

2011

# School Safety Baseline Study



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UN ISDR - Thematic Platform on Knowledge  
and Education (TPKE)

6/14/2011

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## Introduction

The present study is in response to commitments made during the second session of the United Nations International Strategy for Disaster Reduction (UNISDR) Global Platform for Disaster Risk Reduction in June 2009. The purpose of those commitments was to assess the level of disaster resilience in all schools in disaster-prone countries by 2011 and have all related government's agencies develop a national plan for school safety by 2015.

The UNISDR Secretariat in Geneva in coordination with the UN Thematic Platform on Knowledge and Education (TPKE), which includes UNICEF, UNESCO, Save the Children, UNISDR and Plan International, among others, hosted a consultancy to undertake this study. In March 2011, Architect Pedro Bastidas, schools' vulnerability reduction specialist, was contracted as an independent consultant to develop a baseline study on the status of school safety worldwide based on a desk review of ten selected countries' national reports (Hyogo Framework of Action, UNICEF, UNESCO, Plan International, etc.) and other policy documents related to disaster risk reduction education and school safety.

The scope of this work is to develop a baseline on school safety study of existing initiatives undertaken by governments, civil society, UN, donors and other major stakeholders that aim at assessing and improving school safety. It includes description of the school safety assessment methodologies, good practices, guidelines, and other instruments used in the ten initially selected countries.

It is expected that this process will contribute to develop a comprehensive systemized methodology or process to assess school safety globally. Also, to reach consensus on what criteria constitutes a safe school. The process drafts a shared methodology to be implemented in interested countries at all levels and type of education. The product is not meant to be used solely by UNISDR but by the various partners participating in this initiative. It is expected that this study allows a self-reflection of the countries included and provides shared experiences that could be successfully replicated.

## Background

Disasters have a major impact on children and youth and education systems. Studies of disaster trends and the likely consequences of climate change suggest that each year 175 million children are likely to be affected by natural hazard related disasters alone<sup>1</sup>. For example, some 38,000 students died in the 12 January earthquake in Haiti, which also killed 1,300 teachers and education personnel<sup>2</sup>. The Ministry of Education offices were destroyed along with 4,000 schools – close to 80 % of educational establishments in the Port-au-Prince area. Also, during the

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<sup>1</sup> This is a considered estimated based on data from the International Federation of the Red Cross and Red Crescent Societies World Disasters Report 2006. "Legacy of disasters - The impact of climate change on children" Save the Children.

<sup>2</sup> UNESCO HAITI, June 2010.

Sichuan earthquake in May 2008, approximately 10,000 students were crushed in their classrooms and more than 7,000 school rooms collapsed.

The second goal of the Millennium Development Goals (MDG), “Achieve universal primary education,” has as a target to “ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.” This has been the basis for most of the international agreements and initiatives on disaster reduction in the education sector in the context of the children rights, particularly the Hyogo Framework for Action 2005-2015 (HFA), the UNISDR World Disaster Reduction Campaign *“Disaster Risk Reduction Begins at School”*, the United Nations (UNESCO) Decade of Education for Sustainable Development (2005-2014), and UNICEF Basic Commitments to Children in Emergency Situations, among others.

In 2006-2007, the UNISDR carried out a global campaign entitled “Disaster Risk Reduction Begins at School” with the support and contribution from all UNISDR system partners. The latter resulted in a significant mobilization of efforts in promoting school safety and the integration of disaster risk reduction into school curricula, as well as the recognition of non-formal education activities as a crucial contribution to awareness-raising, knowledge-building, and skills development for disaster risk reduction.

More recently in 2009, the Inter-Agency Network for Education in Emergencies (INEE) collaborated with the World Bank to produce essential guidance on school safety. INEE’s revised and updated minimum standards for education: Preparedness, response, and recovery also include a strengthened review of disaster risk reduction (DRR) concepts.

The HFA Priority 3 - “Use knowledge, innovation and education to build a culture of safety and resilience at all levels”- has, as its core indicator 2, the following statement: “School curricula, education material and relevant training include disaster-risk reduction and recovery concepts and practices.” However, the 2009 Global Assessment Report on Disaster Risk Reduction demonstrates that progress in the use of knowledge and education to build a culture of safety and resilience has been slow. During the period 2007-2009, only 7% of the 75 surveyed countries reported significant advances, and over half reported only minor or limited progress. One quarter of these countries reported some progress, but also an insufficient allocation of resources from the national budget.

According to the Chapter V of the report “Review of Progress in the Implementation of HFA” the challenges reported on the core indicator 2 were as follow:

1. Lack of capacity among educators and trainers.
2. Difficulties in addressing needs in poor urban and rural areas.
3. Lack of validation of methodologies and tools and little exchange of experiences.
4. Some countries report the absence of policy and guidelines on how to integrate disaster risk reduction into curricula, education materials and training, despite the existence of systematic policy and institutional commitment.
5. Most of the countries that have not yet integrated disaster risk reduction into the school curriculum cite lack of educational materials, especially in vernacular languages, as a major obstacle.

The progress also reported the following trends and examples on the same core indicator:

1. The 2006–2007 international disaster risk-reduction campaign “Disaster Risk Reduction Begins at School” has furthered and raised awareness of the importance of the education agenda across some countries.
2. The Central American and Dominican Republic Framework for Education and Disaster-Risk Reduction has been established as a Latin American regional thematic educational platform, with the support of UNISDR, a network of universities, and regional and international agencies.
3. Systematic policy or institutional commitment has been achieved in Australia, Indonesia, the Islamic Republic of Iran, Lao People’s Democratic Republic, Nepal, New Zealand, the Philippines, the Republic of Korea, and Syria.
4. Yemen reports difficulties with language barriers due to the lack of translated materials into Arabic. An active Knowledge and Education for Disaster Risk Reduction Platform is now functional in the region, which may contribute to increasing future capacities in this area.
5. In Angola and Burundi, UNICEF has collaborated with the Ministries of Education in arranging workshops and promoting the integration of disaster-risk reduction into education.
6. In Madagascar, the Ministry of Education and the UN have jointly developed school materials on disaster risk reduction and manuals that are used in all schools throughout the country.
7. Mozambique has started pilot projects in primary schools to train teachers and children on how to live with disasters.
8. In Burkina Faso, an environmental education program has been adopted at primary school level, and disaster-risk reduction is partly integrated into higher education.

In May 2010 the study ‘Assessing World-Wide Progress on School Safety - A scoping study’ was undertaken as a joint UNICEF-UNISDR initiative in follow-up to the conclusions of the 2009 session of the UNISDR Global Platform. An independent consultant was contracted to develop a multi-dimensional analytical framework and to discuss methodological issues based on desk research and interviews with key stakeholders. Before the finalization of the report, its main conclusions were presented and discussed at the June 2010 session of the UN TPKE. The conclusions drawn through the paper presented by the consultant indicated that while there is an emerging consensus on what constitutes a ‘safe school.’ there remains no comprehensive systemized methodology or process to assess school safety globally.

In order to advance this work, in June 2010 selected members of the UN TPKE agreed on the following three (3) essential elements of “Safe Schools”:

- Safe construction, which includes legislation, policy, building codes and standards, site location, hazard & risk mapping, verification, inspection, certification and retrofitting of education infrastructure, whether in public or private facilities.
- Emergency preparedness plans and policies to be in place to reduce risk to students’ lives as well as measures which safeguard the continuity or immediate resumption of education during and after an emergency.

- Education as a platform for increasing students, and thereby communities' resilience and contributing to future generational change towards a culture of safety.

## Methodology

This study consists of a desk analysis of ten initially selected countries using available information provided by key informants from institutions working in those selected countries in disaster reduction project in the education sector. It is based on the information at the national level. Sometimes the information provided could be an example of specific activities executed at the local or school level, however.

The study uses as a reference the analytical framework with indicators grouped under four main dimensions proposed in the previously mentioned 'Assessing World-Wide Progress on School Safety - A scoping study'. Here follows the proposed analytical framework with its 17 indicators grouped under the four main dimensions, as it is in the scoping study:

### 1. Hazards and risks knowledge

- 1.1 All natural hazards posing a threat to schools have been identified.
- 1.2 Risks are reassessed regularly.
- 1.3 The school population and the local community are aware of the risks.

### 2. Structural and non structural safety

- 2.1 School buildings were designed to meet building code standards.
- 2.2 Building code provides guidance on hazard resilient design.
- 2.2 The site was assessed before the school was built.
- 2.3 The vulnerability of existing school buildings has been assessed with respect to local hazards.
- 2.4 Performance objectives (maximum level of damage or disruption that can be tolerated in the presence of a hazard of a certain magnitude and frequency) were determined.
- 2.4 The school construction (or retrofitting) was supervised by a qualified engineer.
- 2.5 The school was built (or retrofitted) to meet performance objectives.
- 2.6 School furnishings and equipment were designed and installed to minimize potential harm they might cause to school occupants.

### 3. Systems, procedures and skills

- 3.1 Somebody has the responsibility for managing the school maintenance program.
- 3.2 Mechanisms are in place to ensure that school maintenance is financed and executed.
- 3.3 A backup plan exists to ensure that school operations continue in case natural hazards create disruptions in the school calendar.
- 3.4 A safe location was identified in case the school must be evacuated.
- 3.5 Students, teachers, staff, and school administrators know what to do before, during, and after a hazard event
- 3.6 School drills are held regularly to practice and improve skills and plans.
- 3.7 A disaster management committee exists at school or in the local community.

### 4. Curricula

- 4.1. Disaster-risk reduction is taught as part of the regular school curricula.

The use of this analytical framework is made by taking into consideration that it was developed with an assessment of individual schools in mind; "...it is clear that the measurement of baseline and progress on the different dimensions of school safety has to be made at the individual school level. Each school exists in its own context, exposed to specific hazards and with specific vulnerabilities, and even if certain building criteria and internal organization issues may be the same for different schools, there is no generalization that can be made, no matter how small the geographic unit of analysis."<sup>3</sup>

The hazards and risk knowledge and the structural and non-structural safety dimensions proposed in the scoping study were reviewed and adapted based on the structure proposed in the Safer School Construction Guidance Notes - Steps towards safer school buildings that include:

- Identification of key stakeholders and participants
- Establishment of a broad-reaching working group
- Prioritization
- Categorization of activities and distribution of responsibilities
- Risk, Hazards, and Vulnerability/Capacity Assessments
  - Risk assessments
  - Hazard assessments
  - Vulnerability assessments
  - Site and structural assessments
  - How can community vulnerabilities and capacity be addressed?
- Assessment of building practices and materials
- Adoption of building codes or retrofit standards
- School design or retrofitting plan
- Participation with construction industry<sup>4</sup>

The systems, procedures and skills, and curricula dimensions were also reviewed and adapted based on the structure and content of the training course on Disaster-Risk Reduction in the Education Sector developed for a DIPECHO project in Central America<sup>5</sup>, particularly the two following components of the training material:

Emergency preparedness plans and policies:

- School preparedness plans:
  - School emergency plans and committees
  - Hazards, vulnerability, and risk evaluation, alert systems, and evacuation routes
  - Emergency response drills
- Response preparedness for the sector and the school:
  - School activities continuity in case on hazard, emergency or disaster
  - School community psycho-social recovery

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<sup>3</sup> Assessing World-wide Progress on School Safety - A scoping study, Dr. Piero Calvi-Pariseti, June 2010

<sup>4</sup> Safer School Construction Guidance Notes – Inter-Agency Network for Education in Emergencies (INEE) and the Global Facility for Disaster Reduction and Recovery (GFDRR) at the World Bank

<sup>5</sup> Disaster Risk Reduction in the Education Sector training course by Pedro Bastidas developed for the DIPECHO project: "Strengthening Alliances to Ensure the Right to Education in Emergency Situations for Vulnerable Communities in Central America" executed by UNICEF-TACRO, June 2009.

- Consideration and consequences for using the school as a refuge and recovery coordination center

Education as a platform for increasing a culture of safety (including curriculum development):

- Risk management inclusion into the curriculum
- Educational material development
- Active and future teachers training
- Awareness campaigns from and for the school

For this baseline study of the ten selected countries, and as a result of the review of the analytical framework, the following framework with the four main dimensions previously identified is used to collect and analyze the information available at the national level:

- 1. Hazards and risk knowledge:** refers to the assessment of risk, vulnerability, hazards, and capabilities. This also refers to the schools' physical information in terms of location, infrastructure, and furnishing, and the schools' administrative information, for example population, levels of operations, and shifts. This dimension includes the identification of natural hazards posing threats to schools, sites assessment before the schools are built, and vulnerability assessment of existing school buildings with respect to local hazards. It also includes regular reassessment of risks, if performed.
- 2. Structural and non structural safety:** refers to safe construction and retrofit initiatives. It includes the design of school buildings to meet building code standards, the use of building codes that provide guidance on hazard resilient design, and the determination of performance objectives (maximum level of damage or disruption that can be tolerated in the presence of a hazard of a certain magnitude and frequency.) It also includes the supervision of school constructions (or retrofiting) by qualified engineers, construction of schools (or retrofiting) to meet performance objectives, and the design and correct installation of school furnishings and equipment to minimize potential harm they might cause to school occupants. Management of the schools' maintenance program and implementation of mechanisms to ensure that schools' maintenance are being financed and executed should also be considered as part of this dimension.
- 3. Systems, procedures and skills:** refers to emergency preparedness plans implementation and policies. It includes the creation of backup plans to ensure that schools operations continuity in case natural hazards create disruptions in the school calendar, and the identification of safe locations in case of evacuation. Also, it considers preparedness information provided to students, teachers, staff, and school administrators regarding what to do before, during, and after a hazard event, as well as regular school drills to practice and improve skills and plans, and the creation of disaster management committees in the schools or the local communities. It takes into account whether hazards, vulnerability and risk evaluation, alert systems and evacuation routes, as well as first-aid kits or disaster kits (e.g. earthquake survival kits) are part of the plans. Management and accountability systems, as safeguards to ensure that policies and plans are carried out and in place are also considered, and so are the response preparedness for the sector and the school community psycho-social recovery plan, considerations, and consequences for using the school as a refuge and recovery coordination center.



- 4. Curricula:** refers to education as a platform for a culture of safety. It includes teaching disaster-risk reduction as part of the regular school curricula, educational material development, and active and future teachers training. Disaster risk reduction (DRR) inclusion into the curriculum and educational material development encompass the inclusion of disaster prevention and preparedness through formal, as well as non-formal, co-curricular and informal means in order to target the most vulnerable (children living or working in the street, child headed households or children who are enrolled in schools but who rarely show up.) Mainstreaming DRR principles and practice throughout the educational system should include secondary and tertiary education as well. Awareness campaigns - from and for the school- that contribute to increase risk's awareness to the school population and the local community, and risk management policies and regulations for the education sector in the national context should also be included in this dimension.

A specific methodology to collect and analyze the information will need to be developed for further and more in depth studies at the country level. This should be, based on these four main dimensions and it will need to be adapted to the specific conditions of each country.

As it was mentioned before, using the above description of the dimensions of the study, a desk review of the information available in reports, questionnaires, interviews, web pages, direct observations, existing records, and electronic devices, among others, is made. This information is collected from different sources, including government programs, projects supported by national and international organizations, regional agencies, and individuals working in the issues. Some of the sources of information consulted include:

- Existing documentation and reports on school safety and DRR education (UNICEF, WB country reports, HFA national reports, good practices etc.)
- Key government stakeholders in countries where best practice is found and relevant key stakeholders in other organizations
- UNICEF scoping study in CEECIS and TACRO
- UNESCO activities at global level and in some specific countries; UNESCO-led group on school construction
- COGSS-DPE Coalition for Global School Safety-Disaster Prevention Education
- The Global Risk Information Program (GRIP) a multi-stakeholder initiative that directly aligns with the Hyogo Framework for Action (HFA)'s Priority Area 2: risk identification, assessment, and monitoring.
- The School Disaster Risk Reduction Global Activities Google Map for data collation & viewing created by COGSS DPE. This is a resource in progress for mapping of all DRR data for schools including; DRR construction and DR education initiatives, conference action plans, workshop outcomes, policy documents, relevant building codes, design standards, DR training activities, pledges, NGO /UN/Government Agency activities and networks, among other initiatives.

## Case Studies

The countries selection for the study was based on school safety activities known or developed by the organization members of the UN TPKE and the consultant own experience in Latin America to ensure the availability of information throughout their own network of contacts in the countries. The initial countries selected are: Angola, Brazil, China, Guatemala, Indonesia, Madagascar, Mozambique, Pakistan, Peru, and Tajikistan (see each country study in the next section.) This study does not pretend to have a global coverage, just a sample of initiatives or success stories to produce a pilot study for further reference. Each country study includes information available on the four dimensions above described (hazards and risk knowledge, structural and non structural safety, systems, procedures and skills, and curriculum), and an analysis of the outcome with constrains and needs found in the information provided.

As a reference, others countries with relevant school safety initiatives were also reviewed. For example, Iran, Japan and India have being doing a great deal of work on this topic and. Myanmar UNESCO, through its Myanmar Education Recovery Program (MERP) has key achievements in school disaster management and disaster prevention education. Currently, UN agencies and the government are drafting Myanmar Action Plan for Disaster-Risk Reduction (MAPDRR) and mainstreaming DRR in Education. In collaboration with the Asian Disaster Preparedness Center (ADPC), the Association of South Asian Nations (ASEAN), the Myanmar Ministry of Education and other UN agencies, the “Guidance on Mainstreaming DRR in Education Sector (Rural Setting)” was developed.

