that the teachers were very enthusiastic about participating in high-quality training that suited their capabilities.

The trainers, however, had to face three main challenges (1) superstition, which is deeply rooted into Indonesian society; (2) poor qualifications and professionalism among teachers; and (3) schools' inner institutional culture. These challenges were overcome using foresight during the Project design as follows:

1. Superstition: after realizing, through a study of Indonesian literature, that people were lack of information on natural hazards and believed their origin to be "supernatural", the Project incorporated these facts into its design by preparing teachers to handle such attitudes by asking students whether they would rather try to protect their families or simply leave it to fate.

2. Poor qualifications and professionalism among teachers: to cope with poor qualifications and professionalism among teachers, the team restricted the content of their lessons to what was immediately necessary to enable the teachers to train the children. Scientific language and formulas were avoided whenever possible, and simple language and visual aids (pictures, videos, role play, etc.) were used as much as possible. The traditional Lesson Plan format was imitated, although elaborated into more detail, and each lesson was accompanied with clear information about when and how it should be used. The teachers were also familiarized with teaching plans through peer teaching.

3. Schools' inner institutional culture: the above procedures were also relevant to addressing the third challenge - schools' inner institutional culture. Indonesian school personnel's motivation and commitment were generally weak due to their very low salaries, which forced them to take extra jobs. To cope with poor motivation and commitment from school personnel, the teachers were provided with material that could be used with minimum preparation.

Potential for Replication

This practice could easily be replicated. To reach more schools in the future, a cascade approach that takes advantage of a school cluster system similar to the one in Indonesia should be adopted. This would involve having in each cluster a teacher with enough qualifications to train the whole school as well as organize and supervise follow-up activities such as evacuation drills, or activity days dedicated to, for example, planting trees.

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Mali

Introducing Disaster Risk Reduction in Classrooms before Mainstreaming it into School Curricula

"Strengthening National Disaster Risk Reduction Capacity" Project

Ministry of Education, Directorate of Civil Defence, UNDP Mali, Young Bussiness Owner's Manager's Federation

Abstract

Efforts are under way to mainstream disaster risk reduction (DRR) into school curricula in Africa. For its part, Mali, which is extremely vulnerable to natural hazards such as drought, locust invasion and floods has sought, over the last few years, to educate primary, secondary and high school students on disaster reduction and integrate disaster management into higher education.

In this context, the Malian Directorate of Civil Defence and Ministry of Education developed a strategy to build a culture of prevention through formal education. The strategy included a component entitled "Printing disaster prevention messages on the cover pages of students' exercise books".

This component proved to be a simple, straightforward, and cost-effective way of raising awareness in schools. More importantly, it helped introduce DRR in classrooms even before DRR was mainstreamed into school curricula.

The Initiative

The Initiative was a component of Mali's strategy to build a culture of prevention through formal education. The strategy component sought to raise awareness on disaster risk reduction (DRR) in schools through "printing disaster prevention messages on the cover pages of students' exercise books".

The Initiative was implemented as part of a UNDP project entitled "Strengthening National Disaster Risk Reduction Capacity". The Project included early warning, education, training and public awareness. The UNDP project is expected to end in December 2007.

Mali's strategy for building a culture of prevention through formal education sought to provide children and youth some knowledge on DRR. Its specific objectives were: (1) to increase public awareness and preparedness using a simple tool; (2) to educate children and young about disaster reduction and attitudes to adopt in the event of a disaster; and (3) to conduct national drills during the International Day for Disaster Reduction.

The above-mentioned strategy component - printing disaster prevention messages on the cover pages of students' exercise books - was initiated in 2005. The exercise books were launched on the International Disaster Reduction Day on 10 October 2006. In total, 20,000 copies were distributed through schools in nine regions, with 2,000 copies per region. Other copies were also disseminated countrywide to be displayed at relevant public events.

Beneficiaries were over 25,000 students living in disaster-prone areas: 20,000 primary and secondary school students; 5,000 higher education students; and some informal education students.

The Initiative was implemented by the Directorate of Civil Defence in cooperation with the Malian Ministry of Education, the Young Business Owners' and Managers' Federation, and academic institutions.

Impacts & Results

A major impact of the Initiative was introducing DRR in classrooms, before it had even been mainstreamed into school curricula. As such, it not only implemented an innovative approach for raising awareness in schools, but was also a good entry point for the desired mainstreaming of DRR into school curricula. As a consequence, many partners demonstrated interest in message dissemination by means of exercise books.

The Good Practice

The Initiative can be considered a good practice because: (1) its innovative exercise books were a simple, straightforward, and cost-effective way to reach school students and "mainstream" DRR into classrooms; (2) it awoke students and academic communities in general to the importance of DRR; (3) it was, as mentioned earlier, a good entry point for mainstreaming DRR into school curricula; and (4) it contributed, in its own little way, to building a culture of safety in schools.

The DRR message contents were designed, tested, and finalized by the Directorate of Civil Defence together with the Malian Ministry of Education and academic institutions, in collaboration with the Iranian Red Crescent Society.

The DRR messages were printed in colour and written in child-friendly French on the first four pages and last four pages of the exercise books - that is on eight pages. The eight pages consisted in the two front covers (external and internal - 4 pages) and two back covers (external and internal - 4 pages). The "messages" included DRR slogans such as "Disaster Risk Reduction Begins at School", photographs, brief and simple explanations of various hazards in Mali, brief and simple advice on how to reduce their impacts, and first aid skills.

Although it took some time to come up with this relatively "smart" and simple way to make a difference in raising DRR awareness among school communities, when the idea was finally identified and found viable, partners showed interest in it and helped implement it. For instance the Young Business Owners' and Managers' Federation helped the Directorate of Civil Defence disseminate the exercise books in remote areas that cannot be accessed easily.

Lessons Learned

Key lessons learned from the Initiative were: (1) in the field of DRR, all efforts should be made to identify solutions that are first and foremost tailored to existing context, expertise, and available resources; (2) any solutions found should first be shared with as many local potential stakeholders as possible; (3) the proposed solutions should be accepted and supported by the minimum number of local stakeholders necessary for immediate implementation; and (4) initial implementation should be rapid for leverage.

Despite this approach, the Initiative also faced a major challenge in terms of funding. Producing the needed number of exercise books could not be achieved because of lack of funds. It is hoped that the growing interest showed by partners following the success of the Initiative will help overcome this challenge.

Potential for Replication

The Initiative can be replicated in the country with some improvements to the exercise books: more information should be added, particularly on the issues of water management and early warning.

The Initiative can also be easily replicated in other countries, especially in neighbouring West African French-speaking countries, by adapting it to the local contexts, needs, resources and expertise.

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Mozambique

Training Teachers to Help Mainstream Disaster Risk Reduction into School Curricula

Disaster Risk Reduction and Education Initiatives
Red Cross Society, Mozambique

Photo Cortesy Carissa Wilkinson

Abstract

Mozambique has experienced severe disasters like cyclones, floods, landslides, drought, and epidemics, as well as a major earthquake in February 2006. Aware of local vulnerabilities to such hazards and the impacts these can have on people and property, the Mozambican government and international NGOs embarked on disaster risk reduction (DRR) initiatives in the country.

As part of such initiatives, the Mozambique Red Cross Society resolved to follow the recommendation given during a UN/ISDR Africa regional training workshop on "DRR and Education" held in Kenya in May 2006 "to impart the knowledge acquired (during the workshop) to primary and secondary school teachers".

As a result, Mozambican teachers were trained on DRR issues in June and July 2006, to help them raise awareness among school communities and develop a school handbook on tsunami and other disaster risks and DRR in Mozambique. The training was a good entry point for mainstreaming DRR into school curricula.

The Initiative

The Mozambique Red Cross Society took the lead in taking forward the recommendations of a UN/ISDR Africa regional training workshop for Indian Ocean countries on "Disaster Risk Reduction and Education", a workshop held in Nairobi from 11 to 13 May 2006. The workshop recommended that knowledge acquired during the workshop be imparted to primary and secondary school teachers. Following this recommendation, selected teachers were trained in Mozambique in June and July 2006.

This was part of ongoing efforts to mainstream DRR into school curricula in Africa. Such efforts had been recommended during a UN/ISDR Africa regional consultative meeting held also in Nairobi in March 2006, attended by Education Ministry officials from 19 African countries.

The Mozambique training of teachers had two objectives: (1) to create awareness among the students on the effects of tsunamis, earthquakes, volcanoes, cyclones and other disasters, and enhance the safety of school children and their respective families and communities; and (2) to develop a school handbook on tsunami risk and other disaster risks in Mozambique.

The training benefited 99 teachers from 76 schools located in three provinces. Their respective communities were also equipped with DRR knowledge.

The Mozambique Red Cross Society implemented the training activities in close cooperation with the Mozambican Ministry of Education and Culture, headmasters and teachers from the 76 schools, UNDP Mozambique, and UN/ISDR Africa.

The Mozambique Red Cross took the overall lead of the activities, organized the training, ensured cooperation of all partners, and provided technical assistance and expertise. The Ministry of Education and Culture provided assistance in organization of the training by selecting the schools and teachers and providing technical expertise. The headmasters and teachers from the 76 participating schools cooperated with the Red Cross and the Ministry of Education and Culture to ensure the success of the training and sustainability of its activities. UNDP Mozambique assisted operationally and ensured timely release of funds. UN/ISDR Africa provided technical expertise and financial support to the organization of the training at national level.

Impacts & Results

The training inculcated responsible behaviours to the targeted 99 teachers, other staff and students of the 76 schools. As each teacher handled directly 45 school students, the 99 teachers reached more than 4,400 students directly and some 50,000 students indirectly.

The training activities also helped prepare the public and government institutions for the desired mainstreaming of DRR into school curricula.

The Good Practice

The training of teachers was a good practice because it led to conclusions which make it easier to mainstream DRR into school curricula: (1) DRR, as a topic, could be integrated into all grades from primary to high schools; and (2) DRR could be integrated as a topic into almost all subjects using a cross-cutting approach in the first minutes of each lesson or including them in student activities such as drawing, moral and civil education, or essay writing about natural disasters. Another indication of the effectiveness of the training is its impact, which is still felt in the schools today.

The training of teachers was implemented in seminars. Texts on tsunamis, earthquakes, cyclones and volcanoes were compiled in Portuguese. PowerPoint presentations and illustrations were produced based on documents received during the May 2006 Nairobi workshop on the development of school handbooks. The Mozambique Red Cross Department of Disaster Preparedness and Response contributed to the training seminars through the provision of leaflets and posters produced for public awareness following the February 2006 earthquake. A letter was sent to Red Cross provincial branches in Maputo City, Sofala (Province in central Mozambique) and Nampula (Province in northern Mozambique), requesting their support for arranging the seminars by contacting their respective provincial and district departments of Education and Culture and asking them to select teachers from different schools to attend the seminars at the proposed dates. Throughout the preparation process, close contact was maintained with the Ministry of Education and Culture, the National Disaster management Institute, UNDP Mozambique and the Nairobi-based UN/ISDR Africa.

99 teachers from 76 schools received training in Maputo City, Beira City (central Mozambique) and Nacala city (northern Mozambique) on tsunamis, volcanoes, earthquakes, cyclones and floods. Although initially 100 teachers from 10 schools were targeted, it was found more appropriate to opt for a larger number of schools

for the same number of teachers. Four Red Cross programme officers were also trained - one in Maputo City, another in Beira and two in Nacala - to secure adequate cooperation between the schools and the Red Cross after the end of the planned activities. An extra activity was organized during a Red Cross National Volunteers' Camp where 61 volunteers were trained, including five more teachers.

Seven school nuclei were established to coordinate extracurricular activities on DRR. Five drama groups were also set up to help raise awareness, and posters on natural disasters and disaster risks were developed in the schools.

At national level, the coordination team was composed of two people - one from the Mozambique Red Cross and another from the Ministry of Education and Culture - to ensure proper sharing of information and documentation.

Each of the training seminars was held in the presence of the Provincial Director of the Disaster Management Institute, the Provincial Director of Education and Culture, the District Director of Education and Culture and the Provincial Secretary of the Mozambique Red Cross.

Lessons Learned

Key lessons learned from training of teachers on DRR were:

1. The "cross-cutting" strategy was found advantageous since students received the message in a very good learning environment. They paid attention to what the teacher said. The disadvantage of this strategy was that it benefited only few students. Another disadvantage had to do with time constraint because the teacher had curricular contents to cover. It was agreed that each teacher had to ensure that his students had good understanding of and knowledge about the topic.
2. Lectures during class meetings, concentrations and special days had some advantages: (1) the lectures could be delivered by experts invited for that purpose; (2) more students could benefit; (3) the topic could be approached in some depth; and (4) the lectures could be extended to members of nearby communities. Its disadvantage was poor attention paid by the students as too many people were present.
3. Creation of school nuclei: Some schools gave more importance to this strategy because it made it possible to carry out the required activities without disturbing the normal teaching process. A group of students was selected on the basis of their personal dynamism, communication abilities and flexibility. The group would then find a way of passing the message to their colleagues. The group could also carry out other activities such as first aid and AIDS peer education in a continuous way.
4. Creation of drama groups: Some teachers and schools chose to create drama groups as a way to raise awareness on disaster risk in their schools. Drama, songs, poetry and dance were combined to disseminate prevention messages.

The Initiative also faced a number of challenges: (1) absence of funds for megaphones, bicycles and motorbikes as well as for finalizing and printing the manual developed (additional funding worth 10,000 US dollars was needed); and (2) mainstreaming DRR into school curricula was not achieved, although the training brought Mozambique a good deal closer to this objective.

Some of these challenges were overcome by the partners' interest in continuing the process. In addition, the Ministry of Education and Culture showed strong commitment and interest in mainstreaming DRR into school curricula and further discussions are underway on how to achieve this.

Potential for Replication

Similar initiatives in the future in Mozambique could benefit from distributing T-shirts to help motivate teachers continue performing these activities. The initiative can also be replicated in other countries, especially in Portuguese-speaking Africa. Strong cooperation between education ministries and organizations such as the Red Cross, which are involved in DRR in the area, is helpful.

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Sierra Leone

Preparing State Bodies and the Public for Inclusion of Disaster Risk Reduction in School Curricula

School Outreach Programme

Disaster Management Department of the Office of National Security

Abstract

Sierra Leone, a West African country widely known for prolonged civil war in a not too distant past, is also prone to various natural and man-made hazards. These include flooding, environmental degradation, and water management and waste management problems.

To help reduce the impacts of these hazards effectively, the Disaster Management Department of the Office of National Security (ONS) resolved to implement Priority Three of the Hyogo Framework for Action: "Using knowledge, innovation and education to build a culture of safety and resilience at all levels".

In January 2007, the Department launched a "School Outreach Programme" that sought, among other things, to promote disaster risk reduction (DRR) in schools and prepare the public and government institutions towards the intended integration of DRR into school curricula. The Programme has already benefited some 2,500 students, teachers and non-academic staff members.

The Initiative

The Initiative, called "School Outreach Programme", is a sensitization programme on disaster risk reduction (DRR) initiated by the ONS Disaster Management Department.

It seeks to: (1) serve as a way of creating and promoting awareness on environmental protection, safety, and DRR, which is new in Sierra Leone; (2) prepare public and government institutions for the intended integration of disaster management into school curricula; (3) enhance awareness of DRR among policy/decision makers, which could lead to the establishment of a National platform for DRR in Sierra Leone; and (4) serve as a pilot project that might be extended to more schools and make the quiz competition a traditional yearly event.

Launched in January 2007, it is under way in four pilot schools in the capital city of Freetown: St. Joseph's Primary School (girls), St. Edward's Primary School (boys - AM shift), St. Edward's Primary School (boys - PM shift), and D.T. Akibo Betts Municipal School (coeducational).

Direct beneficiaries are some 2,500 school children aged 10 to 12 involved in the Programme. Its indirect beneficiaries are the school children's families and communities that profit from the knowledge acquired by the children.

Implementing partners are the ONS Disaster Management Department, the four pilot schools and UN/ISDR Africa. Their roles are: (1) ONS Disaster Management Department desk officers developed modules on natural hazard issues, which were implemented in the four pilot schools during assembly periods in the morning, as well as organized and developed questions for a quiz competition on DRR; (2) school "focal teachers" helped set up school "Disaster Management Clubs" and implement the modules in their schools; and (3) UN/ISDR Africa supported the organization of the quiz competition financially and gave technical support during the formulation of the quiz questions.

Impacts & Results

The Programme can be said to have achieved its four objectives, as: (1) it created awareness of the issues of environmental protection, safety and DRR; (2) it helped prepare the public and government institutions for the inclusion of DRR into school curricula; (3) it enhanced awareness of DRR among some policy/decision makers; and (4) it served as a pilot programme that can be replicated in others schools in the future. Some 2,500 school students, teachers and other staff members have benefited through their involvement in the Programme.

The Good Practice

The Programme can be considered a good practice because it met the following targets in a single initiative in a country where DRR is a completely new topic: (1) raising awareness on DRR among both school communities and policy/decision makers; (2) preparing the public and government institutions for the integration of DRR into school curricula without having even a single committee for DRR available in the country; (3) testing the ground for the possible establishment of a National Platform for DRR in Sierra Leone; and (4) serving as an "experimental" programme. In overall, the project has had a positive impact, as reported by various stakeholders, children, teachers and other partners. The school children have gained knowledge on DRR, which ultimately contributes to their personal safety and that of their families and communities. And the pilot activities in the four schools may catalyze the expansion of the Programme to other schools in Freetown and in the country as a whole. Lastly, it is hoped that the quiz competition held from 22 June to 6 July 2007 and attended by government officials, UN agencies and NGOs will prompt the eventual integration of the Programme into the schools' curricula.

The Programme was first implemented in four of the most prominent primary schools in Freetown and organized a quiz competition. To start off, the Director of the ONS Disaster Management Department assigned special desk officers to manage the School Outreach Programme. The desk officers also acted as coordinators and tutors of DRR and school safety measures. Four pilot primary schools were selected to test the Programme. Official letters of notification, explaining the rationale for the School Outreach Programme and the ongoing UN/ISDR world campaign focusing on schools, were sent to head teachers of the selected schools. An agreement was concluded by the appointment of "focal teachers" by each school. Among other functions, these focal teachers would serve as liaison officers between their schools and the ONS Disaster Management Department. They were also given the responsibility of selecting pupils to form school Disaster Management (DM) Clubs.

On particular school days, the desk officers from the ONS Disaster Management Department used the morning assembly periods to deliver lectures based on modules developed by the Department. These lessons were as interactive as possible to ensure the children

could freely express their views and learn from others. Due to time constraints, each session only lasted about 30 minutes before the children were dispatched to their normal classes. At the end of each session, copies of the modules covered each day were handed over to the focal teachers who would in turn use them as a study guide during extra hours with the students.

The modules were formulated in classroom methodology and are based on specific hazards found in Sierra Leone. These include flooding, environmental degradation, and water management and waste management problems.

An inter-primary schools' quiz competition on DRR was held at the end of the school year under the theme of the ongoing World Disaster Reduction Campaign: "Disaster Risk Reduction Begins at School". The quiz competition was broadcasted on national TV and radio, raising public awareness and sensitizating the general public to DRR and the World Campaign.

The modules and quiz questions and answers were translated into local languages to make them more accessible, even among the illiterate section of the population.

Lessons Learned

Key lessons learned from the Programme are: (1) the Programme needs to be extended to more schools in Sierra Leone, especially in high-risk zones; (2) partnership needs to be expanded with organizations such as the Red Cross and UN specialized agencies represented in Sierra Leone (such as UNESCO, UNDP and UNICEF) to make the Programme even more efficient; and (3) media awareness of the Programme should be reinforced.

The Programme has also faced the following challenges: (1) funding has been low or late; (2) experts/professionals and resources persons are not readily available; (3) integration of DRR into school curricula has not yet been achieved; and (4) there has been a lack of adequate teaching aid in the form of microphones, posters, audio visuals, leaflets and so on.

Some of these challenges were overcome. Funding remains a challenge. Winning experts' and potential resource persons' support to promote the Programme might be easier given greater publicity and public awareness. Mainstreaming DRR into the school curricula is a long process but may hopefully be successful. Regarding teaching aid, it is hoped that other schools will emulate St. Joseph's Primary School in creating special disaster management notice boards to compensate for the lack of adequate teaching aid.

Potential for Replication

The Programme can be replicated in other schools in Sierra Leone with the following improvements: (1) there must be adequate funding; (2) an appraisal of the programme content is needed; (3) the media should be carried along; and (4) logistics should be improved, including up-to-date teaching aids.

To replicate the Programme in other countries, one institution will have to take the lead and convince targeted schools that the Programme will not affect their curricula negatively but will promote the safety of school children and their communities. Cooperation with the Education Ministry is also recommended for convincing schools. It is advisable to first test the Programme in a few schools, as involving many schools from the outset might overwhelm the capacity of the Disaster Management Department. Last but not least, it would be sensible to identify teachers who are interested and involve them in every aspect of the planning. This is because, among other things, pupils are already familiar with their teachers and will respect what they say.

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South Africa

Provinces and Municipalities Hail School Contest on Disaster Risk Reduction Knowledge

School Competition on DRR Knowledge

Chris Hani District Municipality, Eastern Cape Province and the Municipal Disaster Management Centre[1]

Photo Courtesy/Clarissa Wilkinson

Abstract

The International Day for Disaster Reduction (IDDR) in October is an annual event in South Africa. On this occasion, disaster reduction projects and initiatives are launched in various parts of the country. In 2006, the theme for the IDDR was "Disaster Risk Reduction Begins at School"[2].

Different activities were undertaken in most provinces under this theme, focusing on schools and learners. For instance, Tshwane Municipality in Pretoria introduced a set of learning aids on disaster risk, which included booklets with simplified definitions of common disasters and an interactive game based on "communities living along rivers".

But a particular initiative was singled out as a "best practice" by various provinces and municipalities to promote the disaster risk reduction concept: a school competition that enabled school students to demonstrate their knowledge on disaster risk reduction through art, music, and drama.

The Initiative was implemented in 2006 by a municipality in the southern province of Eastern Cape. Two northern provinces resolved to replicate it.

1 In Chris Hani District Municipality; "municipal disaster management centres" are municipal branches of the National Disaster Management Centre (NDMC).

2 The theme is the same this year 2007.

The Initiative

The Initiative was a school competition that involved primary, secondary and high school students in using art, music and drama to portray the impact of disasters on communities, how these disasters could be prevented, and the role of communities in increasing their own resilience to disasters.

The school competition was held in Chris Hani District Municipality in the Indian Ocean port town of East London, Eastern Cape Province (southern South Africa), culminating in a prize-giving function on the International Day for Disaster Reduction (IDDR) on 12 October 2006. The function was attended and fully supported by politicians, various state departments, local municipalities in the province, provincial ministers of various sectors, as well as the print and electronic media. The main speakers were the South African Deputy Minister for Provincial and Local Government, the Eastern Cape Province's Premier and the ISDR Africa Regional Coordinator.

The Initiative was implemented through a multi-sectoral committee comprising all relevant sectors such as health, environment, water affairs and others. The Municipal Disaster Management Centre in Chris Hani District Municipality was the lead agency.

Impacts & Results

The school competition enabled school children to demonstrate their knowledge on disaster risk reduction (DRR) through drama, art and music. The Initiative was piloted as a "best practice" by other provinces and municipalities in the country to promote the DRR concept.

The Good Practice

As mentioned above, the Initiative was singled out as a "best practice" by other provinces and municipalities in the country to promote the DRR concept. This is because, among other reasons, the Initiative was particularly appealing to both learners and educators as it channelled the enthusiasm and creativity of children as a means of disseminating valuable information on reducing the impact of disasters.

To implement the Initiative, an integrated multi-sectoral committee comprising all relevant sectors (Health, Environment and Tourism, Agriculture, Education, Water affairs and Forestry, Housing, Safety and Security, Police Services, etc.) was established. The Disaster Management Centre in Chris Hani District Municipality was the lead agency.

The organizing team briefed both educators and competition adjudicators on the focus for the theme, and supported them in setting the standards and developing the competition guidelines.

Eliminatory competitions were started in the municipality and the finals were conducted on the International Day for Disaster Reduction on 12 October in Chris Hani District Municipality. The school children demonstrated their knowledge of DRR through drama, art and music. A song on community resilience to disasters was composed by a local youth, and was used as the main piece for the competition. Disaster scenarios used by the learners tended to be those occurring frequently in their areas - floods, strong winds, snow, hail storms, HIV and AIDS; but it was interesting to observe their broad knowledge of phenomena like earthquakes and tsunamis.

All participating schools were rewarded with items such as school bags, pencil cases, pencils, and rulers. The winning groups received trophies and prizes in cash. The promotional items were branded with the ISDR 2006-2007 campaign theme, and special banners with similar messages were also on display inside and outside the venue.

The prize-giving function was attended and fully supported by politicians, various state departments, local municipalities in the province, provincial ministers of various sectors, as well as the print and electronic media. The main speakers were the South African Deputy Minister for Provincial and Local Government, the Eastern Cape Province's Premier, and the ISDR Africa Regional Coordinator.

Lessons Learned

A number of lessons were learned from this simple but successful Initiative. Firstly, children educated on DRR issues are the best vehicles for reaching the broader community. When children are educated, the entire community is empowered. This is because children are better at remembering the things they see and put into practice, than what they hear. Secondly, parents are more supportive of ventures involving their children. Thirdly, when politicians commit themselves to supporting DRR activities, much is achieved and people start recognizing the importance of the issue. Fourthly, when different people with different expertise come together, and commit themselves to working together, more is achieved than when they do the same thing but in different places. Fifthly, the mood and activities of the event need to be captured in a professional video production to help share the good practice electronically. Sixthly, changing the country's lower education curriculum to incorporate DRR cannot be achieved overnight, as priorities differ in various sectors.

The main challenge was that, although disaster risk reduction should be a responsibility shared by everyone, only a few recognized this. Instead, most sectors wanted to shift responsibility to others because of: (1) lack of understanding of the DRR concept among implementing agencies such as municipalities, sector departments, etc.; (2) insufficient human and financial resources, which affected the implementation of planned DRR projects; and (3) lack of commitment from other relevant stakeholders that ascribed the responsibility of DRR to disaster managers. All these factors affected, to some extent, the way the school competition was run. These challenges could be partially overcome, although generally only gradually and through increased awareness, understanding, and knowledge of DRR concepts and practices.

Potential for Replication

As mentioned earlier, the Initiative was piloted as a "best practice" by other provinces and municipalities in the country. It will be replicated in the northern provinces of Limpopo and Mpumalanga in October 2007 on the occasion of the International Day for Disaster Reduction.

Mpumalanga Province will prioritize an area where communities are exposed to industrial and natural disaster risks. Limpopo Province will target areas commonly affected by floods, fires and droughts. The National Disaster Management Centre (NDMC) will support these initiatives through printed promotional and information items, media liaison, search for sponsorship and the involvement of the Office of the Minister for Provincial and Local Government during the actual launch.

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Sri Lanka

Integrating Disaster Risk Reduction into Education through Teacher Training Curricula

Building Teachers' DRR Capacity Across Borders

Ministry of Education, National Institute of Education, German Technical Cooperation, Eco Education National Institute of Disaster Management, India

Sri Lankan teachers receive training on "Disaster Risk Management and Schools" in New Delhi, India

Abstract

The December 2004 tsunami was a turning point in the history of disaster mitigation in Sri Lanka. It prompted relevant stakeholders to collaborate towards a long-term, comprehensive and holistic disaster risk management framework with a mitigation-based approach.

Sri Lanka's Disaster Management Act No.13 of 2005 was developed, providing a solid legislative and institutional arrangement for disaster risk management, which led to the establishment of both the National Council for Disaster Management - under the President of the Republic - and the Disaster Management Centre in May 2005, as well as the creation of the Ministry of Disaster Management in November 2005.

Recognizing the importance of education in this area, the Government of Sri Lanka has sought to integrate disaster risk management into the national education system. In this spirit, teachers were trained in India on this topic and helped develop a teacher training curriculum in Sri Lanka. This helped boost "disaster safety education" in the country.

The Initiative

Sri Lanka is vulnerable to water and climate-related hazards such as drought, floods, landslides, cyclones, coastal erosion and tsunami. The impact of these hazards is aggravated by unplanned development, poor land use, ad-hoc human settlements and a failure to enforce even existing regulations.

In the light of this and especially of the impact of the December 2004 tsunami[1], a disaster risk management (DRM) project was implemented as part of a programme called "Education and Social Cohesion, Disaster Risk Management and Psychosocial Care Programme". The DRM project seeks to build a culture of safety through the education system. Its specific objectives are to build a DRM curriculum for teachers and students, and train them on how to deal with various disasters adequately. "Disaster Safety Education" is its motto.

The implementation of the Project began in the capital city of Colombo in June and July 2006. Then in August 2006, Sri Lankan educators received some training in New Delhi, India. In April 2007, a session was held in Colombo to develop the teacher training curriculum. The remaining activities are scheduled to be held this year 2007.

Teachers, students and eventually the whole country should benefit from the Project. India's National Institute of Disaster Management (NIDM) and Indian resource persons also benefited: they were able to learn from Sri Lanka's experience how to develop a curriculum that integrates disaster safety education. The experience they gained should help them promote further the importance of disaster safety education in India.

Initiated by the Sri Lankan-German Development Cooperation, the Project is primarily implemented by the Sri Lankan Ministry of Education and the National Institute of Education of Sri Lanka, the German Technical Cooperation (GTZ) and Eco Education, with support from the German Federal Ministry for Economic Cooperation and Development and World Vision Germany.

Academic and technical support has been provided by NIDM based in New Delhi in the form of: developing and conducting a training-of-trainers course on "Disaster Risk Management and Schools" for education authorities; reviewing the existing curriculum; integrating disaster safety education components throughout the curriculum; as well as other technical support. NIDM coordinated the development of the teacher training curriculum with contributions from two other Indian institutions: the Central Board of Secondary Education and the National Council for Educational Research and Training.

Impacts & Results

The Project greatly helped raise awareness of the importance of DRM among students, educators and education authorities in Sri Lanka. The ongoing process of integrating DRM knowledge and skills into teacher training and then into the students' curriculum, is an important step towards building a culture of disaster safety and resilience at all levels and in all sectors.

Direct beneficiaries of the Project were the educators and teachers who have undergone or will undergo training in India. Indirect beneficiaries include students as well as their families and neighbourhoods.

Following their training in India, the trained Sri Lankan educators conducted short-term initiatives in schools throughout Sri Lanka. The next step was to revise the existing teacher training curriculum and modify it to integrate disaster safety education into the entire curriculum, rather than creating an isolated subject for it.

The training in India involved: (1) providing an overview of Sri Lanka's hazard and vulnerability profiles and their impacts on school communities, as well as an overview of various initiatives to advocate disaster mitigation; (2) using this knowledge to understand the potential role of the education sector in disaster risk mitigation and identify the various issues involved in the desired integration of DRM into the education system; (3) developing teachers' ability to apply hazard and vulnerability mapping tools in schools; (4) training teachers in basic psycho-social, first-aid, and search and rescue procedures to enable them to understand how these skills can be applied in school with the help of a demonstration of the existing disaster response capacity of some school students in Delhi; (5) analyzing

1 The tsunami killed over 35,000 people, wiped out some 150,000 livelihoods, and damaged an unprecedented number of houses, infrastructure, hotels, other commercial buildings, and schools. It was the worst disaster event in the history of the Republic of Sri Lanka.

existing strategies for integrating DRM into the Sri Lankan National College of Education (NCoE) curriculum; and (6) developing the skills and knowledge required for preparing a school DRM plan.

It is expected that, by the end of 2007, 50 National College educators will have received teaching and learning materials, so that they will be ready to implement the new curricula. As a result, 6000 teacher students should benefit from the new disaster safety programmes in 2008. The latter will be introduced to basic DRM and school safety concepts. New teachers will be trained in mock drills, evacuations, fire safety, etc. In addition, the teachers that are generally involved in giving guidance and counselling will also receive training in disaster specific psycho-social care.

The Good Practice

The Project can be considered a good practice because of its successful outcomes: (1) large-scale disaster safety sensitization and training of teachers in Sri Lanka; (2) a draft teacher training curriculum followed by a revised draft of the same that integrated disaster safety education appropriately; (3) the influence exerted by the process in the decision of Indian national bodies and institutions to replicate the experience in Indian primary schools; and (4) the delivery of additional training courses at NIDM and the preparation of a training module for students with special needs.

The Project strongly reasserted the importance of disaster safety education and the role of the education sector in this area in both Sri Lanka and India. Also, general awareness of DRM issues appears to be slowly filtering into families, neighbourhoods and communities.

The first step for implementation of the Project was a national survey of DRM knowledge and skills possessed by teachers at Sri Lanka's National Colleges of Education (NCoEs), in order to have a clear picture of the situation before deciding how to proceed. It included the development of maps of risk and physical resources available to the NCoEs, compiling tsunami experiences, assessing school capacities and the need for including the subject in the curriculum, and investigating the availability of various learning methods. That first step was implemented in June and July 2006

Then, as it was deemed necessary to enable the teachers to revise the existing teacher training curriculum and facilitate future capacity-building initiatives, NIDM developed a two-week intensive course on "Disaster Risk Management and Schools" for 25 Sri Lankan educators. The training was held in August 2006 in New Delhi, India, based on Sri Lanka's hazard and vulnerability profiles. In April 2007, a session was held in Colombo to draft the desired teacher training curriculum. The remaining activities should be carried out by the end of this year 2007.

In this way, the objective to integrate disaster safety education into the relevant school subjects and co-curricular programmes of the Teacher Training Institutes has been achieved. Disaster safety education is now an integral part of pre-service teacher training and the national DRM policy has been implemented in this sub-sector of the education system.

Lessons Learned

Some key lessons learned from the Project are:

1. Although disaster safety education should be imparted across subjects and at all levels of education, it is recommended to develop a need assessment before integrating it into different syllabi to ensure that the Project is 100 % target oriented, and conduct impact assessment surveys regularly.
2. The training manpower needs to be built and preferably monitored through a list of the persons trained, and the full potential of good resource persons unlocked through collaboration and team work.
3. Documented good practices and successful or unsuccessful case studies should be used to strengthen training and school syllabi.

The major challenge was integrating the new topics into the existing curricula; particularly because the ongoing curricular reform has brought many changes to the programme, which demands a great degree of flexibility from curriculum developers. In order to keep this situation under control, the disaster safety education syllabus was assembled in a way that outlined how it was included in the different subjects. The main challenge for NIDM was in developing a two-week intensive DRM course that would sustain the participants' interest without the help of a need analysis of the capacity, available resources and educational system of Sri Lanka. Finding appropriate resource persons to train the participants on the subject was particularly difficult, as this was one of the first initiatives of this kind in India. Integrating DRM throughout the entire teacher training curriculum was also very challenging. But these challenges were overcome through a positive approach, mutual sharing of learning and experience, a lot of brainstorming, and active support from the collaborating organizations. All in all, the Project has been a success.

Potential for Replication

Replicating the Project's methodology in another country can be done with the necessary adjustments to the new context. This demands thorough understanding of the country's educational system and existing DRM expertise. Such replication would be easier between countries with a similar socio-economic profile or, at least, an educational system; as was the case for Sri Lanka and India.

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Thailand

Save the Children

School Children as Disaster Risk Reduction Catalysts and Initiators

Child-Led Disaster Risk Reduction in Thailand Project
Save the Children

Abstract

In Thailand, disaster risk reduction (DRR) is considered a new area of activity for child-focused NGOs. Even the term "disaster risk reduction/management" only became a focus of interest for aid agencies a few years after the December 2004 Asian tsunami disaster.

Efforts have been made in the country to develop national and local disaster preparedness plans, but such plans generally were developed according to a top-down approach that does not involve communities - not to mention children. As a result, the preparedness plans are not adjusted to local contexts, not locally "owned" and not well known.

As children are known to be the most vulnerable to disasters, Save the Children (a child-focused NGO - as suggested by its name) initiated in mid-2006 a school project called "Child-Led Disaster Risk Reduction (CLDRR) in Thailand Project". The rationale behind the Project was: children and youth can play an active role in community affairs that are relevant to them, especially if they are appropriately trained and supported by adults.

The Project is still in progress but it has already impowered some 800 school children in 40 schools to become community DRR "catalysts" and take the lead in DRR activities. Impressed by the outcome of the Project, Nung, an 18-year old Thai youth trainer, said: "I never thought I would be able to conduct such activities in schools."

The Initiative

The Project, entitled "Child-Led Disaster Risk Reduction in Thailand Project" (CLDRR), aimed to enable children to involve themselves actively in disaster risk reduction plans, action plans, and activities developed by schools and communities. This is done by: (1) building children's knowledge of disaster risk reduction (DRR) and community risk; (2) building the capacity of children for DRR actions within their communities through educational campaigns; and (3) sensitizing adults (schools and communities) on the importance of involving children in DRR and other issues relevant to them.

The Project emphasizes child-leadership, because it believes that children can play an active role in community affairs that are relevant to them, including DRR, especially if they are appropriately trained and supported by adults. Children who are taught about natural hazards and disasters can help adults protect other community members against disasters even though they have invariably been perceived as mere victims. Also, schools can help build a culture of prevention; so, making DRR part of primary and secondary school curricula should promote childrens' understanding of the environment under which they and their families live, foster awareness, and contribute to risk reduction.

Direct beneficiaries of the CLDRR Project are children in 40 schools. Indirect beneficiaries are teachers and other school children in the 40 schools as well as community members.

The first phase of the Project - a pilot phase - was implemented from July to December 2006; the second phase is in progress. The Project is being implemented by Save the Children with local partners such as Duang Prateep Foundation (DPF).

The role of Save the Children is to:

1. Promote the idea of "child-led DRR among tsunami-affected communities" among its local partners by means of material, presentations and visits;
2. Build the CLDRR capacity of local partners' staff and volunteers through training workshops on key DRR concepts, how to develop community risk and resource maps, how to conduct an educational campaign for DRR in a community setting, and other refresher training as needed by local partners; and
3. Provide technical and other support for the Project design and implementation process, including developing a training toolkit/manual on CLDRR, on-the-job training for partners, and regular monitoring visits to Project locations.

Local partners' staff and youth volunteers conducted capacity building for school children in the targeted schools through classroom and community-based activities and capacity building camps. Such capacity-building activities aimed to help the children identify disaster risks in their communities, conduct community risk and resource mapping, and develop an educational campaign to motivate communities to reduce risk. The local partners worked closely with children throughout the whole process, with support and endorsement from schools and identified advisory teachers.

Impacts & Results

The Project enlisted adult community members' support for CLDRR and is poised to win the support of local governments and other stakeholders. A video documentary was produced on lessons learned from the first phase (the pilot phase), which can serve as an advocacy tool to awaken stakeholders to the fact that child-led DRR is feasible in Thailand, and that the Project can be a model in the area.

Also, it emerged from the pilot phase of the Project that children can, with the right kind of support and guidance, play a leading DRR role in their communities, and all children can do so irrespective of their local norms and cultures. The Project already has benefited some 800 school children who have been trained to become child catalysts and take the lead in DRR activities. Other children and teachers in 40 schools as well as community members in the provinces

of Ranong, Pangnga, Phuket and Krabi have received information and instructions on how to cope better with disasters. The teachers have been exposed to new alternative approaches to child-centred learning, new issues (disaster risk reduction) and a starting point for including DRR into their school curricula.

Lastly, the targeted communities have benefited from learning from the children and are making use of the children's outputs such as risk and resource maps and educational campaigns.

The above impacts and results are reflected in the following comments by some of the youths and children involved:

"I never thought I would be able to conduct DRR activities in schools." (Nung, an 18 year-old DPF youth trainer)

"I'm interested in this because if we ignore it, we will be at high risk especially when we are still young." (Ing, a 13- year-old girl from Pangnga Province)

"Children really have a heart to help. Adults may want to do it themselves; they may think we can't do it; but actually if we are given a chance and some guidance, we children can do everything." (Sai, a 15-year-old girl from Phuket Province)

"We can disseminate the knowledge we've got to elders or those who haven't known about tsunamis. It's good for them because if it happens again, they can help others." (Nuta, a nine-year-old girl from Ranong Province)

The Good Practice

The Project can be considered a good practice because of: (1) the focuses of its programmatic framework; (2) the support it provides to youth trainers and local partners; (3) its children-centred method and activities; and (4) the level of children's participation it has achieved.

Its programmatic framework focuses on how to make the Project a good CLDRR initiative, how to demonstrate children's ability to lead DRR, and how to develop a practical example of how a child-oriented participatory approach can be integrated into a programme cycle.

The Project has provided support to youth trainers and local partners through: (1) training sessions conducted in a systematic way - starting off by a series of training of youth trainers, orientation to teachers and training for children; (2) platforms for cross-learning and sharing among Save the Children partners with the help of various workshops and meetings; and (3) a training manual and training workshops organized by Save the Children and a school orientation workshop that help the schools have a collective understanding of the concepts/process of the Project, thus paving the way for future replication of the Project by partner organizations.

The Project's method and activities are centred on children as they seek to maximize children's strengths through child-friendly activities such as artwork (drawing, painting, drama and puppet shows). More importantly, the Project has attracted a high level of children participation, including during the project impact assessment.

In order to implement the Project, Save the Children worked with local partners in the following areas:

1. Conducting training of youth trainers by local partners.
2. Conducting an orientation workshop (for school administrators and teachers) to introduce the Project and consult with them on how to orient the process in each area so that school administrators and teachers as well as other community members understand the Project's concept and process.
3. Selecting and involving children in the Project.
4. Conducting training on DRR concepts and activities for children so that they have a good understanding of hazards, risk, vulnerability and capacity, and acquire basic skills for conducting DRR activities in their schools as a next step.
5. Conducting community trips to carry out risk and resource mapping: after receiving training, participating students developed a method for conducting a community study and organized a field trip to selected communities. Information gathered from the field was used for risk and resource community mapping and for preparing an appropriate DRR education campaign.

6. Conducting a community education campaign on DRR that features puppet shows, dramas, brochures, posters and other education material launched in schools and communities.
7. Documenting the process and lessons learned in the form of a video and printed material to be shared and duplicated both in Thailand and other countries.

Lessons Learned

The first lesson learned from the implementation of the Project is that support from adults, especially from teachers, community members and project staff, is a key success factor. The second lesson learned is that children can and are willing to participate. In fact, they are happy to participate if they are informed about what the whole thing is about and why and how should they be involved, if they are empowered by the process, if it is fun/attractive and not too difficult, if issues are relevant to them, and if they get sufficient support from adults. The third lesson is that children participatory projects must involve both children and adults. Adults can facilitate children's participation, so they also must be equipped with the right attitudes and skills on how to involve children. The fourth lesson is that children's participation is a long-term process and requires long-term commitment. Finally, the fifth lesson is that promoting individual child leaders can go against the principles of meaningful participation of all children. Therefore, technical support for child facilitators should focus on facilitation, communication and working methods rather than developing individual leadership skills.

Major challenges in the Project were:

1. Time constraints: school timetable was an issue because the Project phase had limited timeline and was poised to overload teachers and children.
2. Child participation: full community support for children's involvement - especially their leading role - was a problem even during the project implementation phase. Also, local partners lacked sufficient facilitation skills to work in a really participatory way.
3. Technical knowledge on DRR: the children's outputs - such as the community risk and resource maps - are not detailed enough for comprehensive planning of emergency preparedness. There is a need to increase children's "technical" understanding of DRR.
4. Selection of communities/schools: the importance of DRR varies from one school or community to another, depending on their risk and vulnerability levels.

This last challenge was overcome by paying closer attention to local contexts. The first three challenges - time constraint, children's participation and technical knowledge - were overcome by applying the lessons learned from the first (pilot) phase to improve the second phase, which is in progress. Accordingly, Save the Children has extended the timeframe of the Project to provide room for flexibility, additional refresher training and coaching on both children's participation and DRR technical skills are being provided to local partners, and a school orientation workshop was held to enlist the full support of schools.

Potential for Replication

Some of the above challenges can also serve as starting points for improving similar projects in the future.
Time constraint: it is important to harmonize project timetable with schools' year plans to avoid lower child participation, for example, during exams or school holidays.

Child participation in CLDRR: the two aspects of the Project - child participation and DRR - should be understood and emphasized evenly. As children may suffer from weak community support even during project implementation phases, it is important to develop a programme component that seeks to sensitize adults on the importance of children's participation, and what they can do to support the children.

Adults' participation: it would be appropriate to get community representatives involved in a more strategic way. This could be done through increased opportunities for adults and children to interface more often, so that adults realize the potential of children and the necessity of DRR. Adults' continued support also helps sustain project impacts.

Selection of communities/schools: it is important to make sure that the communities/schools to be targeted understand clearly that community mapping can help respond to disasters more effectively, and that a risk identification process can also be adapted to other concerns such as social problems.

The Project (activities, education material, etc.) can and should be integrated into national school curricula, all the more since DRR - especially in the current context of global climate change - is becoming a necessity in each and every area of human activity.

In fact, carrying out a similar project would now be easier because a manual and guidelines on how to conduct CLDRR initiatives have been developed by different organizations and institutes, including Save the Children. Other information materials (including the video on good practices) are available, and documentation on the lessons learned from the Project can also help. More importantly, schools are likely to welcome such a project because, among other reasons, it is relevant to many school subjects.

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United Kingdom

Using New Media for Disaster Education for and by Youth

The edu4hazards.org Web Site Project

Disaster and Development Centre, University of Northumbria[1]

Screenshot of the front page of the edu4hazards.org website

Abstract

Although the United Kingdom occasionally experiences adverse weather conditions, which can lead to flooding (e.g. in June and July 2007), they are not perceived as a constant threat. Consequently when students are taught about natural hazards within the education system, although the students find the topic enjoyable, they view it from the point of an observer of calamity rather than from the perspective of someone threatened by or at risk from these hazards.

Yet, as cheap air travel increases and standards of living increase in the UK, the number of children travelling abroad also increases. In 2005 and 2006, there were 68 million visits made by Britons abroad, accounting for almost 10 per cent of worldwide travel[2]. Children now visit countries where hazards they have learned about in the classroom are a reality.

However, knowing what a hazard may do and reacting to the very real threat of it are two different concepts, requiring different mental processes and responses from both children and their parents.

This Project, which was implemented with a limited budget, seeks - through a web site - to respond to such demands and attempts to educate students about how to prepare for and respond to a number of hazards. The site already gets 10,000 + hits per month without any real "marketing".

1 Justin Sharpe, High School Teacher and PhD Candidate.
2 Source: "Independent on Sunday" newspaper, 2006.

The Initiative

A web site - www.edu4hazards.org -was created, which uses interactive navigation in the form of labels on a suitcase that direct the visitor to different types of hazards children may experience. The idea was for children to explore the site and to discover how to protect themselves, whilst also learning about the nature of the hazard at the same time.

The "Edu4hazards.org Web Site Project" was initiated in April 2007 by a UK High School Teacher[3]. The first stage of implementation was carried out in terms of web-build, teaching groups in two different schools and within two different age ranges: a primary school in East London with nine-year-olds and a secondary school in northeast London with 14-year-olds.

It was agreed with UN/ISDR secretariat that they would add a link to the site and it is hoped that this will increase traffic and therefore use of the site. Without any "marketing", the site was linked to government-based educational websites in the USA and Australia, where geo-hazards and responses are taught in more detail.

Videos on the web site show what to do in a variety of languages. This is an indicator of what needs to come next: the translation of the site into a number of languages, so as to maximise accessibility and usability, ultimately leading to a larger number of children and parents being prepared and knowing what to do if a natural hazard occurs.

It is envisaged that this could be ready within six months, but funding is needed for the translation, as well as time to adapt the design.

Impacts & Results

In terms of communicating risks from natural hazards and reinforcing children's capacities to deal with them through simple acts of preparedness, the web site and the associated learning activities such as making "go-bags" and films, were and still are successful. However at the moment this is only happening on a small scale with around 180 children in the 11-14 age group directly involved and 30 in the 8-9 age group having used the site to further their knowledge and understanding of risk and capacity.

The overall results can be seen by looking at photographs of emergency "go-bags" that children either packed themselves or with the help of parents. This indicates that educational conversations were taking place at home, particulary because the implementing teacher was contacted by at least three parents seeking confirmation about what their son or daughter was supposed to have in their pack or asking for advice about where to get hold of an emergency blanket! However as the site is web-based, the more support it receives from teachers and the more organizations add links to it, the faster the number using the site will increase. At present the site gets 10,000 + hits per month, but this is without any real "marketing".

The youtube channel is also being used to show how students interpreted the information from the web site and enabled them to think about how they were going to get this information over to other children, who may not be able to read the current English version of the site. It is also important to note the ease of access to both the web site and film channels for those with an Internet connection, illustrating what can be achieved with a limited budget.

The Good Practice

This Project can be considered a good practice because it helps educate children, youths, parents and other learners on hazards, disasters and preparedness any time, anywhere in the world, away from a school infrastructure, from an Internet-connected computer. It helps disseminate and promote disaster preparedness knowledge to a large audience instantly and cheaply (at least in the developing world for the time being). In addition, its interactive feature makes it a disaster education tool for and by children, youth and parents. More importantly, the Project is a low-budget initiative that can be adapted easily to another hazard context by a very small team.

The edu4hazards.org web site was purposely made less obvious in terms of navigation, but with visual clues and text on the index page. A user would notice an interesting interface that is meant to be explored and clicked, although the most important information - such as how to survive a tornado/earthquake/flash flood, etc. - takes up the main page space. It was also designed in a way that people with screen resolution of 1024x768 do not have to scroll.[4] This is not just

3 Justin Sharpe who is also a PhD candidate at the Disaster and Development Centre, University of Northumbria.
4 57.38 per cent of Internet users chose a screen resolution of 1024x768 pixels.

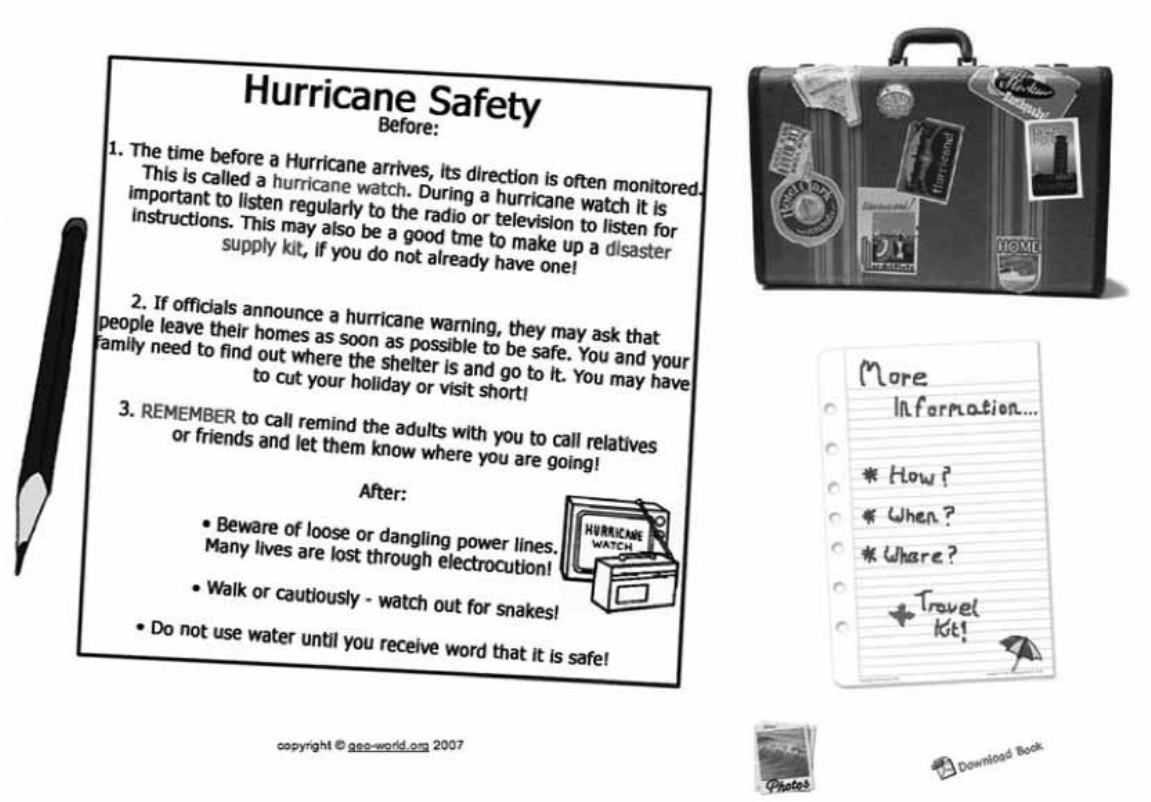
about addressing design issues: the relevant information appears as a graphic file, so that it cannot be posted straight into a word document, meaning that students have to read, assimilate and then apply their knowledge, rather than copying and pasting into an essay or report.

The delivery of the Project differed according to the teacher and the age ranges involved. Year 9 students (14 years of age) were taken through two or more of the hazards by a teacher, and some of the instructions about how to respond - when faced with a natural hazard - were acted out in the classroom where practical. Students were then given follow-up work to carry out at home and then asked to report back their findings. Students were also told that they needed to prepare an emergency "go-bag", photograph it, and bring the photograph to school or e-mail it using the web site. As this was a complicated task, they were given up to six weeks to complete it and were reminded on several occasions that the teacher was expecting to see the results at the end of the six-week period and to talk to their parents about what they were doing and why.

After photographs were brought in and shared with classes, the students from one Year 9 class were given the project of making their own films to show what to do if an earthquake, tsunami, flash flood, etc. occurs. This encouraged the students to reflect upon what they had learned but also encouraged them to be proactive in sharing this knowledge with their peers. At the same time, this was an extremely useful way of evaluating the success of the Project in a meaningful and very visual way. Students were given total control over what to shoot, edit and show, so that their grasp of the subject was clearly observable. The films were also created in a variety of home languages so that, as a result, there is a guide to surviving a volcanic eruption in French, as well as guides for surviving other hazards in Urdu, Turkish and English.

The films that the students created were then uploaded onto a channel on the youtube.com web site which can be seen at: *www.youtube.com/profile?user=edu4hazards* and are made available as a set of video podcasts: *http://phobos.apple.com/WebObjects/MZStore.woa/wa/viewPodcast?id=260353245*

This meant that students were able to view their own finished projects as well as share them with their friends. It also means that other schools, teachers and students will be able to see a "finished product" and judge what was learnt from this, which is an important part of any educational activity for both teachers and students, as it is one by which they are both constantly judged.



Screenshot of page from edu4hazards.org, which gives a short list of the most important things to do if a hurricane is expected.

Lessons Learned

A key lesson learned from this Project is that small-scale projects created by educators can have enormous value both to children and the wider community. It is important that there is a solid understanding of how children learn and are engaged by resources. The web site interface helps with this because it is never too "wordy", but pitched at a variety of levels of intellectual ability. The other important factor is that this resource is most useful if it is facilitated by a teacher, at least initially, so that students receive guidance about how to investigate at least one of the hazards, discuss it, and practice "duck and cover" type demonstrations and enactments.

This is particularly important as it appeals to different learning styles. Visual learners will be happy reading and assimilating the information, which may lead them to ask further questions, while auditory learners will happily engage in listening and taking part in questions and answers, and kinaesthetic learners will enjoy the role play and practicing elements of the teacher-led activities.

Having a final "product" in terms of a short film that can be used by others and perhaps save lives, is particularly inspiring to students who want to produce something worthwhile, and while the results may be mixed in terms of quality, the overall effect is reinforced when watching the films that students made. It is not necessarily integral to the success of the Project, but it was key for evaluating what the students learned and providing a marker for others to follow.

There were relatively few challenges to this Project. The main inputs were time, dedication and planning. Once the site was built and tested, it was used with students who came up with ideas to improve it further. This is an important part of any web project and it is essential that students are allowed a free reign in terms of what they are expressing.

However, the next stage, where it is hoped that the site will be translated along with teaching materials and guidelines for use for educators, will be more challenging as it will require greater financial resources as well as time.

Potential for Replication

The fact that the project is primarily web-based means that it is accessible to a large audience and easily replicable; however it needs support from key UN agencies and NGOs to make it a success. The potential for this project is huge in terms of engaging children and youth in disaster risk reduction processes and letting them educate the next generation of children at risk from natural hazards.

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2 Section

Building a Culture of Prevention

Disaster risk reduction is every one's business. For this to become reality and part of every one's daily life, a culture of disaster safety should prevail within the society. This Section describes the different ways in which building a culture of safety in and through schools has been pursued in a large number of countries with different hazard profiles. Most of the initiatives described range from developing disaster education material, to mainstreaming disaster risk reduction into school curricula or national education systems, and using alternative or innovative ways to educate children, youth, teachers and parents about disaster risk reduction issues. Also featured are a number of initiatives under which children play a part in various activities on the ground: assessing vulnerabilities; mapping hazards and risks; carrying out preparedness and making response plans taking part in mock exercises and emergency drills, helping communities prepare against and respond to disasters.

Colombia

Enforcing Risk Management Plans in Schools, Developing School Curricula

Risk Management Plans in Schools
and Disaster and Risk Prevention in Classrooms
Directorate for Prevention of and Attention to Emergencies

Photo Cortesy Clarissa Wilkinson

Abstract

The Colombian capital city of Bogota has a "General Programme for Strengthening Bogota's Response Capacity to Major Seismic Events" in place. One of the goals of the General Programme is to promote a more effective integration of prevention and self-protection practices in cultural settings in Bogota.

To provide adequate knowledge of all hazards threatening the city and all preventive measures that communities should apply to reduce risk, the Directorate for Prevention of and Attention to Emergencies (DPAE) have organized capacity building workshops and material for school communities, with the aim of developing or consolidating risk management plans in schools and introducing disaster risk reduction concepts in school curricula.

On District Prevention Day on 11 October 2006, which was also the International Day for Disaster Reduction, all schools in Bogota carried out an earthquake simulation drill simultaneously. The drill was part of a strategy to promote the formulation of risk management plans in 400 academic institutions in the city.

So far, 375 institutions in Bogota have developed emergency plans and 934 teachers in 248 schools have been involved in the process of introducing disaster risk reduction concepts in school curricula. A curricula proposal is currently being designed.

The Initiative

Government Decree 332 (2004) provides for the establishment of a commission for strengthening social and educational management and community participation in the field of risk reduction. In accordance with the Decree, the Directorate for Prevention of and Attention to Emergencies (DPAE) has given its team in the "Education in the Research and Development Area" the tasks of: (1) advising in the design of school curricula; (2) developing and organizing relevant capacity building workshops and material; and (3) defining processes that complement risk management plans in the city, especially in schools. To cope with this, the DPAE Education Department has been equipped with three components: a school component, a teacher and emergency plan support component, and a community component.

Going back a few years, the District Education Secretariat Resolution 3459 (1994) demanded every school in the city has to adopt a risk management plan. This was confirmed in Resolutions 4210 (1996) and 7550 (1994) of the National Education Ministry, which enforces the introduction of risk concepts in school curricula under adequate supervision by the DPAE.

Meanwhile, until 1999, efforts to prevent disasters were made by local committees. Then in 1999, the DPAE, in response to the above resolutions of the District Education Secretariat, embraced the idea of developing "Risk Management Plans in Schools"[1] (PEGR). Efforts made by the DPAE initially focused solely on developing evacuation plans. Afterwards, following the adoption of a new integrated approach, a change of paradigm from disaster response to risk management took place, resulting in the idea of mainstreaming disaster risk reduction (DRR) concepts into school curricula through an initiative called "Disaster and Risk Prevention in Classrooms"[2] (PDDA).

This Practice grew stronger over time and demand for related workshops and assistance increased, which indicates growing interest in a culture of prevention and sharper risk consciousness.

It is to be noted that children are a key element in this process, for they can adopt new habits easily and irradiate what they learn in school to their families and communities. The Practice also considers important that children feel confident that they can protect themselves, their families and communities from potential hazards.

Impacts & Results

The Practice had some considerable impacts, including: (1) an enhanced interest in disaster prevention issues within the education community; (2) an increase in the number of schools subscribing to the Practice; and (3) a growing amount of solicitations received from communities. To cope with these, the targeted schools have started organizing themselves better and sharing their experiences. Communities are requesting information and capacitating workshops. In the light of this, the idea that a culture of prevention should be made part of citizens' rights is making some progress.

In any case, the Practice has had outstanding success since 375 of the 400 targeted schools have adopted it. The following are the results of some actions taken by the School Component (of the DPAE Education Department), including those under the PEGR and PDDA initiatives: 45 PEGR workshops were held; 375 schools are involved in the PEGR process; 1,165 teachers are involved in the PEGR process; 30 PDDA workshops were held; 248 schools have been involved in the PDDA process; and 934 teachers have been involved in the PDDA process.

The following completion rates were recorded: 60 per cent of workshops have been adapted to stress evacuation procedures; 70 per cent have actualized information about school plans; 80 per cent have a table game about risks in schools; 100 per cent have Pedestrian Child Day activities; 30 per cent have a revision game-type project; 95 per cent have a "Protective City" story book; 95 per cent have actualization their teacher booklets; 50 per cent have engaged in a market study and booklet re-edition; and 50 per cent have revised editions of the booklets entitled "Sign Posting", "Bogota and its Hazards", and "Landslides".

The following capacitating activities have been completed: four support workshops, ten PEGR workshops, three information and discussion sessions about workshops, and 46 workshop assistance certificates have been delivered.
In order to make these activities permanent, the following processes are under way: information about registration to workshops; preparatory communications; and logistical preparation of workshops.

1 In Spanish : Plan Escolar para la Gestion de Riesgos (PEGR).
2 In Spanish: Prevencion de Desastres Desde las Aulas (PDDA).

The Good Practice

This Practice can be considered a good practice because it contributed significantly, in a single initiative, to the achievement of the following two objectives of the ongoing World Disaster Reduction Campaign 2006-2007 *Disaster Risk Reduction Begins at School*: (1) making school buildings safer; and (2) mainstreaming DRR into school curricula. The Practice has sought to promote both the development of risk management plans in schools and the introduction of risk management concepts in school curricula.