## Angola

### 1. Hazards and risk knowledge (assessment)

A form to collect a sample of a rapid assessment of individual schools has been developed by UNICEF<sup>6</sup>. This form is for personnel in the field assessing the situation in each school. It is a guide to help find the information needed to inform the programming of Education in Emergency. The rapid assessment requires basic information although sometime it is not likely to be possible to collect large details or any information at all. However, it requires noting the information clearly and noting any relevant reasons for a possible lack of correct or complete information. Ideally, data on this form will be collected from the responsible teacher or principal and direct observation and inspection in school. It also includes pages for when there is an opportunity to consult with teachers, parents, members of the Defense Civil Service, local officials from the education and children sector, or for direct observations in the classroom.

### 2. Structural and non structural safety (safe construction retrofit initiatives)

The Ministry of Education together with UNICEF is developing a framework for Child Friendly Schools (CFS) in Angola that will be characterized by the gradual introduction of “friendliness enhancing” activities in schools nationwide. This will be accomplished by fostering teaching-learning processes, infrastructure, health conditions, the capacity of school directors, and the participation of communities, the creation of safe and protective environments. In other words, the CFS movement is an effort to ensure that the factors that will make schools effective in promoting well-being and learning are present in all schools. As part of the initiatives that have been thought for child friendly enhancing are training of teachers and principals, and the assistance in developing “School Improvement Plans”, which will outline specific measures to deal with the improvement of school infrastructure and supplies and monitoring of quality. Ideally, as a minimum requirement of the Plan, schools will include a specific component to create playgrounds and attractive school compounds where children can interact safely.

One of the dimensions of CFS in Angola is safety (physical and structural). In the area of structural safety, UNICEF is working with Ministry of Education and Ministry of Statistics and Planning in Education (GEPE), in the development of construction standards. Planning for this process is underway and it is expected to be completed in 2011. Although a generic school model exists it is not referenced in most school construction projects. On the one hand, it is preferable that this not be applied rigidly, as the model is overly generic, out-of-date and doesn't account for regional differences, including in geography and climate. On the other hand, with a process of decentralization underway, planning and oversight of school construction increasingly falls at the local level, so the lack of guidance and standards raise concerns for safety, among other issues. The development of a comprehensive set of school construction standards will address key issues and guidelines for safety in construction design and materials. This will be used as guidance on making the school environment safe (protecting school grounds, ensuring safe water supply, etc.) and will fit within a larger framework that addresses child-friendly school design and construction.

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<sup>6</sup> Amostra da Avaliação Rápida da Educação—Escolas Individuais, UNICEF Angola.

### **3. Systems, procedures and skills (emergency preparedness plans implementation & policies)**

UNICEF developed its National Contingency Plan for the Education Sector with a general objective to ensure minimum disruption of educational services for all students and teachers in areas affected by disasters by promoting access to quality primary education to all children with particular emphasis on girls. The specific objectives are:

- Ensure that a coordinated quick assessment of educational facilities and affected children is performed;
- Ensure that the educational and development needs of all children affected by the emergency are met - with special emphasis on the girl - through a coordinated response;
- Ensure that the attendance of children and teachers during the emergency can be monitored through appropriate mechanisms;
- To ensure the resumption of educational activities and reintegration of teachers as soon as possible;
- Internally, with regard to workers and humanitarian staff, to ensure that humanitarian activities are carried out and promoted in order to protect vulnerable children from abuse and sexual exploitation;

#### Planning Assumptions:

- Schools and materials are damaged or inaccessible due to disasters;
- The educational activities will be interrupted due to disruption to school life and community;
- The government will assume the leadership role in conducting rapid assessments to schools and affected areas with displaced communities in collaboration with the group;
- There must be created for temporary facilities for learning communities / as annexes to existing schools to accommodate the increased number of students or replace damaged structures;
- There may be a shortage of teachers (trained) in affected areas;
- The location and number of students and teachers can change after an emergency (due to displacement and resettlement, for example);
- There is coordination of groups;
- The emergency supplies are pre-positioned at strategic locations;
- The logistic support required to transport and distribute tents, schools, and educational materials and recreation is already planned.

#### Needs:

1. A rapid assessment tool for schools in areas affected by disasters. The matrix should include the level of destruction of classrooms and equipment, safety of school space, accessibility level, number of teachers and students affected, the capacity of local education authorities to respond, and lost or damaged books and other educational materials.
2. The map of the Education Group is updated to assign the specific responsibilities of the member organizations based on capacity and geographic coverage to support the district authorities of education in response to the training needs identified.

3. The partners of the group coordinate with the district education authorities that the creation of temporary learning spaces for children of displaced communities are created or attached to existing schools to accommodate the increased number of students; systems of community mobilization and outreach activities are conducted on the importance of sending children back to school and temporary teachers or professionals are mobilized and supported to organize educational activities.
4. Provision of financial, material, and human resources for immediate response to ensure minimum disruption of classes.
5. The plan also includes a profile of disasters for 2010, a mapping of capacities in the Education Group that includes the Ministry of Education, Civil Protection, National Institute for Research and Education Development (INIDE), UNICEF, Save the Children, Angola Red Cross (CVA), and others, and the activities before, during and after an emergency.

#### **4. Curricula (education as platform for culture of safety)**

The HFA report (2007-2009)<sup>7</sup> on this particular issue, curricula, gives to the country a level of progress achieved: 3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial, and include the following description:

“The country is just taking actions to materialize the introduction into the school curricula of materials related to disaster management. Workshops aimed at training of trainers for teachers in basic education were prepared in collaboration with the Ministry of Education and UNICEF. The process took place in a 12-month period after which it was settle the pilot system at the national level.”

Training material has been developed “Teacher Manual on Disaster Prevention”<sup>8</sup> by the Ministry of Education, Ministry of Interior, Civil Protection, National Institute for Research and Education Development (INIDE), and UNICEF. This manual is aimed at primary school teachers in order to train them in matters of civil protection, strengthen the ability to know how to explain and understand the disaster, to raise awareness in the school community on prevention issues pertaining to civil protection and to create a spirit of solidarity in a disaster situation.

The manual contains concepts, causes, consequences, prevention of disasters occurring in Angola, the aspects related to epidemics of water, first aid and guidance on how to act in emergency situations and support texts. It was adapted from international guidelines and suggestions for inclusion of topics and content that reflects and respects the national reality. It includes suggestions for activities to be undertaken with the students, where they can learn through play, and guidelines on how the teacher can apply the content in the classroom.

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<sup>7</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. Reporting period: 2007-2009

<sup>8</sup> Manual do Professor – Prevenção aos Desastres, Ministério do Interior – Serviço Nacional de Protecção Civil (SNPC). Ministério da Educação – Instituto Nacional de Desenvolvimento da Educação (INIDE). Programa das Nações Unidas para Infancia - UNICEF/Angola. Agosto de 2008

The content will be integrated into various curriculum subjects such as Portuguese, geography, environmental studies, natural sciences, moral and civic education, among others, and that integration is suggested in diagrams contained in the Manual. It was intended to implement the content from the 2009 academic year, nine pilot schools in the provinces of Luanda, Benguela and Kunene, and later to become general. Some piloting has been tried out in 3 schools and the training of teachers is planned to start in May 2010 in 32 schools.

## **5. Analysis of the outcome (constrains, needs)**

The form developed to collect a sample of a rapid assessment of individual schools does not include a hazards and risk knowledge assessment in details. The information to be collected with this form is too general and includes many other aspects of the school functionality no relevant to the assessment of risk, vulnerability, hazards, and capabilities. The schools' physical information in terms of location, infrastructure, and furnishing, and the schools' administrative information, population, levels of operations, and shifts is included in general terms. The natural hazards posing threats to schools are not identified, nor the sites assessment before the schools are built or the vulnerability assessment of existing school buildings with respect to local hazards. It does not ask if regular reassessment of risks is performed.

The Child Friendly Schools framework is a good opportunity to introduce specifics safe construction and retrofit initiatives in the school infrastructure including the design of school buildings to meet building code standards, the use of building codes that provide guidance on hazard resilient design, and the determination of performance objectives (maximum level of damage or disruption that can be tolerated in the presence of a hazard of a certain magnitude and frequency.) It should include the supervision of school constructions (or retrofiting) by qualified engineers, construction of schools (or retrofiting) to meet performance objectives, and the design and installation of school furnishings and equipment to minimize potential harm they might cause to school occupants. The management of the schools' maintenance program and implementation of mechanisms to ensure that schools' maintenance are being financed and executed are not mentioned in the framework.

The National Contingency Plan for the Education Sector is a good start in improving the emergency preparedness plans and policies. The response preparedness for the sector and the school community psycho-social recovery plan is not mentioned, nor are considerations, and consequences for using the school as a refuge and recovery coordination center.

The Ministry of Education underwent a reform of the educational system throughout the country; this action enabled the inclusion of matters relating to disaster management in school curricula. Also an awareness campaigns - from and for the school- that contribute to increase risk's awareness to the school population and the local community need to be developed.

## Brazil

### 1. Hazards and risk knowledge (assessment)

The HFA 2009-2011 interim report<sup>9</sup> include the following comment:

“Regulations have been proposed to establish regulations in the Statute of the City with the goal of assessing the school buildings that do not comply with its social housing or temporary shelters for disaster victims.”

### 2. Systems, procedures and skills (emergency preparedness plans implementation & policies)

The HFA 2009-2011 interim report include the following comment:

“Implementation of educational and preventive activities with participation of the National Civil Defense to interact with schools and raise awareness and sensitize the population on the risks they are exposed and how to proceed in an emergency.

Encourage the training of junior schools and communities to implement civil defense activities geared to children, adolescents, and youth, and to encourage projects of scientific and technological nature of civil defense in institutions of higher education.”

### 3. Curricula (education as platform for culture of safety)

The HFA report 2009 – 2011 interim gives a level of progress achieved 5 - Comprehensive achievement with sustained commitment and capacities at all levels, and says that DRR is not completed included in the national educational curriculum with the following means of verification:

- \* No: Primary school curriculum
- \* No: Secondary school curriculum
- \* No: University curriculum
- \* No: Professional DRR education programs

It gives the following description:

“There is the intention to implement a culture of prevention and awareness of risks, including the core curriculum according to current educational legislation, including the subject of "civilian defense" as a multidisciplinary and transversal axis with emphasis on prevention, enabling all staff involved in teaching and learning.”

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<sup>9</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. National progress report (2009-2011) – interim

#### **4. Analysis of the outcome (constrains, needs)**

The HFA 2009-2011 interim report include the following comment on context & constraints:

“It is considered that promotion of a cultural change related to participatory citizenship, with the overall security of the population and the reduction of disasters, depends on the active collaboration of systems of formal and informal existing in Brazil. It is also considered important that the school systems participate in projects that have compelling reflections on the quality of life and the growth of life expectancy of the population.

Thus it is important that the content related to the overall security of the population, disaster reduction, and especially with the reduction of vulnerability scenarios and populations at risk are included in the curricula of the first and second grades and in activities of informal education.”

No response was received from the country contacts provided by the UN Thematic Platform on Knowledge and Education (TPKE). Also, no information was available on structural and non structural safety (safe construction retrofit initiatives). Beside the information included in the HFA on curriculum, emergency preparedness plans and risk assessment it is difficult to evaluate this dimensions more in details due the lack of available information.



## China

### **1. Hazards and risk knowledge (assessment)**

Identification of natural hazards posing threats to schools is in process at the national level. The Ministry of Education (MOE) is implementing a monitoring and warning system to alert local education commissions and education bureaus about possible natural disasters and other safety risks and provide advice about emergency preparedness and response, as well as disaster reduction in middle schools, primary schools, and kindergartens. In 2009, a nation-wide school safety assessment implemented by MOE was technically and financially supported by UNICEF China office.

Locally, the Education Department of the Sichuan Province (EDSP) is working in the identification of natural hazards posing threats to schools; they are planning to assess whether schools are located in earthquake zones, and whether they will be threaten by landslides, mudslide, flood, and other natural disasters.

Regular reassessment of risks is planned; MOE and UNICEF are collaborating to develop school safety management manual including checklists in 2011-2012 for each school to regular reassessment of risks. In Sichuan annual risks assessment are planned to be conducted during the flood-season under guidance of local government, and in collaboration with concerned sectors, particularly on landslide, mudslide, flood, etc.

The MOE is collaborating with UNICEF to develop tools, over the next year or two, for education administrators to make prompt decision about priorities in fast-track emergency assessment and in emergency response.

As part of the “Build Back Better” project after the Sichuan 2008 Earthquake in collaboration between the MOE and UNICEF, a study will be conducted to assess the status of emergency preparedness and response in the kindergartens and preschools in the earthquake affected areas. The findings of the study will inform policy improvement to strengthen disaster reduction efforts in early education settings.

### **2. Structural and non structural safety (safe construction retrofit initiatives)**

Design of school buildings to meet building code standards is planed; MOE and UNICEF are collaborating to develop construction standards for kindergartens and preschools over the next year or two. Also is in process; MOE, Ministry of Construction, and National Development and Reform Commission (NDRC) jointly released the Design Instructions for School Planning and Construction after the Sichuan Earthquake. MOE and UNICEF collaborated and prepared the draft of National Guidelines for Safe School Construction and Management, and the draft is currently under revision. In Sichuan the investigation, design, construction, supervision, inspection and acceptance of school construction are conducted in line with relevant national construction standards.

The use of building code that provide guidance on hazard resilient design is in process; the Design Instructions for School Planning and Construction after the Sichuan Earthquake (2008) was implemented during the school reconstruction. The local education commission started piloting use of the draft of the National Guidelines for Safe School Construction and Management to guide school construction. The sectors in charge of project quality monitoring, earthquake prevention, and fire control are responsible for safety assessment, the document are approve via signature and seal.

As specified in the Design Instructions for School Planning and Construction after the Sichuan Earthquake (2008) the sites are assess before the schools are built in accordance with national regulation, performance objectives (maximum level of damage or disruption that can be tolerated for a hazard of a certain magnitude and frequency) are determinate by the country level government, schools are built or retrofit to meet performance objectives, and schools furnishings and equipment are design and install to minimize potential harm they might cause to school occupants. The quality monitoring bureau leads monitoring on safety of equipment installation.

Regarding the vulnerability assessment of existing school buildings with respect to local hazards, in 2009 a nation-wide assessment of all the school construction was organized and executed by MOE, with financial and technical support by UNICEF China office. One dimension of the assessment was on the vulnerability of existing school buildings. The earthquake sector leads the assessment on school location if it is in an earthquake zone, land and resource sector leads the assessment on landslide, mudslide, etc., and water conservancy sector leads the assessment on possible flood threats to schools.

Supervision of school constructions (or retrofiting) by qualified engineers is in process. Since 2009, MOE launched a national programme naming “School Construction Safety programme”, aiming to build new school constructions or retrofiting the existing school buildings. During the programme implementation, a supervision team comprised of qualified engineers and other technicians were assigned to supervise the construction progress and quality.

The MOE will be collaborating with UNICEF to disseminate the National Guidelines for Safe School Construction and Management and conduct capacity building for provincial education administrators and school principals on the national guidelines in 2011.

In Sichuan the schools have maintenance plan, and are implemented according to the plan. From year 2000 to 2005 the first and second session of school renovation and maintenance was conducted; from 2006 to the present, long-term mechanism of school building maintenance are conducted (in 2009 the school safety project for primary and secondary schools started).

### **3. Systems, procedures and skills (emergency preparedness plans implementation & policies)**

Emergency preparedness plans were developed in most schools in the Sichuan Earthquake affected counties. Information to students, teachers, staff, and school administrators to know what to do before, during and after a hazard event is being iimplemented in most schools and regularly implemented (3 times/year) in about half of the schools in the Sichuan Earthquake

affected counties. School education on disaster response and knowledge about safety has been organized for students and teachers. Schools will receive early-warning notification to be disseminated by safety monitoring staff of townships/villages/communities. Regular school drills to practice and improve skills and plans are implemented at least once a year in most schools in the Sichuan Earthquake affected counties. Those activities were updated in December 2010. In Ganzi Prefecture, Sichuan Province, each school will do monthly drill.

The MOE jointly issued the national “Safety Management Regulations for Middle School, Primary School, and Kindergartens” with nine other ministries/authorities in 2006. MOE released the “Instructions for Safety Education for Primary and Middle School Students” through the State Council in 2007. Also MOE will be working with UNICEF to disseminate multi-media safety resources to children and teachers, and conduct safety training for teachers in disaster affected areas.

The Safety Education and Management in Primary and Secondary School Sub-commission of the Chinese Society of Education was set up to promote safety education and management in the primary and secondary schools across China, including through (1) journal “Safety Campus” which is oriented toward principals and teachers; and (2) regular national meetings for experience exchange in safety education and management. In all villages/communities in Sichuan which are possibly threaten by natural disasters, there are disaster monitoring staff responsible for risks monitoring, early-warning and pre-alarming.

Risk’s awareness to the school population and the local community are in process. EDSP Have conducted safety education activities for students and teachers.