One of the important steps taken was to develop a teacher's guide on how to develop a risk management plan in school. The purposes of the manual development process are to generate a tool to promote deeper knowledge about risk in schools and lay the emphasis on mitigation or elimination of risks and attention to emergencies. The manual is intended for teachers and/or other school personnel that can deliver some risk management training activities as part of schools' regular operations. The goal is to develop a risk management plan for each school. The manual provides teaching and conceptual tools, as well as practical instructions that can be implemented by the school community. All in all, each chapter is a step towards awareness about risk and ways to reduce risk.
The manual is structured as follows:

1. Chapter 1 - Fundamental Concepts: this chapter covers the main normative and conceptual elements to be taken into account for assessing risk and for the development of risk and action scenarios. It distinguishes "risk" form "disaster" and describes different ways for reducing risks.
2. Chapter 2 - Risk Scenario: it provides instructions on how to construct a risk scenario in order to develop a risk diagnosis for each institution. It distinguishes internal from external risk in order to promote a sound analysis of hazards, vulnerabilities and risks in schools.
3. Chapter 3 - Tools for Risk Management Interventions: this chapter helps the reader identify actions that help advance sound risk management and mitigation. It shows how risk may be reduced, mitigated or eliminated, and draws the attention of social actors that contribute to risk generation on the issue.
4. Chapter 4 - Risk Management and School Plan: this chapter seeks to help apply risk management protocols in schools and define risk management plans in schools (PEGR). Both the aspects of school conditions and social actors are considered.

The PEGR is developed by a School Committee including school teachers, students, principals and staff members. The Committee organizes various brigades including risk detection and mitigation brigades, security and surveillance brigades, evacuation brigades, fire brigades, first aid brigades, rescue brigades, communication brigades, management network brigades, and curricular and extracurricular brigades. The head of each brigade has a decision-making power. The manual recommends involving at least 10 per cent of the school community in the brigades.

School committees develop emergency and disaster response plans that indicate the actions to be taken before, during and after an event. Evacuation brigades develop evacuation plans that include drills. The manual suggests practicing evacuations for different types of events.

The PEGR has three components: (1) risk analysis and damage scenario situation diagnosis; (2) prevention measures in the form of a plan to eliminate or reduce risk; and (3) response measures or actions taken in case of an event). This Initiative also aims to clarify the way prevention should be integrated into school curricula. As this is part of the main interests of the District Education Secretariat, the latter designed a grade-by-grade achievement process that within different school subjects such as mathematics, science, social sciences and languages. The process will soon be implemented, at the least, in district schools. The process benefited from a DPAE booklet series entitled "Risk Prevention in Classrooms"[3] developed from 2001 to 2003. The booklet series was received with success and established an important precedent in the whole communications strategy of the DPAE.

The curricula proposal is currently being designed by the District Education Secretariat, based on a methodology pioneered by the DPAE.

3 In Spanish: "Prevencion de Desastres desde las Aulas".

Lessons Learned

One challenge for this Practice were inter-institutional working modalities. The DPAE and the District Education Secretariat have been working together on this but the ultimate responsibilities of each institution are not yet agreed upon. As a matter of fact, they are still in the process of reaching a clear division of roles and coordination of functions. Some steps have been taken in this direction. For instance, in the framework of some programmes for the Bogota Mayor's Office, dialogues have been organized to properly assign functions to each entity. Inter-institutional coordination also needs to be strengthened with the District Fire Brigade and the International Red Cross. They use different risk management criteria, yet their services are required by some institutions. There is a need to reach agreements with the two institutions.

The follow-up and control process required by the practice was also found challenging. As some 40 risk management plans are submitted to the DPAE every month, the DPAE personnel involved is so busy revising the documents that little time is left for closer follow up of the plans. In addition, there is insufficient specialized personnel to visit schools and monitor each institution's initiatives closely. To address this issue, the DPAE intends to design a capacitating system (curricula development, evacuation plans, family plans and community plans) to generate more experts.

The last challenge is related to the attitude of school heads that sometimes do not pay enough attention to the issue. Such a lack of interest is generally due to no or poor knowledge about the practice itself. To address this situation, new ways of interacting with school heads are being considered.

Potential for Replication

Relevance to megacities, universality and transferability: This Practice may be considered a universal initiative because it aims to generate a culture of prevention through initiatives with and involving children and young people. Such initiatives have a didactic approach and some elements of fun in them, which help promote a cultural shift in an original manner. Interestingly, knowledge transfer processes are under way in smaller Colombian cities like Tunja and Bucaramanga. And the frameworks adopted by the DPAE and District Education Secretariat provide a methodology that may be adapted to the local conditions of any municipality, city or megacity.

Applicability: The applicability of this Practice is facilitated by the participation of the District Education Secretariat which has the authority to reach all schools through its normative decrees. For instance, developing a school risk management plan has become mandatory for all academic institutions (including alternative institutions). One of the possible obstacles for the application of this Practice is the tendency of most community members to show little interest in risk prevention. Motivating strategies are needed to overcome this challenge.

Expandability: This Practice is an ambitious venture that seeks to reach all academic institutions. Recent surveys show significant progress in each locality but the challenge persists, especially if the goal is to have a large-scale simulacrum in which all schools in Bogota participate. Expandability may also be seen as how this practice may irradiate over a larger portion of the community. To help achieve this, there is a need to ensure that students discuss the topics with their families and communities.

Assimilation & Integration: Assimilation of the process is indicated by recent surveys. Also, a new consciousness about risk management was felt during the various workshops.

Sustainability: The DPAE Education Department has an annual budget that can ensure the economic sustainability of the practice. The increased number of applicants is indicative of a cultural shift that may sooner or later help sustain the practice, because it may eventually contribute to making risk management education a civic right. Meanwhile, to reinforce the processes involved in the practice, it is important to invest in research and develop a capacitating system.

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Costa Rica

National Education Plan for Risk and Disaster Reduction

National Education Plan for Risk and Disaster Reduction

National Commission for Risk Prevention and Emergency Response

School students participate in disaster risk reduction during lessons as part of the National Education Plan for Risk and Disaster Reduction (Photo: OVSICORI)

Abstract

Costa Rica has a population of 3.5 million and a territorial extension of 51,000 km2. It is located in the southern part of Central America to the north of the equator. Its climate is tropical with a dry season from December to April and a rainy season from May to November.

Because of its geographic location, unique geological environment and historical and topographical conditions, Costa Rica is constantly exposed to natural phenomena of primarily volcanic, seismic and hydro-meteorological origins, whose consequences are aggravated by human activity and technological accidents.

Regular seismic and volcanic events and the disorderly growth of cities have increased vulnerability and, therefore, the level of risk of both the population and infrastructures.

During the 1990-1999 International Decade for Natural Disaster Reduction, activities were developed in the fields of disaster prevention, mitigation and early warning. Governmental and non-governmental organizations, as well as public and private organizations, became aware of the importance of taking action to prepare the population for potential disasters.

Disaster reduction is considered a national development issue in Costa Rica and has been incorporated into the education system through a “National Education Plan for Risk and Disaster Reduction” that represents an inter-institutional and multi-disciplinary effort by representatives of different government institutions as well as some national and international organizations committed to risk management.

The Initiative

This is an inter-institutional and multidisciplinary Project that seeks to develop a "National Education Plan for Risk and Disaster Reduction"[1] (PLANERRYD) to help promote a culture of risk and disaster prevention through increased knowledge on related issues.

The goals of the Project are:

1. To promote a culture of risk and disaster prevention and reduction by effectively adapting and implementing the programmatic content of the National Education Plan and applying a cross-cutting approach to the entire teaching and learning process.
2. To promote joint management by communities and education centres through sustainable actions that help build safer socio-environmental spaces for the entire population in order to achieve an increased, ongoing and sustainable risk and disaster reduction.
3. To guide all institutional efforts and resources devoted by the State to education for risk and disaster reduction, by establishing political, legal, administrative and technical coordination mechanisms. This is necessary to improve safety in all communities and schools, and to optimize the deployment of the above-mentioned efforts and resources. This will also help towards the full enforcement of the children's and adolescents' right to safety, among other rights.
4. To facilitate the creation of a broad space for managing integrated and complementary actions. This enables the country to use any international support for risk and disaster management education more effectively, especially within the education sector and in the framework of current agreements signed with international cooperation agencies.

The Project was first implemented in the rural zones of Costa Rica, in particular in those where natural hazards have occurred with great frequency or there great risk as is the case in the Province of Guanacaste. This process was initiated informally in 1986, intensified between 1999 and 2000, and between 2002 and 2006 extended to other regions of the country. It is during this last period that the process was introduced into the private education sector. The main beneficiaries are school students, but Public Education Ministry officials working as educators, school principals, supervising advisors, discipline-specific advisors, and regional directors have also been benefited.

This is an Initiative of the Public Education Ministry of Costa Rica implemented with the support of the National Commission for Risk Prevention and Emergency Response, UN/ISDR, university research institutes, 911-Costa Rica, IFRC, the Fire Brigade, and other partners that joined in subsequently, such as the Office of US Foreign Assistance and UNICEF.

Impacts & Results

According to a national survey conducted in 2006 more than 3000 schools (half of the total national public and private schools), more than 500,000 students, around 35,000 teachers from diverse zones of Costa Rica, and a similar number of family and community members in direct relation with the participating schools have benefited from this Initiative. Proof of this is that when an earthquake struck the Miguel Obregon School during a visit from National Television Channels 4 and 7, reporters witnessed the children adopt appropriate attitudes and evacuate the risk zone in less than three minutes.

The Good Practice

This Project can be considered a good practice because it has been sustained for almost twenty years now, and has become more decisive and autonomous this last decade. It has had substantial results as can be observed in 1) the attitudes and behaviours adopted by students and teachers in response to potential but also real disasters; and 2) the

1 In Spanish: Plan Nacional de Educación para la Reducción del Riesgo y Desastres (PLANERRYD).

changing design of school buildings, which is better adapted to the risk of the area as it is preceded by a study of the consistency of the grounds.

The National Education Plan has four areas made up of specific programmes - the organizational, curriculum development, physical educational infrastructure, and promotion and sustainability areas – and various projects will be developed in the short, medium and long term.

The Organizational Area includes management, support and strengthening programmes, as well as an "Inter-Agency Coordination Programme". The Curriculum Development Area is composed of a "Curriculum Development Programme" and an "Academic Training Programme". The Physical Educational Infrastructure Area includes a "Physical Educational Infrastructure Programme". The Promotion and Sustainability Area includes a "Programme for Risk Prevention and Emergency Response".

For the Plan to be adapted in an effective manner and fulfil its mission, a specific PLANERRYD operational cycle is used. This consists of four phases that are implemented gradually but without any particular order in a region, school district or school, taking into account any change that they might experience throughout the school year. The cycle may begin by applying any of the phases, depending on the knowledge and level of maturity reached, and may continue with any of the others, without a strict order but in a cyclical manner. At some point, all of the phases will be repeated.

The cycle's four stages are the inductive, operational, specific and complementary phases. While it is not accurate to refer to the term "cyclical implementation" in relation to these four phases, it basically operates in a similar manner, but without any specific sequential order.

Inductive Phase: In this phase, the knowledge of the region, district, school and student-teacher populations is applied to the number of thematic issues that are part of the National Education Plan.

Operational Phase: This phase generally comes after the inductive phase and consists of consultancies or courses that provide the PLANERRYD target groups with a theoretical input for covering the topics in the classrooms, along with risk reduction and emergency response plans already in place. It includes aspects related to infrastructure and the implementation of plans to reinforce physical spaces and reduce their vulnerabilities.

Specific Phase: This phase is implemented almost parallel to the operational phase, though it implies advanced management levels in terms of existing emergency plans. This phase provides advisory assistance and training on a number of issues that are specific to those responsible for developing curricula and for carrying out concrete tasks related to the implementation of emergency plans. This phase includes training in rescue, first aid, fire fighting, fire prevention, safety, evacuation and other specific aspects.

Complementary phase: The purpose of this phase is to complement the capacitation process commenced in the other phases by means of workshops and courses. For example, during this phase participant are trained in the design and management of curricula within the framework of risk management. Also included are basic communications, communal emergency plans and other activities to promote the integration of the teacher and his students into their community's reality.

The Project's activities are carried out in the following sequence:

1. Training: School safety courses, training workshops for the creation of school brigades, workshops for school emergency plans, seminars on specific issues in technical areas, brief presentations on school evacuation processes, academic updating, and exchanges between school safety teams, brigades and committees.
2. Diversified technical assistance (infrastructure and emergency plans): Visits to offer assistance and support for institutional emergency committees, technical analysis and studies on physical infrastructure, establishment of constructive guidelines for educational staff on aspects related to prevention and disaster vulnerability reduction in general, and programmes for maintaining and strengthening school buildings in order to have safer schools.
3. Curriculum Design: Research, design and production of educational material, comprehensive development and dissemination of curricula related to risk management and disaster preparedness from a cross-cutting perspective, and incorporation of risk management content into public and private university curricula.
4. Citizen Participation: Getting community members involved in education and administrative boards that provide sustained processes for vulnerability reduction.

Lessons Learned

Key lessons learned from the Project are:

1. The Plan would not be possible without the ideas, resources and disciplined and persevering participation of the various groups involved.
2. It is unlikely that a teacher will avoid doing work for the safety of his students.
3. The multidisciplinary nature of the team helps apply a visionary approach to addressing, in an ongoing basis and an accurate manner, risk and disaster reduction within the national education system.
4. The inter-institutional strategy helps ensure continuity of and strong commitment to implementation. In addition, giving the multilateral or bilateral agencies and organizations' involvement visibility may prevent the Government from abandoning the project and offer substantial support instead.
5. The nature of the Plan requires the consensus and guidance of all institutions involved as well as the support and participation of institutions and organizations committed to education on disaster reduction. For the successful implementation of the plan, agreements on decision making, coordination and implementation of all relevant activities need to be reached and met at the political, executive and technical levels.
6. The results of educational processes are generally intangible in short-term, and results can only be observed in the long-run.

The major challenges were: (1) Overcoming the annual change in local authorities or personnel, as this sometimes distorted the work in progress, and collaborating with a government that changed every four years, as convincing the new authorities of the success and value of the project required precious time. In order to prevent the Project from losing continuity, it was insisted that every new local or national authority open to dialogue. The changes in personnel that had to travel where minimized by keeping data-bases of those that demonstrated expertise or enthusiasm, and keeping track of them. (2) On several occasions the Private Education Sector felt outside the project and did not participate in the process. (3) There was occasional insufficiency of human resources. (4) Continuing the Project despite the numerous initiatives that failed because international agencies and donor organisms did not co-operate or support them. This was overcome by means of a disaster prevention and awareness volunteer programme for sustaining the progress made that recruited community members, professionals, technicians, teachers and students. (5) Progressing despite having to deal with annual emergencies or disasters.

Potential for Replication

In order to replicate this Project successfully, it is crucial to plan it well, secure resources, and believe that the objectives are possible to achieve. Team work and understanding the targeted community's culture and language should facilitate the process.

For the future, similar projects could benefit from: (1) always seeking consensus, rather than trying to impose ideas, methodologies, or models; (2) trying to guarantee disaster risk education processes within the project last long enough for an objective evaluation; (3) seeking the support and guidance of risk management institutions; and 4) engaging more community members.

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El Salvador

Disaster Prevention Included in School Curricula through Youth Project

"Youth Participate in Disaster Prevention" Pilot Project

Plan International, El Salvador and the National Civil Defence Service

Youth engage in risk mapping exercise

Abstract

El Salvador, in Central America, has been struck by 14 critical earthquakes over the last 30 years. Even though its people know that the future holds other disasters for them, the impacts of hazards such as Hurricane Mitch in 1998 and the 2001 earthquakes exposed the high vulnerability of the Salvadorian society at large.

This prompted, among other things, the implementation of a pilot project called "Youth Participate in Disaster Prevention". The Pilot Project sought to help local schools - and communities - reduce their vulnerability to hazards. School protection plans were developed, and disaster prevention introduced in the national school curricula.

After the Pilot Project ended in May 2006, it was replicated in other schools. By July 2007, school protection plans were being developed in over 5,000 school centres.

The Initiative

This Pilot Project, called "Youth Participate in Disaster Prevention", seeks to reduce the negative impact of disasters on the lives of children, young people and adults living in high-risk rural areas, and build a culture of prevention among school communities.

It was implemented from February 2005 to May 2006 in 20 rural communities in four municipalities of the Department of Chalatenango in northern El Salvador, but similar projects have been implemented since May 2006. The main beneficiaries were primary and secondary school students, adults residing in participating communities, and town mayors and councils.

The Project was implemented under DIPECHO[1] IV by Plan International in collaboration with community leaders' councils, municipal governments and the National Civil Defence Service. It was jointly funded by DIPECHO and Plan International.

Impacts & Results

Lessons learned and good practices derived from the Project synthesized into valuable methodological elements and thematic content for the Ministry of Education, a strategic partner with the capacity to promote a culture of disaster prevention in all schools in the country. The schools developed School Protection Plans (PPEs). To this end, capacity and vulnerability assessment workshops were organized, and school risk maps and emergency kits prepared in collaboration with students and their parents. Plan International–El Salvador then supported the Ministry of Education in the design, digitalization and printing of the plans.

Direct beneficiaries were 16,750 community members, 179 state representatives from the Health and Education Ministry as well as the National Civil Defence Service and Police, and 29 members of municipal governments. By July 2007, over 5,000 school centres were preparing school protection plans.

The Good Practice

The Project primarily consisted in organizing and capacitating emergency committees of around 20 members each at school, community and municipal levels. It also included activities to raise awareness of disaster preparedness measures among school communities, universities, the general public, civil servants and NGOs.

This Project can be considered a good practice because it helped build a culture of prevention as a topic in education at national level. It also served as a pilot initiative for Plan International and, as a subsequence, was the source of valuable organizational lessons that have been translated into a risk management programme that transcends the mere strengthening of local emergency response capacities towards the field of participative risk management.

The most immediately observable benefit of the Project was the introduction of disaster prevention measures involving children's and youth's participation and leadership into the national agenda of the Ministry of Education. As a result, disaster prevention has become an integral part of school curricula in El Salvador.

1 DIPECHO: Disaster Preparedness, European Commission Humanitarian aid Office.

Lessons Learned

The following key lessons were learnt from the Project:

1. Disaster prevention must be initiated within local contexts (communities and municipalities), seeing it as an educational process that must not only provide conceptual elements but also generate new attitudes and aptitudes among the most vulnerable groups of children, youth and adults living in high-risk zones.
2. The leadership of children and youth in the promotion of a culture of prevention can accelerate changes in attitude towards preservation of life and effective preparedness. In communities living in extreme poverty, such as the ones that participated in the Project, the social capital constituted by its children, youth and adult members was very cohesive and was the best source of strength for any initiative coming under the national civil defence system.
3. Disaster prevention requires a local network that incorporates both government and civil society bodies. This is because any interventions to continue promoting a culture of prevention must have local human and financial resources at their disposal. Future projects of this sort would also benefit from greater follow-up and monitoring of disaster risk reduction measures introduced by the children into their schools. Lastly, it is recommended to strengthen community interventions by communicating and perhaps collaborating with local governments, as well as developing project tools that facilitate experience and lesson sharing among communities and schools.

The Project faced a number of challenges The first one was to meet the local capacity building objective after only 12 months of field work. Organizations that were not present in the DIPECHO intervention zone could not be involved. Another challenge for Plan International was facilitating spaces for state and civil society participation to preserve the gains from the Project. This was overcome by using the credibility of the organization. The third challenge was making the most of the strengths developed, in such a way that they would facilitate the active participation of organized groups from civic society in the definition of state protection policies, while ensuring that the organized groups did this in line with human rights.

These three challenges were addressed through lobbying at community and municipal levels, coordinating requirements and resources toward the formalization of collaboration agreements with municipal governments and the national civil defence system, permanently running an internal monitoring system that survived after the Pilot Project had been finalized, and formalizing collaboration agreements with other key actors at national level (Red Cross, Health Ministry, Education Ministry, National Territorial Survey Service).

Potential for Replication

This Practice can be replicated in other communities, but is adapted to the targeted communities' economic, political and social contexts.

It has been already been replicated, as indicated by the fact that over 5,000 school centres were preparing school protection plans (PPEs) by July 2007, even though the Pilot Project ended in May 2006.

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France

Risk Reduction Plans, Disaster Education Mandatory in Academic Institutions

Turning Students into Informed and Responsible Civil Defence Actors

National Education Ministry, Ministry of Ecology and Sustainable Development, and Ministry of Interior and Regional Planning

Abstract

In the 1990s, the French Ministries of Environment and Education made some efforts to introduce risk prevention education but the process only culminated in 2002 when a bill for the "development of case-specific risk reduction plans" (PPMS in French)[1] emerged, in December 2003 when environmental education for sustainable development became comprehensive.

Then in 2004, the Ministries of National Education, Health, and Interior made it mandatory to sensitize students on risk prevention through Article 5 of Law 2004-811, which was rephrased as follows in the Education Code: "Article L.312-13-1[2]: Every student shall benefit, within the framework of mandatory schooling, from sensitization to risk prevention, rescue services and training in first aid."

Finally, following the enforcement of a government decree in the second half of 2006, a project was launched countrywide to develop a risk reduction plan in every school and sensitize a total of some 12 million students from primary to university level on risk prevention, among other things.

Today, after a year of project implementation, 40 per cent of French primary schools have developed risk reduction plans, in addition to a new curriculum.

1 See 30 May 2002 issue of "The National Education Bulletin" at http://www.iffo-rme.fr/d03-plan_sesam/docs/BO_HS3.pdf.
2 Full text of decree at http://www.assemblee-nationale.fr/12/propositions/pion2775.asp.

The Initiative

This Project followed the general, systemic and inter-disciplinary approach of school-related projects. As per Government Decree 2006-41 and the enforcement modalities gazetted on 16 July 2006, the Project sought to equip school students with analysis skills, sensitive attitudes, responsible behaviours and solidarity-driven practices through learning situations in their daily lives and local risk contexts. The aim was to help school students cope with diverse risks through contextualized and autonomous attitudes, whether such attitudes are preventive or reactive. The Project targeted 12 million school students all over the country.

The Project was implemented by the Ministry of National Education with support from the Ministry of Ecology and Sustainable Development and the Ministry of Interior and Regional Planning.

Impacts & Results

Taking into account the cognitive development and the different phases involved in students' gradual move toward autonomy, responsibility must be taught progressively and continuously. This kind of education must meet the following conditions: (1) it must provide knowledge of risks and of preventive and protective measures against major risks in a daily life context. Risks discussed must be, as often as possible, contextualized within the students' local territory; (2) students must be informed of different types of rescue services and the way they work, so that each student can alert others on emergency situations in the most adequate way; (3) students should be taught about the most basic survival steps to be taken while waiting for organized rescue; and (4) students must be encouraged to develop civic-minded behaviour and a sense of individual and collective responsibility in relation to concrete and intelligible situations.

Risk and rescue services must be discussed in all school subjects within class hours as part of the school curriculum, and resilience-building activities integrated into emergency drills. To be able to do this, teachers received both initial and continuous training and have access to external stakeholders. To build the partnership required in all risk reduction ventures, plans were agreed with registered associations, decentralized State organs, and risk prevention agencies, among others. This type of partnership already existed in numerous regions such as that of the Alpes maritimes where the participation of the regional Fire and Rescue Service has made possible a behavioural approach to "Preventive Information on Lifesaving Measures"[3] (IPCS).

The Project's national objectives were to provide first aid training to all students from primary to secondary education and ensure that every student had a "first aid training certificate" by the time he/she left secondary school.

Thus far, some 40 per cent of primary schools in France have developed a Case-Specific Risk Reduction Plan and the Project has also led to the development of a new curriculum. Regarding secondary schools, safety exercises have been carried out only in 12 per cent of collèges (lower secondary schools) and eight per cent of lycées (upper secondary schools).

The results in higher education institutions and universities are barely worth noting. Developing case-specific risk reduction plans in these institutions will require more time. In any case, annual surveys are conducted by the National Observatory on Higher Education Schools and Institutions, which looks for possible ways of extending the scope of the risk reduction plans nationwide. In addition, the International Day for Disaster Reduction on the second Wednesday of October is an annual reminder of the necessity of these plans.

The Good Practice

This Initiative can be considered a good practice because it made mandatory the promotion of disaster resilience in the education sector. Such a determined effort to build a culture of resilience is compatible with both French school life and projects undertaken by French Health and Citizenship Education Committees and the Council for Delegates of High School Life. In addition, schools are now

3 In French: Information Préventive aux Comportements qui Sauvent (IPCS).

increasingly involved in risk education projects and their initiatives serve as an incentive for other sectors. In the light of these, an initiative was taken in February 2007 to increase the number of academic institutions working toward sustainable development.

Meanwhile, teaching aids and tools have improved and increased considerably, in particular due to the work of the National Centre for Educational Documentation and Regional Centres for Educational Documentation. Also, the Ministry of Ecology and Sustainable Development is planning to develop "infographics" (virtually animated educational videos) to teach how natural hazards occur, the direct impact they may have on people and infrastructure, and preventive measures. The purpose of the "infographics" is to help teachers explain to students what the major risks are, their predictable consequences and the good attitudes to adopt.

Lessons Learned

Key lessons learned are: (1) risk mitigation and rescue services cannot be solely handled by institutions specialized in the field: every one's involvement is required; (2) a child becomes genuinely aware of risk only in his/her local context, as this awareness is initially derived from experience or from the culture of the local community, hence the importance of contextualization in preventive education; and (3) a national-level project of this scale can only be implemented gradually and lessons learned in the process should contribute to its improvement.

The main challenge was fulfilling the very objective of the Project: turning school students into informed and responsible citizens that contribute effectively to civil defence. This challenge must be met by providing quality education not only for the sake of knowledge but also for the sake of action.

Potential for Replication

This Project can be replicated where political will to make risk reduction a reality is strong. It is to be noted that it has taken a bill, a common decision by three government ministries, determination from the National Education Ministry and other key players in the education sector as well as years of perseverance to make sensitization on risk prevention and other relevant actions mandatory in school; and it has taken another couple of years and a government decree to start enforcing such a legal obligation and developing risk reduction plans in schools.

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France

School Students as "Risk Ambassadors"

"Secondary School Students: Risk Ambassadors" Project
City of Rochefort and Merleau-Ponty Secondary School

Abstract

Schools in France are expected to enforce safety measures and local government authorities have an obligation to warn communities of major risks. The institutions share one objective: informing and sensitizing students on available measures for reducing major natural and technological risks and promoting a risk-sensitive culture in everyday life.

In the port city of Rochefort-sur-Mer on the west coast of France, risk education has been provided for several years. School curricula include activities based on local realities, actions targeting residents and other initiatives including an exhibition in which 600 students participated. Technical support is available to schools involved in specific plans to protect students from major risks.

Rochefort faces two major risks. It is built on the loop of Charente River near its estuary, which makes it vulnerable to flooding. The city is also exposed to industrial hazards as three of its industrial areas host some 30 industrial complexes. In addition, the city has a busy commercial port and a B-road for transporting toxic substances alongside the city.

During the 2006-2007 school year, a risk reduction project was implemented by the city and a local secondary school. It sought to teach school students preventive and protective measures against major risks, and help them prepare their examinations through the Project.

The Project won a trophy from the French Ministry of Ecology and Sustainable Development.

The Initiative

The Project, entitled "Secondary School Students: Risk Ambassadors", was born from a confluence of needs: those of a secondary school and a community. The secondary school was looking for a motivating project for its students and the community was seeking ways to sensitize a young public that is generally barely receptive to institutional information.

The Project was carried during the 2006-2007 school year, implemented by a City of Rochefort risk and environment officer and a communications teacher from a local secondary school - Merleau-Ponty Secondary School. Project partners included Météo France, the Charente-Maritime Département[2] Fire and Rescue Service, local media and local industrial firms.

The main beneficiaries were students from Merleau-Ponty Secondary School who had the opportunity to involve themselves in the prevention of natural and technological risks. The Project, through the experience acquired by the students, benefited a large section of the public, including teachers, students' parents, businesses, crisis management institutions and the community at large. Although the Project primarily reached a local public, it managed to get through to other educational institutions with the help of radio and TV stations.

The Project pursued two goals: (1) through the risk and environment officer - informing students about major risks, awakening them to local realities and teaching them preventive and protective measures; (2) through the communications teacher - helping the students prepare their communications subject examinations through the educational methods required for implementing the Project.

To achieve these goals, the secondary school and the community set separate objectives. The secondary school's objectives were: (1) engaging students from a technical department in a group project that applies professional methodologies so that the group project may serve as a teaching aid for their end-of-year examinations; (2) informing students of major risks; and (3) sensitizing parents, teachers and other secondary school students.

The community's objectives were: (1) sensitizing young citizens and their family circles; (2) ensuring that secondary school students are also information channels; (3) measuring the impact of existing global communications initiatives; and (4) involving the media in the Project to help inform the rest of the population about local risks.

Impacts & Results

To begin with, the students were taught about what "major risks" were in the region, risks in Rochefort, prevention and protection, security measures and emergency alerts.

Then, to achieve the two goals mentioned above, it was agreed that the technical department students would be placed in a professional situation in which they had to perform a number of duties assigned to them by the community. For this purpose, the students were divided into six groups of three and each group was assigned one of the following tasks: Group 1 - informing other students, parents and school teachers and personnel, Group 2 - promoting the Project outside the secondary school, Group 4 - carrying out a survey of the population's knowledge of risks and their expectations, Group 5 - enquiring among industrial workers and risk management specialists about existing prevention and protection measures, and Group 6 – developing an information booklet for young people. Each group was escorted outside the school by the risk and environment officer and the communications teacher two hours a week over the entire school-year period. To facilitate documentation sharing with risk experts outside these hours, an online project forum was established. Facilitating this process, the risk and environment officer acted as intermediary between the students and the risk experts.

The various initiatives and surveys carried out by the students helped define the secondary school's and community's visions of community action. They also exposed important gaps in the community's grasp of disaster response measures.

1 A département in France is an administrative unit equivalent to a sub-region - below the "region" and above the "commune".

The Project drew strong interest from the local media and from a national campaign that awarded the Project an IRISES trophy in the "Education" category. The trophy award ceremony, hosted in March 2007 by the French Ministry of Ecology and Sustainable Development, in turn directed the attention of a larger public to the Project. Outsiders took an interest in the participating students, which was an asset for their future. In any case, the Initiative reinforced the existing links between the school and its city. The teachers involved also learned about natural and technological risks, which would improve their lessons in the next school year.

The Good Practice

The Project was a success due to its innovative spirit and effective collaboration between people with different skills towards a common goal – developing a risk-sensitive culture.

The Project could also be described as a good practice because it helped the students become information providers and made communication with other young people easier – as the messages were conveyed in a youth-to-youth format, not in an institutional communication format.

Finally, the Project developed – at a minimum cost - several relevant tools for the community, including reusable surveys and statistical studies on the city residents' perception of risks.

A Rochefort "commune-level public information notice on risks" indicating:

- Road signs for: (1) flood risks (by erosion, sea flooding); (2) industrial risks; (3) risks from transporting of toxic substances
- Kind of warning and end of warning for above risks
- Most urgent dos and don'ts
- Where to seek further information

Lessons Learned

Two key lessons were learnt by the end of the school year. First, in the area of risk education, partnership and collaboration between people with different skills can facilitate the implementation of an action plan by widening its scope and public. Second, young people can be particularly sensitive to disaster risk issues and can find ways to draw the attention of their classmates to them.