#### **4. Curricula (education as platform for culture of safety)**

Disaster risk reduction curriculum is broadcasted nation-wide through China Central Television. National Middle and Primary School Students Safety Education Day: last Monday of March, since 1996, with a theme each year such as “Emergency Preparedness and Disaster Reduction” in 2009 and “Strengthening Drills to Ensure Safety”.

In 2009, the MOE collaborated with UNICEF and The Safety Education and Management in Primary and Secondary School Sub-commission of the Chinese Society of Education and conducted national long distance training on safety education and management in primary and secondary schools in the western China. The training modules included: (1) safety strategies and management, (2) emergency preparedness and response, and (3) safety education and skills. The training covered more than 20,000 principals and teachers. In 2010, the Ministry of Education conducted long distance training on safety management for the primary and secondary principals, focusing on campus emergency preparedness and response.

Since the autumn semester of year 2009, a local curricular named “Living, Life and Safety” has been implemented in all compulsory education schools across the Sichuan Province. In addition, the EDSP has shared an official notice requiring all primary and secondary schools to implement the local curriculum (from grade one to grade nine) concerning basic life skills and safety education, enclosed with the implementation plan.

## **5. Analysis of the outcome (constrains, needs)**

After the Sichuan Earthquake three years ago the Chinese education sector has gained a strong experience in disaster prevention, risk reduction, and post-earthquake reconstruction focusing in a six components program that encompasses the four dimensions of this baseline study methodology, the six components are:

- I. Education sector prioritized in the disaster prevention, reduction and post-earthquake reconstruction program
- II. New standards on school construction
- III. Complete success achieved in school reconstruction in quake-affected areas
- IV. National Primary and Secondary School Safe School Building Program
- V. Further enhanced education on disaster prevention and relief, and
- VI. Capacity building in disaster prevention and reduction

The assessment details, challenges, and how the Department of Planning and Development of the Ministry of Education of China overcame those challenges for assessing their 390.000 schools within two years and details about the methodology, protocol, and process to achieve that goal should be requested for further reference.

There is not national report on the implementation of the Hyogo Framework for Action (HFA) about the Priority 3 core indicator 3.2 with information on the school curriculum, education material and relevant trainings that include disaster risk reduction and recovery concepts and practices.

## Guatemala

### 1. Hazards and risk knowledge (assessment)

A School Buildings Safety Indicator, forms and guidelines for assessment – preliminary version<sup>10</sup> was created with public and private, individual and institutional stakeholders' participation. This practical instrument was built based on the work of the Risk Reduction Committee of the National Roundtable for Dialogue to Disaster Risk Reduction with the main objective of having the school buildings more safe, more resilient, and better prepared in case of adverse events. The specific objectives of the guideline are:

- To guide evaluators in applying a safe school checklist to predetermine probability of school proper performance continuity in accordance to its safety level in an objective and standardized manner.
- To guide actions and make recommendations based on obtained data on needed measures to increase school safety.
- To establish standard evaluation criteria and what elements should be evaluated in different contexts.
- To facilitate record, classification, and systematization of information on individual school capability and as part of the education network.
- To support creation, development, and grow of experts interdisciplinary groups committed to risk reduction and assistance in case of disaster.

The indicator includes two forms: No. 1 to collect the school building general information (address, telephone number, area, focal point, sketch, among others) and the information on the institutions in it (principal name, shifts, number of students and teachers, numbers of rooms, education level, among others).

No. 2 to evaluate aspects related to geographic location (hazards identification and the school susceptibility to them), structural security (construction system evaluation), non structural (furniture and equipment, electrical and hydraulic installations, drainages, finishes, among others), and safety based on the operational capability (overcrowding, disable-people accessibility, infrastructure maintenance, response plans, among others).

It also includes a final report draft to detail the result of every evaluated aspect, which is the base for decision making. The proceeding and recommendations for the school evaluation are also included.

### 2. Structural and non structural safety (safe construction retrofit initiatives)

The Ministry of Education led the revision of the normative criteria for architectural design of the official school buildings and has a maintenance guideline for school buildings.

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<sup>10</sup> Índice de Seguridad de Centros Educativos - Formularios y guía para la evaluación del índice de seguridad de centros educativos - Versión preliminar - Guatemala, 2010

A School Retrofitting Program Logic Framework<sup>11</sup> was prepared with OAS support to assess the mechanisms needed to support the national institutions responsible of the school infrastructure in reducing school risk to disasters. The program proposed will help to institutionalize disaster risk reduction management in school infrastructure integral management that includes planning, management, execution, control, and evaluation. In a previous phase the public and private institutions and the cooperation agencies working in school infrastructure and DRR were identified, among them the following are included:

- Ministry of Education’s General Direction on Education Planning –DIGEPE-.
- National Coordination for Disaster Reduction –CONRED-.
- Ministry of Communication, Infrastructure, and Housing –MICIVI-.
- National Fund for Peace –FONAPAZ-.
- University San Carlos de Guatemala –USAC-
- Central America Natural Disasters Prevention Center – CEPREDENAC-.
- Cements Progreso Foundation
- Carlos Novela Foundation
- INTERVIDA Guatemala Foundation
- Partners of the Americas
- Social Investment Fund –FIS-
- Sugar Fund –FUNDAZUCAR-.

Also, information on vulnerability of preschool, primary, and secondary, schools to natural hazards was collected. The information refers to executed, in process, or planned actions to adapt school to resist natural events like hurricanes, floods, earthquakes, landslides, volcanic eruptions, and others. With this information the planning process to produce a School Retrofitting Program in Guatemala was initiated applying the logic framework methodology with the aforementioned stakeholders’ participation.

To implement the program’s actions, five strategic axes were established with specific objectives:

- Political impact: to impact the regulatory process in state policies on disaster risk reduction
- Dissemination, information, and training: to strengthen dissemination, information, and training process on disaster risk reduction
- Regulation and norms: to lobby the approval of a school infrastructure norm with disaster risk reduction criteria
- Institutional strengthening: to strengthen the Ministry of Education as the management institution of the school infrastructure
- Institutional coordination: to consolidate inter-institutional coordination in the school infrastructure process

The program benefic all country’s regions and institutions identified. It includes results, activities, indicators, timeframe, and budget.

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<sup>11</sup> OAS School Retrofitting Program Logic Framework for Guatemala

### **3. Systems, procedures and skills (emergency preparedness plans implementation & policies)**

The DIPECHO project “Strengthening Alliances to Ensure the Right to Education in Emergency Situations for Vulnerable Communities in Central America”<sup>12</sup> in its goal to increase the coordination between the Ministries of Education, national DRR systems, regional institutions and NGOs working on DRR, developed a series of activities in Guatemala.

The Ministry of Education signed the Central America Strategy Framework for Disaster Risk Reduction in the Education Sector as a result of a DIPECHO project executed by UNICEF.

The capabilities of the Ministry of Education are being improved through support and collaboration with DIPECHO partners’ initiatives. National workshops on education in emergency have been conducted. They included topics like: “Escuela Protegida/Protected School,” “Safe Schools in a Safe Territory,” Using Schools as a Shelter, Emergency Simulation Activities, Continuing Education in Emergency Situations, and Education Emergency Response Activities, among others. The following specific workshops were held:

- National workshop to train trainers on risk reduction school committees’ organization
- Workshop to socialize, promote methodological ownership, and train trainers in the strategy for psycho-emotional and social support: “El Retorno a la Alegría/Back to Happiness”

A national consultative/divulgence meeting was organized by DIPECHO partners and DGECHO with participation of different stakeholders, including: SE-CONRED, Ministries and institutions members of CONRED (including the Ministry of Education), ECHO General Directorate, Action against Hunger, Italian International Cooperation (COOPI), Netherland Red Cross, Oxfam GB, Trocaire Fund, UNICEF, PAHO, International Red Cross Federation, and CRID/ISDR.

The Ministry of Education and its DRR network provide active support and technical assistance to schools where DIPECHO partner initiatives are in place to increase their resilience and sustainable culture of awareness. Various levels of the Ministry of Education and its DRR network are being mobilized to support DIPECHO partners and the national education sector DRR partners in the design, review or update of local preparedness and response plans in selected schools. Disaster Preparedness and Awareness Raising Workshops are being conducted with school community leaders, teachers, students, and parents in selected schools.

UNICEF supported the Ministry of Education in teachers training, DRR school committees’ organization, educational material elaboration, and emergencies drill executions, among others activities. Some of the educational material includes:

- Translation of Riskland to four Maya languages: mam, q’echi, k’iche, kaqchikel
- Adaptation of giant Riskland to the country context
- Adaptation of a giant Riskland to spatial specific characteristics to be installed in the Children Museum

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<sup>12</sup> DIPECHO project: “Strengthening Alliances to Ensure the Right to Education in Emergency Situations for Vulnerable Communities in Central America” executed by UNICEF-TACRO, and its evaluation report.

- Several workshops on the following topics were held:
- School committee organization and emergencies and disasters response plan design
- Risk management: “Methodological transport, planning, execution, monitor and project evaluation”
- Disaster, hazards risk reduction management in Guatemala/Development projects’ design focusing in risk management
- Volunteers’ training on psycho-affective recovery of boys, girls, and youths in case of disaster
- Leadership and disaster risk management

The Ministry of Education, DIPECHO partners, and DRR stakeholders are collaboratively developing didactic and technical materials developed and/or approved by the Ministry of Education, reviewing, modifying, printing, and distributing them in schools where DIPECHO partners’ projects are in place. There is an unofficial guide to organized DRR school committees.

#### **4. Curricula (education as platform for culture of safety)**

The HFA report 2009 – 2011 interim<sup>13</sup> gives a level of progress achieved 3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial, such as financial resources and/ or operational capacities, and says that DRR is included in the national educational curriculum with the following means of verification:

- \* Yes: Primary school curriculum
- \* No: Secondary school curriculum
- \* No: University curriculum
- \* Yes: Professional DRR education programs

It gives the following description:

“The National Base Curriculum of the Ministry of Education includes DRR, even though the concept is not already explicit in the text books for primary and secondary education levels. Also, the Executive Secretariat of the National Coordination for Disaster Reduction (SE-CONRED) reinforces students, teachers, and education supervisors’ knowledge on DRR throughout workshops, open trainings, and guide visit programs. This activity is oriented to public and private institutions.

The Ministry of Education is restructuring its Risk Management Unit with the objective of including DRR in the education process and in the sector infrastructure.

At the higher education level, particularly at the State University, masters and postgraduate studies on DRR are being offered at the Engineer, Architecture, and Medicine Schools.

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<sup>13</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. Reporting period: 2009-2011 – interim



The National Public Administration Institute offers training and graduate courses to professionals working in different sector of the public administration, which objective is to introduce them to the issue.”

In the context of the National Roundtable on DRR, a process of curriculum incidence was initiated to raise awareness and train who participate in the teaching-learning process at all levels; as well as the teaching and alternative trainings. This is promoted by the Management of Knowledge Subcommittee.

There is an inter-institutional effort to rescue, value, and promote ancestral knowledge from the point of view of DRR and it is in the process to be institutionalized a Follow-up Committee which function is systematize those knowledge in order to have alternative information systems and early warning in the more vulnerable communities.

The following are some of educational material developed:

- The “Education methodological guide for risk reduction”<sup>14</sup> serves to support fourth, fifth, and sixth degree school teachers in two Guatemalan regions to develop teaching processes in risk management. It presents different types of hazards and vulnerabilities; preparedness measures to reduce family, school, and community vulnerability; and how to create the disaster response family plan. It also presents an activity to create a rain monitor system in the metropolitan area of Guatemala.
- The “Organization of the School Committee of Risk Reduction Management”<sup>15</sup> guide establishes the normative framework that supports the risk management issue, the importance of school organization throughout the emergency committee with a structure and its functions. The structure incorporates the prevention and mitigation commission, links, evacuation, basic first aids; security; and emotional support.
- The “Management of disasters of natural or provoked origin”<sup>16</sup> folios constitute a audiovisual help for teachers to teach types of events and what to do before, during, and after an emergency. The “Didactic guide to use the management of disasters of natural or provoked origin folios” offer twelve themes that may be tied to the following axis of the present national curriculum: security, values, citizenship life, family life, gender, multicultural and intercultural, in the learning areas of Natural and Social Environment, Natural Science, Social Science, Productivity and Development, and Citizenship Formation.
- The “Lottery!: Let’s play to prevent disasters”<sup>17</sup> game is oriented to children between 6 and 10 years old. It has a series of riddles and graphics pieces which they may easily identify hazards and disaster risks in their community and the prevention elements, as well as the alert signs, and the adequate emergency management.

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<sup>14</sup> Guía metodológica de educación para la reducción del riesgo - Oxfam Internacional; Fundación Esperanza y Fraternidad (ESFRA); Instituto para la Superación de la Miseria Urbana (ISMUGUA)

<sup>15</sup> Organización del Comité Escolar de Gestión para la Reducción del Riesgo - Guatemala. Coordinadora Nacional para la Atención en Desastres (CONRED); Guatemala. Ministerio de Educación

<sup>16</sup> Rotafolio: Manejo de desastres de origen natural o provocado - Guatemala. Coordinadora Nacional para la Reducción de Desastres (CONRED). Secretaría Ejecutiva - mayo 2004

<sup>17</sup> ¡Lotería!: Juguemos a prevenir desastres - Guatemala. Coordinadora Nacional para la Reducción de Desastres (CONRED)

- The “Contingency plan of school protection”<sup>18</sup> defines physical and social vulnerabilities facing hazards and disasters; the present normative framework; the school safety organization, the inter-institutional relationship; and how to do the emergency plan from the education community responsibility, risk identification, school committees’ conformation, and evacuation procedures, among others.
- The “Safety aspects in case of earthquake: Students activities”<sup>19</sup> is a reference material for teachers and students on the seismic issue. It teaches concepts throughout the themes with its activities and support resources for its development in class.

## 5. Analysis of the outcome (constrains, needs)

The HFA 2009-2011 interim report include the following comment on context & constraints:

“Even though DRR is included in the education plans, the educational guidance’s focus on hazards without considering neither vulnerability nor the proper management of natural resources to reduce disaster risk. The challenge is to correctly materialize the issue in comprehensive way at all public and private educational levels.

The Ministry of Education should assume more responsibility to train teachers in DRR in order to get a better understanding on the issue and to correctly transfer it in the teaching-learning process.

The activities of the Knowledge Subcommittee are important because they could promote that the Ministry of Education start training teachers on DRR. Also, it involves public and superior education stakeholders, even though the invitation should be broader.

Finally, one of the bigger challenges is the institutionalization of the harmonizing process of the people’s ancestral knowledge and wisdom in DRR, considering the multi-ethnicity and plural-culturally of the country.”

The following are the preliminary conclusion of the evaluation DIPECHO project “Strengthening Alliances to Ensure the Right to Education in Emergency Situations for Vulnerable Communities in Central America” executed by UNICEF-TACRO in Guatemala:

- The Ministry of Education is in the process of unifying its work in incorporating DRR in the education. So far it has been disperse in several Departments and no always with the best possible coordination. The recently created post of Risk Management Coordinator at the Planning Department (DIPLAN) has made easier the coordination with other involve institutions. However, in spite of it is an issue that the Ministry of Education has been working for many years, by reasons difficult to understand but that are supposed to be caused mainly by Government changes, a notable lost of institutional historical memory have being taking place. This institutional historical memory is being recovery with the support of other stakeholders, but at a great cost of opportunities.

<sup>18</sup> Plan de contingencia de protección escolar - Guatemala. Ministerio de Educación. Unidad de Planificación Educativa; UNICEF

<sup>19</sup> Aspectos de seguridad en caso de terremoto: Actividades para los alumnos - Guatemala. Comité Nacional de Emergencia (CONE), mayo 1993

- DRR is included in the National Basic Curriculum under one of its axis and is transversal in others. DRR education is in the official education materials, more focused in educational activities. The materials provide curriculum guidelines and are flexible for teachers to adapt activities to their context. This basis is without doubt a positive element, but it is a “young” curriculum and still is rarely implemented. The materials are not yet massive disseminated. Some supporting tools (like the guide to organized DRR school committees developed by the Ministry of Education and UNICEF) are not official, and teachers’ training in those issues is insufficient.
- The Ministry of Education is part of the National Roundtable for Dialogue on DRR, which meet monthly, and attend several committees (DRR, Knowledge Management, which is coordinated by the Ministry). This is a useful sector agency but only works at the central level and encompasses all DRR aspects. However, its only existence is positive and is making easy the different stakeholders interaction, and strengthening the Ministry of Education position.
- UNICEF support is well valued by the Ministry of Education in spite of the people involved in the issue are new. UNICEF has been working in this issues for more than ten years but because of the lost of institutional memory its real effect is limited to the executed in the last three years, in which the DIPECHO regional projects have contributed to reinforce and complete what UNICEF was doing with the Ministry of Education (teachers training, creation and training of schools committees in DRR, production of educational materials, emergency drill executions, among others).
- Coordination between the Ministry of Education and the SE-CONRED is fluid. There is a good institutional relationship and they jointly work in several items, like the school buildings safety indicator (lead by SE-CONRED), the revision of the normative criteria for architectural design of the official school buildings (lead by The Ministry of Education), or the cooperation to execute training workshops. Though this good coordination appears to be more based on the interpersonal relationship than in the official and sustainable institutional position, beyond what is instituted in both institutions’ laws. The possibility of having soon a National Policy on Integral Risk Management is a hopeful element to consolidate coordination among both governmental institutions.
- Uniform technical and methodological criteria and dissemination of validated tools are elements in need of strengthening. NGOs, and in particular DIPECHO VI partners coordinate with the Ministry of Education, but the insufficient ministerial capability to provide suitable guidelines and orientations, due the already explained reasons, that is worst at the departmental level, force to work with diverse materials and methods. Most of the times, the coordination is limited, more or less, to get the Ministry of Education authorization to work in the school.

## Indonesia

### 1. Hazards and risk knowledge (assessment)

A recent National School Safety Conference report<sup>20</sup> draws the following conclusion on disaster-safe location:

“This covers all related things about choosing the right location which is safe from the hazard of disaster, like open space, distance from hazard source, easy access, near to public facilities, clean water, electricity, and communication network. Not only that, safe school also requires permanent procedure to cope with disaster.

The challenge is to encounter schools with already-permanent building, nestled in prone areas. Such schools need to be encouraged to execute efforts of reducing disaster risks through knowledge transfer for teachers, students, school advisors, and parents. To ensure if a school is safe, we need risk analysis tool and track down disaster history in the location.”

Also, the following are some points on safe school risk review presented in the same conference:

- As one of the most prone to earthquake countries, Indonesia suffers casualties not because of the hazard, but because of the weak buildings.
- It is impossible to build an earthquake-proof school, only earthquake-safe school. Next step is risk review.
- Australian Indonesia Facility for Disaster Reduction (AIFDR) - Australian Government's overseas aid program (AUSAID) in partnership with Badan Nasional Penanggulangan Bencana (BNPB) –National Agency for Disaster Management is developing Risk in Box, an open source tool providing information about earthquakes. With this concept, people can insert data and information to the link, which can be accessed online and offline.
- AUSAID also support the formation of Team 9, consists of geologist to develop earthquake prone maps in Indonesia.
- The Istanbul's government success in building safe schools should be considered to get adopted in Indonesia.

The following points on structural review tool for earthquake-safe schools were also presented at the same conference:

- There are 50% school buildings in Indonesia needs rehabilitation. It is ironic to know there has not been any adequate funding to facilitate this.
- So many schools in Indonesia are prone to earthquakes for several reasons: little awareness about earthquakes, inappropriate building design, school buildings lack

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<sup>20</sup> Report of the Safe School National Conference, organized by Plan Indonesia and National Agency for Disaster Management, Indonesia Ministry of National Education (Kemendiknas RI) and UNESCO on 20th-21st December 2010

maintenance, layouts do not complement emergency responses (exit doors, evacuation lane, and open space), teachers and students are not prepared for disasters.

- National Strategy to reduce school building risks: regular evaluation towards prone condition in schools, develop priority criteria and scenario, develop national action to retrofit school buildings in Indonesia, fundraising, implementation by construction selection, supervisor consultancy, trainings for constructors, monitoring and evaluation by the government, committee, education community, and experts.
- Structural Review Tool for Earthquake-Safe Schools consists of 3 parts: appraisal by schools, appraisal by school management, and appraisal by experts. This includes structural and non-structural combination.

UNESCO Office in Jakarta reported that this year, with the request of the National Disaster Management Office, World Bank, UNESCO, Yayasan Kerlip, Plan International were asked to develop a concept paper to support the Ministry of National Education in assessing safe schools and a tool to assess safe school was developed.

## **2. Structural and non structural safety (safe construction retrofit initiatives)**

The Mainstreaming Safe Schools in Schools Rehabilitation and Management Program presented at the Safe School National Conference by the World Bank with information on financing school construction and rehabilitation included the following topics:

- Safe school is i) A school with awareness of any disaster hazard in its area; ii) school who implements safety procedure; iii) School building are designed by considering disaster risk and, iv) the community in schools hold regular drill for disaster
- The DRR steps schools can organize are: implementing risk audit, strength enhancement plan and other preparedness activities, and implementation of the strength enhancement.
- Another opportunity to build safe school through school-based management and rehabilitation is through School Operational Fund (BOS) and Special Allocated Funds (DAK - *Dana Alokasi Khusus*).

In the conference the Deputy to the Ministry of National Education, Prof. Dr. Fasli Djalal, M.Si, said that to create safe schools, the Indonesian Government has allocated Indonesian Rupiah (IDR) 1,3 billion for schools rehabilitations, especially in disaster prone areas and to fix those which had been damaged.

The Safe School National Conference draws conclusions on this issue with the following basic aspects:

- Building Structure: safe school building should meet the following criteria: strong and solid, design appropriateness meets local wisdom, school building is compatible with thread characteristics, all main structure in connected with building technical standard, quality material and is build according to excellent procedure and trained workers.
- Class design and layout setting: this aspect is related to ideal classroom management to reduce disaster risks. One of the key points are: each class should have 2 doors exiting outside, maximum capacity of 30 children each class, the distance between tables and chairs should be 0,5 meters minimum, cupboards to be placed far from the doors and

should stand next to the wall, as with any displays, it should not be made of glass, and to provide evacuation signs inside and outside class, etc.

- Facilities and service support: according to Ministry of National Education's policy No. 24/2007 about facilities and service support standard, minimum criteria to support learning processes are: 1) Schools should have education tool and media, books, and other learning source, information technology and other mandatory tools for schools; 2) Facilities minimum criteria consist of soil, buildings, classrooms, and mandatory energy installation for schools/faith-based schools. To list some standards for facilities and services in safe schools are, amongst all: signage availability, solid, strong, with round end chairs and tables, a school emergency room completed with adequate medication and equipped with tools, latrines at each floor, fire extinguisher tool in each class, safe evacuation route, adequate clean water, platoon tents, appropriate water canal for flood-threatened schools, safety equipment (life jacket, ropes, bamboo, etc.), open space, worship facilities, etc.

The Center for Disaster Mitigation, Institute of Technology Bandung (CDM – ITB) and Save the Children International in 2009 published a handbook of typical school design<sup>21</sup> and a manual on retrofitting of existing vulnerable school buildings - assessment to retrofitting<sup>22</sup>. The handbook presents general practices of safe school construction and the retrofitting of existing school buildings through typical design and drawing of schools as developed and practiced in Aceh and West Sumatra Earthquake Response programs. The programs aim to create greater awareness of safer school construction in new schools, while at the same time making sure that the existing school buildings are safe. The manual presents some solutions for mitigating earthquake hazard for new school and existing buildings, with respect to the challenges faced by each category. It describes the concept of retrofitting and explains the techniques of vulnerability assessment for novices, engineers and program persons, illustrated with case studies. It presents the common procedure for earthquake mitigation of buildings as follows: (i) one that includes the design and construction process for new buildings, complying with the current building code, and with an appropriate construction following design specifications and drawings; and (ii) one that consists in assessing the structural performance to resist design earthquake forces based on current building codes for existing buildings, with the design of retrofitting strategies to improve the building's performance if the assessment found that structures are not adequate.

A technical guideline on school safety rehabilitation in Indonesian also is being produced<sup>23</sup>. This guideline was jointly developed by Ministry of National Education, Ministry of National Planning and Development, UNESCO, World Bank, Plan International, National NGO's, and Technology Research & Development Body as a follow up to 2010 Minister letter circulation on DRR main streaming at school by using Special Allocated Budget for Education Program for the

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<sup>21</sup> Handbook of typical school design - Center for Disaster Mitigation, Institute of Technology Bandung (CDM – ITB); Save the Children International – 2009 - Darshan Shrestha, Hari; Pribadi, Krishna S.; Kusumastuti, Dyah; Limor, Edwin

<sup>22</sup> Manual on retrofitting of existing vulnerable school buildings - assessment to retrofitting - Center for Disaster Mitigation, Institute of Technology Bandung (CDM – ITB); Save the Children International - 2009 - Darshan Shrestha, Hari; Pribadi, Krishna S.; Kusumastuti, Dyah; Lim, Edwin

<sup>23</sup> PANDUAN TEKNIS REHABILITASI SEKOLAH AMAN DENGAN DANA ALOKASI KHUSUS (DAK) PENDIDIKAN TAHUN 2011

one million safety school and safety hospital campaign. The objectives of this guideline is also to provide basic directions to be followed in the process of school building rehabilitation which include: 1) safety school definition and criteria 2) prioritized location and district which have high risk on disaster 3) school hazard assessment 4) and safe construction standard.

Through a partnership of the United Nations Center for Regional development (UNCRD) and CDB-IBT, the project "Reducing Vulnerability of School Children to Earthquakes" was executed in Bandung and Yogyakarta in 2009 so that the schools in these earthquake zones are retrofitted and are earthquake resistant.

### **3. Systems, procedures and skills (emergency preparedness plans implementation & policies)**

The Hyogo Framework for Action national reports says on this issue that some government institutions have prepared some guidelines related to educational materials and disaster-related trainings, but most of the trainings are focused on emergency preparedness, emergency response or emergency management. The disaster risk reduction-related material and training are still limited.<sup>24</sup> Also that the School Preparedness Programs, Village Preparedness Programs and many other disaster simulations have been implemented throughout all over Indonesia.<sup>25</sup>

At the National School Safety Conference the Deputy to BNPB Prevention and Preparedness Agency gave presentation about National Policy Disaster Risk Reduction and the following points were highlighted:

- There should be a guideline to raise concern about the importance of developing safe schools, especially in areas prone to disasters.
- DRR is a scheme to be mainstreamed to all disaster managers in Indonesia. Safe school is another form of DRR implementation which should involve all parties.

The Disaster Education Consortium presented the topics of Disaster-Prepared Schools and Challenges in Mainstreaming Disaster Risk Reduction with the following main points:

- *Mendiknas* or the Ministry of National Education policy No. 70a/MPN/SE/2010 on Mainstreaming Disaster Risk Reduction in Schools has been distributed to all education agencies and areas heads.
- DRR implementation mainstreaming strategy in schools is being already conducted.
- Provincial and district/city officials are encouraged to support the strategy of mainstreaming, along with monitoring and evaluation in schools.
- The four (4) indicators of the Disaster Prepared Schools Program are behavior and action, school policy, preparedness plan, and resource mobilization.

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<sup>24</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. Reporting period: 2007-2009

<sup>25</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. National progress report (2009-2011) – interim

There are several experiences in building Disaster-Prepared Schools Program being carried out by NGO's:

- *FORSSIGANA (Forum Pelajar Sikka Siaga Bencana)* or Sikka's Students Forum for Disaster Preparedness
- Tsunami Alert Community (KOGAMI)

Also the conference concluded on the issue of awareness, attitude, and behavior that these aspects include school community actions both pre, during, or post disaster. To increase knowledge and prepare appropriate attitude to reduce disaster risks, several actions should be done, for example: workshop/seminar, regular simulation, communication network development, risk management trainings, integrate activities to school curriculum, mainstreaming through students' orientation, local content school subject, exchange study, etc. The school community should be more aware, attentive, develop calm and controlled attitude, and entrusted all information to reliable resources like climate and weather to the Indonesia Agency for Meteorology Climatology and Geophysics (BMKG).

The Project "Disaster Awareness in Primary Schools"<sup>26</sup> in 2006 was an effort aiming to strengthen risk awareness in Indonesian Primary Schools and to prepare the school community to act in a way that the risk of becoming victim is reduced in case disaster strikes. The project aimed to combat fatalistic attitudes that lead to indifference toward risk reduction measures. This indifference may even be encouraged or exploited by certain groups in order to maintain the status quo. Information was provided about the causes and impact of natural disasters and participants were trained in measures to take before, during and after disaster strikes. The project involved improvements to the teaching methodologies currently in use by Indonesian primary school teachers.

Most of DRR players (UN agencies, International Nongovernmental Organizations -INGOs, NGOs, and government institutes) work on school-based disaster preparedness programs (Sekolah Siaga Bencana - SSB). The Indonesian Institute of Science (Lembaga Ilmu Pengetahuan Indonesia - LIPI) and UNESCO office Jakarta developed a SSB model. This model is based on the ISDR supported project Assessment Tools for Tsunami and Earthquake Preparedness in Indonesia in 2006. The SSB supports schools in building their capacity based on five parameters: knowledge and attitude; school policy and standard operating procedures; emergency planning; school early warning system; and school's resource mobilization capacity. This model has been implemented in Muko-muko, Bengkulu Province in 2007 and in several areas in Indonesia. In February 2009, UNESCO and LIPI implement another pilot study in Maumere, Sikka province. To be able to widely disseminate the SSB model, UNESCO and LIPI implement new strategy by working with potential institution nationally and locally, namely Yayasan Puter Indonesia and Mitra Bahari.

Using the five parameters of the SSB has proven to be one of the best practices to measure the state of preparedness of a school (this tool can also be used to measure the preparedness state of a community, city, district, as well as individual). Conducting preliminary study and observation using these five parameters will provide basic information on the kind of intervention needed to

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<sup>26</sup> Disaster awareness in primary schools - Germany - government; Indonesia – government - Göpfert, Dieter – 2006



be done, what to focus on, and the target sets as milestone to increase the schools disaster preparedness. In Maumere, UNESCO-LIPI worked on three schools appointed by the Sikka District Education, Youth and Sports Department. The three schools selected were: SDN Waioti, SMP 1, and SMA1 representing different level of formal education: elementary school; junior high school; and senior high school. 55 teachers from 14 other schools in addition to 167 teachers from these three selected schools, 800 high school students, 608 junior high school students, and 300 elementary school students participated in this school-based disaster preparedness program that consist of: 1). Teacher's training and schools's technical assistances to build school preparedness and Standard Operating Procedures; 2). Children Science Support – on disaster preparedness; 3). School's simulation; 4). First aid skills (on cooperation with Sikka's Red Cross); and 5). Evaluation post assistances. One of the good lessons learned as the outcome of this program, the students who was trained to be the agent of change continued to maintain this school-based disaster preparedness activity by forming an intra school student disaster management organization FORSIGANA (Forum of Student Disaster Preparedness) in Maumere. These students are still active and received supports from the Sikka District Education, Youth and Sports Department and the District Disaster Management Agency.

Another approach that UNESCO and LIPI did to transfer the methodology, processes, knowledge and skills to implement school-based disaster preparedness was to work with very well established organization. In August 2009 UNESCO and LIPI implement capacity building training for Tsunami Disaster and Mitigation Research Centre (TDMRC) of Syah Kuala University in Aceh. As a well established organization in Aceh TDMRC is expected that could widely disseminate the school-based disaster preparedness program in Aceh. The program focused on capacity building of TDMRC staff and resource persons on capacity to develop the standard operating procedures for schools using the five parameters and steps to mainstream disaster into existing curricula and teaching materials. Within this program UNESCO and LIPI supervised TDMRC in actually working in schools. Three schools were selected by the local Department of Education representing high school (SMAN 1 Banda Aceh), junior high school (SMPN 1 Banda Aceh), and elementary school (SDN 2 Banda Aceh). These schools were given the school-based disaster preparedness training including preparing for the draft SOPs base on knowledge and attitude, school policy, emergency response capacity, school early warning system, and school's resource mobilization capacity.

Furthermore, LIPI piloted the same framework in remote Papua Province, North Maluku Province, North Sulawesi Province and Central Java Province. UNESCO's local partner in Padang, West Sumatra, KOGAMI (a local NGO working on Tsunami Alert Community), piloted this model in more than 47 schools in West Sumatra, demonstrating that it is easily replicable. The model is now well positioned for national institutionalization and standardization.

#### **4. Curricula (education as platform for culture of safety)**

The HFA report (2007-2009) on this particular issue, curricula, gives to the country a level of progress achieved: 2 - Some progress, but without systematic policy and/ or institutional commitment, and include the following description:

“The Presidential Decree was issued to the Ministry of National Education and Ministry of Home Affairs to integrate disaster risk reduction into the school curricula, both intra and extracurricular programs. However, this decree has not been implemented because the policy implementation instrument has not been devised in the national level. Currently, a step to formulate a national policy in the form of strategies to mainstream the disaster risk reduction into the national education system is prepared. As the initial process, a governmental working group and civil society working group, in this case Consortium for Disaster Education has been set up. In the local level, many regions, in particular those affected by catastrophic disasters or high risk communities, have owned Regional Government Regulation or the Mayor’s Decree to integrate disaster risk reduction in the school curricula. However, it is difficult to be implemented by the schools in the regions since the existing curriculum is considered burdensome enough for the students in each level (elementary, junior and senior high schools). In certain regencies, a guideline to integrate emergency awareness into the school-based curriculum (KTSP) is initiated. Despite the fact that the integration of Disaster risk reduction in the school curricula is not yet implemented, some government institutions and local NGOs, national and international organizations have implemented disaster education program in schools and outside schools and in formal and informal institutions. These institutions are included in the Consortium for Disaster Education. Post-graduate programs and elective courses on disasters are set up in institutions of higher education.”

The HFA (2009-2011) – interim gives the same level of progress achieved and says that DRR is included in the national educational curriculum with the following means of verification:

- \* Yes: Primary school curriculum
- \* Yes: Secondary school curriculum
- \* No: University curriculum
- \* No: Professional DRR education programs

It includes the following description:

“The Ministry of National Education of Indonesia has issued a circular letter that encourages the mainstreaming of disaster risk reduction into schools through school curriculums that contain preparedness education for elementary, junior high and senior high schools for six major hazards. The education materials will include disaster risk reduction as a local content, school program, or the existing extracurricular programs. Many universities have developed centers for disaster research and disaster study as a major.”