The main challenge was motivating students to participate in an academic context, in a group initiative on a topic that they were not familiar with. Another challenge was building cooperation between an academic institution and a community, and between a technical officer and a school teacher. Overcoming the two challenges was crucial for the success of the Project because it relied solely on each participant's willingness to contribute.

Potential for Replication

Before it drew public attention and became an example, as often happens to innovative ventures by young people, the Project had already been replicated in different ways in other schools.

This was to be expected since the practice can be replicated at all school levels and in all types of academic institutions, provided that its teaching objectives match the risk context.

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India

Save the Children

Children Develop Preparedness Plans in Quake-Prone Villages

Village-Level Children-Based Emergency Preparedness

Planning and Response, Save the Children, United Kingdom

Abstract

Gujarat State, in western India, lies in the fifth zone of earthquake vulnerability classification. Being so, it is among the Indian states most vulnerable to earthquakes. After a strong earthquake hit Gujarat in 2001, Save the Children UK (SCUK) began operating in the state, focusing its programme on providing all required support and services for effective early childhood care and development. The extended focus included issues like emergency preparedness.

As part of SCUK's mandate of setting up child protection systems, it was imperative to train children and community in disaster risk reduction. The idea was discussed with the Gujarat State Disaster Management Authority (GSDMA[1]), which was supervising the National Disaster Risk Management Program of UNDP in Gujarat state. As the UNDP already had disaster risk reduction projects, it agreed to provide trainers and expertise in designing training modules.

The Project sought to reach children through their teachers and reach the community through children. As children receive a lot of attention and are under the supervision of their elders, persistent efforts to make them aware of and knowledgeable about certain issues can help change long-existing attitudes and perceptions within their families and neighbourhoods. In other words, children can be agents of change.

1 The Gujarat State Disaster Management Authority (GSDMA) is an autonomous state body mandated to handle all natural calamities through all aspects of disaster management: preparedness, mitigation, response, relief and rehabilitation. GSDMA is implementing a Disaster Risk Management (DRM) programme with the UNDP office in Gujarat.

The Initiative

This was a "Village-Level Children-Based Emergency Preparedness Planning and Response" project. Its objectives were the following: (1) inculcating a culture of preparedness among children; (2) training children from each project village in first aid, search and rescue, early warning communications, and psycho-social care and trauma; (3) developing linkages with existing village-level plans and village disaster management committees (VDMCs); and (4) generating awareness on measures to adopt and actions to avoid before, during and after emergencies among village adults and other children through non-formal platforms created by trained children.

The Project was implemented from March 2005 to November 2005 in 84 villages of the Rapar Block, Kachchh District, Gujarat State, western India. The Project, which ended with SCUK's withdrawal from Gujarat, was part of SCUK's 'Earthquake Relief, Rehabilitation and Development Programme' launched in January 2001 after the major earthquake in Gujarat.

Involved in the Project were children, teachers, and parents, as well the SCUK programme coordinator, UNDP officers, and community mobilizers[2] from SCUK-funded local NGOs. The Project targeted 1,680 children, 34 teachers and 18 VDMC members.

SCUK designed the Project along with GSDMA and UNDP teams. GSDMA and UNDP provided technical inputs and subject experts; and SCUK supported the Project with funds, human resources and field coordination.

Impacts & Results

A major impact of the Project was that the children and community gained good understanding of the fact that losses due to disasters could be minimized. Also, the children's self-confidence was boosted by the set of skills they had acquired for dealing with disasters.

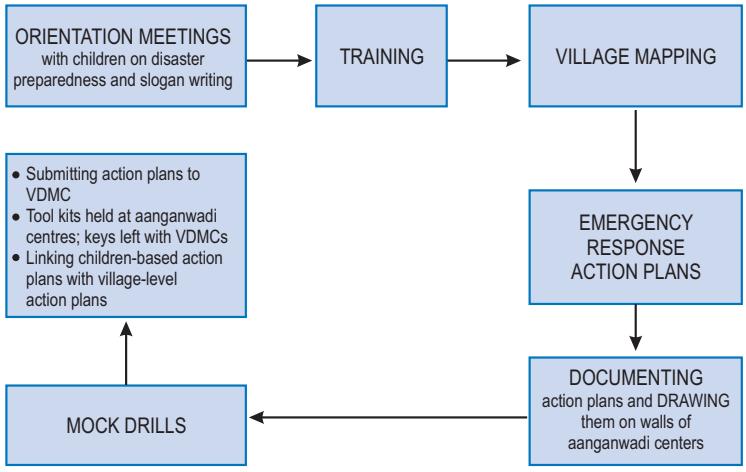
It is difficult to see what the Project's concrete results were in terms of disaster response, as no emergency has occurred since its implementation. Nonetheless, the trained children are still practicing what they learned and discussing them in their groups with new members.

The Good Practice

The Project was a good practice because it sought to capitalize as much as possible the premise that children can be the most effective tool for inculcating a culture of disaster risk reduction. Indeed, teaching disaster risk reduction to the children of today is capacitating a generation of adults to address disasters more effectively tomorrow.

The Project had two innovative features: (1) designing schedules of project components in consultation with children; and (2) helping children review the project implementation. These two elements instilled strong enthusiasm and sense of ownership in the children. For an overview of the components and activities of the Project, a chart is provided below.

Project Component & Activity Chart



The Project activities mentioned above were carried out as follows:

Orientation meetings - The first step was to orient partner NGOs and field staff on various aspects of earthquake preparedness and project design. The groups were then divided among field workers to initiate

2 "Community mobilization" in developing countries, especially in rural areas, is often performed by community development workers that are in touch with local contexts (languages, culture, etc.).

orientation meetings with children groups. The meetings involved the following steps: (1) mapping the disaster history of the village; (2) speaking about each disaste; (3) discussing how earthquakes take place; (4) measures to adopt and actions to avoid during and after an earthquake; (5) slogan writing on walls in the village; (6) describing training; and (7) sharing of training schedules and listing the names of children for each training session.

Training – Group training sessions were organized under four topics: first aid, search and rescue, early warning communications, and psychosocial care and trauma. The training sessions were scheduled to enable each village to have at least two children trained in each of the topics. Resource persons were provided by the UNDP and modules were developed in collaboration with SCUK. The training methodology adopted included interactive components like lectures, demonstrations, role plays, posters, activities and practices, video show, group activities, sensitization, subjective games, material distribution and experience sharing.

Village mapping - Upon completion of the training in each village, trained children along with other children met and shared their learning. Field staff led this component and conducted a participatory rural appraisal of village mapping with all children, followed by a transit walk. Village maps were documented on paper and also in digital format.

Developing emergency response action plan, documenting it, and drawing it on the wall of an aanganwadi center - Resource persons from UNDP facilitated the marking of safe evacuation routes, unsafe buildings, safe areas, pathways to evacuate the village, the place to wait to get collected in case of emergency. A strategy to bring all children together was also drawn. This was done to ensure that no child was displaced or lost. For this, the children also drew a list of all children in the village with their parents' names. The list needs to be kept updated. The resulting action plan was then documented and drawn on the wall of Aanganwadi centers along with the names of the children who took part in the training.

Mock Drills - To check the feasibility of action plans, mock drills were conducted with the help of UNDP experts. A whole disaster scene was created for practicing everything learnt, from early warning to psychosocial care and ending with the collection of children from the designated place. These mock drills gave the children a hands-on experience.

Final Step - Following the Disaster Risk Management (DRM) Programme[3], each village has a village disaster management committee (VDMC) comprising panchayat[4] (rural local authority) members, teachers, village elders and other nominates. A copy of the action plan was duly submitted to the VDMC along with the key of a tool kit. This tool kit comprised a rope, flags to mark access routes, first aid requirements including splints, material for making a stretcher, and other essentials. The tool kit was placed at the aanganwadi[5] center. The children group and VDMC members were assigned the responsibility of keeping it updated. The children-based emergency preparedness and response plans have now been included as an integral part of village-level action plans.

Key to the success of the Project was instilling in the children and community the need for disaster preparedness. A key failure of the Project, however, was the fact it could not put up a system for follow-up or future support after the Project ended.

3 The DRM Programme was developed by the Ministry of Home Affairs (MHA), Government of India, and the UNDP. It is being implemented in 17 states of India. Its objectives include sustainable reduction in vulnerability to disasters in most multi-hazard prone districts. One of its major deliverables is a state disaster management plan collated out of district disaster management plans, which in turn are consolidated village disaster management plans. Under the Programme, each village has a Village Disaster Management Committee (VDMC). VDMCs are recognized in the State Policy and Act of Disaster Management and their responsibilities are laid out in the Act. The Programme is implemented in Gujarat State by GSDMA and the UNDP.

4 In English: rural local authority.

5 Village Integrated Child Development Centres (ICDS).

Lessons Learned

The key Lessons learned from the Project are: (1) an exit strategy should be designed and well integrated into project design; (2) it is of utmost importance to build and maintain a good rapport with local government units and involve them in project implementation to enable them to have full knowledge of the capacities that are being built and how such capacities could be accessed if the need arises; (3) it would be more beneficial to map out community understanding or beliefs about specific disasters and see whether the community already has a coping system in place; and (4) participants should be consulted properly for the timing of training sessions and meetings.

Project challenges included coordinating teams from different agencies and ensuring children's participation. Team coordination was managed by ensuring that all the messages reached every one involved, keeping communication channels open, holding joint meetings and defining roles clearly. Although it was initially difficult to convince team members that children could be active participants, as the work progessed every one was surprised by the innovative ideas put forward by the children. Another challenge was convincing communities to devote time during the agricultural season. The fact that communities could be busy had not been taken into account. When the problem arose, village elders were consulted and meetings could be organized accordingly.

The above lessons should be borne in mind in any plans to undertake similar projects.

Potential for Replication

The specific context of the Project's implementation was conducive to good results in less time than expected, because SCUK had already worked with the same communities and NGOs for around four years. Also, as SCUK had children groups in each of the villages, a very good rapport existed among the community mobilizers and the children. Furthermore, the children's parents also knew the community mobilizers, so they easily agreed to send their children for training and mock drills.

In spite of the above, the Project can be easily replicated where this facilitating context is not available. Indeed, its components are easily replicable and the key lessons mentioned in the previous section can be of great help. The only pre-requirement is a healthy and trustworthy relationship with the targeted community and children.

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India

Students and Teachers Develop School Disaster Management Plans

School Safety Initiative

Sustainable Environment and Ecological Development Society

Community members take part in rescue drill

Abstract

Schools are often used as emergency shelters, as "safe havens" in times of disaster. As such, they should be resilient to disasters. To promote a culture of disaster safety in schools, Sustainable Environment and Ecological Development Society (SEEDS) India has pioneered a "School Safety Initiative". The idea is it to reach parents and eventually the community at large, through school students.

The Initiative sought to build the capacity of communities and school students and teachers, and help them develop school disaster management plans. Activities included raising awareness among school students and teachers, training students on various skills, developing evacuation plans, and conducting mock drills.

Seismic retrofitting of school buildings was undertaken in some areas. Throughout the western state of Gujarat, teachers were trained, and a school curriculum and a text book on disaster management developed.

The Initiative

The Initiative, called "School Safety Initiative", sought to promote a culture of disaster safety in schools by developing capacity among communities and school students and teachers, and helping them develop school disaster management plans (SDMPs).

Its activities included: raising awareness among school students and teachers; training student task forces on fire safety, emergency search and rescue, first aid, developing emergency evacuation plans, conducting earthquake evacuation mock drills, and preparing school disaster management plans.

The Initiative has been implemented since 2005 in the following areas: Delhi, the capital city of India; the state of Gujarat in western India; and Andaman in the Andaman and Nicobar Islands off the eastern coast.

Current activities include:

- Delhi Earthquake Safety Initiative: Training on search and rescue, evacuation and first aid; non-structural risk mitigation (in one school as a pilot project). The Initiative was completed in 2005.
- Gujarat School Safety Initiative: Disaster awareness to schools; training of teachers; development of curriculum books on risk reduction for schools (text books for classes 7, 8 and 9; school safety initiatives in 175 schools; teachers' training for over 1,500 teachers). The two-year Project was completed in February 2007 but another phase is being planned.
- Andaman School Safety Initiative: Disaster awareness to schools; training in developing school disaster management plans (SDMPs) in 20 schools. The Initiative is under way.
- Global Open Learning Forum on Risk Education (GOLFRE[1]): Online Certificate Course on Disaster Management for school teachers based on case studies, e-mail discussions and a contact workshop at the end of course. The training of a first batch of 45 teachers was completed in March 2007 as a Pilot Project.

All the above-mentioned activities were carried out over the last two years, after SEEDS pioneered school safety initiatives in India in 2005. The main beneficiaries are students and teachers from over 200 schools.
The Initiative was supported by various donors including national and state governments and international donors. Funding was provided by the following donors:

- Geo Hazards International and USAID - for the Delhi Earthquake Safety Initiative;
- The Government of Gujarat - for the Gujarat School Safety Initiative;
- Christian Aid and Dan Church Aid - for the Andaman School Safety Initiative and;
- Christian Aid - for the Global Open Learning Forum on Risk Education (GOLFRE).

Impacts & Results

A visible impact of the Initiative is strong awareness of disaster safety issues and involvement in the basics of disaster preparedness among the targeted schools and communities.

Over 200 schools have been covered by the Initiative in the last two years of its implementation, and 2,500 teachers and some 100,000 students have benefited.

Overall success was achieved despite the fact that some of the schools were so busy with their academic activities that they could not concentrate on school safety activities. Many schools were found to be repeating the activities from their own initiative after the Initiative activities were completed.

The positive impact and results of the Initiative have led, in Gujarat State, to plans for another phase of the Initiative.

1 GOLFRE: www.golfre.org.

The Good Practice

This Initiative can be considered a good practice because of its pioneer character in seeking to promote a culture of disaster safety in schools, which are the most suitable areas for sowing enduring good habits and practices. To this end, the Initiative, for instance, had a four-pronged approach in earthquake-prone areas: (1) structural retrofitting of school buildings to prevent their collapse in future earthquakes; (2) implementing non-structural mitigation measures to avoid injuries from falling hazards in schools; (3) education on safe infrastructure for school management staff and construction workers; and (4) preparing school disaster management plans and training school communities in immediate response, evacuation and first aid.

SEEDS believes that disaster education focusing on the school community should follow Dr Daisaku Ikeda's proposal, found in The challenge of Global Empowerment: Education for a Sustainable Future, for environmental education. The approach should consist in helping school students, teachers and management To Learn, To Reflect and To Empower:

- To Learn: Students deepen their awareness about hazards and risks when they understand realities and know facts. Recent natural disasters are well documented and shared. These serve as case studies for teachers as well as students. Wherever needed, disasters are simulated with the help of portable models. The learning process is strengthened by curriculum change.
- To Reflect: Students analyze factors leading to human casualties and injuries in disasters, so that they can recognize development practices and human actions that can cause disasters or prevent them. Students are connected to their own local communities and families and share their learning with them.
- To Empower: Students take concrete action toward reducing risks in their environment. Classroom and school exercises are introduced to help them take small definitive actions that can become a precursor to bigger investments for disaster risk reduction.

The main objective of the various projects involved is to develop a school disaster management plan (SDMP). A community-based disaster management approach is followed, involving the following steps:

- Raising awareness of disaster issues among the targeted stakeholders (students, teachers, school management and others) through lectures, discussions, posters, drama (street play) and demonstration.
- Identifying and listing hazards and vulnerabilities outside the school as well as structural and non-structural hazards inside the school.
- Identifying and listing ways of reducing vulnerabilities.
- Identifying the roles and responsibilities of various stakeholders.
- Training teachers on how to prepare a school evacuation plan and preparing a school evacuation plan.
- Building emergency response capacity, focusing on skills such as rescue and first aid (training provided to student groups).
- Listing, in the school disaster management plan, the contact information of all facilities and resources for emergency management.
- Conducting a mock drill, at the end of the school safety activities, to demonstrate the evacuation, rescue and first aid skills acquired by the students.
- Keeping targeted schools informed through a newsletter.
- Promoting School Safety Clubs to sustain risk education.

School students, teachers and management developed disaster management plans for their schools. In the process, they came to know existing structural and non-structural weaknesses. Efforts were made to ensure that the school community took ownership of the plan and made the necessary updates in the future. It is to be noted that involving teachers is essential for the success of any activity with students.

Students were trained to identify hazards inside their schools through a "hazard hunt" exercise. They were also provided with a similar checklist for doing “home work” – to identify hazards in and around their homes. The DRR message disseminated as the students shared information and knowledge with their parents, relatives, friends, and neighbours.

Lessons Learned

A key lesson learned from the Initiative was that school management should be sensitized to the importance of risk education before implementing such an initiative. Another key lesson was that master teachers among teachers need to be trained first so that they can train other teachers. This model was used in the state of Gujarat State and it worked well. First, some 100 master trainers from all districts of Gujarat were given orientation training. Then the trained master trainers trained teachers in each of the districts. All the trained teachers can help provide further training in the future.

Potential for Replication

Replicating this practice would be very easy. The approach used is similar to the one used for communities. Here, a school is considered as a community. The activities carried out to raise awareness, build capacity and develop disaster management plans are all similar to those used in the community approach.

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Indonesia

Training Teachers in Tsunami-Stricken Aceh Province

School-Based Disaster Preparedness, Training and Drilling

Aceh Partnership Foundation and Red Cross Society

Abstract

The December 2004 Asian tsunami disaster left at least 300,000 people dead and missing in Aceh Province in western Indonesia. Such an exceptionally heavy toll was partly due to poor preparedness and mitigation among Aceh residents.

To help address this issue in a sustainable manner, a culture of safety and resilience needed to be developed at all levels of society. The best entry point for such a venture is school communities.

Aware of this, Aceh Partnership Foundation and the Indonesian Red Cross Society launched a pilot project in four schools in Aceh Province – to help enhance school preparedness and mitigation within school communities. The pilot project focused on empowering school teachers to become preparedness and mitigation facilitators and trainers.

The Pilot Project was the first of its kind in Aceh Province. After its successful implementation, it was replicated in other areas of the tsunami-stricken province.

The Initiative

This Pilot Project, called "School-Based Disaster Preparedness, Training and Drills", was implemented in four schools in the town of Sabang, Aceh Province, western Indonesia, from 11 to 23 April 2007. Its general objective was to help enhance disaster preparedness and mitigation within school communities in the tsunami-stricken Indonesian province of Aceh.

Its specific objectives were: (1) to increase teachers' knowledge of possible causes of disasters such as earthquakes, tsunamis and floods; (2) to train them in preparing a Standard Operation Procedure for disaster response in school, identifying and mapping hazards around a school, and developing an evacuation route; (3) to put into practice the acquire knowledge by means of emergency mock exercises; and (4) to prepare a disaster mitigation course outline that can be implemented by any organization interested.

Targeted teachers also received guidance on how to prepare disaster education courses and emergency drills for their students, which benefited the students from the four schools.

The Project was implemented by Aceh Partnership Foundation in collaboration with the Indonesian Red Cross Society and the Sabang Department of Education. Donations were received from the German Red Cross.

Impacts & Results

A workshop was held at the end of the Project to evaluate results achieved at the four participating schools. The workshop was attended by all the teachers, school principals, NGO officers and students' representatives involved. It emerged from the workshop that the Project had: (1) empowered the teachers and volunteers with knowledge and skills to train other people in disaster preparedness; (2) benefited at least 35 teachers, 320 students, and nine volunteers in the four schools; and (3) achieved its objectives. Because of its success, the Project was replicated in three sub-districts of Aceh Province.

In total, the Pilot Project and the other projects (in the three sub-districts) benefited 160 teachers and 3,000 students from 23 primary schools. All the teachers, students and volunteers participated in emergency drills, and the desired disaster mitigation course outline was completed.

The Good Practice

The Project can be considered a good practice because: (1) it was the first pilot project of this kind in Aceh Province; (2) it achieved its objectives; (3) it involved all the relevant stakeholders; (4) it empowered teachers with the knowledge and skill necessary to train other teachers and students and replicate the Project; (5) the trained teachers and volunteers were keen on replicating it; (6) it was a stepping stone to further achievements through replication and the desired disaster mitigation course; and (7) it was immediately replicated in other areas.

Before its actual implementation, a survey was conducted on the condition of schools in tsunami-affected areas. On the basis of observations made and interviews held during the survey, an organizing committee classified the schools into different levels of disaster susceptibility. The 10 most susceptible schools were prioritized. To select four pilot schools from the ten schools, the schools' interest in and enthusiasm for the Project was assessed.

The Project was divided into three phases: Phase 1 - master training for facilitators; Phase 2 - training of trainers for teachers; and Phase 3 – mock exercises and drills.

Phase 1 sought to produce good facilitators. Accordingly, the participants were taught, among other things, about the natural processes behind disasters, assessment techniques, and teaching methodologies.

Phase 2 aimed to improve the teachers' knowledge of the processes behind disaster events such as tsunamis and earthquakes, in the hope that they would then pass on what they had learnt to other teachers and students. The training of teachers consisted in focused group discussions with facilitators, arranging a Standard Operational Procedure, identifying hazards, and developing an evacuation map for their own schools.

Phase 3 was about putting into practice the Standard Operational Procedures developed. This took place after the teachers had provided their students with basic theory on disasters, the causes of disasters, and knowledge of safety and response measures. Afterward, the students were split into three groups: an alert group, an evacuation group and a first aid group. To simulate real-life situations as mush as possible, some students had to act out different roles (including those of being slightly injured, heavily injured and dead). Phase 3 was followed by the distribution of a set of equipment to each school: a simple earthquake detector, microphones, and first aid equipment.

Lesson Learned

A key lesson learned from the Project was the crucial importance of teachers' and students' active participation. The interest and participation of responsible stakeholders is also crucial to the sustainability of the Project. Therefore, overall coordination among organizations involved in disaster preparedness is necessary to align the Project with local government policies and avoid overlapping with other programmes.

The major challenge faced by the Pilot Project – and therefore for its subsequent replication - was how to cope with limited funding and insufficient number of facilitators.

The funding problem has not been solved yet even though project proposals had been sent to potential donors to extend the Project. The insufficient number of facilitators was due to the limited attention paid to disaster preparedness and mitigation by local government authorities and NGOs operating in Aceh. The NGOs are mostly interested in rehabilitation and reconstruction. To address the issue, the Project included a "master training for facilitators" (Phase 1) to increase the number of facilitators.

Potential for Replication

As mentioned earlier, the Project has already been replicated in three sub-districts of Aceh Province. Nonetheless, future projects of this sort would benefit from organizing advanced training or internships for facilitators. Such advanced training or internships should preferably be conducted in countries with expertise in school disaster preparedness and mitigation.

Meanwhile, as suggested by the replication of the Project in three sub-districts of Aceh Province, successful replication can be achieved immediately in other areas of Aceh Province or Indonesia.

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Iran

International Institute of Earthquake Engineering and Seismology

Annual "Earthquake & Safety" Drills in all Schools across the Country

Earthquake and Safety Programme
International Institute of Earthquake Engineering and Seismology

Abstract

Iran has sought to educate children and youngsters on disaster preparedness at all school levels on a national scale, in both urban and rural areas. "Earthquake and Safety" programmes have been carried out in the country since 1991 by the Iran-based International Institute of Earthquake Engineering and Seismology (IIEES), and school safety programmes have been under way since 1996.

The school safety programmes sought to promote safety culture in schools. They involved: including material in textbook, showing films, holding exhibitions and competitions, displaying paintings and posters in schools, using songs and games, and conducting annual school safety drills.

The most recent Earthquake and Safety Drills were held in November 2006 in all primary and secondary schools in Iran. More than 14 million school students participated in this activity, including deaf and blind students.

The Initiative

The Initiative, called “Earthquake and Safety Drills in Schools”, is part of a series of activities aimed at protecting people, especially children, from the impacts of future earthquakes.

The Initiative also involves developing and implementing a comprehensive programme that addresses all groups in society; increases public awareness and preparedness using all types of media; educates children and youngsters about earthquake preparedness at all school levels by means of materials in textbooks, films, drills, exhibitions, drawing and writing competitions, posters, etc. that promote a seismic safety culture; and conducts annual national drills in schools.

“Earthquake and Safety” programmes have been implemented since 1991 by the Iran-based International Institute of Earthquake Engineering and Seismology (IIEES)[1], and school safety programmes have been conducted every year since 1996 to help school students respond appropriately and rapidly to potential hazards.

The school safety programmes were developed by the IIEES Public Education Department in cooperation with the Iranian Ministry of Education, the Ministry of Internal Affair’s National Committee for Natural Disaster Reduction, the Iran-based Red Crescent Society and Iran National Television and Radio.

The first “trial” drills were held in the capital city of Tehran in 1996 and 1997, covering respectively five and three primary schools, followed by a “training” drill also in Tehran in 1998. The first national-level drills were conducted in 1999 in 15,499 high schools. The following ones in 2000, 2001 and 2002 – now focusing on "Earthquake and Safety" – were held in all secondary schools. Since 2003, "Earthquake and Safety" drills have been performed every year in all primary and secondary schools in Iran. In February 2004, “Special Post-Bam Earthquake” drills were performed by 16 million school students across the country. (Figure 1)

The 8th National Earthquake and Safety Drills in Schools - the most recent ones - were held on 29 November 2006 in all schools around the country. The Earthquake and Safety bell was broadcast at 10:14 am on the national radio in more than 130,000 schools. More than 14 million school students participated actively in the drills, including deaf and blind ones. The 9th National Earthquake and Safety Drills will take place on 8 November 2007.

Figure 1: Statistical Figures of Safety Drills Conducted in Schools

	Year	School Level	Number of Schools	Number of Students	Number of Boys	Number of Girls	Location
1st Trial Drill	1996	Primary School	5	1,000	600	400	Tehran
2nd Trial Drill	1997	High School	3	-	-		Tehran
Training Drill	1998	High School	1,059	527,237	266,890	260,480	Tehran
1st National Drill	1999	High School	15,499	4,580,688	2,324,907	2,255,781	National
2nd National Drill	2000	Secondary & High School	45,000	11,000,000	5,776,000	5,224,000	National
3rd National Drill	2001	Secondary & High School	48,000	11,800,000	6,176,000	5,624,000	National
4th National Drill	2002	Secondary & High School	50,000	12,000,000	6,500,000	5,500,000	National
5th National Drill	2003	All levels	110,000	16,027,000	8,297,000	7,730,000	National
Special Post-Bam Earthquake	Feb. 2004	All levels	110,000	16,000,000	8,300,000	7,700,000	National
6th National Drill	2004	All levels	120,000	15,700,000	8,100,000	7,600,000	National
7th National Drill	2005	All levels	140,815	15,264,349	7,872,610	7,391,739	National

1 Operating under the Iranian Ministry of Science, Research and Technology.

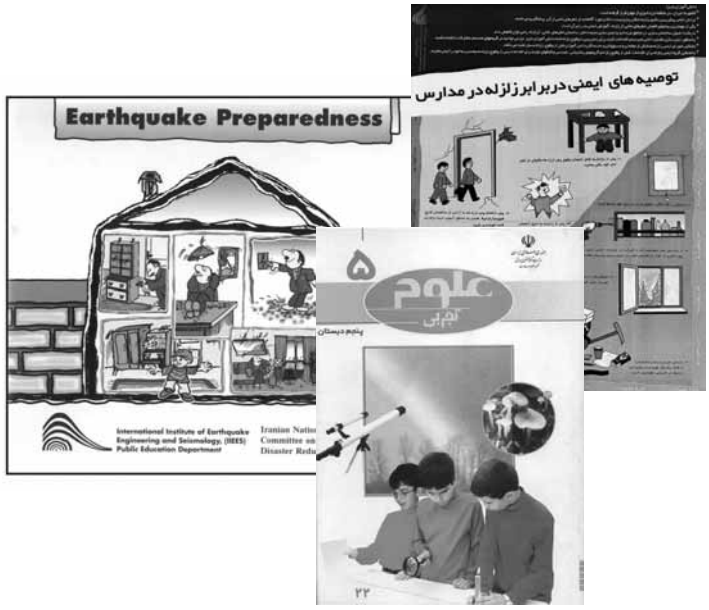
Impacts & Results

The drills have helped expand a seismic safety culture, spread the "drill" experience to non-school areas, and make "Earthquake and Safety" a national activity.

The Good Practice

The Earthquake and Safety drills can be described as a good practice because it is one that promotes a culture of safety at all levels of society. It helps increase children's knowledge on earthquakes, then the children can share their knowledge with their families, relatives, friends, and community.

The drills were implemented by means of: (1) educational methods publicized with the help of Iran National Television and Radio and the Ministry of Education; and (2) marketing through Iran National Television and Radio.



Lesson Learned

A lesson learned from the Earthquake and Safety drills is the key educational role they play in promoting safety measures against earthquakes and spreading them in the society.

A major challenge initially was to secure the cooperation of many institutions and organizations such as Iran National Television and Radio. This was overcome through persistent advocacy and continuous follow-up.
To improve the drills, regular, continuous and step-by-step testing and monitoring are required.

Potential for Replication

As the drills are now performed by all schools in Iran, they only need to be replicated in new schools, which is an easy task. What could be more difficult is to expand them further to non-school contexts. But efforts have been made on this – knowing that schools are relatively easier targets because they already play a disaster role as shelters and relief centres.

In fact, as mentioned at the beginning of "The Initiative" section of this good practice, the Initiative also involves developing and implementing a comprehensive programme addressing all groups in the society. It emerged from ongoing efforts that the drills can also be replicated in non-school contexts. They can be expanded to various levels of the society in Iran. They may well serve as a model to other earthquake-prone countries.

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Iran

Alternative Paths to Building the Resilience of School Children

Project 1: Advocacy and Capacity Building for Psycho-Social Support Before and During Emergencies
Project 2: Advocating for Safe, Modular Emergency Prefabricated Schools

Ministry of Education and UNICEF, Iran

Abstract

Iran is affected every year by natural hazards such as earthquakes, floods, and recently cyclones. Three major earthquake disasters occurred in the country in the last three years. The 26 December 2003 earthquake in Bam, in the southeast, killed 26,000, including more than 7,000 children.

Iranian schools currently host more than 16,000,000 students, over 98 per cent of whom are children. School safety programmes focused on seismic disasters have been implemented by the Iran-based International Institute of Earthquake Engineering and Seismology (IIEES) since 1996. Other organizations are also helping protect school children from disasters through different paths.

The present case study describes two projects that seek to make children more resilient. The first project advocates and builds capacity for "psycho-social support before and during emergencies". The second one advocates "safe, modular emergency prefabricated schools".

Both projects arel ongoing one-year projects to be completed in December 2007. They are implemented by the Iranian Education Ministry and UNICEF, Iran.

PROJECT 1

Advocacy and Capacity Building for Psycho-Social Support Before and During Emergencies

The Initiative

This is a Project that seeks to: (1) shift the efforts of state bodies[1] - which deal with children's condition before and during emergencies - from following a clinical approach to trauma to promoting psycho-social support; (2) build the capacity of Education Ministry officials and experts at both provincial and district levels to enable them to provide psycho-social support before and during emergencies at school.