In a regional workshop on the issue<sup>27</sup> Ms. Diah Harianti, Head of Curriculum Development Center, Ministry of National Education, explained that there is a National Strategy for Disaster Risk Reduction Mainstreaming in School System developed by the ministry. The strategy is a national policy that serves as a reference and guidance to mainstream DRR into the education system in Indonesia. One key aspect of the strategy is to integrate DRR into the formal education curriculum and into both intra- and extra-curricular activities. Imbued in this strategy is the child rights-based approach which dictates that every child deserves to get security and a good

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<sup>27</sup> Disaster Resilience Starts with the Young: Mainstreaming Disaster Risk Reduction in the School Curriculum - Association of Southeast Asian Nations (ASEAN) Knowledge Sharing Workshop Mainstreaming Disaster Risk Reduction in Education. 18-19 February 2011, Malacca, Malaysia

education. In Indonesia, DRR can be taught in Local Content Curriculum (LCC) or in school-based curriculum integration. LCC allows for special subjects to be taught based on local needs and potential. If there are schools in high risk areas, they have the flexibility to develop their own curriculum on DRR based on their need and an analysis of local conditions. DRR can be also taught through extracurricular activities. DRR is also taught or integrated in subject matters. Indonesia has also developed a module for integrating DRR into curriculum from elementary to secondary level focused on flood, fire, volcano, tsunami, earthquake and on the phases of disaster (before, during and after). Indonesia has also developed several modules for integrating DRR into curriculum from elementary to secondary levels focused on specific hazards such as flood, fire, volcano, tsunami, earthquake and on the phases of disaster (before, during and after). These are meant to be used as references by teachers, so teachers can modify the modules to suit the needs of their respective schools.

In the same workshop the following benchmarking for DRR mainstreaming in school curriculum in Indonesia were identified in different performance areas:

- Legal and Regulatory Systems: There is an existing Disaster Management Law, under which there are strategies for including DRR mainstreaming in education.
- Policy: Standard operation plans; Ministry policies
- Strategy: Development of new subjects on DRR (Local Content Curriculum)
- Formal Curriculum: Curriculum samples are given to schools for their own integration, and must undergo evaluation or competency review
- Instructional Materials Development: With NGO support, DRR modules are being developed for primary to secondary level, with preparedness information for every phase of disaster. Local context is the basis and schools can decide to adopt the modules.
- Teacher Training and Professional Development: New modules and training for teachers to use the module are included in one package.

At the National School Safety Conference was also announced that the National Agency for Disaster Management or *Badan Nasional Penanggulangan Bencana* (BNPB) and the Indonesian Ministry of National Education or *Kementrian Pendidikan Nasional* (Kemendiknas RI) had agreed to insert the Disaster Risk Reduction to school curriculum.

Post Tsunami 2004 a lot of organization started to focus on disaster education in Indonesia. There is an increasing need to coordinate, synchronize and synergize among the players (NGOs, INGOs, Social Change Organizations -SCOs, UN agencies, Government Institutions). In October 2006, as a response to a Global Movement on the 1st Disaster Risk Reduction Commemoration Day, more than 40 organizations agreed to establish a Consortium Called CDE (Consortium for Disaster Education). CDE becomes a forum for local, national and international organizations, institutions and associations that concerns on Disaster Risk Reduction Education to share and work together to assure there will be no duplication of works etc. The role and function of this forum continue to evolve. Organization under CDE organized and conducted School Road Shows in several cities.

The member of CDE, having identified the difficulties in working at the local level decided to take this forum as part of the advocacy mechanism to address the issue of disaster education in Indonesia. Through the support of UNDP project funded in 2009 - 2010, CDE developed paper

on Mainstreaming Strategy on Disaster Education into National Curriculum. This document was developed hand in hand with the Ministry of National Education. One of the outcomes of this effort is the issuance of the circulating letter to the local department of education to start to mainstream DRR into education, and 16 guidelines modules have been developed for elementary school, junior high school, and senior high schools. The module covers 5 hazards, Earthquake, Tsunami, Floods, Landslides, and Fires.

UNCRD works with the Department of National Education, Government of Indonesia so as to influence the policies on disaster management by integrating preparedness as a prime component. It also focuses on promoting community learning by advocating for integration of disaster preparedness into the education.

Based on the good practices and lesson learnt of most local, national and international organizations working on School-based Disaster Preparedness, currently, CDE is developing the guideline paper on School-based Disaster Preparedness concept which is expected to be used nationally and to encourage schools to start to develop their Disaster Risk Reduction capacity.

UNICEF and Save the Children united in education cluster are in the process to map the DRR practices including modules at national wide to help the DRR implementation integrated in the current curricula and adopted by the target areas and schools.

## **5. Analysis of the outcome (constrains, needs)**

The National School Safety Conference comments that since the UNISDR disaster-management campaign, starting from schools, announced in 2006, Indonesia has been one active participating country in the campaign. Also, Indonesian government under The Ministry of People Welfare Coordination announced the One Million School Safety and Hospitals since 29th July 2010 where 1000 schools and hospitals were targeted for disaster safety. It is unfortunate to see poor concrete actions to manifest the commitment, the report commented. In Indonesia, the inception of such initiatives started far before UNISDR campaign. Many NGOs, including Plan Indonesia had been promoting safe school model.

To amplify the already existing initiatives and to compile all ideal concepts about safe school, Plan Indonesia organized the National Conference of Safe School. To synergize the commitment, Plan work in collaboration with National Agency for Disaster Management or *Badan Nasional Penanggulangan Bencana (BNPB)*, the Indonesian Ministry of National Education or *Kemertrian Pendidikan Nasional (Kemendiknas) Republik Indonesia*, *Disaster Education Consortium or Konsorsium Pendidikan Bencana (KPB)*, and UNESCO. The objectives of the conference were:

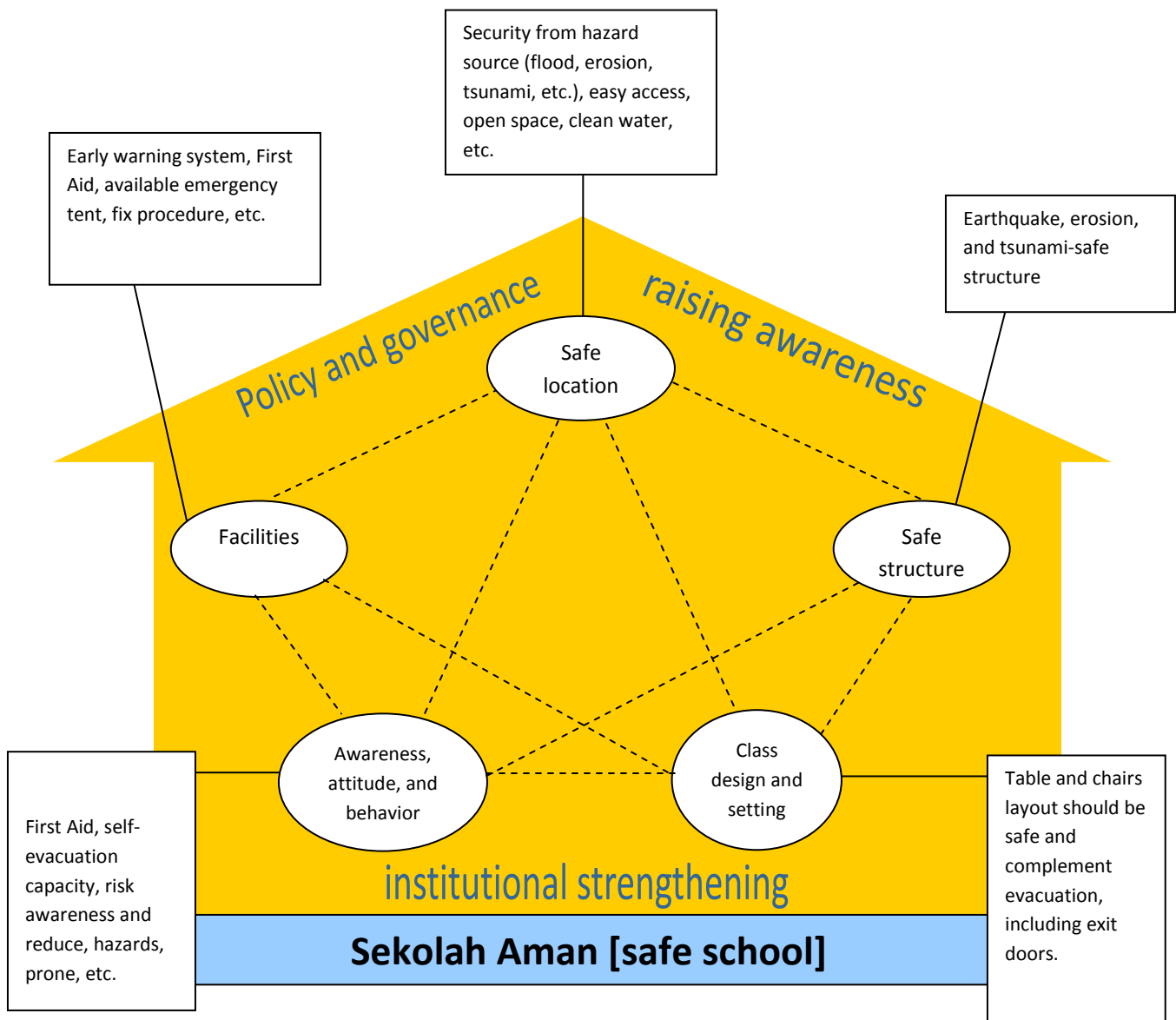
1. As sharing experience forum and learning for all parties who already conducted school-based disaster risk-reduction actions.
2. Conduct mapping for organization who already work/promote safe schools
3. Synchronize our perceptions about basic principles and concepts for safe schools
4. Formulate safe school indicators/standards in Indonesian context

And the output was:

1. Develop formation team to finalize safe-school standard which involves the government representatives, NGOs, universities, and corporate
2. Safe school indicators appropriate for Indonesian context.

The conference discussed, among other issues, five basic components of safe schools (see graphic below):

1. Disaster-safe location
2. Building structure
3. Class design and layout setting
4. Awareness, attitude, and behavior
5. Facilities and service support



The discussion of those five components are distributed bellow, were is possible, accordingly to their correspondence with each of the main categories included in this baseline study: (a) hazards

and risk knowledge (assessment), (b) structural and non structural safety (safe construction retrofit initiatives), (c) systems, procedures and skills (emergency preparedness plans implementation & policies), and (d) curricula (education as platform for culture of safety).

At the end, the Safe School National Conference put out several recommendations: 1) The Special Allocated Fund for safe schools should be managed locally instead through tender/third party; 2) Develop a team to start and finalize advocacy process and to synergize schools actions with Disaster Education Consortium; 3) The government is expected to add up to the fund of school rehabilitation in districts considered "less-safe"; 4) School community capacity building; 5) CSR and private company resource mobilization; 5) and blueprint for National Action Plan for Safe School.

UNESCO Jakarta considers that although there are many players in DRR and many of them work on School-based disaster preparedness, with the continued shrinking of resources and budget available, it is difficult to cover the many schools and children in Indonesia, a lot of efforts still need to be done.

Other sources of information for this baselines study were the HFA reports and the Association of Southeast Asian Nations (ASEAN) Knowledge Sharing Workshop Mainstreaming Disaster Risk Reduction in Education report.

The HFA report 2007 – 2009 includes the following context & constraints comments:

“Unavailability of policies and guidelines on how to mainstream Disaster risk reduction in the school curricula, the learning materials as well as the relevant trainings (extracurricular or local content) makes it difficult for the schools to implement the strategy of mainstreaming disaster risk reduction. In addition, the curriculum is too burdensome for the students, thus making it difficult for the schools and teachers to mainstream the disaster risk reduction into the students’ education materials.

Based on the challenges mentioned, efforts to realize the national policy in mainstreaming disaster risk reduction into education system and efforts to encourage the regions and schools to support the initiative to mainstream disaster risk reduction in their education materials must be made.

To initiate the try-out and the real implementation of disaster risk reduction mainstreaming into school curricula and education material, the academia or schools must have human resources with adequate capacity. Currently, the human resources available are still limited. Efforts to develop and improve the human resource capacity (educators, educating staff, public and professional officers) must be carried out to implement the mainstreaming of disaster risk reduction into school curricula, education material, and relevant trainings. The availability of sufficient human resources is expected to encourage the regions and schools to be more creative and innovative in mainstreaming disaster risk reduction.

In addition, national-level guidelines to mainstream disaster risk reduction into school education must be formulated. For example, it must be clear whether it is going to be mainstreamed in the

extracurricular and intra-curricular activities, local content, or as a part of the existing school subjects, or into the school programs such as UKS (school health unit), disaster prepared school, Scouts, Youth Red Cross, etc. If the national guidelines are available, the local government and schools will be able to use the guidelines as the reference to mainstream disaster risk reduction according to the situation and condition of each region. To support the implementation of disaster risk reduction mainstreaming, materials and reading texts on disaster risk reduction are needed (both for students and teachers in all school levels).”

The 2009-2011 report context & constraints are:

“One of the challenges faced is the need to build commitment in the regions to develop curriculum that contains disaster risk reduction aspects. The government needs to facilitate and coordinate disaster risk reduction initiatives implemented by the different stakeholders, including by promoting community-based disaster risk reduction programs. Another challenging constraint is the overemphasis on development that is more geared towards physical development.

In future there needs to be a strong advocacy program in the regions to mobilize commitment. The recent One Million Safe Schools and Hospitals campaign could serve as a momentum to build commitment and cooperation. The stakeholders will also encourage the set-up of a team to accelerate the mainstreaming of DRR into schools.”

## Madagascar

### 1. Curricula (education as platform for culture of safety)

The HFA report 2007-2009<sup>28</sup> on this particular issue, curricula, gives to the country a level of progress achieved: 4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities, and includes the following description:

In collaboration with the Ministry of Education and the United Nations, the National Bureau of Risk Management and Disaster (Bureau National de Gestion des Risques et des Catastrophes - BNGRC) developed a textbook for students and a guide for teachers on Risk Management and Disaster. These manuals are available in all school districts in the country. In addition, teachers of the second cycle of primary education receive pedagogical training on DRR

The HFA report 2009 – 2011 interim gives the same level of progress achieved and says that DRR is included in the national educational curriculum with the following means of verification:

- \* Yes: Primary School Programs
- \* Not: Secondary School Programs
- \* Yes: Academic Program
- \* Yes: vocational education programs on reducing disaster risk

It includes the following description:

In addition, this year also saw the opening of a multidisciplinary training focused on risk management and disaster management in the Department of Law, Economics, Management and Sociology at the University of Antananarivo. The first class has 40 students from various professional backgrounds. The course lasts 18 months and culminated in a Diploma of Specialized Studies. The BNGRC also noted that young scholars from various fields (Communication, Economics, Sociology, Geophysics ...) many are starting to be interested in DRR for their graduation project.

### 2. Analysis of the outcome (constraints, needs)

No response was received from the contacts provided by the UN Thematic Platform on Knowledge and Education (TPKE).

No information was available on hazards and risk knowledge (assessment), structural and non structural safety (safe construction retrofit initiatives), nor on systems, procedures and skills (emergency preparedness plans implementation & policies). Beside the information included in the HFA on curriculum it is difficult to evaluate this dimensions more in details due the lack of available information.

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<sup>28</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. Reporting period: 2007-2009 and 2009-2011 – interim



The HFA 2007-2009 report includes the following comment on context & constraints:

DRR deserves to be included in the curriculum. The process is pending. The textbooks, designed for students of second cycle of primary will also be extended to other primary and secondary cycles.

The 2009-2011 interim report includes:

To truly embed a culture of risk in Madagascar, it would be wise to incorporate risk reduction and disaster management in school curricula at all levels.

## Mozambique

### 1. Hazards and risk knowledge (assessment)

The Hyogo Framework for Action report<sup>29</sup> mentions that data for flood mapping is being collected in cooperation with the Canadian Space Agency and the International Union for Conservation of Nature (IUCN). The Department of Physics at the University Eduardo Mondlane (UEM) is active in the research of Adaptation to Climate Change in Mozambique in cooperation with the National Institute for Disaster Management (INGC).

### 2. Systems, procedures and skills (emergency preparedness plans implementation & policies)

Plan International is implementing a child centered Disaster Risk Reduction (DRR) project focus is community resilience. The project has created and strengthened 10 Disaster Management committees and 6 children and youth groups in equal number of schools where they are supporting the government to introduce DRR issues in the local curriculum.

### 3. Curricula (education as platform for culture of safety)

The HFA report on this particular issue, curricula, gives to the country a level of progress achieved: 3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial, and includes the following description:

“The Famine Early Warning System Network (FEWS-NET) Mozambique in cooperation with INGC and UEM has produced an Atlas for Disaster Preparedness and Response in Limpopo Basin in 2002. Pilot projects have been carried out in primary schools in the Buzi River, Province of Sofala on training school pupils and their teachers in the way to live with disaster, especially in flooded areas using a training guideline book entitled “Como podemos reduzir os riscos de calamidades” (How can we reduce the disasters risk). This guideline is under revision by INGC with the German Cooperation Agency GTZ support in order to integrate the other functions that were also committed to Local Committees for Risk Management. Training booklets and brochures have been prepared with funding by GTZ in 2006-2007.

In 2007, Ministry for Environmental Action Coordination (MICOA) in cooperation with UN Habitat produced a set of training material for local communities living along river basins, specially the trans-boundary ones, using the Limpopo River as a pilot. This set of material is called “O jogo do rio” (The river game) and contains a set for ones to play the game, a guideline book and posters. These materials are used to train the local communities through Local Committees for Risk Management on how they can live following the rivers nature, especially where to built houses and make agriculture. The game was used for sensitization in Limpopo and

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<sup>29</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. Reporting period: 2007-2009

Zambezi River. Initial printed documents were in a very limited number and have been totally distributed. Another print is required to cover all river basin communities.

Mozambique Red Cross (CVM) has also developed a training guideline book for Community based response to disasters, which is broadly available for CVM and local community's volunteers.

The Technical University of Mozambique (UDM) and UEM in cooperation with INGC have jointly produced one brochure, and several posters for teaching DRR to teachers in secondary schools with support by InWent, a German agency supporting the INGC in Mozambique, in 2008. UDM has carried out 2 short courses in the use of Geographic Information System and Global Position System (GIS/GPS) technologies in disaster management in cooperation with MapAction a Charity from UK where more than 25 people coming from government and universities were trained. UDM will establish in 2008 a Bachelor degree in Disaster Management with support from the PERI-PERI network of universities, in cooperation with the University of Cape Town (UCT) under United States Agency for International development (USAID) sponsorship. It is planned the starting of a Master degree in DRR for the year 2011 at UDM. UDM is also active in development of improved systems of sanitation in emergency situations, especially useful for wet and swampy areas. The Department of Geography at UEM is carrying out a project on Application for RadarSat-1 SAR.”

The Plan International project regarding the curriculum development has supported the government in drafting a manual and its pilot introduction in few schools. Plan is supporting this initiative in 6 schools through its child centered DRR project. Currently this manual is being revised with inputs from teachers who have been using the manual during last year and Plan is trying to influence issues related to child protection and education in emergency to be reflected in the manual. Of course the experience from other Plan countries is being useful in this exercise but the manual is being contextualized to Mozambique situation.

#### **4. Analysis of the outcome (constrains, needs)**

No information was available on structural and non structural safety (safe construction retrofit initiatives). Beside the information included in the HFA and from Plan International on curriculum, emergency preparedness plans and risk assessment it is difficult to evaluate this dimensions more in details due the lack of available information.

The HFA 2007-2009 report includes the following comment on context & constraints:

“Very few teaching materials are available in Portuguese language in the area of DRR. Very few teaching staff is experienced in those areas like water and sanitation, engineering for emergency, logistics, humanitarian aid, disaster management and development issues. Major sponsorships and scholarships are needed to train teachers and researchers abroad to enroll in the future, training activities in DRR.

Nevertheless the international community is active in producing teaching and practical materials for Humanitarian actions and DRR under local conditions. Those materials need to be converted to Portuguese language in order to be of general use especially under disaster situations.”

## Pakistan

### 1. Hazards and risk knowledge (assessment)

The Federal Government of Pakistan has requested all four provincial governments to draft comprehensive plans to evaluate the structure of all schools and to formulate concrete action plans regarding disaster risk reduction by 2015.

The October 2005 earthquake killed at least 17,000 students and about 900 teachers in classrooms and had a devastating effect on school buildings and infrastructure. According to government estimates, approximately 6,000 primary and secondary schools were damaged or destroyed (which represented 52 per cent of the total number of schools).

### 2. Structural and non structural safety (safe construction retrofit initiatives)

More than 100 new schools have now been constructed and handed over to the government in Pakistan-Administered Kashmir and the North West Frontier Province (NWFP), in an initiative by UNICEF and Pakistan's Earthquake Reconstruction and Recovery Authority (ERRA) to "build back better" in areas where schools were destroyed in the 2005 earthquake. An additional 186 schools were completed by the end of 2010.

In the effort to "build back better," the new schools have been constructed to high international standards. They are earthquake-safe, child-friendly and built to specifications that are proven to get more children into school, keep them there and help them learn. About 13,000 children are now attending the newly built schools.

The new schools are more spacious - with at least one square meter of classroom space per child - and they promote good hygiene through hand washing stations and separate toilets for girls and boys. They are also fully furnished with desks and tables for students and teachers.

### 3. Curricula (education as platform for culture of safety)

The HFA report 2007-2009<sup>30</sup> on this particular issue, curricula, gives to the country a level of progress achieved: 3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial, such as financial resources and/ or operational capacities, and includes the following description:

“For this Core Indicator, Pakistan can be ranked at level three. The Government is committed to integrate DRR education in the school, college and university curriculum. The National Disaster Management Agency (NDMA) in close coordination with the Ministry of Education is developing a comprehensive strategy to integrate DRR into education by year 2009. NDMA expects the process of curriculum development completed by end 2010.

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<sup>30</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. Reporting period: 2007-2009 and 2009-2011 – interim

The NDMA is working on integration of DRR education into the training academies of the civil servants of Pakistan; e.g. the National School of Public Policy (NSPP), the lead civil services training institution where majority of government servants entering into various sectors are trained at the entrance level as well as at mid-career stage. The integration of DRR education into the training modules of NSPP is expected to be completed by end 2009.

To raise awareness and train the civil servants, the NDMA has undertaken different programs, some of which are mentioned as under:

- A training program in DRR for in-service government officers at federal, provincial and district levels is under implementation.
- Training curriculum for training of district officials and communities has been prepared.
- Over 150 officers and civil society reps have been trained in the 09 districts affected by the 2005 earthquake. About 80 officials from federal level and from about 4 districts have been trained in basic concepts of DRM.
- A simulation on disaster response management conducted for the entrance level officers at the Civil Services Academy (CSA) of Pakistan. Training sessions on disaster risk management conducted for about 200 entrance levels officers at the CSA.”

The HFA report 2009 – 2011 interim gives a level of progress achieved 2: Some progress, but without systematic policy and/ or institutional commitment and says that DRR is not complete included in the national educational curriculum with the following means of verification:

- \* No: Primary school curriculum
- \* No: Secondary school curriculum
- \* No: University curriculum
- \* No: Professional DRR education programs

It gives the following description:

“The Government is committed to integrate DRR education in the school, college and university curriculum. The NDMA in close coordination with the Ministry of Education is developing a comprehensive strategy to integrate DRR into education. The curriculum wing of the Ministry of education has finalized the DRR related curricula from class 1 to 12, which covers all hazards and gradually improves the technical level of understanding hazard and preparedness for students at different levels. The DRR concepts are in the languages Urdu and English for children from class 1 to 5 (primary), whereas for the students from class 6-12 this information has been included into the curricula of Geography and Social studies.

At the university level, some public as well as private universities have started to offer specialized courses in disaster management. The University of Peshawar has established the Disaster Preparedness Center which offers specialized courses in disaster management. The Princeton University Islamabad has introduced MBA in disaster management while other universities including Hazara University, Karakorum International University offer research courses related to disaster management.

The NDMA is working on integration of DRR education into the training academies of the civil servants of Pakistan; e.g. the National School of Public Policy (NSPP), the lead civil services training institution where majority of government servants entering into various sectors are trained at the entrance level as well as at mid-career stage.

Training curriculum for training of district officials and communities has been prepared.”

Working towards the objective of building back a better education system, the UNESCO Earthquake Response Program (ERP) in 2006 supported the development of training materials and in-service training of teachers in the earthquake-affected areas of North West frontier province (NWFP) and Azad Jammu and Kashmir (AJK)<sup>31</sup>. Through these interventions, UNESCO ERP impacted on an estimated one million school-going children and youth whose education was interrupted on 8th October 2005.

In 2004 Church World Service Pakistan/Afghanistan (CWS-P/A) with financial help of World Vision International, started a disaster preparedness teachers' training program<sup>32</sup>, which target to train 1,000 teachers from government and private schools in Mansehra and Battagram districts of the North-West Frontier Province (NWFP). These trainings was conducted to create awareness and preparedness among school teachers about different disasters in this region and how they can prevent themselves by adopting different coping mechanism. These trainings developed and enhanced knowledge on preventive measures for earthquake, heavy rain, land sliding, flash floods and fire. The trainings were focused on how these disaster preparedness measures can be included in schools' syllabus. In this regard, along with trainings at different locations, aid kits, booklet on disaster preventive measures, training manual, and health items were distributed among participants.

#### **4. Analysis of the outcome (constraints, needs)**

No information was available on systems, procedures and skills (emergency preparedness plans implementation & policies). Beside the information included in the HFA on curriculum, and from others sources on risk assessment and structural and non structural safety (safe construction retrofit initiatives) it is difficult to evaluate this dimensions more in details due the lack of available information.

The HFA 2007-2009 and 2009-2011 interim reports include the same following comment on context & constraints:

“DRR in its modern form is relatively a new concept in Pakistan. Therefore, lack of awareness, being the major challenge, exists in Government Departments including the ones dealing with

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<sup>31</sup> Overview of training of teachers in earthquake-affected areas United Nations Educational, Scientific and Cultural Office - Islamabad (UNESCO Islamabad) - 2006

<sup>32</sup> Education for Sustainable Development Case Studies and Best Practices - *A Contribution to the United Nations World Conference on Disaster Reduction (WCDR), Kobe, Hyogo, 2005 – Editors: Rajib Shaw and Badaoui Rouhban Compiled by: UNESCO (United Nations Educational, Scientific and Cultural Organization) Natural Sciences Sector Kyoto University Graduate School of Global Environmental Studies (KU GSGES) January 2005 – 57 - Disaster Preparedness Trainings for School Teachers in Mansehra and Battagram Districts in Pakistan*

education. The lack of awareness coupled with lack of expertise in the relevant government departments impede implementation of National Plan and Strategy for integrating DRR into education curricula within the defined timelines as envisaged in the Framework. To overcome this problem, the NDMA intends to extend technical assistance to the Ministry of Education for development of required curricula.”



## Peru

### 1. Hazards and risk knowledge (assessment)

An Education Sector Strategic Plan of Disaster Prevention and Attention<sup>33</sup> has been developed and it includes a diagnosis of the national external and internal environment. The external environment includes the diagnosis of the geographic location, population, education sector situation, hazards, emergencies and disasters chronology, and effects of emergencies and disasters in the education system. The internal environment includes the diagnosis of the education sector organization, infrastructure, human resources, communication system, and risk and response management. The infrastructure diagnosis includes the total number of public and private education institutions and non-scholar program by level and modality, and general comments on the scope of the issue. The human resources diagnosis includes the total number of students and teachers in public and private institutions by level, modality, and form of the services rendered by the education system. Also a strengths, opportunities, weaknesses, and threats (SOWT) analysis of the sector is included in the strategic plan.

UNESCO-Peru produced a proposal to create a unified form for integral risk management in schools<sup>34</sup> to collect the basic and relevant data to estimate the education system degree of exposure to disaster risk and other social risks. The proposal include the participation of the Ministry of Education, The National Institute of Civil Defense (INDECI), public and private institutions, agencies of the United Nations System present in the country, as well as groups and NGO's working in risk management community social programs. The general objective of the proposal is to create a reliable database to diagnose, plan, lead, coordinate, and execute activities of integral risk reduction in public and private regular basic schools. The information to be collected includes the following aspects:

- School general information
- Community and its surrounding
- School infrastructure
- Disaster risk management
- Social risk management

An assessment of the seismic vulnerability of all school buildings<sup>35</sup> located at Chorrillos and Barranco districts in Lima, the capital city of Peru, was conducted using the Rapid Visual Screening procedure of ATC-21. A total of 28 school buildings were evaluated in Barranco and 80 in Chorrillos, comprising all kindergarten, primary, and secondary school buildings existing in these two districts. One of the findings mentioned that even though some buildings are relatively new, their structural scores indicate that most of them show from medium to high seismic vulnerability. This information has been correlated with local soil conditions and seismic intensities observed in the past in the two districts.

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<sup>33</sup> Plan Estratégico Sectorial de Prevención y Atención de Desastres del Ministerio de Educación.

<sup>34</sup> UNESCO-Peru project "Unified form for integral risk management in schools"

<sup>35</sup> PreventionWeb - Seismic vulnerability of school buildings in two districts of Lima, Peru - Canadian Association for Earthquake Engineering (CAEE) - Meneses, Jorge; Aguilar, Zenón

## **2. Structural and non structural safety (safe construction retrofit initiatives)**

A seismic reinforcement of educational infrastructure study<sup>36</sup> was performed by the Pontificia Universidad Católica de Perú and was presented in 2005 in a school infrastructure conference held in Lima, Peru. It includes examples of school affected by earthquakes, retrofitting projects, modules simulation exercises, analysis of the seismic norm, school typologies performance, and conclusions.

## **3. Systems, procedures and skills (emergency preparedness plans implementation & policies)**

The Ministry of Education, by Ministerial Resolution N. 0190-2004-ME, created the Ministry of Education Permanent Commission of Civil Defense, in its inauguration meeting on June 14, 2004 the Permanent Commission agree to create the Executive Technical Commission to formulate the Education Sector Strategic Plan of Disaster Prevention and Attention. This plan has been designed for ten years and defines the strategic guidelines of work, to which the public and private administrative and educational institutions of the Education Sector should be added.

The Sector Strategic Plan establishes the political guidelines, strategic objectives, and activities that the Education System and its Decentralized Public Organisms must incorporate in its institutional strategic and operative plans with the goal to ensure the design and execution of actions of risk and response management to adverse events that affect the education community in the country.

The sector policy is to insert risk management, and emergency and disaster attention in Education Sector institutional development plans at the national, regional, and local level to reduce the impact of adverse events in the education community. The policy includes guidelines with specific indicators to be reached in the year 2014, and the following strategic objectives:

1. Incorporate risk management and emergency and disaster attention actions in the strategic and operational plans of the administrative and educational entities of the sector.
2. Foment education community participation in disaster prevention.
3. Strengthen processes to prevent and attend emergencies and disasters.
4. Internal and external coordination to elaborate, implement, develop, and finance prevention, mitigation, and response plans.
5. Develop decentralization mechanisms in risk management and emergency and disaster attention.
6. Promote mechanisms and actions to reduce physical and educative vulnerability.

A DIPECHO project executed in 2009 – 2010 and called: “Strengthening alliances to ensure education in emergency situations and to promote a culture of prevention in the most vulnerable communities in South America”<sup>37</sup> in its goal to increase the coordination between the Ministries

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<sup>36</sup> PreventionWeb - Reforzamiento sísmico de la infraestructura educativa - Pontificia Universidad Católica de Perú - Quiun, Daniel - 2005

<sup>37</sup> DIPECHO project: “Strengthening alliances to ensure education in emergency situations and to promote a culture of prevention in the most vulnerable communities in South America” report by UNICEF-TACRO

of Education, national DRR systems, regional institutions and NGO's working on DRR, developed the a group of activities in Peru, including the following:

- Reproduction and distribution the following guiding documents on DRR issues: INEE Pocket Guide, Education in Emergencies, Giant Riskland Game, Local INEE, Planes Escolares, Guia de Simulacros, Risk Management DVD Toolkit, Preparedness for Disaster in the Education Sector Catalogo, Communication Kit, INEE Guidelines, Territorio Seguro, Escuela Segura, Escuela Albergue, ¿Cuándo? ¿Cómo? ¿Por qué?, Risk Land Game. Peru has used the material for teachers that have formed a national training group that will elaborate “A National Plan for Contingency and Simulations Plans”. By using the material in trainings for Ministry of Education personnel and DIPECHO partners it has been possible to teach about the Children Rights Based Approach in Emergencies. As a result of advocacy the Ministry of Education has for the first time the included issues on disability in DRR trainings.
- The Ministry of Education in partnership with DRR stakeholders including DIPECHO partners, developed, reviewed or modified its national plan/policy on DRR in the education sector: Elaboration, approval and printing of a National Emergency Response Plan. The plan and the policy is a product of the thematic Round table for Education in Emergencies, which is led by the Ministry of Education and is an inter agency body between government and none governmental actors.
- Sub national education bodies in the country developed an annual work plan that includes support to DIPECHO partners on DRR activities in schools: Peru managed to develop an Annual Working Plan for DRR in the Education Sector in cooperation with DIPECHO partners, NGOs and representatives from the regional and local education authorities. Technical meetings between different departments of the MoE have been carried out in order to develop an Integrated Work Plan in DRR and DP for the education sector. This was done in consultation with DIPECHO partners, NGO, representatives of the national Civil Defense. The national “Mesa de Educacion en Emergencias” has during the time of the project had periodical meetings with other state sectors, NGOs, and the UN agencies.
- Development of the capacity in DRR in education issues through training various DRR issues to members of Ministries of Education at national and sub national levels, DRR stakeholders and DIPECHO partners:
  - National training on INEE, minimum standards in emergency response in the education sector – Lima 34 participants
  - Regional training on INEE. Lima - Ventanilla, Ayacucho, 113 participants
  - Training of trainers on DRR, Ayacucho – Lima, 42 participants
  - Training on the how to implement an Environmental focus in teaching - Ayacucho and Lima, 70 participants
  - National Training Course on “Education in Emergencies Preparedness and Response” –Lima, 30 participants
  - Environmental Education Congresses in Lima and its preparatory meeting. The project has enabled the Ministry to materialize the congress both in terms of technical input and human resource input. The congress has gathered experts from the whole country and created a space for discussions around environmental education and DRR - Lima, 113 participants.