For the advocacy part of the Project, IASC (Inter-Agency Standing Committee) guidelines for psycho-social support in emergencies are being localized, and partners (including governmental and international organizations) are being encouraged to harmonize and coordinate their efforts in this area. As a first step, 160 staff members of MOE (Ministry of Education) Counselling Centres in 32 Provincial Education Organizations are being trained under a training-of-trainers programme to gain the knowledge and skills necessary to train other MOE staff members and teachers in districts. Locally developed training material based on the IASC guidelines were developed for this training.

The Project kicked off in January 2007 and is due to end in December 2007. It is being implemented by the Ministry of Education (MOE) and UNICEF. Beneficiaries are staff of MOE Counselling Centres, teachers and students. Parents will also benefit indirectly from the Project.

Impacts & Results

Through its first phase that includes training activities, the Project benefits directly 150 staff members of MOE Counselling Centres. –There are no specific results yet, as the Project is still in progress.

The Good Practice

The Project can be considered a good practice because: (1) it helps shift the attitude and approach of the above-mentioned state bodies towards the needs of children before and during emergency situations; (2) it has been flexible and adaptable enough to evolve from a UNICEF-supported emergency response initiative into a fully-fledged preparedness project and, now, into prevention.

Lesson Learned

A key lesson learned from the Project is that successful projects implemented during transition phases, such as emergency situations, can readily be used as pilots for national-level activities.

The Project has confronted two major challenges. The first challenge was promoting inter-sectoral cooperation among different government and international bodies. The second challenge was clarifying the roles and responsibilities of government departments such as the Ministries of Education and Health and the State Welfare Organization. These challenges were overcome through the involvement of higher-level officials from both government and international bodies.

Potential for Replication

To improve similar projects in the future, global and national-level stakeholders and actors need to join forces from the early stages of implementation, in order to minimize the margins for error in planning and implementation. This Project can be adopted by different countries with similar settings and contexts.

1 Especially the Ministries of Education and Health and the State Welfare Organization.

PROJECT 2

Advocating for Safe, Modular Emergency Prefabricated Schools

The Initiative

This is a Project to promote a school building design that is resistant to major earthquakes and strong winds. School buildings developed under the modular and flexible design using locally produced prefabricated materials can be built quickly and is adequate for different climates. Community members, especially children, can be involved in the construction process. The Project started as an emergency response activity after the 26 December 2003 earthquake in Bam (southeastern Iran), but, due to its practicality and technical features, the Government of Iran is considering using the design to build schools in rural areas.

Initially, school building designs developed by consultants working under the supervision of relevant government departments were presented to province-level bodies responsible for building schools. In the practical phase of the Project, prefabricated panels available from local manufacturers are put together and set up on a concrete foundation in accordance with the modular design, creating teaching/learning spaces as well as office and hygiene facilities.

The Project was launched in January 2007 and ends in December 2007. It is implemented by the Iranian Ministry of Education (MOE) and UNICEF. Beneficiaries, in the first phase of the Project (advocacy), are the technical staff members of the School Renovation Organization who have been familiarized with the building design.

Impacts & Results

The first phase of the Project benefits 96 technical staff members of the School Renovation Organization. No specific results are available, as the Project is still in progress.

The Good Practice

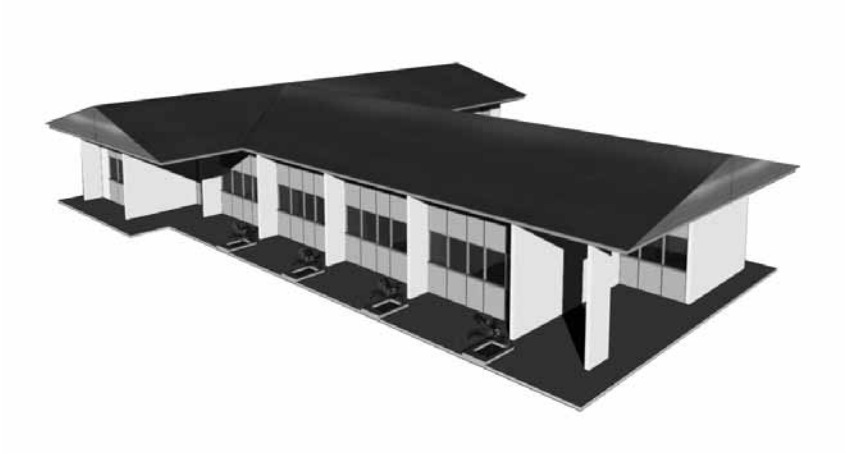
The Project can be described as a good practice because it is multi-faceted: Firstly, it is an example of an emergency response project that could be used as a disaster risk reduction (DRR) measure. Secondly, the project resulted in the development of new safety standards for prefabricated school structures in the country. Thirdly, the government's involvement and ownership was evident from the early stages of the Project. Last but not least, the Project promotes safer and low-cost school structures that could be built in vulnerable areas.

Lesson Learned

A key lesson learned from the Project is similar that successful projects implemented during a transition phase such as emergency situations can readily be used as pilots for national-level activities.

Potential for Replication

To improve similar projects in the future, standards for school structures should be developed before the school buildings are designed. This school building design can readily be used in most regions and situations.



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Jamaica

Protecting School Children through Preparedness and Response Plans

"School Emergency Preparedness and Response Plan" Project

Office of Disaster Preparedness and Emergency Management, Ministry of Education and Youth and UNICEF, Jamaica

Abstract

Over the last three years, Jamaica has been hit by three hurricanes and severe flooding. In 2005, hurricanes Dennis and Emily (only one week apart) took their toll on an already weather-weary country. The two hurricanes severely damaged roads, caused property and agricultural losses worth millions of dollars, and halted recovery efforts made since the previous hurricane season in 2004.

Southern and eastern Jamaica were particularly affected. Main roads were closed for several days and electricity and water supply systems disrupted for up to two weeks. Flooding and landslides killed five people, including two children, and displaced 3,000 others to temporary shelters across the island. Most schools were used as shelters and generally closed. Efforts were made to assist children in the shelters and keep them safe. Food drops became necessary in the eastern end of the island marooned by landslides, flooding, and damaged bridges.

The 2004 and 2005 hurricane seasons provided a strong reminder of Jamaica's vulnerability to natural hazards and their potential economic, social and environmental impacts.

As a result, a Project was developed to protect school children through emergency preparedness and response plans. The Project was implemented in 2005 and 2006 but plans are under way to replicate its success over the next two years.

The Initiative

Hurricane Ivan hit Jamaica in 2004 and schools were used as shelters in its aftermath. Lessons learned from this experience led to the implementation of a Project to strengthen the capacities of communities through schools to protect children in the event of a natural or man-made slow/rapid-onset emergency. The Project, launched in 2005, was a joint project of the Office of Disaster Preparedness and Emergency Management (ODPEM), the Ministry of Education and Youth (MOEY) and the UNICEF country office.

It was implemented in communities most vulnerable to flooding and landslides. The Project was implemented in 2005 and 2006 and it is being expanded to 2007-2008.

The beneficiaries were 40,000 children, 150 school professionals (teachers, principals and guidance counsellors) and 300 community-based professionals and volunteers. The implementing partners were the Office of Disaster Preparedness and Emergency Management (OPDEM) and the Ministry of Education and Youth.

Impacts & Results

The Project trained and equipped 150 school-based professionals (teachers, principals and guidance counsellors) and Parent Teachers Association representatives from 30 target schools with knowledge and skills to inform and develop comprehensive school emergency preparedness and response plans and sensitize community members on emergency preparedness and disaster management processes and procedures. Topics covered in the training included shelter management, vulnerability community assessment, basic disaster management, how to develop and use a hazard map, basic first aid, and Community Preparedness and Response.

Of the 150 school professionals, 41 were capacitated with knowledge and skills to operate, maintain, and communicate through radios in emergency situations and increased their knowledge about how to best protect the rights of children in emergency preparedness and response activities. Some 40,000 children were initially targeted.

The Good Practice

The Project can be considered a good practice because it helped develop 30 school emergency preparedness and response plans and increase the capacities of the targeted 30 schools and school communities to better protect some 40,000 children from potential hazards. Communication protocols and communication mechanisms were also established in partnership with the targeted schools, the Ministry of Education and Youth and ODPEM to facilitate preparedness and response activities.

The Project also brought to attention the following:

1. Of the 30 schools targeted, none had previously designed an emergency preparedness and response plan even though there was a general consensus and recognition that such a plan was needed. Lack of resources and technical support were cited as the main challenges to the development of such plans.
2. Most of the schools had no contingency plans in place to facilitate communication between themselves and emergency responders including the police, fire brigade and notably the Ministry of Education and Youth.
3. The schools did not have the telephone numbers of front-line responders available or visible for use during and after a rapid-onset emergency. Most of the schools did not have the telephone numbers of the local police and fire stations.
4. Children were not regularly exposed to information on how to prepare for or respond to an emergency situation other than annual Earthquake Day activities or information available via radio announcements during the annual hurricane season. Children were poorly equipped to respond to rapid and slow-onset emergencies, i.e. lack of vulnerability assessment, hazard identification and precautionary actions/responses to fire, flooding, and earthquakes.
5. No emergency management or response initiative was available or standardized to care for children with disabilities in schools (although there was a general recognition that these children were even more vulnerable during emergencies) or children living in child care institutions.

1 The Office of Disaster Preparedness and Disaster Management (OPDEM) is a government agency.

30 schools were designated by the Ministry of Education and Youth on the basis of their high vulnerability to flooding, landslides or sporadic outbreaks of conflict within the surrounding communities. The 30 emergency preparedness and response plans that were developed increased the capacities of the 30 schools and school communities to better protect some 30,000 children.

To better protect children within the surrounding communities, ODPEM and the Ministry of Education and Youth recognized the need to expand the initial project implemented in 2005/2006 and build on the lessons learnt to further strengthen the capacities of schools and child care institutions to react before, during and after emergencies. Such an expansion of the work initiated in 2005 will inform the needed streamlining of the development of emergency preparedness and response plans through schools and child care institutions by preparing and presenting a how-to guide.

Furthermore, it is anticipated that post-2008 budgetary allocations by the Ministry of Education and Youth and the Child Development Agency will consider the cost of spreading the development of the emergency preparedness and response plans to the remaining schools and child care institutions.

Lessons Learned

Three key lessons were learned from the Project:

1. Using a standardized tool for developing school emergency preparedness and response plans greatly facilitates the development of thorough and quality plans.
2. The availability and access to basic psychosocial support to children and caregivers following an emergency can substantially aid recovery processes and reduce the impact of post-traumatic stress syndromes on children and caregivers.
3. Increased emphasis must be placed on children and their protection before, during and after the onset of a disaster situation.

The Project faced a major challenge coping with the limited availability of time of the school-based professionals to participate in the comprehensive training activities. To overcome this challenge, training activities were broken into parts - rather than in blocks - to facilitate the out-of-office time required for the professionals to participate.

Potential for Replication

To replicate the Project in the future, the following improvements are suggested: (1) a succinct training programme needs to be developed; (2) a standardized tool should be used to develop emergency preparedness and emergency response plans; (3) training should be incorporated into basic psychosocial support for school professionals; (4) a training programme and format should be developed for emergency preparedness and response plans that take into consideration the needs of children with disabilities (including sight, hearing, physical and intellectual disabilities); and (5) advocating for budgetary allocation through Ministry counterparts is needed to ensure longer-term sustained response and extend it to all child care institutions and schools, including schools for children with disabilities.

Replicating the Project in other countries should be easy but would require the support of relevant ministries (including education ministries and ministries in charge of children-related affairs) and technical expertise and capacity to extend the training activities to other school and organize follow-up.

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Madagascar

Disaster Risk Reduction Mainstreamed into School Curricula

"I Protect my Country from Natural Disasters" Project

National Office for Disaster Risk Management[1]

Abstract

The southwestern Indian Ocean island of Madagascar is exposed periodically to natural hazards such as floods, drought, locust invasion, minor earthquakes, and tropical cyclones – with a six-month-long annual cyclone season. The country also felt the impact of the December 2004 Indian Ocean tsunami. Over 35 years, from 1968 to 2002, the country experienced 38 natural hazard events of sufficient magnitude to cause internationally recognized disasters.

In 2002, disaster risk reduction (DRR) was introduced through a National Strategy for Disaster and Disaster Risk Management. The ensuing DRR measures helped reduce disaster-induced losses in human lives and property substantially. In early 2004, cyclone death toll, which was a total of about 100 deaths per major event over the previous 35 years, was reduced by half. In 2005 and 2006, the toll was down to zero. But in early 2007, this year, six successive major cyclones hit the country in the space of only 13 weeks: that is to say about one major cyclone every two weeks. The death toll could have been higher were it not for the DRR measures adopted since 2002.

As part of these DRR measures, and following a UN/ISDR Africa regional training workshop on "DRR and Education" held in Kenya in May 2006, the BNGRC embarked on a school safety programme focusing on making school buildings safer and mainstreaming DRR into school curricula. Efforts to make school buildings cyclone resistant have been under way since 2006. DRR has been successfully mainstreamed into school curricula.

1 In French: Bureau national de gestion des risques et des catastrophes (BNGRC).

The Initiative

This Project, entitled "*I Protect My Country from Natural Disasters*", was implemented from April to October 2006 by the National Office for Disaster Risk Management (BNGRC) in close cooperation with the Malagasy Ministry of National Education and Scientific Research.

The Project was part of ongoing efforts to mainstream DRR into school curricula in Africa. Such efforts were recommended during a UN/ISDR Africa regional consultative meeting held in Kenya in March 2006, attended by Ministry of Education officials from 19 African countries. The workshop recommended that knowledge acquired during the workshop be imparted to primary and secondary school teachers. In line with that recommendation, some selected local government officials and teachers were trained in Madagascar, a students' manual and a teachers' guide on DRR were developed, and DRR was mainstreamed into school curricula.

Some 75 local government officials and 150 teachers benefited from the training. The students' manual and teachers' guide were launched by two cabinet ministers - the Interior Minister and the Education Minister - and members of the Malagasy National Platform for DRR on 10 October 2006 on the occasion of the International Day for Disaster Reduction, and 2,469 copies out of a total of 10,000 copies printed were distributed to 20 different schools located in the most disaster-prone areas.

The Project was implemented by the BNGRC in close collaboration with the Malagasy Ministry of National Education and Scientific Research. Implementing partners were: the Ministry of Interior (through the local government officials mentioned above), the Ministry of Transport and Meteorology, UNESCO, UNICEF and UN/ISDR Africa, and curricula developers, professional illustrators, and teachers. Their respective roles were:

1. The BNGRC facilitated the entire process, the training and the necessary drills (to demonstrate some practices), and promoted the idea of developing all-reader-friendly textbooks and mainstreaming DRR into school curricula.
2. The Ministry of Education and Scientific Research brought the idea of mainstreaming DRR into school curricula, examined it in the light of the national curricula, outlined the relevant curricula, and provided support to the design and development of the students' manual and teachers' guide.
3. The Ministry of Transport and Meteorology - through the National Meteorological Service – provided expertise on cyclone, drought, and floods and supported the design and development of the students' manual and teachers' guide.
4. Local government officials from three cyclone-prone east coast regions, curricula developers from the Ministry of Education, and journalists were trained on DRR to be able to draft the basic contents of the manuals.
5. The curricula developers, professional illustrators, and teachers developed the contents of and illustrations in the two manuals.
6. UNESCO and UNICEF supported the printing of the two publications, and UN/ISDR Africa provided technical advice and financial support.

Impacts & Results

The Project helped mainstream DRR into the school curricula. This was a major objective pursued by the ongoing World Disaster Reduction Campaign 2006-2007 under the theme "Disaster Risk Reduction Begins at School". The Project was also an effort to implement the Hyogo Framework for Action, Priority for Action 3: "*Using knowledge, innovation and education to build a culture of safety and resilience at all levels*". More importantly, it enabled to institutionalize DRR in schools, which is a crucial step towards institutionalizing DRR in society.

The Good Practice

The Project can be described as a good practice because it achieved several objectives in a single initiative: (1) raising awareness of DRR among teachers and local government officials from disaster-prone areas; (2) training the teachers on the DRR concept and related activities; (3) developing a students' manual and teachers' guide; and (4) mainstreaming DRR into the school curricula.

The Project benefited school students, teachers, officials from the Ministry of National Education and Scientific Research and local government officials from three cyclone-prone east coast regions directly. It is expected that through these direct beneficiaries the Project will also enhance their parents', relatives' and communities' knowledge – including that of school dropouts - on how to react before, during and after a disaster event.

The students' manual explains how to react before, during and after a disaster event with some explanations on simple community DRR measures for seven major hazards in the country: cyclones, earthquakes, volcanic eruptions, tsunamis, floods, fires and famine. The teacher's guide provides guiding questions related to various risks in Madagascar. Both manuals are in Malagasy, the country's national language which is spoken all over the country.

The two manuals were developed through a participatory approach involving various stakeholders. The process of developing the two manuals and mainstreaming DRR into school curricula involved nine stages that were implemented from April to mid-October 2006:

1. April 2006: a five-day training was held for local government officials from three cyclone-prone east coast regions. Held in the cyclone-prone east coast town of Vatomandry, the training was on theoretical considerations on DRR and practical applications to be outlined in the general contents of the two manuals.
2. June 2006: a three-day teacher training was held in three different cyclone-prone east coast regions, during which the participating teachers were also asked to draft the basic contents of the two manuals.
3. June 2006: a retreat was held in the capital city to finalize the students' manual. The retreat was attended by Ministry of Education officials and curricula developers and officials from the BNGRC and Regional Directorates for National Education from the three cyclone-prone east coast regions mentioned above.
4. July 2006: a draft students' manual was tested in the capital city by the Ministry of Education and the BNGRC on a small number of primary school students that had no prior knowledge of the hazards mentioned in the students' manual.
5. July 2006: another retreat was held in the capital city to finalize the teachers' guide. The retreat was attended by Ministry of Education officials and curricula developers as well as officials and the Nairobi-based UN/ISDR Africa.
6. August 2006: illustrations and page layout for the two manuals were developed in the capital city.
7. September 2006: the two manuals were printed in the capital city.
8. 10 October 2006 - International Day for Disaster Reduction: the two manuals were launched by the Interior Minister, the Minister of Education and members of the Malagasy National Platform for DRR in the capital city.
9. Mid-October 2006: Mainstreaming of DRR into school curricula begun in Madagascar - under the school subject "Gestion des catastrophes"[2] – after which 2,469 copies of the two manuals out of a total of 10,000 were distributed to 20 different schools located in the most disaster-prone areas.

2 In English: Disaster Management.

Lesson Learned

A key lesson learned from the Project was that the simple fact of mainstreaming DRR into school curricula gave the national community at large a strong signal on the importance of DRR. Various enthusiastic media reactions from citizens, including some living in areas not prone to disasters, welcomed the idea as a very innovative and timely one in the country.

The Project faced some challenges, namely insufficient funds for printing the targeted minimum of 400,000 copies. This large number of copies was needed to cover all schools in Madagascar. Instead, only 10,000 copies could be printed.

To cope with such a limited number of copies, the following measures were adopted upon: (1) 100 copies of each textbook were distributed to each school in most disaster-prone areas; (2) teachers are allowed to give the textbooks to students only during class hours; and (3) students are not allowed to keep the textbooks for themselves.

Potential for Replication

The Project – excluding the DRR mainstreaming component - can be replicated in secondary schools provided that more explanations on hazards, disasters and DRR are introduced in the manuals, and that some teachers are trained in the topic so they can help develop similar manuals for secondary schools.

The Project can also be replicated in other countries provided that the countries' Education Ministries are involved closely from the outset.

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Peru

Influencing Policies to Include Disaster Risk Reduction in National Education System

Incorporating Risk Management Approaches and the Rights of the Child into the National Education System

Intermediate Technology Development Group

Abstract

Coordinated efforts to reduce disaster risk in educational institutions have been made, for years, by the Peruvian Ministry of Education (MED), National Institute for Civil Defence (INDECI) and the Intermediate Technology Development Group (ITDG).

Achievements included training and sensitization processes directed at teachers and students; curricula changes; incorporation of methodologies and technologies that were both adequate and accessible to schools; active participation of students and teachers in debates and brainstorming sessions that culminated in guidelines, standards and political proposals; the increasingly higher profile of disaster risk reduction on the political agenda; and different initiatives taken in the public sphere.

This Project aimed to reform Peru's educational policies to incorporate risk management approaches and the rights of the child into the national education system, through the inclusion of some proposals developed during school community workshops and through interaction between these communities and the official programmes of MED and INDECI.

Agreements and resolutions were reached and signed, which recognized, adopted and promoted the integration of risk management into the country's "Institutional Education Plans".

The Initiative

The Project aimed to secure a set of proposals to facilitate the inclusion of disaster risk management approaches and the rights of the child in the national education policies. The Project capitalized on experience of risk reduction processes that had been promoted and developed with or within vulnerable school communities.

The Project also sought to secure the participation of project beneficiaries in the brainstorming and development of policies and directives relating to risk management and environmental education in the formal education sector. It also sought academic institutions as an instrument of and venue for sensitization, experience sharing, and brainstorming with impact on the local level.

The Project was initiated in 2003 in the regions of Ancash (western Peru) and San Martin (north-central Peru). It has gone through annual improvements and is still in progress in other parts of the country. In 2007, it was replicated in the Andean region of Cajamarca (northern Peru).

Current beneficiaries are children and teenagers of the Cajamarca Region. Other beneficiaries are teachers from the same region, followed by civil servants from MED and INDECI headquarters and regional branches.

The Project was implemented by the Intermediate Technology Development Group's (ITDG) Department of Practical Solutions with support from Save the Children. The Project is coordinated by the Peruvian Ministry of Education (MED) and National Institute of Civil Defence (INDECI) from their headquarters in the capital city, Lima. MED (including regional education officers) and INDECI promote, manage and facilitate school risk reduction activities that involve school teachers and students. They also commit themselves to promoting the viability, official status and continuity of potentially viable activities among school communities. For instance, MED recently secured official recognition for the involvement of the National Students' Network in risk reduction activities; yet the Network had been established only recently during the first ever National Gathering of Students – held as part of the Project.

Impacts & Results

The Project has brought the following benefits:

1. Agreements and resolutions have been reached and signed, which recognize, adopt and promote the integration of risk management into the country's "Institutional Education Plans", which means that risk management has been mainstreamed into the country's education system. In addition, the related Directives reflect the education sector's determination to continue with the school-related activities.
2. The Peruvian education community now has official normative documents for orienting school risk management nationwide.
3. A space has been created for dialogue and brainstorming and for developing proposals to be submitted to policy/decision makers. As a result, student, teacher and parent networks recognized by MED have become committed to continuing working in line with the new requirements and perspectives.
4. The newly established networks facilitate solidarity-based actions and collective activities to secure renewed funding, as is the case in the Ancash and San Martin regions where the networks can operate autonomously through fund-raising activities supported by local communities. More importantly, students have now positioned themselves as citizens with rights who can play a part in community development projects through direct involvement in prevention and awareness-raising activities. This helps to reinforce the technical capacities of the students, teachers and civil servants involved, who then can continue putting into practice the knowledge acquired.
5. Training material was developed in a participatory way with the education sector. This included a "Guide for Assessing Vulnerability and Risk Reduction Capacities in Academic Institutions", a "Guide for Incorporating Risk Management into Post-Graduate Vocational Training" and a "Manual on Methodologies and Tools for Disaster Risk Management Training". These outputs have been revised by MED and INDECI. The methodologies were based on local initiatives from the Ancash and San Martin regions, where ITDG developed risk management projects involving greater participation from teachers, students, and parents. The fact that the Project is also affiliated to other projects of the ITDG Disaster Prevention and Local Governance Programme helps link its activities with social processes towards risk reduction among vulnerable communities.
6. A methodology guide to help teachers take risk management actions in their classrooms is currently being developed in coordination with MED.
7. The Project has made possible an open dialogue space with MED directors and other high-ranking officials. This helped develop proposals that focus on the inclusion of the rights of the child into policy documents and policy implementation instruments.

8. Training sessions on “risk management in education, scientific and technological innovations” were organized for INDECI staff through ITDG’s involvement in the development of a national-level curriculum proposal entitled “Learning to Prevent”.

It is to be noted that ITDG was able to organize training sessions, promote teachers’ and students’ networks and plan school-level risk management after it had established ITDG regional branches in the Ancash, San Martin and Cajamarca regions.

It is difficult to give an exact number of the beneficiaries, because the objective pursued was to reform public policies. However, some 10,000 people have participated directly and indirectly in the following activities: training, sensitization, organization, planning and media dissemination. In addition, the Project’s outreach has been extended to school students all over the country through ITDG’s involvement in the development of “National Risk Management and Environmental Education Directives”, dissemination of articles to newspapers with nationwide circulation, and television and radio coverage of interviews about the creation of student networks.

The Good Practice

The Project can be considered a good practice because, in the first instance, it has helped mainstream risk management into the country’s education system. The Project also influenced successfully the Peruvian Ministry of Education (MED) into gathering the contributions of the targeted teachers and students, developing them into a normative document with national outreach, and setting up an innovative process involving a participatory approach in the development of official documents. Indeed, such documents had been prepared previously with the technical inputs of staff members - not necessarily with the inputs of those who would eventually have to implement them. Following this successful innovation, directives and even policies on issues such as environmental education have been developed in a participatory manner.

The Project is also a good practice, because it complements other projects organized under ITDG’s Disaster Prevention and Local Governance Programme. This helped expand its activities to other regions and made it possible to capitalize on experiences gained and lessons learned from other regions and projects - experiences and lessons on planning change and promoting new policies in the education sector.

Another strength of the Project is its success in shifting the orientation of MED’s work with the National Institute of Civil Defence (INDECI). The latter’s work used to focus on emergency response. Now its focus has shifted towards risk reduction but also local actors’ participation in risk reduction, including trained students’ participation on an extra-curricular basis on how to develop risk diagnostics, identify vulnerable and safe zones and plan and organize mock exercises.

In addition, the Project enabled partners (MED and INDECI) to play key roles in making directive-related changes possible, as evidenced by the National Directive 015–2007 “Risk Management Actions for the Peruvian Educational System”.

Last but not least, the Project provided space for NGO networks to support the Project through various efforts to influence policies, including the successful use of various communication channels. For instance, the NGO networks gathered public and private institutions at a “Disaster Reduction Begins at School News Conference” within the framework of the ongoing World Disaster Reduction Campaign 2006-2007.

Lessons Learned

Key lessons learned from the Project includes the following: (1) promoting the establishment and participation of teachers and student bodies helps advance policy change in sectors relevant to them; (2) articles disseminated to raise awareness about the activities helped build alliances and synergies with communities and organizations involved in similar activities, and motivate other children and adolescents into participating in vulnerability reduction; and (3) approaching risk management from a rights perspective and from a community participation perspective helped involve diverse community actors. This has taught them the value and prestige of participation and the relevance of inter-actor partnership, as opposed to inter-peer partnership.

The challenge was in continuing the proposed activities. Also, the appointment of new MED officials could have been a threat to the desired continuity, but the new officials demonstrated interest in continuing with the risk management activities. There is a need to reinforce coordination with and among regional education offices and involve the media as well as other local actors.

Potential for Replication

Similar projects could be improved by promoting the participation of the entire community in the development of policy-reform proposals, building strategic alliances with national and international organizations – both public and private; having a specific plan and proposal; creating adequate spaces and strategies for communicating and liaising between public decision-making bodies and the education community, and building synergies with global-level processes and campaigns.

To replicate the Project in a different context, it would be necessary to start with activities that strengthen directly the risk management capacity of the targeted education community. The local or regional reality must be analyzed. Only then should proposals for incorporating risk reduction into education policies or directives be developed with some of the targeted decision makers. Finally, the institution behind the initiative or in charge of facilitating the experience must follow up and promote the process of incorporating the proposals into existing policies or directives. To carry out these different activities, it is necessary to promote their implementation in schools: this activates school students' innate "activism" and helps establish better relations with government institutions.

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Philippines

Children Assess their own Vulnerabilities, Plan Risk Reduction

Child-Oriented Participatory Risk Assessment and Planning

Center for Disaster Preparedness

Abstract

Despite the fact that more than half of the population at risk in the Philippines are children, their specific vulnerabilities, needs and capacities have not been addressed, nor has their potential role in disaster risk reduction (DRR) been recognized. To address this default, a Filipino organization called "Center for Disaster Preparedness" (CDP), implemented an action research project entitled "Child-Oriented Participatory Risk Assessment and Planning" (COPRAP). This was done in cooperation with other members of the research team Buklod TAO and the Centre for Positive Future in cooperation with the Barangay Council of Barangay Banaba, San Mateo Rizal, Philippines.

The COPRAP Project aimed to promote disaster planning for children through the development of risk assessment tools that help children identify their own needs, vulnerabilities and capacities. The Project also sought to facilitate child-friendly discussions about disaster risks and community problems and solutions. Adult community members were involved in activities focusing on flooding, landslides, and difficulties in using hazard maps.

The action research results were presented to the targeted community for validation. Subsequently, the community adopted DRR measures that benefited both the children and the rest of the community. More importantly, the Project paved the way for local-level initiatives towards an integrated and sustainable approach to development. Several national, international and non-governmental organizations expressed interest in adopting the child-oriented process.

The Initiative

This action research project called, "Child-Oriented Participatory Risk Assessment and Planning" (COPRAP), was designed to establish appropriate disaster reduction planning for children through the development of disaster risk assessment tools that help children to identify their own needs, vulnerabilities and capacities.

Involving at least 140 children, the Project was implemented from September 2005 to June 2006 in the community of the barangay[1] of Banaba in the northern Philippines town of San Mateo, a rapidly urbanizing sector inhabited mostly by informal settlers. As the community lives at the junction of the Marikina and Nangka rivers, it is affected by frequent floods. Its high vulnerability to natural hazards is aggravated by poverty.

From the development of the action research project to its implementation, the researcher worked alongside a core group of 14 community researchers selected from the Barangay local government officers, Buklod Tao[2] and the Centre for a Positive Future[3].

The Centre for Disaster Preparedness (CDP) spearheaded the project with funding from ProVention Consortium through Asian Disaster Preparedness Centre.

After a consultation amongst partners on the project concept, the Project's objectives, activities and expected outputs were discussed with the community. The latter promoted a spirit of openness to discussion and suggestions conducive to both a good working relationship and a smooth flow of the research process. The main output of this orientation session was the formation of a Core Group composed of representatives from the seven puroks[4] of Banaba village, the Buklod Tao organization, the Barangay Council and the Centre for Positive Future. The Core Group members received training from CDP on the basic concepts of community-based disaster risk management, as well as orientation about the COPRAP process, areas of inquiry, guiding questions and tools. Eighteen community representatives participated in the three-day training: six from the Centre for Positive Future, two from the Barangay Council and 10 from Buklod Tao. Assigning roles and plotting schedules facilitated the implementation of the Project.

1 In English: village.
2 A local agency involved in disaster management activities.
3 An organization of high school students.
4 A purok is a sub-area of a village.

Impacts & Results

An impact of the COPRAP project was sustainability. Even though the Project was implemented from September 2005 to June 2006, it became an "ongoing process" as its findings were mainstreamed into the community's action plan, and project partners since then have advocated the use of the tools developed by the Project. In fact, the Project paved the way for local-level initiatives toward an integrated and sustainable approach to development.