- Elaboration, reproduction, updating, and distribution of documents on DRR technical issues among DRR stakeholders:
  - Elaboration of the guide “How to develop a DRR Plan” in the Education Sector.
  - National Manual for “Teaching with an Environmental Education Focus”.
  - “National Education Sector Emergency Operation Plan”.
  - Norm about “ Implementation of Simulations in Schools”
  
- Identification, systematization, and sharing of best practice, tools and experiences, on DRR within the education sector with other countries:
  - The best practices, tools and experiences in DRR in the education sector have been identified and systematized and shared with other countries.
  - Accordingly, a national consultancy was implemented for the process of preliminary identification and general systematization of the identified experiences.
  - The data collection instrument used and validated by the CRID (Regional Disaster Information Centre) was applied for collecting information, after a workshop was implemented in the country to identify and validate a first selection of experiences. Once the workshop was held, an instrument for weighting the experiences they had pre-selected was applied.
  - When the selection process was finished, the definitive systematization of the selected experiences was made and placed in the document and in the corresponding sections of the interactive tool developed for disseminating the systematizations.
  
- Printing and distribution of DRR education sector national plan/policy:
  - “National Plan for Emergency Response in the Education Sector”. In general when the Ministry of Education distributes material it is already part of the norm of “obligatory” use. The following documents have also been printed:
    - 1000 copies of “DRR in the Education Institutions (Gestión del Riesgo en Instituciones Educativas — Guía Para Docentes de Educación Básica”)
    - 50 copies of the document “Environmental Education Pedagogy”. The documents accompany a training course for teachers in Environmental Education
    - “Peru País Maravilloso” 10,000 copies
  
- Sub national meetings with representatives of Ministry of Education, DRR stakeholders and DIPECHO VI partners to develop an annual work plan for DRR in the region:
  - Education sector meetings to analyze DRR and DP in the Education sector in order to improve the emergency response of the Ministry of Education in coordination with other sectors.
  - Education sector meetings including all actors involved in DRR and DP in the education sector invited. – Updating the National Operation Plan for Disaster Response in the Education Sector. Result: elaboration and validation of the education sector EDAN (rapid needs assessment). The Ministry of Education also did a mapping of DRR actors that work in the Education sector in order to be able to know who is working in schools and what they do.

- National workshops on INEE Minimum Standards for Education in Emergency Situations:
  - Workshop on INEE Minimum Standards on Education in Emergencies, Chronic Crises and Early Reconstruction
  - Regional workshop on INEE Minimum Standards on Education in Emergencies, Chronic Crises and Early Reconstruction
  - Regional workshop on INEE Minimum Standards on Education in Emergencies, Chronic Crises and Early Reconstruction
  - National workshop on DRR in the Education sector
  - Workshop on Disaster Risk Reduction in the Education Sector
  - National workshop on education Emergency Response Activities
  - Training Course on “Education in Emergencies Preparedness and Response”
  
- National workshop to compile and share existing and proved tools, methodologies and models for disaster preparedness and response in the education sector at sub national and local level:
  - A national consultancy was implemented for the process of preliminary identification and general systematization of the identified experiences. Furthermore, a regional consultancy was established, with the responsibility of assisting and supporting all the regional workshops and organizing all the information gathered, compiled, processed and preselected nationally as well as the information produced in the mentioned national workshops.
  - The data collection instrument used and validated by the CRID (Regional Disaster Information Center) (Ficha para el inventario de experiencias), was applied for collecting information, after which workshops were implemented to identify and validate a first selection of experiences.
  
- Promotional art competition on the topics: “Ensure the right to education even in emergencies” and “only using schools as shelter as a last resort”:
  - A Regional competition on “risk reduction begins at school” was promoted through formal communications to the regional directorates of education throughout the country, publication on the Ministry of Education-EDUCAM web page, and press items in ANDINA, a regional newspaper. The regional competition was promoted at all events and meetings with DIPECHO partners and other Risk Management actors. Through promotion through the environmental theatre in schools in the national capital and in the Ministry of Education’s National Prevention Plan, more than 2,000 entries by school children were presented, with 3 regional winners. Three Peruvian children were among the regional winners. For additional details, see: <http://www2.minedu.gob.pe/educam/>
  
- Development of communication strategy for DRR in the education sector to raise awareness and to mobilize resources on DRR issues:
  - Peru has already on a national level started with its own campaigns and contests related to their ordinary work regarding communication. On a country level their work is based on the same vision as the regional communication strategy, which on

one hand assures the participation of students and on the other hand emphasizes on the advocacy of special themes concerning DRR in the education sector.

As educational material a guideline to manage psychological first aids: schools stress<sup>38</sup> was published in 2007 by a national training and prevention center. The guidelines include recommendations to be performed before, during, and after a disaster strike with the school community to prevent and control the stress.

#### **4. Curricula (education as platform for culture of safety)**

The HFA report 2007-2009<sup>39</sup> on this particular issue, curricula, gives to the country a level of progress achieved: 4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities, and includes the following description:

“Emission of Ministerial Resolution N° 078-20007/ED, (February 2007): recognized Disaster Risk Management inclusion in curriculum programs at the education’s different levels and modalities.

Emission of the Directorial Resolution of the National Direction of Communitarian and Environmental Education (DINECA) N° 015-2007 (2007): regulate RM 078-2007 application; and sign the work methodology. Also the timeframe and responsibilities are indicated for the implementation and performance of the “School Civil Defense Permanent Commission”.

Chief Resolution of the Civil Defense National Institute INDECI-2007: Recognize the Learning to Prevent Program (published in Peru’s official gazette) Create the Teachers National Network in “Learning to Prevent” developed in fifteen Regional Directions of Education; contents are considered in the regional education projects. The Teachers National Network currently has more than two thousand members.

There is a valid agreement between INDECI and the Regular Basic and Superior Schools to develop curricular programs in risk management (the agreement is active in sixteen universities, from which two universities develop masters studies and the rest postgraduate studies).

“Solidarity School Service in Disaster Response Plans” Program: approximately five hundred students are certified as “Brigadiers” in five regions; currently between eight and ten regions work in this program (approximately five thousand students).

“Safe, Clean, and Healthy Schools” Program: competition with three categories at the national level.

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<sup>38</sup> PreventioWeb - Guía para el manejo de primeros auxilios psicológicos: el estrés escolar - Centro de Capacitación y Prevención para el Manejo de Emergencias y Medio Ambiente: S.O.S Vidas Perú (S.O.S. Vidas Perú) – 2007

<sup>39</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. Reporting period: 2007-2009 and 2009-2011 – interim

The Ministry of Education has planned for this year five national drills, bearing in mind that evacuation drills are the visual action on disaster risk management for children.”

The HFA report 2009 – 2011 interim gives a level of progress achieved 3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial, such as financial resources and/ or operational capacities, and says that DRR is included in the national educational curriculum with the following means of verification:

- \* Yes: Primary school curriculum
- \* No: Secondary school curriculum
- \* No: University curriculum
- \* Yes: Professional DRR education programs

It gives the following description:

“The Regular Basic Education’s National Curriculum Design considers risk management issue, which includes risk reduction to drugs consumption, family violence, and road security, among others, but it not specifically develops DRR.

The Civil Defense National Institute trains primary and secondary teachers in the Learning to Prevent Program, in order for them to develop the learning contents on DRR in their classroom programs. Up today ten thousand teachers are member of the Teachers National Network on Learning to Prevent.

In the contexts of superior education, the Superior Education Program in Disaster Prevention and Response is being developed to perform post-grade and post-title courses in disaster risk management. Up today there are one thousand eight hundred graduates.

The civil society organizations have being implementing efforts to contribute with the Ministry of Education and others State institutions in consolidating a culture of disaster risk reduction in schools.”

The following are some of the educational material available:

- “El Niño Stories: El Niño event in Lambayeque: Voices and views from the school”<sup>40</sup>: school tales centered in El Niño event in Lambayeque. It includes references to know and value disasters and risk scenarios related with this event recurrence; winner stories from the “Recovering preparedness remembrances and experiences facing El Niño event” competition.
- “Learn is fun: Disaster prevention and attention guide for education institutions”<sup>41</sup>: describe preventive and response measures to disasters caused by natural and technological events that may affect children lives.

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<sup>40</sup> CRID - Historias de El Niño: El fenómeno El Niño en Lambayeque: Voces y miradas desde la escuela - Fernández, Gonzalo; Medina, Juvenal - Lima; Soluciones Prácticas (ITDG), jul. 2010

<sup>41</sup> CRID - Aprender es divertido: Guía de prevención y atención de desastres para instituciones educativas - Instituto Nacional de Defensa Civil (INDECI). Dirección Nacional de Educación y Capacitación, 2005,

- “Painting we know disaster risk in our community”<sup>42</sup>: short stories for painting that tell the story of a group of kids discovering their community risk and their options to reduce it with participative work.
- “Disaster risk reduction and emergencies response from education institutions: School texts to be use by third and fourth grade students”.<sup>43</sup>
- “You and I to prevent and attend disasters”:<sup>44</sup> treat the most relevant aspects of the territory, its risks and resources throughout activities of risk map, infrastructure safety, and calendar; organization, management plan, and vulnerability auto evaluation.
- “Teaching resources for socio-emotional support”:<sup>45</sup> develop the concepts on mental health intervention as well as the role of the school in socio-emotional recovery. The activities of socio-emotional support include tutorial meetings, games, and recreation dynamics.

## 5. Analysis of the outcome (constrains, needs)

The following points are highlighted from the education sector diagnosis in the Sector Strategic Plan:

- There is not physical information, only partial information on past events that had a considerable effect in the education sector, for example, damages produce by El Niño 82-83 and 97-98 that affected the education infrastructure, and others recent earthquakes and strong’s rainfall that affected several regions.
- There is not information on education infrastructure in the diagnosis chapter of the Multiannual Sector Strategic Plan 2002 – 2006 Education Sector. The sector just recently is working with the Office of Tutorial and Integral Prevention (Disaster Prevention National Program) in coordination with the Office of Education Infrastructure to create a database for disaster prevention and attention, currently in process.
- Previously the Education Sector had the control and management of the national schools construction, increase, and repairs budget, but a new entity was created in the 90’s to manage the education and health investment budget giving a passive role to the sectors in the construction programs. There are complains about the quality of much of those works.
- The rural schools are highly vulnerable to disasters, mostly because the construction materials used: adobe, stone, quincha (a local construction system), etc.
- Of the national official registered school approximately 11.64% are in critical state of damage.

<sup>42</sup> CRID - Coloreando conocemos el riesgo de desastre en nuestra comunidad - Soluciones Prácticas-ITDG; Perú. Sistema Regional de Defensa Civil (SIREDECI). Programa Prevención de Desastres y Gobernabilidad Local; Welt Hunger Hilfe; Save the Children; Comisión Europea. Departamento de Ayuda Humanitaria (ECHO), s.f.

<sup>43</sup> CRID - Reducción de riesgos de desastres y respuestas a emergencias desde las instituciones educativas: Texto escolar para uso de alumnos de tercer y cuarto grado de primaria - Ministerio de Educación; Soluciones Prácticas-ITDG; Welt Hunger Hilfe; Comisión Europea. Departamento de Ayuda Humanitaria (ECHO), 2008

<sup>44</sup> CRID - Tú y yo para prevenir y atender desastres - Ministerio de Educación. Oficina de Tutoría y Prevención Integral (OTUPI), 2005

<sup>45</sup> CRID - Guía de recursos pedagógicos para el apoyo socioemocional frente a situaciones de desastre: La experiencia de Ica: "Fuerte como el Huarango Iqueño" - Ministerio de Educación. Dirección de Tutoría y Orientación Educativa; UNESCO, marzo 2009



- Three factors determine the state of emergency and the priority of attention: safety, healthiness, and the poverty index.

The infrastructure diagnosis of the Sector Strategic Plan does not include any specific analysis of the infrastructure conditions or vulnerability.

The human resources diagnosis comment that the teachers had not given the importance required to the issue, even though they show some interest in organizing and participating in evacuation exercises but the final result is undermined due to:

- Insufficient culture of prevention. Dedication and resources are directed mostly to common activities, reducing or denying importance to prevention activities.
- Teachers do not have the training to develop prevention actions because it was not included in their career training.
- There is a high rotation of specialist; today's intermediate trainee will not be tomorrow in the same post where he or she was trained on the issue.

The communication system diagnosis mention that the Ministry of Education has a partial radio network in rural areas; but all the intermediate organisms are not covered, mostly in the border, high altitude, and rainforest zones. About 60% of the intermediate organisms do not have communication equipment. Also, the network does not have specific norm and procedures for emergencies and disasters situations.

The SOWT analysis of the Sector Strategic Plan includes the following:

- Strengths:
  1. Trained specialist teams with experience in emergencies and disasters prevention and attention.
  2. Initiation of the implementation processes of local networks on disaster prevention and attention in the Ministry of Education.
  3. Availability of a disaster prevention programs responsible person in every intermediate organism in the country.
- Opportunities:
  1. Civil Defense National System norms and guidelines available that promote disasters prevention and attention plans elaboration and actions articulation.
  2. Intermediate and long term sector and institutional vision.
  3. Start of the disaster prevention management decentralization process throughout intermediate organisms.
  4. Disaster prevention thematic content transfer throughout established agreements.
- Weaknesses:
  1. Internal and external weak coordination to elaborate, implement, develop, and finance prevention, mitigation, and response plans.
  2. Schools medium and high physical and educational vulnerability.
  3. Rare norms to regulate risk and disaster management processes.
  4. No priority to finance risk management.
- Threats:
  1. Permanent probability of destructive events in different geographic areas that threatens low income education communities.

2. Increase in social events that produce new risks and damages to the education community.
3. Teachers and students behavior and life style increase risk facing bigger damages in emergencies and disasters.

The unified form for integral risk management in schools developed by UNESCO Peru has not been applied yet.

The HFA 2007-2009 report include the following comment on context & constraints:

“In reference to the Ministry of Education, there is not enough support, communication, and participation in the implementation of the “Learning to Prevent” Program.

The culture of prevention is developing, which teachers for post-grade and post-title are rare.”

The HFA 2009-2011 interim report include the following comment on context & constraints:

“The Ministry of Education needs to include in its curriculum policy the Disaster Risk Management specific issue in an independent manner from other risk situation faced by the students.

The Local Education Management Units (UGEL) and the regional and local governments need to be strengthened to assume a leading role in the context of education decentralization.

The matter mentioned in the school curriculum is science and environment which not necessarily talk about risk management, but introduce the students to natural and environment matters. However, in some cases they include or give more importance to the risk issue, mostly focus on having the earthquakes’ drills mandated by the government.

The Geology, Mining and Metallurgy Agency (INGEMMET) is working in “Geology for Students” including in their webpage educational material that could be considered as an important toll to learn geo-scientific information that may be applied in disaster prevention plans.

RRD as transversal issue needs to be included in the universities curriculum. Only postgraduate programs are known in some universities nationwide.”

## Tajikistan

### 1. Hazards and risk knowledge (assessment)

Four studies provide information on the identification of natural hazards posing threats to schools, regular reassessment of risks, and risk's awareness to the school population and the local community:

- 1.1. The inclusion of buildings with priority social significance of Dushanbe in the analysis of seismic vulnerability (Secondary schools, preschools (kindergartens), hospitals, clinics)<sup>46</sup>
- 1.2. Status of Seismic Observations and Research in the Republic of Tajikistan<sup>47</sup>
- 1.3. Analysis of the National Census of Schools Findings and Education Management Information System Data for 2008 – 2009<sup>48</sup>
- 1.4. TESI – Rapid Risk Assessment Data<sup>49</sup>

Following are the summarized main findings on this dimension:

1.1. The inclusion of buildings with priority social significance of Dushanbe in the analysis of seismic vulnerability (Secondary schools, preschools (kindergartens), hospitals, clinics) project report includes the following content, among other issues:

- Inspection of school buildings and preschools
  - Visual inspection of buildings and identification of the most damaged of them – Instrumental study of the states of the most damaged buildings
  - Instrumental inspection the most damaged buildings - Determination of deformations of the most damaged buildings
  - Construction materials hardness tests
  - Measurements of the micro-seismic oscillations levels of different elements on the ground and stories of the most damaged buildings
  - Contingency preparedness of personnel, staff and facilities in the Dushanbe offices to possible emergency situations, connected with earthquakes (this part is developed in the “Systems, procedures and skills” section below)
- The vulnerability assessment of school buildings and kindergartens
  - Evaluation of seismic vulnerability of buildings to earthquakes 7, 8 and 9 points

Findings of investigation of the secondary schools:

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<sup>46</sup> TAJIKISTAN Project DIPECHO V ( 00059492) «The inclusion of buildings with priority social significance of Dushanbe in the analysis of seismic vulnerability (Secondary schools, preschools (kindergartens), hospitals, clinics)" REPORT For the work period November, 17 2009 - March, 1 2010

<sup>47</sup> FINAL REPORT by international consultant Dr. Nataliya Mikhailova on the “ Status of Seismic Observations and Research in the Republic of Tajikistan” GFDRD – ISDR – CAREC- July August 2010

<sup>48</sup> Ministry of Education of the Republic of Tajikistan and EFA Fast Track Initiative Catalytic Fund analysis of the National Census of Schools Findings and Education Management Information System Data for 2008 – 2009 report by M.L. Agranovich, Dushanbe, July 2010

<sup>49</sup> Excel document with Tajikistan School Safety Information - TESI - RapidRiskAssessment\_18May2010.