The Project also debunked the notion that disaster management is solely the responsibility of adults. Indeed, the holistic approach adopted demonstrated that children could be active agents in disaster risk reduction. Their participation in hazard, vulnerability and capacity assessment significantly raised their awareness of the risks they faced.

After the Project, CDP Partners like Plan Philippines and the Dagupan City Local Government used the tools in their areas, while other local and international governmental and non-governmental organizations expressed their interest in adopting the child-oriented process.

The Good Practice

The Project can be considered a good practice because it adopted a people-centred approach to development, as can be seen from it efforts to promote recognition of the role children can play in disaster management and community development. The Project provided an occassion for the children to become actively involved not only in preparedness and risk reduction planning but also in community development problem solving. Thus, the Project helped advance a conception of children as important actors in the building of disaster-resilient communities.

Also, inter-generational exchange and sharing of ideas about safety, development and family love strengthened relations within the community. In addition, the children's activities stimulated interest among neighbouring communities.

The Project also offered an opportunity for women to participate significantly in disaster risk management through the design and production of life vests and emergency bags that showcased and enhanced their knowledge and skills.

Lessons Learned

Three key lessons were learned from the Project:

1. Contrary to the common notion that children are not eligible to participate in disaster risk reduction, they can play specific roles before, during and after a disaster. Their eligibility for a role depends on the capacities they possess. In addition to contributions to risk reduction planning, they can also help in preparedness activities such as preparation of supplies or other basic needs.
2. In addition to food and clothing, children have a primary need for educational material such as books, bags, pencils and notebooks.
3. Participatory questionnaires and activities help understand the needs of a community before, during and after a disaster.

Potential for Replication

The COPRAP project can be replicated easily. It can be adapted to different contexts by simply tailoring the guiding questions for each activity to the hazard under consideration.

Encouraged by its success, the Centre for Disaster Preparedness has, since then, used its methodology in its activities and projects, and promoted it to other stakeholders.

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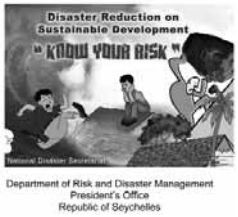
Seychelles



Developing a Secondary School Manual to Help Integrate Disaster Risk Reduction into Curricula

Integrating Disaster Risk Reduction into School Curricula

Department of Risk and Disaster Management

Abstract

Seychelles was one of five African countries affected by the December 2004 Asian tsunami disaster. Although the damaged school buildings were repaired quickly, the student's confidence was shaken and it might be a long time before they feel safe again.

To restore their confidence and help them protect themselves better, the Ministry of Education and the Department of Risk and Disaster Management[1] - in the Office of the President - organized various educational workshops on tsunami and related risks for primary and secondary schools.

This Initiative was, in line with the Hyogo Framework of Action as it uses knowledge, innovation and education, to help reduce risk levels, minimize damage and losses caused by disasters, and promote a culture of safety and resilience at all levels.

More importantly, a secondary school manual on disaster risk reduction (DRR) was developed, which helped secure an informal integration of DRR into the school curricula while awaiting the Education Ministry's formal endorsement.

1 By then called "Risk and Disaster Management Secretariat" – with more limited responsibilities.

The Initiative

This Initiative primarily aims to integrate disaster risk reduction (DRR) into school curricula. Its objectives are to raise DRR awareness and knowledge among school students and teachers, and empower them to protect themselves and their communities better in the event of a disaster. The Initiative also promotes the development of school contingency plans and the organization of emergency drills.

Launched in May 2006, the Initiative is still going on. Thus far it has been implemented in 18 schools throughout Seychelles, benefiting directly some 1,800 students, 66 teachers and their respective communities which have gained some knowledge on DRR. Being selected as a pilot school, Anse Royale Primary School, in southern Mahé Island (the largest island), benefited most for it has been equipped with a contingency plan and its emergency response plan had been tested.

The Initiative was coordinated by the Department of Risk and Disaster Management in the Office of the President. The Department also took the lead in developing school contingency plans as well as a strategy for risk and disaster management and worked in collaboration with the Ministry of Education in providing technical expertise, organizing workshops, and identifying teachers participating in the workshops.

Both departments received technical expertise and advice from UN/ISDR Africa. The National Meteorological Services and the Fire Officers shared their technical expertise, and civil society actors - such as the Red Cross and Wildlife Club of Seychelles - were involved in staffing and providing technical assistance to the activities undertaken. Also, the school personnel were very cooperative.

Impacts & Results

Three workshops were held for 66 teachers from 18 primary and secondary schools located on the four main islands of the Seychelles: Mahé, Praslin, La Digue, and Silhouette. A fire drill and a review of fire evacuation procedures were held at the end of the third workshop in the pilot school - Anse Royale Primary School - which was also the first school to be equipped with a contingency plan. In addition, a secondary school manual on DRR was developed.

Thus far this Initiative has successfully secured an informal integration of DRR into the school curricula. The 66 teachers involved – along with other school personnel – gained extensive knowledge, which they can now pass on to their students. The school manual developed is in the hands of the National Curriculum Advisory Committee, which will decide on the way forward. Overall, the Initiative was received with great enthusiasm and helped raise awareness on DRR and disaster preparedness measures among all the partners involved.

The Good Practice

This Initiative can be considered a good practice because it sought to stimulate public awareness on DRR and prepare government institutions and the public for the integration of DRR into the school curricula. It is expected that students that have been inculcated with responsible and preventive behaviours will be safer and better prepared.

The activities held in Anse Royale Primary School served as a pilot initiative that, given its success, is likely to be replicated in other schools. All the partners showed interest in continuing the process, which should facilitate successful implementation of the Initiative at national level.

The Initiative was implemented by means of three workshops held for 66 teachers from 18 primary and secondary schools on the islands of Mahé, Praslin, La Digue, and Silhouette.

The first workshop focused on technical aspects of DRR, the second on how best to reach out to people that are in direct contact with school children. A third workshop was carried out in the pilot school - Anse Royale Primary School – during which all teachers and staff members, including the school management team, were trained on emergency procedures and briefed on the ongoing UN/ISDR world campaign under the theme “Disaster Risk Reduction Begins at School”. The workshop ended with a fire drill and a review of fire evacuation procedures led by fire officers.

Anse Royale Primary School was also the first school to be equipped with a contingency plan. In addition, a secondary school manual on DRR was developed during a retreat attended by officials from the Department of Risk and Disaster Management, Ministry of Education, National Red Cross Society, Wildlife Club of Seychelles, and National Meteorological Services. The manual has been forwarded to the National Curriculum Advisory Committee for approval and implementation.

Lesson Learned

The key lesson learned is that close cooperation with partners, such as the Ministry of Education and civil society organizations (Wildlife Club, Red Cross, etc.), is crucial for an efficient division of tasks and for reaching the widest public possible. The Initiative needs to be replicated in more schools in Seychelles. Two schools in high-risk zones have been identified: Anse Royale Secondary School and Plaisance School. For this purpose, some general information material is needed. For instance, the booklet ,which Seychelles received in a regional workshop in Nairobi and which served as a "zero draft" for the development of a school manual for the Seychelles, has to be adapted to the country's reality and priorities.

The Initiative faced two main challenges: 1)organizing and holding workshops and developing the manual was found to be a time consuming process; and 2) integrating DRR into school curricula has not been achieved formally yet, even though the Ministry of Education showed interest in it.

Potential for Replication

As mentioned earlier, the Initiative needs to – and can - be replicated in more schools in the Seychelles. It can also be replicated in other countries. The key is close cooperation among disaster management institutions and education ministries.

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Sri Lanka

Seeking "Sustainable" Disaster Education in Schools

Enhancing Natural Disaster Education in Schools in Galle District

Asian Disaster Reduction Centre and the Southern Provincial Department of Education

A student introduces what a students' group drew

Abstract

As the horror of the devastating tsunami of 26 December 2004 unfolded, the world was shocked to learn that many thousands of lives might have been saved had people only known more about tsunami disasters and the importance of promptly evacuating when they occur. It was an alarm bell that awakened people to the possibilities of future natural calamities all over the world.

About a year after the tsunami, the Japan-based Asian Disaster Reduction Center (ADRC) conducted a survey of tsunami risk awareness in tsunami-affected Galle District in southern Sri Lanka. The survey sought to develop an appropriate strategy and methodology for disseminating tsunami knowledge and raising public awareness. The survey revealed that it was necessary to introduce disaster education in schools.

ADRC then recommended a number of activities that could enhance the disaster reduction capacity of local schools and communities in the district. The Sri Lankan authorities adopted these recommendations. An ADRC-USAID cooperative project on disaster education was implemented in collaboration with provincial education authorities in southern Sri Lanka.

Even though the Project was completed in March 2007, the targeted school communities have continued carrying out disaster education, which is a step towards the ultimate goal of "sustainable disaster education" in schools.

The Initiative

This Project, entitled "Enhancing Natural Disaster Education in Schools in Galle District, Sri Lanka", was implemented from March 2006 to March 2007 in the tsunami-affected district of Galle in Sri Lanka. The Project aimed to enhance natural disaster education in schools by developing the capacity of school teachers, school principals and school children. The targeted school grades were Grades 7 to 11.

The Project trained school teachers from 15 pilot schools. The trained teachers in turn trained other teachers from the same schools. Students of the pilot schools and their families benefited directly from the Project. In fact, the number of beneficiaries and potential beneficiaries increases day by day as each pilot school has continued promoting disaster education after the Project was completed in March 2007.

The one-year Project was implemented by the Japan-based Asian Disaster Reduction Center (ADRC). ADRC's counterpart in the Project was the Southern Provincial Department of Education, which played a local leadership role liaising with ADRC and the school teachers and principals. Local academia also played an important role in explaining the situation of natural disasters in Sri Lanka to school teachers and showing them the importance of disaster management and disaster education for Sri Lanka.

The Project was co-funded by the United States Agency for International Development (USAID) and ADRC, which is committed to continue promoting disaster education in Galle District and other districts in Southern Province.

Impacts & Results

The Project was a good model for the promotion of disaster education in Sri Lanka, and ADRC and the Southern Provincial Department of Education informed Sri Lankan Education Ministry officials of the efforts made by local schools to help reduce disaster risk.

The Project benefited 616 school principals and teachers (52 school principals and 564 school teachers) from 422 schools in Galle District and some 30 officials of the Southern Provincial Department of Education, including division/zonal directors of education. Potential beneficiaries were the school communities in the district.

The Project also came out with tangible outcomes such as a disaster education action plans for each pilot school, division, and zone in the entire district, and the establishment of a "Disaster Education Week" in schools in the district on the first week of June every year.

With the support of relevant human resources such as disaster experts from Sri Lanka and Japan, ADRC developed supplementary material for disaster education in Galle and other districts in Southern Province. Some 5,500 copies were printed and distributed. Each of the 15 pilot schools received 100 copies and all relevant organizations were given a total of about 150 copies. As leaders in their divisions, the pilot schools are responsible for taking care of these material and lending them out to other schools that want to use them for lessons. Also, two copies will be distributed to each of the other schools in Galle District forming a total of 422 schools, and ADRC will keep about 110 copies. The rest of the material was stored by the Southern Provincial Department of Education to be used – as needed – by schools in other districts in the Southern Province.

A teaching tool - in the form of overhead projector sheets - was also developed by Mr Koji Kanda of the Hyogo Prefecture Board of Education in Japan and adapted for use in the Sri Lankan social and cultural context by the 15 pilot schools and 15 division offices. ADRC provided electronic versions of the overhead projector sheets and other material to enable the Southern Provincial Department of Education to print additional copies and continue developing the material in the future.

As part of the project monitoring system, ADRC asked the pilot schools to write short reports about the activities they would conduct after the end of the Project. This would help ADRC monitor their activities beyond the completion of the Project and also share information on the Sri Lanka experience to all readers of the ADRC newsletter, a bi-weekly newsletter dispatched to over 2,800 readers around the world. The fact is, it is easy to start a project but it is not that easy to ensure that it will be continued by the next generation. ADRC emphasized this point and encouraged participants to achieve "sustainable" disaster education.

The Good Practice

The Project can be considered a good practice because: (1) it was a pilot initiative in a disaster-stricken area; (2) it helped introduce disaster education in school; (3) it sought to make an impact beyond project completion through

various educational materials; and (4) it achieved tangible outcomes such as a disaster education action plan for each pilot school, division and zone and for the entire district, as well as the establishment of a "Disaster Education Week" in schools in the district.

Then, at a second consultative meeting that served as a wrap-up meeting, ADRC asked pilot schools, division/zonal directors and the Southern Provincial Department of Education to present their action plans for promoting disaster education further at their schools, divisions, zones, and districts. ADRC also asked them to send (this was optional) progress reports in order to follow up on their action plans. ADRC informed them that such reports would be put on the ADRC web site and/or sent through the ADRC newsletter all around the world.

Two important features of the management of the Project were mutual trust and communication between ADRC and the Southern Provincial Department of Education. ADRC formulated and promoted the Project and the Southern Provincial Department of Education played a leadership role among the pilot schools and relevant education officials in Galle District. The project implementation involved the four steps below:

1. *First Consultative Meeting on the Development of Disaster Education*
   Participants: Disaster management experts from Japan and Sri Lanka, a disaster education expert from Japan, officials of the Southern Provincial Department of Education, division/zonal education directors in Galle District, and others.
   Programme: (1) introduction of disaster education practices in Japan and United States, including school curricula, guidelines and methods of disaster education; (2) observation of model lessons on disaster education in schools; (3) discussions around the development of a disaster education curriculum in Galle District; and (4) decisions for the programme's Step 2, which was planned to be a "District Workshop".

2. *District Workshop (Training of Trainers)*
   Targeted participants: school principals, teachers, disaster management experts from Japan and Sri Lanka, a disaster education expert from Japan, officials of the Southern Provincial Department of Education, and others.
   Programme: (1) lectures: learning about disasters, effective disaster risk management, disaster education in Japan and audio-visual presentations; (2) showing of a disaster simulation exercise/emergency drill in school; (3) demonstration of lessons on natural disasters.

   There were 15 divisions in Galle District. The Southern Provincial Department of Education chose one pilot school from each division. Each pilot school was considered as a leader for promoting disaster education in their divisions. Each of the 15 pilot schools was invited to send four representatives, including teachers and school principals, to the training of trainers. Finally, instead of the 60 trainees expected, 52 attended the training.

3. *Pilot Lessons*
   Organizers: 15 pilot schools in Galle District, with the support of the Southern Provincial Department of Education.
   Lecturers (teachers): Trainees of the District Workshop.
   Observers: two representatives from each of the 422 schools of Galle District (about 65 in each of the 15 pilot schools), division directors, division/zonal education directors in Galle District, officials of the Southern Provincial Department of Education.
   Preparation: preparation was done by the 15 pilot schools with the support of the Southern Provincial Department of Education and the Galle District Education Office. Technical advice was provided, when needed, by a disaster education expert from Japan.
   Programme: (1) implementation/observation of disaster education pilot lessons, including disaster simulation exercises and emergency drills; (2) dissemination of knowledge on the implementation of disaster education to other teachers in Galle District.

4. *Second Consultative Meeting on the Development of Disaster Education*
   Participants: a disaster education expert from Japan, officials from the Southern Provincial Department of Education, division/zonal education directors in Galle District, two representatives from each of the 15 pilot schools that conducted the Pilot Lessons (about 60 persons in total).
   Programme: (1) introduction and review of the results of the Pilot Lessons conducted in the 15 pilot schools; (2) presentation of disaster education action plans by the 15 pilot schools, district/zonal education directors in Galle District and the Southern Provincial Department of Education.

Even though the Project was completed in March 2007, teachers and officials in Galle district have carried out, since then, disaster education by themselves (on the basis of their action plans), utilising the knowledge gained through the Project. This can be considered as a step towards the ultimate goal of "sustainable" disaster education in schools.

Lesson Learned

A lesson learned from the Project was that even though a one-year timeframe was established for the Project, its implementation plan should have been flexible and easy to adjust to its progress. Indeed, interactions with local people during actual project implementation help find better ways of moving forward.

There were two major challenges during the implementation of the project. First, enlisting the support of school teachers and principals and division/zonal education directors was difficult because ADRC did not have direct relationships with them. Second, limited communication tools made it difficult to communicate technically with some schools. However, good relationships between ADRC and the Southern Provincial Department of Education helped overcome these challenges. The Southern Provincial Department of Education understood well the importance of the Project and the concerns of school teachers and principals; so it assumed a strong leadership, drew the attention of teachers to the Project, and motivated them to work hard for its success.

Potential for Replication

To replicate the Project in Sri Lanka in the future, it must be noted that one year is not sufficient to get disaster education entrenched in schools. At least two or three years are needed to follow up on each gain. Indeed, a disaster education project is not just about implementing a project during a certain period; it should seek to lay sound foundations for promoting disaster education after the end of the project. One of the ultimate goals is to build a culture of disaster safety and resilience in and through schools.

Replicating it would be easy in other countries. The Project does not require equipment and material, it depends mostly on human resources, and its method can be applied with minor modifications in another country.

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Tanzania

THE UNITED REPUBLIC
OF TANZANIA

Developing a Primary School Manual to Help Reduce Risk

Disaster Risk Reduction and Education Initiatives

The Disaster Management Department

Workshop on Disaster Risk Reduction in Kibaha, Pwani Region.

Abstract

Tanzania experiences a variety of natural and man-made hazards including drought, floods, epidemics, fire, strong winds, accidents (road, industrial, marine, aviation, railway), pest infestation, influx of refugees, volcanic eruptions, and earthquakes – the most recent earthquake, in July 2007, was felt even in the Kenyan capital of Nairobi. Concerned by the country's vulnerability to the above hazards, the Tanzanian Government has taken measures to protect the nation against the impacts of these hazards.

As part of such measures, the country's Disaster Management Department (in the Tanzanian Prime Minister's Office) implemented a recommendation given at a UN/ISDR Africa regional training workshop on "Disaster Risk Reduction and Education" held in May 2006. The recommendation stressed the need "to impart the knowledge acquired (during the workshop) to primary and secondary school teachers".

Tanzanian teachers were trained on disaster risk reduction (DRR) issues in August 2006. The training was held to help them raise awareness among school communities and develop a primary school manual on tsunami risks, other disaster risks and DRR in Tanzania. The Initiative enhanced the safety of the targeted schools and school students, they also helped advance the desired mainstreaming of DRR into school curricula.

The Initiative

The Disaster Management Department, in the Prime Minister's Office in Tanzania, carried out capacity building activities in disaster risk reduction (DRR) in August 2006. Focusing on "DRR and Education", the activities were initiated after Tanzania had been affected, though only slightly, by the December 2004 Asian tsunami.
The activities were: teacher training on tsunami risk, other risks, and DRR, a community awareness session, and a retreat for drafting a primary school manual.

The activities had three objectives:

1. To create awareness among teachers on the effects of tsunamis, earthquakes, volcanoes, cyclones and other disasters; reach school children through them; and reduce the vulnerability of children and their respective families and communities, especially those who live in tsunami-prone areas along the Indian Ocean coast;
2. To create awareness among the population in disaster-prone areas;
3. To develop a manual on tsunami and other risks for primary schools in Tanzania.

Teacher training activities were carried out by the Disaster Management Department in Tanzania in close coordination with the Tanzanian Ministry of Education and Culture. The training activities were identified and implemented in August 2006, involving teachers from various schools from coastal regions of Tanzania.
The direct beneficiaries were the 49 primary school teachers from all the coastal districts who were trained on tsunami and related coastal risks and DRR. Indirect beneficiaries were school children in the teachers' schools and their families and communities.

The implementing institution was the Disaster Management Department. Other Institutions involved were the Ministry of Labour, the Ministry of Employment and Youth Development, the Tanzania Red Cross Society, District Council officials and UN/ISDR Africa – with the following roles respectively:

1. The Disaster Management Department took the overall lead of the activities, organized the teacher training and retreat, ensured cooperation between all partners, and provided technical assistance and expertise.
2. Officials from the Ministry of Labour, the Ministry of Employment and Youth Development and the Tanzania Red Cross Society, as well as District Council officials participated in the training and contributed with technical expertise.
3. UN/ISDR Africa provided technical expertise and financial support for the organization of training at national level.

A community awareness session was held for various local officials, as well as a retreat devoted to the development of the school manual for primary schools.

Impacts & Results

The teacher training, the community awareness session and the retreat helped enhance the safety of the targeted schools, school children, and communities. They also helped advance the mainstreaming of DRR into school curricula. If the Initiative was replicated, a wider section of the coastal population would benefit in terms of disaster preparedness.

The Good Practice

The Initiative can be considered a good practice because: (1) it raised awareness among governmental and educational institutions in Tanzania; (2) a lot of teachers and their respective schools actively participated; (3) the draft school manual could be utilized in all Tanzanian primary schools; and (4) the activities were a first step towards mainstreaming DRR into school curricula.

The first step of the Initiative was conducting two training sessions on tsunami and related risks for primary school teachers from 1 to 6 August 2006 in Coast and Mtwara regions. Session one was held in Kibaha District, Coast region, on 1 and 2 August, involving participants from three regions of mainland Tanzania - Dar es Salaam, Tanga, and Coast – and from Zanzibar Island. A total of 28 primary school teachers were trained. Session two was conducted in Mtwara for teachers from Lindi and Mtwara regions.

The teacher training in Kibaha District was facilitated by officials from the Disaster Management Department and disaster management focal officers from selected institutions - who had been previously trained as trainers. Institutions involved were the Ministry of Labour, the Ministry of Employment and Youth Development, the Tanzania Red Cross Society and Kibaha District Council in Coast Region. The training session in Mtwara was facilitated by the Lindi Region disaster focal officer.

The topics discussed were: Introduction to Disaster Management, Causes and Impacts of Disasters and Mitigation Measures on Tsunami Disaster, Disaster Management Policy, Community Hazard Mapping, Table Top Exercises on Tsunami Disaster, and Video Shows about Tsunami.

The DRR manual for primary schools was developed during a retreat in Morogoro from 14 to 18 August 2006, attended by 15 participants from the Disaster Management Department, Tanzania Institute of Education, University College of Lands and Architectural Studies, and the Ministry of Education and Vocational Training. The draft manual focused on all types of disasters occurring in Tanzania, including drought, earthquake, epidemics, fire, floods, accidents, landslides, strong winds, conflict, volcanic eruption, pest infestation, tsunami, terrorism and HIV/AIDS.

The manual is divided into three chapters: Chapter One defines key concepts in DRR; Chapter Two is about the country's risk profile, including basic facts like country location, size, administration, population, climate and the different types of disasters occurring in the country; Chapter Three talks about DRR measures for each type of disaster, including specific measures for before, during and after a disaster event.

A community awareness session on tsunami disasters was also conducted on 10 and 11 August 2006 in Kibaha, Coast Region. The session involved five regions: Dar es Salaam, Tanga, Coast, Lindi, and Mtwara. Participants were officials from fisheries associations, divisional officers, ward executive officers and village executive officers. The session was facilitated by officials from the Disaster Management Department and disaster management focal officers from selected institutions - who had been previously trained as trainers. Institutions involved were the Ministry of Labour, the Ministry of Employment and Youth Development, the Tanzania Red Cross Society and the Kibaha District Council in Coast Region.

Lessons Learned

Key lessons learned from the activities were: (1) the Prime Minister's Office will be able to use the participants as resource persons in future training; (2) two days were not enough for such training; participants suggested at least four days; (3) the training should cover more districts; (4) certificates should be issued to participants, (5) further training is needed for teachers; (6) a curriculum should be prepared to make tsunami and other disasters and DRR a major subject to be taught in primary and secondary schools; and (7) the initiative should be extended to all schools outside the coastal regions due to the migration of people from inland to the coast.

The Project faced the following challenges: (1) the Disaster Management Department experienced a budget over expenditure during the implementation phase; (2) additional funding would be needed to finalize the manual and print it; and (3) mainstreaming of DRR into school curricula was not achieved.

These challenges were addressed using partners' understanding and interest in continuing the process, which may contribute to further efforts to mainstream DRR into school curricula. Also, the Ministry of Education and Culture and other government institutions became aware of the importance of disaster risk reduction.

Potential for Replication

To improve similar initiatives in Tanzania, continuity has to be ensured and the cooperation of those, who have already been trained and made aware, is needed. To replicate the Initiative in other countries, strong follow-up and cooperation with relevant national and international partners are necessary as they are key success factors.

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United States of America

Red Cross Disaster Education Programme Institutionalized in Nationwide Curriculum

"Masters of Disaster" Programme

The American Red Cross

Abstract

The American Red Cross has developed a curriculum called "Masters of Disaster" (MOD) to help teachers integrate important disaster safety instruction into their regular core subjects such as math, science and social studies.

The MOD programme aims to reach children aged 5 to 14 and their families with disaster preparedness information, and to promote behaviour change by providing them with the knowledge, skills and tools to effectively prepare for disasters.

Over 380 Red Cross chapters have implemented the curriculum in their communities through educators. The Red Cross chapters say that the MOD programme has reached over 5.2 million children in six years. The Programme also received four prestigious awards. More importantly, it has been formally institutionalized into nationwide school curriculum.

The Initiative

In 1999, with support from Allstate Foundation, the American Red Cross developed a "Masters of Disaster" (MOD) curriculum to teach teachers and students about disaster safety. By increasing awareness of hazards and vulnerabilities to disasters, teachers and children would be better equipped with knowledge and skills to promote a culture of safety.

It was recognized that by fully integrating disaster preparedness material into formal education, there would be more potential for greater reach and impact, with awareness extending to the total population, regardless of one's socio-economic status.

The purpose of the MOD programme is to reach children aged 5 to 14 and their families with disaster preparedness information and promote behaviour change by providing them with the knowledge, skills and tools to effectively prepare for disasters.

Materials address general preparedness as it relates to hurricanes, tornadoes, floods, earthquakes and lightning. Skills and information are also offered for residential and wildland fire safety and prevention, as well as general injury prevention in the home. Other main content areas include disaster recovery.

The tailored curricula were initially specifically designed for kindergarten through to middle-school students, but in later years evolved to include 9-12 grade levels for some content areas.

Customized toolkits for each grade level included lesson plans, real-life case studies, psycho-social support tips, checklists, games, activity books, videos, posters, contests, stickers and certificates for students.

Regular subjects were supplemented by disaster preparedness material, whereby children learned about disasters as they related to other topics like maths, geography and earth science.

The primary channel for delivery of the American Red Cross MOD programme was through a network of 850 plus Red Cross chapters around the States.

Impacts & Results

Developed by teams of educators, educators and professional content developers in 1999, the curriculum was piloted in 43 small, medium, and large school districts. More than 380 teachers from 90 schools taught lessons from the curriculum and provided feedback to the American Red Cross in the first year.

To date, over 380 Red Cross chapters have implemented the curricula in their communities through educators and chapter volunteers, reaching over 5.2 million children in six years.

The programme was formally institutionalized into nationwide school curricula. In this way, it was aligned with US national education standards as developed by professional associations in the related subject areas, such as the National Science Teacher's Association for science standards.

The "Masters of Disaster" (MOD) programme received numerous awards: (1) the Benny Award in September 2000 for the print quality of the MOD kits in a competition with 6000 entries (the Benny Award is the printing industry's most prestigious competition worldwide); (2) the Telly Award in May 2001 (MOD videos won three Telly Awards, which are awards given to non-network and cable commercials); (3) the Clarion Award in June 2001 in the "Special Print Communications" category that applies to the MOD curriculum (the Clarion Award recognizes the best works from all communications fields); and(4) the APEX Award in August 2002, under the "Brochures, Manuals and Reports" category for Facing Fear: Helping Young People Deal With Terrorism and Tragic Events (APEX is an international competition that recognizes outstanding publications ranging from newsletters and magazines to annual reports, brochures and web sites).

One Red Cross chapter in Kentucky reported: "When the Red Cross presenter visited the school, the teachers were glad to see him and said they had seen families in their neighbourhoods out in the yards conducting fire drills with their kids after the little books went home. Some said the kids had insisted that the smoke alarms be tested as well."

One teacher said: "Our students have given us feedback from a couple of lessons. One girl told us she was no longer as afraid of thunder storms as she once was, because she understood why they happened and what she was supposed to do to keep herself and her family safe. Several children said they liked to look at the news just to see what was going on in other parts of the world, especially when it related to the weather."

The Good Practice

MOD has proven to be successful because: (1) interactive - lessons have kids engaged, learning by having fun, not out of fear; (2) standardized: much attention was paid to quality control and alignment with national education standards, which ensure consistency; (3) participatory - a broad spectrum of interest groups

contributed to this initiative, adding their expertise and experience (Health and Human Services, US Geological Survey, National Oceanic and Atmospheric Administration, National Weather Service, the Federal Emergency Management Agency and others were active participants in the programme design); (4) adaptable - certain aspects of the curriculum can be altered to make them relevant to a local situation (in Alaska, for example, more emphasis was placed on earthquake preparedness); (5) translated - given America's diversity, MOD has been translated into different languages, (6) easily accessible - MOD material can be easily downloaded from the Internet[1], and CD-Roms are readily available from the American Red Cross; and (6) low cost (elements free on web) - the newly revised curriculum CD-Rom can be purchased from the American Red Cross for 25 US dollars.

Lesson Learned

A key lesson learned was that much effort, dedication, time and resources are required to ensure programmes similar to the MOD programme. They are interactive, standardized, participatory, adaptable, translated, easily accessible and low cost.

While the curriculum was aligned to national education standards, the school district curriculum was defined at the state level. The challenge is to effectively communicate national alignment while meeting state-level specifications for curriculum standards. The American Red Cross continued to work with its chapters to help them make the correlations and adhere to both standards.

Additionally, as a programme that was implemented at the local level, resources were limited in the area of data collection on programme efficacy and other evidence-based outcomes. In conjunction with 14 Red Cross chapters, a state university and other community partners, the American Red Cross will collect efficacy data during the next year, using a focused approach as these chapters implement the curriculum in their communities and provide more in-depth reports on the outcomes.

Potential for Replication

To improve similar projects in the future, the American Red Cross has split resource materials into different and independent sections, which allows its chapters and educators to choose the specific materials they need. In Florida, for example, stakeholders are more interested in hurricanes while other chapters want more information on floods. To reduce costs for end users, the materials are available electronically on CD-Rom or for downloading from the Internet; they are no longer provided in print.

Many aspects of MOD can be easily adapted as tools and information are posted on the Internet[2]. Furthermore, the tools consist of simple messaging[3] which, in many cases, is offered in the form of basic, easily replicable templates, and checklists.

1 At http:// www.redcross.org/disaster/masters/intro.html.
2 While the American Red Cross is pleased to promote MOD, the American Red Cross should be contacted when there is interest to use its material in the interest of data integrity and co-branding.
3 It is important to recognize that some of the safety messaging will vary according to context. This should be in the forefront of any effort to duplicate or adjust the MOD material.

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Vietnam

Disaster Preparedness Education for Primary School Teachers and Students

"Introducing Disaster Preparedness in Primary Schools" Programme

The Vietnam Red Cross Society and International Federation of Red Cross and Red Crescent Societies

Abstract

Vietnam is located in the tropical monsoon area, one of the five storm-prone areas of the Asia and Pacific region. As a result, the country is often affected by natural hazards such as typhoons, floods, landslides, droughts and sea surges, causing huge losses in lives, property, socio-economic and cultural infrastructure as well as environmental degradation.

In recent years, such disasters have not only continually occurred all over the country, they have also increased in magnitude and frequency. As a result, they have become less predictable, which makes early warning more difficult.

The Vietnamese Government and its Central Committee for Flood and Storm Control focused mainly on structural measures like dyke construction, dams, irrigation systems, and disaster response; but not on disaster risk reduction. Before the year 2000, there was no awareness material on disaster risk reduction available in the Vietnamese language.

Such a situation, and the fact that many children affected by floods died - by drowning - after being left behind unattended by adults, prompted the Vietnam Red Cross Society to seek ways to introduce disaster preparedness education in primary schools.

The related programme and its subsequent replication have helped train 15,000 teachers and over 500,000 school children over the last six years.

The Initiative

The Vietnam Red Cross Society (VNRC) has put an emphasis on disaster preparedness activities since late 1990s. In 2001, it implemented a programme called "Introducing Disaster Preparedness in Primary Schools". The Programme's activities have been replicated since then and are under way in all 21 of the most disaster-prone provinces in Vietnam, aiming to reduce disaster risk among school-going children who are among the most vulnerable to disasters.

The 12-month Programme had the following specific objectives: (1) developing disaster needs assessment material and training national and provincial trainers and district and commune personnel in some 30 communes in a 12-month period; (2) developing commune-level disaster preparedness material and training Community Development Boards in some 30 communes in a 12-month period; (3) developing disaster preparedness material for Grade 4 and 5 school children and training trainers, school teachers and children in some 210 communes in a 12-month period.

Targeted beneficiaries were teachers and children as well as VNRC staff and government personnel. Recipient schools in disaster-prone areas organized inter-provincial competitions including drama, quizzes and painting competitions built around a disaster preparedness booklet and disaster preparedness teaching.

The Programme was implemented by the VNRC and the International Federation of Red Cross and Red Crescent Societies (IFRC), with technical support and assistance in the form of sustainability-oriented coordination by the United Nations Development Programme (UNDP), Central Committee for Flood and Storm Control (CCFSC) and the Ministry of Education and Training.Implemented successfully through a participatory approach, the Programme was sponsored by UNDP, Disaster Preparedness, European Commission Humanitarian aid Office, the American Red Cross, Department for International Development (DFID), United Kingdom, Australian Agency for International Development (AusAID), the Danish Red Cross and the Japanese Red Cross. Its pilot phase was carried out in the year 2000 in the Vietnamese central provinces of Quang Binh and Quang Tri with funding from the American Red Cross, DFID, and AusAID.

The VNRC and the CCFSC continue providing disaster preparedness training to children, with support from the Thailand-based ADPC, in Dong Thap and An Giang provinces in the Mekong region.

The Vietnam Red Cross Society intends to continue providing disaster preparedness training until 2010 to teachers and children in eight coastal provinces in northern Vietnam (from Quang Ninh to Ha Tinh Province), with financial support from the Japanese Red Cross.

Impacts & Results

The Programme objectives were achieved successfully. As a result, its activities are still being replicated. The Programme developed a new package of disaster preparedness training material for Red Cross personnel, community leaders, teachers and children. The training package was made available with the help of the Vietnam Red Cross Society and relevant stakeholders. It is currently used by international NGOs in Vietnam.

The Programme also helped envision the integration of disaster preparedness education into school curricula in Vietnam. The country's current strategy for flood and storm control – that is valid until 2020 – requests the Ministry of Education to include disaster preparedness education in school curricula by 2010.

Quantifiable results of the Programme are as follows: 2,790 school teachers and 129,000 school children were trained in 2001 and 2002; 11,816 teachers and 338,000 children were trained in 2003, 2004 and 2005; and a total of 15,000 teachers and over 500,000 children have been trained since the launching of the Programme in 2001, with their parents and communities benefiting indirectly from the knowledge and skills acquired and transferred.

Indeed, trained primary school teachers could teach several generations of school students, and trained children could disseminate messages on what ought to be done or avoided before, during and after a disaster event to their parents, relatives, neighbours and friends.

It emerged from an external evaluation of the Programme that, one or two years after the lessons, school children might not remember all the definitions, technical terms and types of natural hazards but they still remembered 30 to 40 per cent of what to do and what not to do in the event of a disaster when interviewed individually, and about 80 per cent of them when talking to their peers.

As a result, when Storm Damrey – a strong storm – struck the coastal provinces of northern Vietnam in October 2005, although it destroyed sea dykes, thousands of houses and other facilities; no one was killed. Then, when Typhoon Xangsane hit central Vietnam in October 2006, although 69 people were killed, only a few of them were children.

The Good Practice

The Programme can be considered a good practice not only because of the above impacts and results but also because of the following: (1) a participatory training method was promoted and used with audio and visual facilities; (2) the role of children and teachers in disaster risk reduction and dissemination was recognized; (3) positive behaviour changes among local people were recorded when massive evacuation operations were carried out during typhoon disasters; (4) the Programme was replicated countrywide and received long-term support from the Vietnamese government and from donors; and (5) the Programme also received wide support and positive feedback from the education sector, teachers, children and their parents. The first step to implement the programme was to assess the training need. The second step was a training-of-trainers session on disaster preparedness conducted by Red Cross personnel and consultants from the ADPC, as well as a workshop and meetings to develop training and learning material with the participation of the Vietnamese Ministry of Education and the CCFSC. The following step focused on using the material to pilot and develop the actual Programme in the light of comments from teachers and children.

The final steps were the training of teachers and training of children. The training of teachers focused on the following topics: disaster preparedness perceptions, causes and effects of hazards and disasters, disaster preparedness methods, new teaching methodologies, class organization and lesson preparation, disaster preparedness knowledge applications to main subjects, and encouraging children to share their knowledge with their parents, relatives, neighbours and friends.

Lessons Learned

The following factors were key to the success of the Programme: (1) the active participation of relevant stakeholders, including teachers and children, in writing and finalizing the training and learning material; (2) replacing the lecturing method with the facilitating method which enabled the children to participate in discussion; (3) building strong cooperation and consultation among stakeholders (in this case, the stakeholders were the VNRC, CCFSC, IFRC, UNDP, the Asian Institute of Technology, the Ministry of Education and Training, and school teachers and children - who were the key actors); and (4) the fact that children helped reach their relatives and other children outside their schools.

The Programme faced a major challenge in trying to integrate a disaster preparedness component into the official training curricula without overburdening school children. This challenge was not and has not been overcome yet. Nonetheless, disaster preparedness education is still provided by the VNRC and teachers as extra courses.
Meanwhile, until disaster preparedness education becomes part of the official curricula in 2010, the VNRC will continue raising awareness of disaster preparedness, response and risk reduction measures in disaster-prone areas, especially among school children.

Potential for Replication

The Programme has been replicated successfully in Vietnam, with various adjustments, since its completion in 2001. To replicate it in another country, the following actions are recommended: (1) carrying out a better appraisal of how to include disaster preparedness education into the official school curricula; and (2) ensuring that the country's Ministry of Education dedicates sufficient time and focuses more attention on the same issue.

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3 Section

Making School Buildings Safer

Schools are a path to better life, but they can take the lives of our beloved children if they are vulnerable to disasters. A single disaster event can kill thousands of school children in class. Millions of others are at risk in many parts of the world. Safe school buildings make school children safer, they are also durable development investments. This Section presents good practices on how to make school buildings safer: assessing the vulnerability of school facilities; retrofitting school buildings, building earthquake-resistant schools; relocating schools which are in high-risk areas; building new schools in low-risk areas.

Colombia

Protecting Schools from Earthquakes, Educating Children about Risks

Structural Improvement and Reinforcement and Risk Prevention in Government Schools in Bogota

Emergency Prevention and Preparedness Management

Photo by Mikael Hoek

Abstract

The Colombian capital city, Bogota, undertook a city seismic micro zoning in 1997, developing parameters for seism-resistant design and construction, among other things. Then in 1998, following the adoption and alignment with Colombia's Seism Resistance Code NSR-98, the Bogota District Education Secretariat hired a team to identify the structural conditions of government schools.

The team observed that some 700 school facilities, many of which were more than 40-years old, were neither structurally seism resistant nor adequate for learning; 434 of them were highly vulnerable to earthquakes; 20 built in a landslide zone; and three were in a flood plain.

In 2004, two major initiatives were developed with the World Bank: a national-level "Project for Reducing the Colombian State's Vulnerability to Natural Hazards" and a district-level "Programme for Reducing Bogota District's Vulnerability to Natural Hazards".

Under this last programme, it was stressed that greater resources were needed to reduce the structural vulnerability of government schools. Around 200 of the most vulnerable schools were prioritized and a related project was initiated that included a "risk education" component.

The Initiative

This Project, entitled "Structural Improvement and Reinforcement and Risk Prevention in Government Schools in Bogota", seeks to: (1) reinforce school facilities in accordance with minimum school environment standards and the requirements of the existing master plan for essential equipment; and (2) introduce a risk education component that helps build a safe, pleasant and comfortable school environment that optimizes the education service and, in some cases, even expands its scope.

The Project is being implemented by the Capital (Bogota) District Education Secretariat in 176 of 201 targeted schools in Bogota, thus benefiting 1,045 teachers, and more than 300,000 students.

The Project cost is 174,359,708 US dollars, of which 153,546,027 US dollars came from the Greater Commune of Bogota and 20,814 US dollars were lent by the World Bank.

Impacts & Results

Even though the main objective was to reinforce the structural resistance of schools, the Project also dealt with disaster education. For this purpose, tools, instruments and methodologies were developed, enabling the targeted schools to acquire knowledge that helps reduce vulnerability to different threats in Bogota and promote disaster safety and self-protection among students, teachers, and their school communities - through a process of consultations and teacher training.

To strengthen the disaster education effort, a theoretical-practical "Multimedia Thematic Curricula Guide" was developed that focused on contextualized teaching about and for the city of Bogota. This made it easier for teachers to introduce risk and disaster issues into the social sciences, natural sciences, language, and mathematics syllabi.

An awareness-raising campaign was also carried out on the need for self-protection among children and teenagers. Entitled "My Story is Prevention, Not Disasters or Risks", the Campaign used flyers, video clips, risk calendars, stories, rhymes, and games to support the incorporation of risk reduction into the curriculum and class work, redefine city spaces and disseminate information on this topic to schools and neighbourhoods.

Thus far, 1,045 teachers from 176 schools have received training. Some 680,000 sq m of construction have been reinforced, and in many cases the whole physical structure of schools has been replaced. In addition, 50 new mega-schools with optimal school environments and seism-resistant features are under construction. As a result, more than 300,000 students will benefit.

The Good Practice

This Project can be considered a good practice because it seeks to secure two fundamental rights: the right to life and the right to good education. Even though the Project worked simultaneously on many fronts, education services were never disrupted in the targeted schools. In addition, the Project seeks to manage risk integrally - not only on the structural level but also on the socio-cultural one.

On the structural level, the Project serves as an example of how to apply the "school environment" concept in government schools - under which various aspects such as comfort, ventilation, lighting, student area, water reserves, recreational spaces, dedicated areas and accesses for students and teachers with physical limitations, come into play; aspects that can result in a feeling of belonging to the school and quality teaching, and make a difference between public and private education.

Lastly, at least in the Colombian context, the Project can also be considered as a model for development planning and sector planning with a prospective outlook for quality, scope, and safety.

Lessons Learned

Key lessons learned from the Project are: (1) it is crucial to initiate a social process before carrying out structural interventions - not doing the two simultaneously; (2) there is a need to monitor the industrial safety of building construction sites near places where academic activities take place; and (3) overcrowding, noise and dust during reconstruction can cause discomfort to the school community.

The main challenges were: (1) overcoming lack of experience, as this was the first project of this sort; (2) ensuring continued educational services and observance of school calendar while school buildings are being reinforced or reconstructed; (3) confronting law suits and other legal issues, such as who really owns the premises and which areas cannot be tampered with; (5) extending reconstruction time due to such legal issues; (6) preparing detailed studies to guide decision making; (7) recovering badly constructed buildings that often needed to be entirely restored; (8) seeking legal recognition of the premises and obtaining construction licenses; (9) articulating the Project in accordance with the City Territorial Zoning Plan, school infrastructure master plans and standards, and seism-resistance standards; and (10) estimating qualitative risks as, in many cases, these were exceeded and required design modifications.

Potential for Replication

Even though it is not unusual for community messages to be communicated through radio dramas in other countries, NHNL has been designed specifically for Afghanistan. Also, the cost of having consistent and long-term community researchers may be high, but it provides the most accurate understanding of the needs of communities and therefore the best point of departures for effective and relevant messages. If these two issues are dealt with adequately, the Project can be easily replicated through state-funded radio programmes as part of an integrated package of DRR initiatives at community level.

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India

School Earthquake Safety in Mountain Areas

School Earthquake Safety Initiative in the Himalayan Region

Sustainable Environment and Ecological Development Society

Indian Himalayan State of Himachal Pradesh

Abstract

The northern Indian Himalayan State of Himachal Pradesh falls in one of the highest seismic risk zones of the country. An earthquake of magnitude 7.8 on the Richter scale devastated one of its regions, Kangra Region, on 4 April 1905, killing over 20,000 people and destroying over 100,000 buildings.

Shimla District, is in Zone IV - the second highest risk zone of the State. The district is of critical importance as it houses the state capital and its population growth rate is amongst the highest in the region. The district has far overgrown its original planned size. It is today made up of poorly designed and constructed buildings stacked up on very steep slopes. The district is highly vulnerable to earthquakes and landslides.

An assessment of the school buildings in the district indicated a high level of risk similar to the kind of risk observed in school buildings in the western state of Gujarat prior to the Bhuj earthquake of 2001 that killed hundreds of school children. Despite this, no structural or non-structural risk mitigation measures had been implemented in any school in the area.

The Indian NGO called Sustainable Environment and Ecological Development Society India (SEEDS), developed a project to help reduce vulnerability in schools in the district where children were at high risk. The Project helped reach out to 97,500 students. A programme based on the Project was completed in March 2007.

The Initiative

As mentioned above, Shimla District, in the northern Indian Himalayan State of Himachal Pradesh, is highly vulnerable to earthquakes and landslides. In 2002, the Project was launched to help reduce the risk in selected schools, as it was assumed that all school children were at risk although no structural or non-structural risk mitigation elements were being implemented in any school in the area. The Project targeted 20 sample schools of about 750 schools attended by 97,500 students in Shimla District.

The Project, implemented by SEEDS from October 2002 to April 2005, placed a special emphasis on 'retrofitting,' which is the process of adding extra features to unsafe structures to improve their resistance. However before this could be done, a series of rapid and detailed assessments were required to determine the condition of the buildings.
The project strategy for doing structural retrofitting was as follows:

1. Rapid Visual Screening for mass scale evaluation of buildings: carrying out visual inspection only and seeking limited additional information, gathering data on behaviour of buildings in past earthquakes, carrying out rapid visual screening based on checklists, inspecting a building from outside with "walk survey" to come to a conclusion on whether the building strength was adequate for earthquake forces likely to occur at the site, or whether there were reasonable doubts that the building may not perform satisfactorily if subjected to more detailed evaluation;
2. Simplified Vulnerability Assessment: assessment based on limited engineering analysis, calculations based on structural drawings or on-site measurements, gathering information regarding the size and strength of lateral load resisting members, conducting a simplified analysis to estimate building drift;
3. Detailed Vulnerability Assessment: in situ strength estimation, computer modelling, linear or non-linear static or dynamic analysis;
4. Retrofitting design of the school building: preparing detailed drawings, preparing retrofitting designs with detailed drawings;
5. Implementation of the retrofitting design: actual implementation of retrofitting work, on-site safety measures for construction workers;
6. Training of local masons and engineers: hands-on training for local masons, training of local engineers by SEEDS team;
7. Preparation of guidelines for training: training guidelines for retrofitting work, guidelines for training of masons and engineers.

Impacts & Results

The Project conducted surveys and prepared detailed structural retrofitting plans for the 20 selected schools. Of these, the project team finally retrofitted 10 schools. In addition to structural retrofitting, non-structural mitigation plans were also prepared for all the 20 selected schools, and the proposed measures were to be implemented in all the schools.

The experience was used to create an awareness campaign targeting all 750 schools in the district. In all, the Project reached out to about 97,500 students, 7,500 teachers and 200 local masons, engineers, officials and NGO workers. Based on its success, the Project was replicated. A related programme was completed in March 2007.

The Good Practice

The Project can be described as a good practice because it achieved most of its goals and its outcomes paved the way for future achievements. The Project also involved a wide range of activities including awareness raising, school building retrofitting, and developing non-structural mitigation plans. Last but not least, the Project was a good practice because it served as a model for replication.

The Project started with an awareness campaign on school safety as part of the 2002 World Disaster Reduction Campaign under the theme "Disaster Reduction for Sustainable Mountain Development" (coinciding with the International Year of Mountains). In partnership with international NGO Christian Aid and the local administration, SEEDS conducted school safety activities with local school students. The activities peaked on 4 April 2005, the centenary day of the Great Kangra Earthquake of 4 April 1905.

On that day, 4 April 2005, a special radio programme was aired on the importance of earthquake safety in the region; retrofitting techniques were demonstrated through actual execution on public buildings in the region; and local masons and government engineers were trained in the process. Local NGOs and the general public were also sensitized and oriented

through the demonstration work and community workshops. Mobile shake table demonstrations were conducted to demonstrate how low-cost retrofitting measures could make existing buildings more resilient to earthquakes. Much of this work was based on the experiences of SEEDS in the western Indian state of Gujarat after the 2001 earthquake, and SEEDS teams from Gujarat came to Himachal Pradesh to conduct many of these activities and share their experiences with the local people.

Risk reduction was implemented in the selected schools at three levels, namely through: (1) structural retrofitting in the selected schools; (2) non-structural mitigation in the selected schools; and (3) raising awareness on risk reduction in all schools in the district.

After the Project ended in April 2005, it was scaled up with the support of the Disaster Preparedness, European Commission Humanitarian aid Office programme for retrofitting, non-structural mitigation and awareness activities across the district. The UN Centre for Regional Development also extended its support to the Project under an international programme on school safety. A programme based on the success of the Project was completed in March 2007.

Lessons Learned

The mountainous Himalayan region is extremely fragile and prone to frequent and large-scale earthquakes. Development patterns over the past few decades compounded the problem by giving rise to densely constructed settlements on steep slopes. Buildings in the region are generally non-engineered, haphazard and highly vulnerable to earthquakes. School buildings, within such settlements, put the lives of hundreds of thousands of children at risk. Measures are urgently required to reduce this risk, and this can be best achieved through the following three-pronged strategy:

1. Carrying out structural retrofitting in school buildings to prevent their collapse in future earthquakes;
2. Implementing non-structural mitigation measures to avoid injuries from falling hazards in schools; and
3. Educating school communities and construction workers on safe construction, retrofitting and non-structural mitigation practices, preparing school disaster management plans, and training school communities in immediate response, evacuation, and first aid.

One of the main challenges for this Project was assessing the condition of the school buildings, as assessing an existing structure is a much more difficult task than evaluating a design on paper. There were two reasons for this. Firstly, the construction of the structure was never exactly as per the designer's specifications and a number of defects and uncertainties cropped up during the execution. Secondly, the quality of the materials deteriorated with time, such that assessing an existing structure became a time-dependent problem.

Potential for Replication

The Project has been replicated successfully within Shimla District, which indicates its potential for replication. The Project can also be replicated in other countries with earthquake vulnerable school buildings. For the success of such an enterprise, some of the components and features of the Project should match local contexts.

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Japan

文部科学省
Ministry of Education, Culture, Sports, Science and Technology

Guidance on School Retrofitting, Seismic Resistance Helps Boost School Safety

Promotion of Earthquake-Resistant School Buildings in Japan

Ministry of Education, Culture, Sports, Science and Technology

Inside view of classroom

Abstract

Earthquakes can occur anywhere and at any time in Japan. This is because the country is located on the border between four large plates: the North America Plate, Pacific Plate, Eurasia Plate and Philippine Plate. To ensure that school students are safe and school facilities are fit to serve as emergency shelters for local populations, it is crucial to make school buildings earthquake resistant.

To this end, the Japanese Ministry of Education, Culture, Sports, Science, and Technology requested of local governments that they enhance the earthquake resistance of school buildings and promptly ensure that those built before the enforcement of the 1981 New Earthquake-Proof Standards were earthquake resistant. In July 2003, the Ministry developed the "Guidelines for the Promotion of Earthquake-Resistant School Buildings". A manual for retrofitting school buildings was also developed by a government agency. By April 2007 (that is less than four years after), about 59 per cent of government primary and junior high school buildings had already been retrofitted.

The Initiative

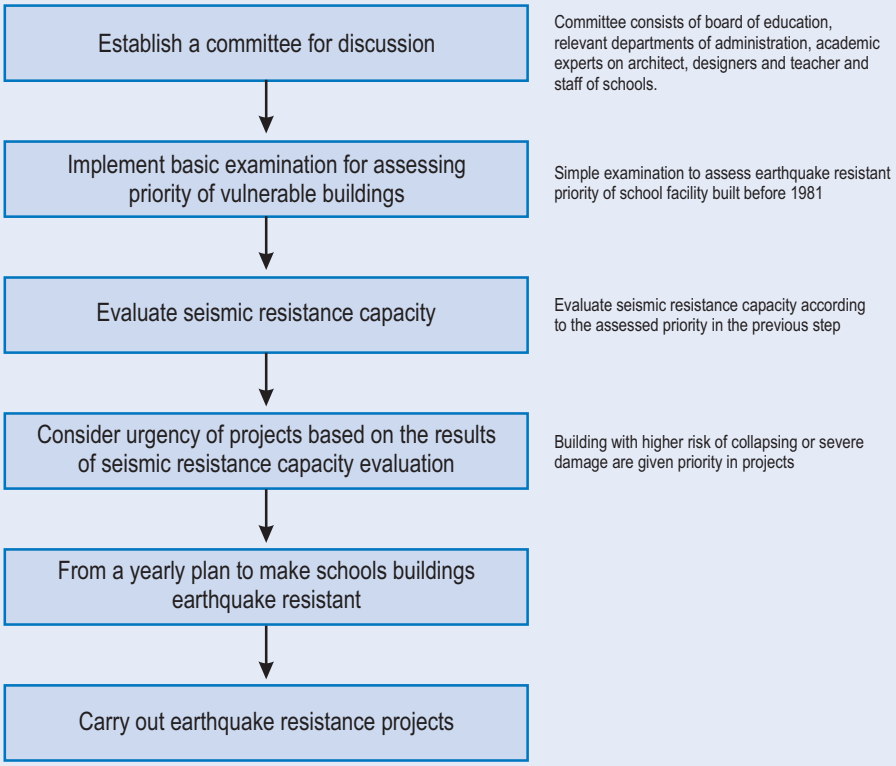
A survey carried out by the Fire Protection Agency and the Cabinet Office of the Japanese Government in fiscal years 2001 and 2002 showed that earthquake-resistant public facilities, including school buildings, had not been improved satisfactorily. The results of the survey were disclosed by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in April 2002. It emerged from the survey that seismic diagnosis was carried out on only 30 per cent of buildings built under the pre-1981 Earthquake-Proof Standards, and only about 45 per cent of government primary and junior high school buildings had been retrofitted.

In this connection, a council called "Cooperators' Meeting for the Survey and Study of the Promotion of Earthquake-Resistant School Buildings" was established by MEXT in October 2002. The outcomes of the council's discussions were submitted to MEXT in April 2003 in a report entitled "Promotion of Earthquake-Resistant School Buildings".

Based on this report, the "Guidelines for the Promotion of Earthquake-Resistant School Buildings" was developed by MEXT in July 2003. Chapter 1 of the Guidelines describes the basic concept of "earthquake-resistant school building"; and Chapter 2 outlines methods for devising earthquake-resistant promotion plans, points to bear in mind, and suggested methods for determining the urgency of earthquake resistance projects based on the 2001-2002 survey.

The basic principles were: (1) prioritize earthquake resistance measures for school buildings with high risk of collapse or severe damage; (2) prompt the implementation of seismic resistance capacity evaluation; (3) prompt the development of a plan for promoting earthquake resistance; (4) disclose the results of the seismic resistance capacity evaluation and of the plans for promoting earthquake resistance; and (5) check and take measures for the earthquake resistance of non-structural elements.

The fundamental procedure for developing a plan for promoting earthquake resistance was as follows:

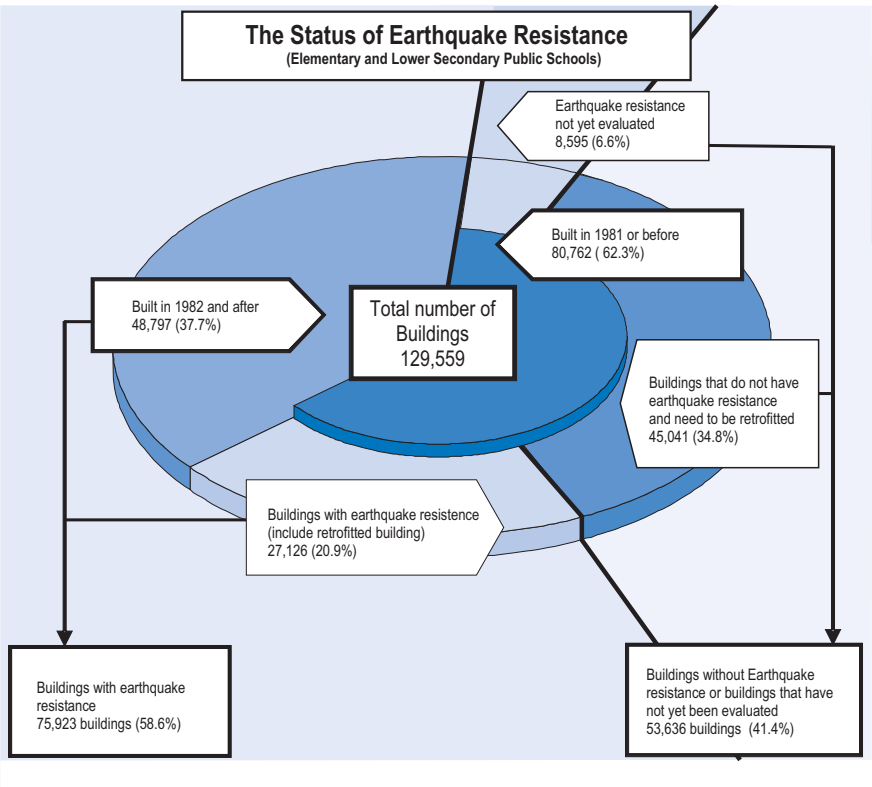


Impacts & Results

The MEXT urged municipal governments, which were responsible for school buildings, to promote school building retrofitting based on the above-mentioned guidelines. In addition, MEXT prepared a budget of approximately 100 billion Japanese yen (0.79 billion US dollars) for the improvement of school buildings, emphasizing seismic retrofitting for municipal government buildings every year (114 billion Japanese yens - 0.9 billion US dollars - in the 2007 fiscal year).

As a result, seismic diagnosis was carried out on 89 per cent of buildings built under the pre-1981 Earthquake-Proof Standards. The April 2007 MEXT survey of government primary and junior high school buildings indicated that about 59 per cent of the school buildings were retrofitted.

The following pie chart shows the earthquake resistance situation of government primary and junior high school buildings in Japan in April 2007.



The Good Practice

The Initiative to develop the "Guidelines for the Promotion of Earthquake-Resistant School Buildings" and a manual for retrofitting school buildings (see details below) can be considered a good practice because it prompted the retrofitting of a significant number of school buildings in a relatively short time.

This was achieved because the Guidelines took into consideration the crucial importance of competing priorities among public needs. In response to this critical issue, the Guidelines emphasized prioritization and urgency based on vulnerability assessment. The Guidelines also stressed the need to develop yearly plans for earthquake resistance projects.

This is also a good practice because it was intended to make the knowledge gained available worldwide and thus facilitate its replication in other countries. As such, although the manual for retrofitting school buildings is only available in Japanese language for now, it will be translated into English in the near future.

Lessons Learned

To implement projects related to earthquake-resistant school buildings effectively, more attention needs to be paid to various issues such as selecting adequate construction methods for seismic reinforcement and methods for earthquake resistance improvements to non-structural elements, and adopting emergency reinforcement.

Façade of school after retrofitting

The Educational Facilities Research Center of the National Institute for Educational Policy Research (NIER) of Japan released a manual for retrofitting school buildings; the manual is available in Japanese. The manual includes several model cases of retrofitted school buildings, describes retrofitting methods such as attaching steel frame braces, adding an earthquake resistant wall, reinforcing columns with girders or carbon fibre, and so on.

Municipality officers can use the manual and the above-mentioned guidelines to plan and implement earthquake resistance projects on school buildings.

It is costly to retrofit vulnerable school buildings, and municipalities have to address other public needs; therefore it is difficult to assign higher budgets to school buildings. Yet, strong earthquakes such as the devastating Kobe Earthquake - which killed over 6,000 people in 1995 - are likely to happen again. The challenge is how to implement the policy related to safer school buildings under such constraints.

To implement the policy effectively, the above-mentioned Guidelines has emphasized the need to prioritize vulnerable school buildings for seismic rehabilitation and assess the urgency of school-related earthquake resistance projects. The Guidelines also says it is important to formulate and implement yearly plans for earthquake resistance projects.

Potential for Replication

The Initiative allows for the possibility of replication, as evidenced by the plan to make the manual for retrofitting school buildings available worldwide by translating it from Japanese into English in the near future.

The Initiative can be replicated in other seism-prone contexts provided that good seismic resistance standards, adequate funding, and strong political will to make school buildings earthquake resistant are available.

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Nepal

Students and Masons as "Ambassadors" of School Seismic Safety

School Earthquake Safety Programme *National Society for Earthquake Technology*

Community awareness raising meeting

Abstract

Public schools in Nepal have faced extreme risks from earthquakes. This is because the majority of them, even those built in recent years, are not seismic risk resistant. This is partly due to the fact that public school management is largely the responsibility of the local community and that the annual budget available for school management is very low.

The high vulnerability of schools was evidenced during the 1988 earthquake (M 6.6 Richter) in Udayapur in eastern Nepal when 6,000 schools were destroyed in the event, which luckily took place during non-school hours. Such massive damage disrupted school attendance for some 300,000 children for several months.

School buildings, unlike other facilities, are typically very simple and relatively small. It is therefore inexpensive to build new schools in an earthquake-resistant fashion and should be affordable to retrofit existing schools. Also, raising awareness in schools is a way of reaching the entire community because school lessons trickle down to parents, relatives and friends.

Aware of this, the National Society for Earthquake Technology - Nepal (NSET) implemented a community-based "School Earthquake Safety Program" (SESP) since 1999. Under the programme, masons were trained in earthquake-resistant construction. The masons, like the trained school students, are now acting as "ambassadors" of earthquake safety.

The Initiative

The Initiative is a community-based "School Earthquake Safety Program" (SESP) implemented by the National Society for Earthquake Technology - Nepal (NSET) since 1999.

As a first step to its work in schools, NSET carried out a vulnerability assessment survey of about 1,100 buildings of 643 public schools in Kathmandu Valley. The findings were alarming: more than 60 per cent of the buildings were found highly vulnerable even in normal conditions (Figures 1 and 2).

The alarming findings prompted NSET to implement vulnerability reduction programmes in schools, which led to the implementation of a pilot programme for retrofitting one of the public schools in a rural area of Kathmandu valley in 1999. The pilot programme, which sought to demonstrate the feasibility of structural intervention in school buildings and raise awareness among nearby communities, was successful. The pilot school safety programme was ultimately changed into a continuous programme of NSET.

Since then, NSET implemented the School Earthquake Safety Programme (SESP) in more than 20 schools in various parts of the country.

The SESP programme sought to: (1) raise awareness and introduce knowledge of earthquake risk in school environments; and (2) raise awareness amongst masons, identify, and apply measures to reduce earthquake risk in school buildings.

The Programme components were: (1) training of teachers, students and parents on earthquake risk mitigation and preparedness; (2) seismic retrofitting or earthquake-resistant reconstruction of schools buildings; and (3) training local masons in earthquake-resistant building construction technology.

Figure 1: Vulnerability of school buildings in Kathmandu Valley for earthquake shaking of MSK Intensity IX (Source: SESP Report, NSET, 2000)

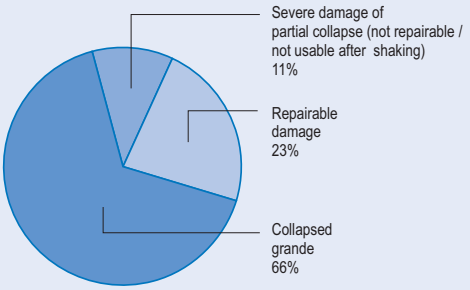
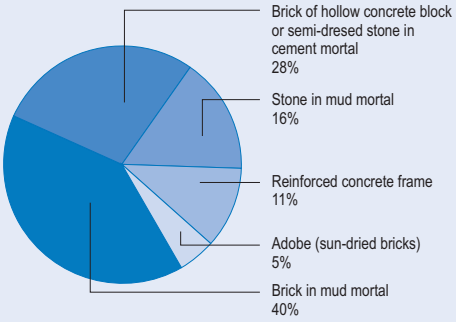


Figure 2: School building types in Kathmandu Valley (Source: SESP Report, NSET, 2000)



Impacts & Results

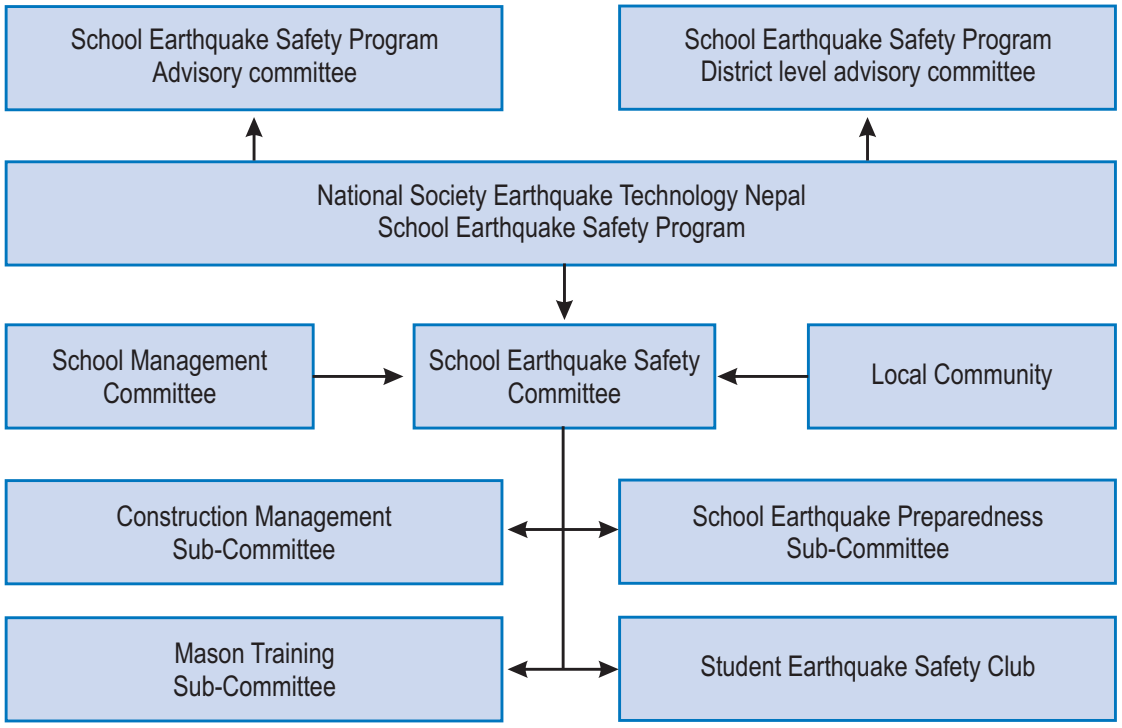
The SESP was successful in demonstrating the feasibility of earthquake risk reduction and awareness raising activities at community level through schools. Such a success was achieved mainly because of the Programme's simple and practical approach to involving communities.

The approach and methodology of the Programme are being adopted by the Nepalese Ministry of Education and other educational institutions in their regular plans and programmes.

The main elements of the approach are:

1. Involvement of all stakeholders: the programme implementation structure (Figure 3 below) involves national and district level education authorities, and school management committees, parents, students, local masons and other community members. The Programme also seeks the participation of all stakeholders at all stages, from planning to programme handover.
2. Community-based approach: high priority is given to community involvement.
3. Transparency is ensured in all programme activities.
4. Simple and low-tech solutions are applied to the construction or strengthening of school buildings.
5. Locally available building materials are taken into consideration.
6. Training local masons on earthquake-resistant construction technology is extremely important, as is transmitting the message to the community through the trained masons.
7. Focus primarily on "what is accepted by the people" rather than on "what is necessary".

Figure 3: The SESP programme implementation structure (Source: SESP Report, NSET, 2000)



The Good Practice

The SESP can be described as a good practice because it successfully involves community participation in all its components and helps increase community awareness of earthquake risk and knowledge of earthquake risk reduction significantly.

Masons trained during the Programme are now acting as "ambassadors" who spread the technology of earthquake-resistant construction in their communities and replicate the technology when constructing new buildings (Photo below). They also train other masons.

The Programme demonstrated clearly that community-based disaster risk reduction activities could be effective and sustainable.

Lessons Learned

The lessons learned and experiences gained from the programme were translated into a technical manual for house designers and builders called "Protection of Educational Buildings Against Earthquakes: a Manual for Designers and Builders". The manual was developed to help with the design and construction of earthquake-resistant school buildings.

Replication of technology by local masons

Potential for Replication

Initiated in 1999, the SESP was replicated and improved many times over the last eight years. This is tangible evidence of its great potential for replication. The programme can also be replicated in other earthquake-prone countries, provided that its objectives, approach, methodology, components and implementation match the countries' contexts.

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Peru

A Simple Practical Way to Reduce School Buildings' Seismic Vulnerability

Building Low-risk School Facilities

National Institute of Civil Defence and Office for School Infrastructure

A low-risk school that was not affected by the 23June 2001 earthquake in the macro-seismic zone of Arequipa in southern Peru (Photo: Julio Kuroiwa, 27 June 2001

Abstract

Of the reinforced concrete buildings that collapsed or were severely damaged as a result of the earthquakes that struck Peru between 1966 and 1996, some 50 per cent were educational facilities ranging from primary schools to universities. The main explanation was the structural fault of short columns.

Such a high vulnerability of school facilities is also observed in other parts of the world. In the Philippines in 1990 and in Chichi, Taiwan, in 1999, almost half of the reinforced concrete buildings that collapsed or were severely damaged as a result of earthquakes were school facilities. Some school facilities located in high or very high geological (earthquake, volcanism, tsunami, etc.) and climatic (drought, flood, rapid flow, etc.) risk zones were destroyed, others suffered severe damage.

As far as the seismic resistance of school buildings is concerned, such situations arise because most solutions applied to meet some requirements such as good lighting, good cross-ventilation and separation from corridors which makes classrooms non resistant to earthquakes. These schools were built with short columns which caused fissures and cracks even at moderate seismic intensity at VII MMI and they could be completely collapsed at seismic intensity at VIII MMI.

Efforts have been made to improve the seismic resistance of the above mentioned closely-spread short columns by adding stirrups between them. This is only a partial solution to the problem. To reduce the seismic risk faced by school students, it is necessary to both reduce school buildings' vulnerability and build school facilities in less hazard-prone areas.

Some of the practical and simple solutions applied to Peruvian schools can help reduce seismic vulnerability caused by short columns, and the identification of less hazard-prone sites for schools can be facilitated by risk maps.

The Initiative

The "short-column" problem mentioned above was eliminated in Peruvian schools through the introduction of a building construction standard called "Seismic-Resistant Standard NTE 030-97" in 2003. This made the following amendments to the existing Standard: (1) reducing the permissible lateral thrust from 0.010 to 0.007; and (2) raising the coefficient of utilization from 1.3 to 1.5 when classifying educational facilities from important to essential in the event of a disaster.

Although these findings were practical and simple, they demanded months of team work analyzing different geometric configurations of schools with computers. This was made possible through the support from college and university students whose teachers and lecturers were members of a Special Technical Committee that developed the amendments to Seismic-Resistant Standard NTE 030/97 in 2003[1]. The Standard's new provisions have been maintained since.

In 2007, the Peruvian government resolved to make better use of technical findings made between 1998 and 2007 in disaster risk reduction. This includes developing risk maps for 115 towns with a total population of 7.5 million people. The risk maps took into consideration all threats of geological and climatic origin faced by the cities and their expansion zones. The risks considered have been divided into very high, high, medium, and low. Current regulations in Peru make it compulsory to build schools in low-risk areas, or in medium risk areas when student demographic distribution so demands it. To institutionalize the required actions, the National Institute of Civil Defence (INDECI) signed in the first semester of 2007 a number of agreements with the Education, Health, Housing, Construction and Labour departments as well as with several municipalities.

One such agreement was reached in June 2007 with the Department of Education's Office for School Infrastructure (OINFE), giving the Office a mandate to design, implement and supervise the development of school buildings and ensure that the National Building Code and Regulations are enforced in the related Project. The Office relies on 25 regional offices for effective supervision in the areas where schools are located.

The Project is being implemented at national level in all school facilities that have been built since 1997. It benefits hundreds of thousands of school children and students attending class in school facilities designed and constructed under Seismic-Resistant Standard NTE 030-97 which, as mentioned earlier, was approved by the Government of Peru in 1997 and amended in 2003.

This Project received substantial support from the following political, economic and technical entities: (1) the Government of Peru listened to the suggestions made by an adviser[2] to the INDECI Management Board and provided funding for implementing the project; (2) the Presidency of the State Council of Ministers (PCM) - under which the INDECI operates; (3) INDECI prompted and mobilized all the necessary actions; (4) State Prime Ministers; (5) representatives of the public and private sectors, NGOs, and members of the Special Technical Committee that developed the Seismic-Resistant Standard NTE 030-97; and (6) UNDP Peru provided technical guidance and a seed investment and managed in an efficient and transparent manner the funds which the Peruvian government has been allocating to disaster prevention programmes/projects since 1998 - when rehabilitation and reconstruction work was needed in towns affected by El Niño in 1997 and 1998.

1 The Seismic-Resistant Standard NTE 030-97 was approved by the Government of Peru in 1997.

2 Julio Kuroiwa: emeritus professor at the National University of Engineering in Lima, and scientific adviser to the Peru National Institute of Civil Defence (INDECI).

Impacts & Results

School buildings developed under Seismic-Resistant Standard NTE 030-97 in the macro-seismic zone of Arequipa, southern Peru, resited - with no damage- an earthquake which struck the area on 23 June 2001. And school facilities built over the last 10 years with the prescribed structural characteristics, remained in good condition across the Peruvian territory, helping protect students and teachers better in the event of a strong earthquake. In a nutshell, the project has achieved successful results.

Such successful results have been achieved because efforts have been made not only to make school facilities safer but also to build them in low risk zones, in line with the agreement signed between the Department of Education and INDECI in June 2007. To help build schools in less hazard-prone areas, risk maps developed in 115 towns from 1998 to July 2007 are being used. If a school were not to have a risk map, then consultants (from a pool of 80 on-the-job trained INDECI consultants) could be called upon to advise Regional Education Offices as to where risks are low and where to build the desired school facilities. Most of the consultants are lectures from national universities located in differented regions of the country.

Hundreds of new schools have been built in line with Seismic-Resistant Standard NTE 030-97 since 1997. However, it is from July 2007 that special emphasis is made to build school facilities in low-risk zones. Ensuring this is the special duty of Regional Education and Civil Defence directors.

It is expected that millions of Peruvian students from primary to university level will pursue their studies in low-risk educational facilities in the next few years.

The Good Practice

This Project can be considered a good practice because it promotes the construction of schools in low-risk areas and, more importantly, because it provides a practical and simple solution to school facilities' seismic vulnerability due to short columns. The Project can help address the same issues through replication in neighbouring countries and other parts of the world.

Indeed, these two risk factors - short columns and school location - can be observed in many parts of the world for the following reasons:

1. A classroom used for dictating lessons needs good lighting, hence large windows that face open spaces in the back of the building.
2. Good cross-ventilation and privacy from corridors are needed, which architectonically is solved by high windows.
3. These result in a free space of little height that goes over 2.10 m (the same height as doors) up to the bottom of the girder or roof. This is the case along walls that divide classrooms from corridors. In this way, one ends up with high windows where short columns get trapped, as is the case in Figure 1 below.
4. The short columns fail because they are, in most cases, 10 times more inflexible to major lateral displacement than the columns of the posterior facade and, as a consequence, attract towards themselves a great percentage of the seismic cutting force.
5. Unfortunately the only flexible direction of the building is the one where the seismic force is resisted only by the transversal sections of the columns. In the perpendicular direction, the full and solid walls constituted by the lateral facades and the walls that divide the classrooms receive almost all the seismic cutting force in this direction. As a result, we have a building that is weak and flexible in the direction parallel to the front facade and the axis that divides classrooms and corridors, even though it is very resistant in the direction perpendicular to the principal facades. We have short columns where fissures and cracks are produced even at moderate seismic intensities VII MMI and which get completely torn apart with VIII MMI.

Efforts have been made to improve the seismic cut resistance of closely-spread short columns by adding stirrups between them, but this is only a partial solution to the problem. Schools also need to be located in areas that are less exposed to hazards. The Project has proved to be effective in these two critical risk reduction areas.

Figure 1: The two extreme columns are long and have not failed. The central columns, trapped by the white wal,l are short and their lateral inflexibility is about 40 times greater than the inflexibility of the long columns. The attracted a major percentage of the seismic cut and failed (Photos: Julio Kuroiwa, Disaster Reduction Book - Living in Harmony with Nature, p. 172)

Lessons Learned

Key lessons learned from the Project are: (1) the two amended articles of the Seismic-Resistant Standard NTE 030-97 have helped achieve remarkable results, and should be maintained and applied to all school facilities; (2) school facilities that are adequately built and located in low-risk areas mean lower risks for students, teachers and non-academic staff; (3) the public sector should in the next few months involve the private sector and NGOs to boost the development of increasingly safer schools.

Developing a seismic-resistant standard that could eliminate, in a simple and practical way, the structural fault of short columns was a challenge. It required not only months of computer-based analysis of different geometric configurations of schools but also months of team work involving policy/decision makers and experts from the Peruvian government, the Peruvian Engineers' Association, government bodies involved in disaster reduction, national and private universities, and representatives of the private sector.

Potential for Replication

In order to replicate this experience in other countries, a multidisciplinary workgroup of no more than three to five members with the will to help poorest communities needs to assume leadership to build housing, schools, and hospitals that are safer, and the workgroup needs to be given the necessary support.

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Philippines

Making School Buildings Safer, Helping Children and Teachers to Reduce Risk

Building Safe Learning Environment for Children Project

UNICEF, Philippines

Students enjoying a 100-book library set provided by UNICEF (Photo: UNICEF)

Abstract

In late 2006, the Philippines suffered widespread devastation brought by series of strong typhoons. The Southern Luzon Region, in northern Philippines, bore the full brunt of the damage. The typhoons destroyed thousands of primary and secondary school buildings and hundreds of day care centres. They also affected hundreds of thousands of school children and tens of thousands of pre-schoolers. Recovery and rehabilitation costs practically wiped out the budget intended to reduce classroom backlogs.

More recent flash floods and a lahar flow also prompted 112,000 people to seek refuge in heavily damaged school buildings. Despite being cramped in every dry space available inside school buildings, the evacuees opted to stay for a week or two as the typhoon season was still at its peak. Those who had their homes swept away or communities wiped out by the rampaging flash floods and lahar flow had no choice but to seek temporary shelter in school premises.

UNICEF, together with the rest of the UN family, provided immediate assistance[1] in response to the emergency situation inside and around school premises. UNICEF has also embarked on a project called "Building a Safe Learning Environment (BSLE) for Children". The Project took off from the World Campaign entitled *Disaster Risk Reduction Begins at School* and was developed in the light of the impacts of the late 2006 typhoons, recent flash floods, and lahar flow.

1 Additional assistance was received from the Mercury Fund and from the governments of Sweden through the Swedish International Development Agency, Australia through the Australian Government's overseas aid program (AusAID), and the Netherlands.

The Initiative

This is a UNICEF Philippines Initiative entitled "Building a Safe Learning Environment (BSLE) for Children". It seeks to help improve the teaching/learning environment of children and teachers and enhance their capacity for disaster preparedness and risk management.

The Project consits of two sub-projects: (1) the Safe School Project (SSP) - a structural and non-structural intervention for government schools; and (2) Emergency Assistance to Day Care Centres. Both sub-projects involve repair and construction work.

Specifically, the BSLE project seeks to: (1) complement government repair work on damaged day care centres and schools to help restore children's access to education; (2) ensure the structural integrity of schools-cum-evacuation centres to make them safe for use as refuge/evacuation or holding centre in the event of a disaster; (3) enhance teachers' and other service providers' knowledge, skills, and attitudes regarding emergency preparedness and disaster risk reduction measures; and (4) teach children emergency preparedness measures and involve them in disaster risk reduction (DRR) school initiatives such as tree planting or other environmental protection activities, evacuation drills, and other feasible disaster response plans (first aid, swimming lesson, etc.).

The BSLE project is being implemented in the southern Luzon Region, northern Philippines, during the ongoing 2007-2008 school year that began on 14 June 2007 and will end in March 2008. Its non-structural disaster risk reduction component is being piloted in a municipality in Albay under the provincial school division.

The Project will benefit some 60,280 school children, 1,500 teachers, and 72 school-wide Parent, Teacher and Community Associations (PTCAs) in 72 government primary and secondary schools.

Implementing partners are: (1) the Department of Education, which builds government schools and implements non-structural components on disaster preparedness in schools; (2) the Department of Social Welfare and Development, which repairs or builds day care centres; (3) child-focused local and international NGOs and UN cluster members such as CARE Philippines, Plan International - Philippines, Save the Children Alliance, World Vision Philippines and the Center for Disaster Preparedness, which handle resource sharing and dissemination of materials; (4) Habitat for Humanity Philippines, which builds schools; and (5) local provincial, municipal, and barangay[2] government units, which help schools and communities conduct disaster safety/preparedness training.

Impacts & Results

This Project has only just started being implementated, but it is expected to have a considerable impact on about 60,280 school children, some 1,500 teachers, and academic and non-academic staff in 72 government primary and secondary schools, as well as on 127 school/day care centre-level PTCAs and Day Care Parents Associations, 1,375 day care learners, 55 day care workers (licensed by the Department of Social Welfare and Development), and about 254 barangays or immediate surrounding communities.

The Safe School Project (SSP) sub-project will take off in August 2007, and initial results will be available for assessment from October 2007, when at least 40 per cent of the construction work will be completed and DRR training for teachers and school children will be underway. The full extent of the expected results should also be observable after the three-month implementation of feasible school or community disaster risk reduction projects initiated or benefited by the participation of school children.

The Good Practice

The Project, especially the SSP sub-project, can be described as a good practice because it pursues the two objectives of the ongoing World Campaign - making school buildings safer and mainstreaming disaster risk reduction into school curricula. The SSP focuses on: (1) promoting awareness on school safety; (2) integrating disaster management into school curricula; (3) training and building the capacity of school students, teachers and non-academic staff on basic life saving skills; and (4) building school facilities that are resilient to disaster impact to ensure that children are protected from natural hazards.

Also, the SSP makes use of a Department of Education (DepED) approach known as "Principal-Led School Building Program" (PSBP), an approach which has proved itself. Under the PSBP approach, school principals or school heads take charge of the implementation management of the repair and/or construction with the assistance of a DepED project engineer. As shown by a

2 In English: village.

recently completed school repair work supported by AusAID[3], the approach not only ensures successful and timely project completion but also empowers school communities to manage and eventually own and sustain projects.

The SSP structural component for repair and new construction work incorporates hazard-resistant features, especially against typhoons. New construction work includes standard classroom design and new school buildings that can serve as evacuation centres with flexible features to accommodate a large number of people (e.g. accordion-type partition walls, beams or hooks for hanging hammocks, improved/additional sanitation facilities - toilets, bath/washing areas, water points, cooking and waste disposal areas). The construction work is managed by the DepED through the above-mentioned Principal-Led School Building Program approach. This approach encourages active involvement of school heads together with PTCAs and other stakeholders in the community. The same approach was adopted in the AusAID-assisted school repair project that immediately preceded the BSLE. In addition, an international NGO, Habitat for Humanity Philippines (HFH[4]), will assist school building construction using a new technology but following DepED specifications and standards. Recipient schools will come up with an "Operation & Maintenance Plan" for sustainability and community ownership.

The SSP non-structural component will include the delivery of school supplies and educational packages to children and teachers (provision of 100-book library sets and learning material), production of multimedia educational packages about disaster preparedness, training in disaster preparedness, and promoting the active engagement of children and communities in disaster risk reduction initiatives. Children's and communities' engagement in disaster risk assessment is to be piloted, as is the formulation of a school-community preparedness plan and evacuation/drill plan. This component shall also support, complement and harmonize a number of ongoing DepED programmes on disaster management and preparedness, namely: the Disaster Preparedness through Educational Multimedia programme; school mapping exercise; Assessment of School Building Structural Integrity and Stability; School Water and Electrical Facilities Assessment; mainstreaming risk reduction measures into development policy, planning and programme/project implementation; developing an operations manual on disaster preparedness; and advocacy campaigns within the "Disaster Awareness and Prevention Month" format.

Lessons Learned

Key lessons learned from the Project are: (1) emergency humanitarian response must be closely linked with early recovery or long-term development objective/work; (2) facilities (e.g. schools, day care and health centres) providing basic services should be improved, strengthened/retrofitted against hazards, and maintained; and (3) first responders such as community members and leaders, teachers, students, government representatives, youth organizations, and PTCAs should be equipped with disaster risk management, emergency preparedness, and risk reduction measures.

The Project has faced the following major challenges: (1) consolidated data on the number of damaged schools was not immediately available; (2) massive relocation of internally displaced persons to crowded and congested schools was not done due to non-availability of suitable lands for relocation, which remains a challenge to date; and (3) securing the cooperation or participation of stakeholders (other donors and community leaders) in project implementation was not an easy task.

Most of these challenges, however, were overcome through the activation of the UN cluster approach. An "Education in Emergency Cluster" was formed both at national and local levels. Together with government counterparts and the Department of Education, UNICEF, as the leading agency, coordinated all the above interventions to ensure that assistance/programmes and services reached a wider coverage, avoid duplication, and ensure accountability.

3 AusAID: Australian Government's overseas aid program.
4 HFH is an international grassroots movement involved in housing programmes for poor or low-income families and school construction.

Potential for Replication

The Project can be replicated in other areas in the Philippines. To do so, there is a need to ensure close coordination with relevant government counterpart agencies both at national and local levels, and maintain a pool of experts/engineers who are ready to be deployed/dispatched for assessment and technical advice, among other tasks. The Project can also be replicated in other countries if: (1) user-friendly manuals, modules, and locally produced material for targeted communities are available to provide guidance; and (2) there is continuous sharing of information and experience, and updating of emerging trends in disaster risk reduction among cluster members and partners.

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Central America

Facilitating Increased Support for School Building Retrofitting

Retrofitting Central American Schools Programme

Sustainable Development Department, Organization of American States

Abstract

The six Spanish-speaking countries of Central America - Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama - are prone to various natural hazards such as strong hurricanes, which in the last 10 years have inflicted major losses on lives, livelihoods, property and infrastructure, including educational facilities.

In 1995 a Central America programme was launched by the Sustainable Development Department of the Organization of American States (OAS/SDD) to reduce the vulnerability of educational facilities to natural hazards The Programme helped develop "Strategic Plans for Natural Hazard Vulnerability Reduction" in different sectors - including the education sector - in Central America.

True to its commitment to school safety in the Americas since 1992, the OAS/SDD launched a project in January 2006 to reduce the vulnerability of government schools in the six Spanish-speaking countries of Central America. The Project sought to facilitate community access to support for the retrofitting of vulnerable government schools.

The Project is still in progress, but it has already developed a regional action plan, six national action plans, a training plan for school infrastructure experts, and revised national programmes for reducing schools' vulnerability.

The Initiative

This Project aims to reduce the vulnerability of Central American government schools to natural hazards through the creation of a sustainable mechanism to facilitate community access to support for the retrofitting of vulnerable government schools.

It is primarily a mechanism for using donations to complement contributions from local organizations, strengthen the labour force and technical assistance, and enhance the capacity of public and private sector actors to develop strategies for managing and retrofitting educational facilities against natural disasters.

Launched in January 2006 by the Sustainable Development Department of the Organization of American States (OAS/SDD), the Project is still in progress. It has benefited the six Spanish-speaking countries of Central America: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

The main implementing partners are: (1) at national level: Education Ministries, Social Investment Funds, Public Works Ministries and NGOs; (2) at regional level: the Central American Educational and Cultural Coordination (CECC) and the Coordination Centre for the Prevention of Natural Disasters in Central America (CEPREDENAC); (3) at international level: UNICEF, the World Economic Forum Disaster Resource Network (WEF/DRN), the International Federation of Red Cross and Red Crescent Societies (IFRC) and the UN/ISDR secretariat.

Financial support was provided by the German Agency for Technical Cooperation (GTZ) and the Canadian International Development Agency (CIDA).

Impacts & Results

Even though the Project is still in progress, it has already achieved the following results: (1) a regional action plan that coordinates various regional and international organizations involved in disaster risk reduction (DRR) in the education sector; (2) six national action plans for each of the participating countries; (3) a training plan for school infrastructure experts; and (4) revised national programmes for reducing schools' vulnerability to natural disasters.

Outcomes and Activities

This Project can be considered a good practice because, in addition to the above results, it has had the following effects: (1) improved coordination among the different organizations involved in nationwide DRR for the education sector; (2) improved coordination among national school infrastructure actors, which should ensure that disaster vulnerability reduction is included in their activities; (3) training of national actors to help reduce school buildings' structural vulnerability to natural disasters; and (4) revision, updating and/or development of national programmes for the reduction of vulnerability to natural disasters in the education sector.

Phase 1 of the Project, which consisted in documenting institutional and technical experiences and revising national school vulnerability reduction plans, has been successfully completed.

Phase 2 is still in progress. It is within this phase that a draft of the "Regional Programme for the Structural Retrofitting of Schools in the Central American Isthmus" has been developed. Six national logical frameworks are almost ready. Five national workshops have been organized. A political document that will include a series of "good practices", lessons learned, priority necessities and an outline of the above-mentioned Regional Programme is being prepared. A regional forum was scheduled in June 2007 to facilitate planning for the desired Regional Programme in coordination with other institutions.

Lessons Learned

The key lesson learnt from the Project is that the education sectors' risk management plans must take into consideration the structural vulnerability of schools to natural hazards as well as the prevention of hazards that may disrupt school services. It was only recently that damage to school infrastructure was recognized as a loss of class hours that affects the quality of education. Even minor floods can affect school functions by impeding basic activities. In addition, although education facilities are often used as shelters during an emergency, there is no strategy in place to ensure that the schools rapidly return to their functions after the disaster event. To sensitize decision makers on the necessity to invest in school vulnerability reduction, it is recommended that future projects of this sort enlist the support of policy makers from the outset.

The main challenge the Project faced was recruiting and committing national actors to the development of policies, plans and projects for vulnerability reduction in the education sector. The challenge was overcome through institutional expertise and the firm commitment of the participating countries.

Institutional expertise was found in OAS/SDD, which has been involved in vulnerabilty reduction of educational facilities to natural hazards in the Americas since 1992. The desired firm commitment of participating countries could be reactivated through the countries' "Strategic Plans for Natural Hazard Vulnerability Reduction" in different sectors, including the education sector. These strategic plans were developed through a "Natural Hazard Vulnerability Reduction Programme for the Educational Sector in Central America" launched by OAS/SDD in 1995.
This Programme, developed by all the Spanish-speaking countries of Central America, included the development of vulnerability reduction policies, school infrastructure planning processes, school mitigation projects and school emergency preparations.

Potential for Replication

This Central American experience can be used as a model for other regions. To replicate it, it is recommended that Central American professionals involved in the Project are used as trainers of trainers.

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Annex 1
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Annex 2
Template for Submitting Good Practices

What is a good practice?
A good practice should illustrate one and/or several initiatives, such as:

- Promoting awareness on school safety;
- Integrating disaster management into school curricula;
- Training and capacity building of school teachers, students and staffs on basic life saving skills; and
- Building school facilities resilient to disaster impacts in order to protect children in the event of a natural hazard.

Guidelines for providing good practices:

- Good practices should be drafted using a reference template that includes results achieved, challenges and lessons learned (see table below);
- Maximum overall length: 2,000 – 2,500 words. Contributors will only have to 'bullet in' their pieces of information, as the final material emerging from the information gathered will be edited by a professional editor;
- Please provide colour photos in jpeg format, high resolution (300 dpi) to illustrate your practice(s), with the place where the photo was taken, the photographer's name, year and a caption that explains the image (max three lines);
- Contributors should provide their contact details (name, title, affiliation and e-mail address) in case further information is required;
- All contributions should be sent to Elena Dohklik, dokhlik@un.org

Please provide the information in bullet format for quick answer to reference questions that are just indicative and reflective, and by no mean, exhaustive:

Project Brief	- Position the good practice/project within the nationalProject Brief - Position the good practice/project within the national context with historical, political, social, economic background, if relevant, and useful statistics. - What is the project/initiative about? - How does it work? - Who are the implementing partners and what are their roles? - Who are the beneficiaries? - Where and when is the project being implemented?
Results Achieved	- Why is this project a success? - What are the benefits of this project/initiative within the national context? - How many people have benefited from it and how? - Give specific examples of achievement or statistics if possible.
Challenges	- What have been the major challenges of this project? - How were they overcome (if they were)?
Lessons Learned	- What is (are) the key lesson(s) learned from this project? - How to improve similar projects in the future? - How the good practice could be replicated elsewhere?
Contributor(s) contact details	- Name, position, email address, telephone

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Awareness Raising also through children

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