During the work period, 46 schools were examined in the Sino district; 25 - in the Firdausi district, 20 - in the Shohmansur district and 16 - in the I. Somoni district, i.e. more than 90% of properties scheduled for the examination.

Almost all surveyed sites are not endangered by geological processes of emergency levels. Landslides, avalanches, rock-falls and floods were excluded from the group of geological processes at the emergency level after the first round of surveys because their manifestation was not identified during the inspection. Torrents of water and mudflows and sinking (siltation) processes were identified on some school sites, mudflows are a potential threat to a number of schools.

Regarding the process of groundwater level rising, it wasn't practically observed during the time of the inspection. The groundwater lifting is a seasonal phenomenon and depends on many environmental factors (prolonged rainfall) and technical device (leakage of water from sewage and irrigation systems, the very poor ditching). For example, almost a year round the site of one school in the Firdausi district is prone to flooding due to lack of irrigation tray.

Findings of investigation of the preschools studies:

During the work period 83 preschools of Dushanbe have been inspected, all items scheduled to inspection. No threats from the processes of geological origin have been identified for the terrains of their locations.

The visual inspection of buildings was based on the criteria for assessing the vulnerability of buildings to seismic shocks, which are recommended by the Russian (MSK-64, 86), European (EMC-8) and American scales (PAHO - Pan American Health Organization. Safety Hospital Index Guide, Washington, USA, 2008). A Form-card was compiled for visual inspection groups with the following items:

- General Information: date and time of the inspection, school name, address, total area in m<sup>2</sup>, building area in m<sup>2</sup>, year of construction, staff, functionality, plan of building, altitude mark and coordinates of location, image of building, inclination of the site plane, availability of additional squares, and major repairs or reconstructions done to the buildings.
- Assessment of structural vulnerability: building type (description of the main buildings), existing damage (a detailed description of the damage and determination of the degree of damage), types of soils, type of foundation, and roof.
- Availability of utilities and their state: water pipes, hot water, sewage, and heating.
- Architectural elements: partitions, ceilings, lighting systems, glazing, facades, cornices, parapets, and floors.
- Conclusion on the state of the building: condition of property including structural characteristics (structural engineering); non-structural characteristics (non-bearing elements); administrative and organizational characteristics (maintenance, teaching and administrative functions, supply, food), and the needs to perform maintenance activities, strengthening or housekeeping.

The inspection also includes photos of the schools, technical documentation and characteristic damage, the group of the visual inspection (names of executors, signature, and date)

Evaluation of seismic vulnerability of buildings to earthquakes 7, 8 and 9 degree:

During the work period of the Project 198 schools of Dushanbe were investigated, among them 115 schools, 83 preschools (kindergartens). Information regarding the construction sketches of the school buildings investigated is as follows:

- 2-3 storey carcass panel constructions, erected on standard sketches in mid 1970-80 that consider contemporary requirements to seismic stability;
- 2-3 storey buildings of break complex construction erected following standard sketches mainly in mid 60s. There are buildings erected following standard sketches in 1980s. The buildings have been built in accordance of seismic stability norms;
- 2 storey break buildings with wood coverings not responding requirements of contemporary seismic stability norms;
- 2 storey and higher large panel buildings, built considering requirements of contemporary seismic stability norms;
- 1 storey buildings with walls of clay materials, not responding requirements of contemporary seismic stability norms;
- 1 storey woody sheet one, including carriages, referred as temporary operating buildings.

The following are major factors influencing the rising of the school buildings' seismic vulnerability:

- Impact of strong and felt past earthquakes;
- Construction decisions that do not satisfy requirements of functioning codes on seismic safe building (revealing of sub-setting properties of looses soils, serving as basement for significant number of buildings of Dushanbe city, falling in them waters from water connection system, and water removal lead to their deformations and consequently to the damages of buildings);
- Deteriorated condition state of water bearing systems;
- Significant physical wearing-out of constructions, mainly, coverings and finishes;
- Damages of water removal system from buildings (water sewage, pavements, water accumulation shoots);
- No controlled growth of trees around the building

Estimation of technical states of schools and analysis of data collected during the investigations has been done in accordance with the clauses of European macro-seismic scale EMS-98. For the implementation of practical works on assessment of existing damages degrees of the buildings investigations the narrative part of the EMS-98 scale was supplemented by the clauses of MSK-86 scale. All surveys of the building were classified in relation to the scale EMS-98.

The assessment of potential damage to the buildings surveyed in the designed earthquake was made considering clauses of Earthquake Engineering, i.e. in a single building under the designed earthquake there may be damage of the single elements that impede the normal operation of the building. It must be ensured a safe stay of people inside it and safety of valuable equipment.

During the conducting the investigations it was found that quite a number of schools have different damages, represented by spreading of cracks in their bearing and nonbearing constructions, by contouring over hanging panels and plates of closings, displacements of single elements in horizontal and vertical planes, partial destruction of block-work walls, out-layer and destruction of plastering layers, etc. It was paid attention to the state of over-ground and sub-ground connections, state of soils, underground waters level, spreading of techno-generic waters because of leakages from connections, destructive action of trees growing beside the buildings.

All of this information about damages of constructions in the building inspected has been included in the Form-cards as the result of observations. Based on these Form-cards a scenario has been composed on seismic vulnerability of buildings under the impacts of 7, 8 and 9 degree earthquakes. A data base with maps displaying all the school information in the form of tables with parameters, photos, etc was produced. As a result of the work a GIS data base was created based on ArcGIS Desktop software, which can be used in a future.

Based on the results of observations conducted the report concluded as follows:

- a. Among 115 schools investigated 32 don't satisfy contemporary requirements of seismic stability codes. Moreover, the majorities of them (19 schools) are in deformed state and have damage degree d2, and therefore, in case of 9 degree earthquake these schools would have destruction degree d5 –“total collapse” and in case of 8 degree earthquake the damage degree would be d4 – “very severe destructions”. Two schools (No64 and 69) were erected with use of clay materials and in need of removing it out, the damage degree d3 (deteriorated). All 32 schools require conducting reinforcement of bearing constructions.
- b. Among 115 schools observed 81 satisfy contemporary requirements on building codes of seismic stability. Nevertheless, the majorities of them (34 schools) are in deformed state and have the damage degree d2. These schools need retrofitting with partial reinforcement of bearing constructions. Two schools have the damage degree d3 (deteriorates) and in need of urgent reinforcement.

Preschools (kindergartens):

- a. Among 82 preschools investigated 27 ones do not satisfy contemporary requirements of seismic stability codes. Moreover, part of them (7 kindergartens) are in deformed state and have damage degree d2, six have damage degree d3 (deteriorated). All 27 kindergartens require reinforcement of bearing constructions.
- b. Among 82 preschools 54 satisfy contemporary requirements of seismic stability codes. Nevertheless, the majorities of them (19 kindergartens) are in deformed state and have damage degree d2. These kindergartens need in retrofitting with partial reinforcement of bearing constructions.

1.2. The Status of Seismic Observations and Research in the Republic of Tajikistan final report provides the following information on activities of other agencies and organizations associated with promotion of seismic safety:

Over the last 10 years, SANIIOSP Research, Design and Survey Institute of the Directorate for Construction of Government Facilities under the Executive Office of the President of the

Republic of Tajikistan, surveyed over 500 facilities most of which are located in Dushanbe. The range of surveyed buildings is rather wide including administrative, public, residential buildings, institutions of higher and secondary education, preschool, medical, and other facilities. Based on results of an integrated survey of a facility conclusions are developed regarding its technical condition. Specific recommendations are given regarding measures to ensure future normal operation of the surveyed facility (rehabilitation, retrofitting, reconstruction, reinforcement methods) or it's dismantling.

- 1.3. The Analysis of the National Census of Schools Findings and Education Management Information System Data for 2008 – 2009 report in the section on conditions of learning describes the state of buildings and incorporates that the National Census of Schools (NCS) data show that condition of the infrastructure in the Republic of Tajikistan system of primary and secondary education is one of the key problems in the system. It includes information on:
- portion of comprehensive secondary school buildings which are in a dangerous state and number of students therein,
  - portion of comprehensive secondary school buildings requiring major repairs and number of students therein, and
  - portion of comprehensive secondary school buildings with all modern conveniences (electric and water supply, sewage system), and number of students therein.

The conditions of learning continue with the usage of school capacity and number of shifts and class size.

- 1.4 The TESI – Rapid Risk Assessment Data document includes the following three worksheets:
- a. SRAD - Elements of Risk (Hazard, Vulnerability and Capacity),
    - Hazard: Seismic Zone, Avalanche, Flood, and Debris flow
    - Capacities: Disaster Preparedness Training, Access to Wireless Communication System, Stockpile, Safe Haven, Power/ Electricity, Food Security, Income, Accessibility, Year Round First Aid Kit, Fire Extinguisher, Emergency Management Plan, Emergency Exits
    - Vulnerability: Total Population, Number of Floors
  - b. School Raw Data, includes the elements of risk by location: City and Schools (name/#), and
  - c. School Rapid Risk Index includes the risk index results for each school.

## **2. Structural and non structural safety (safe construction retrofit initiatives)**

UNICEF Tajikistan has engaged in construction activities as part of emergency response during the last 3 years. Following the flooding in Sughd and Khatlon regions of Tajikistan, 2 schools have been completely destroyed by the disasters. Taking into account acute need to provide adequate education facilities UNICEF has intervened with assistance for the reconstruction of these 2 schools. One school in Sughd region has been completed in 2010 and the construction of the second school in Khatlon region is currently in the preparation stage. In addition UNICEF Tajikistan has been implementing rehabilitation of few schools in different parts of Tajikistan. All of the construction and rehabilitation activities undertaken with support from UNICEF Tajikistan are in compliant with the State construction norms and standards developed for

schools. In order to comply with these norms and standards UNICEF Tajikistan use official drawings and specifications approved by the State Agency of Construction and Architecture. Any school or other construction facilities must undergo the analysis of the commission under the State Agency of Construction and Architecture against compliance with construction norms and standards.

As it relates to the non-structural safety UNICEF Tajikistan under DIPECHO funding will be engaged in implementation of the non-structural mitigation activities in 16 project target schools located in disaster prone remote locations. There is no confirmation if any officially approved State Document requesting non-structural mitigation while school construction or before starting education process in schools. But number of international partners such as Save the Children, Mission East and OXFAM implement training on the non-structural mitigation as part of disaster preparedness in schools.

### **3. Systems, procedures and skills (emergency preparedness plans implementation & policies)**

A survey carried out under the project “The inclusion of buildings with priority social significance of Dushanbe in the analysis of seismic vulnerability (Secondary schools, preschools (kindergartens), hospitals, clinics)” is also devoted to evaluating nonstructural preparedness of these schools to emergency situations such as earthquakes. The surveys of these schools were conducted on questionnaire developed also in the form of "Form-card". Mainly the survey was conducted on sites with heads and officials responsible for the work on the policy of emergency situations and disaster preparedness plans in these schools.

The information collected in the Form-card was: the availability of land for temporary accommodation in case of emergencies, if there is a disaster management plan, if there is untouchable stock, if education action is conducted to sets out the disaster management plan, and if practical exercises are conducted.

The results of the survey show that there are plans of actions in case of disaster in the schools with the support from several international organizations. There is an agreement between the staff of Emergency Situation and Civil Defense Institutions of Dushanbe with the Ministry of Education of the Republic of Tajikistan on "The basis of preparedness and civil defense to Emergency", mainly during earthquakes. The training programs for students in all schools have been developed. In addition, according to the plan of the main measures of Dushanbe city on civil defense for the prevention and reduction of consequences of emergencies, in all schools of the city the trainings are conducted. In four schools in different districts of the city “The Day of Civil Defense” is show on the prevention of emergency situations, where staff of Emergencies and Civil Defense, the students themselves, and staff of schools participate. It should be noted that the only flaw in the educational institutions is the lack of provisional stock and, in some schools, plan of actions for the reduction of emergency situation are uncompleted. Regarding pre-school institutions it should be noted that there haven't still foreseen the plans for the Civil Defense.



The final report on the World Bank “Status of Seismic Observations and Research in the Republic of Tajikistan” in the section on regulatory and legal framework governing issues of seismic safety in the Republic of Tajikistan includes the National Disaster Risk Management Strategy of the Republic of Tajikistan for 2010-2015. The Strategy comprises five components each containing goals, objectives and specific actions. The Component 5: Knowledge Management: education, trainings and public awareness is as follow:

Purpose: Mitigation of disasters through improved knowledge exchange and education

Objective: Create the national infrastructure responsible for raising awareness about the possibilities and practices of disaster risk reduction through information exchange, education and training.

Expected outcomes:

- National Program for informing the public to create the culture of safety in the event of natural disasters on the basis of multi-hazard prevention and reduction is being implemented;
- school students are informed about disaster risk reduction;
- awareness level of graduate students about disaster risk management is raised;
- awareness level about disaster prevention and recovery among civil servants has increased;
- University teachers' capacity in terms of knowledge, techniques and skill related to disaster risk reduction has improved.

Implementation of the Strategy will be funded out of grants from international organizations and budgetary funds to be allocated annually to respective ministries and agencies.

UNICEF Tajikistan under a DIPECHO project is implementing activities in 16 schools which include simulation drills in schools, provision of school disaster preparedness equipment and developing School Disaster Preparedness Plans and establishing School emergency committees. All of the steps included in this dimension are implemented by UNICEF Tajikistan, other DIPECHO partners, and by the Committee of emergency situations once a year during the Civil Defense day on 01 March every year.

UNICEF Tajikistan is currently making efforts on integration of DRR in the school education system including structural and non-structural safety, systems and skills. To date recommendation has been developed by UNICEF Tajikistan on the approach and options for DRR integration in the school education and at a later stage UNICEF will be engaged in developing an Action Plan for DRR integration in education.

#### **4. Curricula (education as platform for culture of safety)**

Teaching disaster risk reduction as part of the regular school curricula information is found in the National Hyogo Framework reports<sup>50</sup>.

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<sup>50</sup> National report on the implementation of the Hyogo Framework for Action: Priority 3, core indicator 3.2: School curriculum, education material and relevant trainings include disaster risk reduction and recovery concepts and practices. Know the Risks and Take Action. Reporting period: 2007-2009 and 2009-2011 – interim

The HFA report 2007-2009 on this particular issue gives to the country a level of progress achieved: 3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial, such as financial resources and/ or operational capacities, and includes the following description:

“Inclusion of risk reduction in the systems of official and informal education, use of the knowledge and experience in forming the culture of safety and the ability of communities and general population to withstand disasters at all levels are important aspects in reduction of risk of natural disasters.

In this connection the Government of the republic of Tajikistan, the Committee for Emergency Situations and Civil Defense (CoES and CoCD) and the international organizations active in this sphere work out and introduce the system of measures for provision of the population with understandable information on threats and disasters and the ways of their prevention and protection.

The system of the local organs of state power develop the local, regional and national systems of information, reference books for exchange of information on successful practices, inexpensive and accessible technologies in reduction of risk, and the lessons learned in regard of policies, plans and actions for reduction of loss from disasters.

The Training and Methodological Center of CoES had worked out the system of trainings and educational programs for management of natural disasters for executive official persons making decisions in the system of state power, local self-governance, units of CoES, members of vulnerable communities, subjects of economy, and general population in basic knowledge of prevention and recovery after emergency situations. In 2006-2007, with the support of the Swiss Office for Cooperation and Development (SDC), UNDP Disaster Risk Management Program and international consultants the programs and materials of the Center were significantly amended and updated, for inclusion, instead of themes and materials of civil defense oriented to civil defense in military situations, the themes on preparedness for natural disasters, their prevention and response.

International and donor organizations continue to play significant role in management of natural disasters, in Tajikistan and in the entire Central Asia. In this connection, the program of SDC for 2004-2008 should be noted, which is implemented in Tajikistan and in the other countries of Central Asia, aimed at improvement of awareness and the potential of the government structures and communities, prevention and mitigation of natural disasters, at the same time ensuring sustainable development, reduction of poverty through resolving the issue of reduction of disasters.

The European Commission Humanitarian Office implements the program for preparedness for natural disasters in Central Asia (DIPECHO) for since 2003. A number of international organizations had implemented projects in Central Asia in amount of more than 9 million Euro; most of the projects were implemented in Tajikistan. The Red Crescent Society of Tajikistan, German AgroAction, UNDP DRMP, ISDR, Mission East, Oxfam, Caritas and others made significant contribution in this work in almost every region of the country. GTZ is beginning a

large project in the Zarafshon valley, which includes educational activities and training in preparedness and enhancement of awareness of the population, training of rescuers, etc.

That would allow increasing awareness of the population, improve the potential in risk management, in prevention of disasters and recovery, facilitate cooperation among organizations working in the field of emergency situations, and incorporate the aspects of reduction of risk of disasters in development plans at local and national levels.

On the basis of the joint work and research of UNDP DRMP, UNISDR and Ministry of Education of the Republic of Tajikistan, the inclusion of special disciplines (subjects) in the program of official education is considered, in the field of reduction of risk of disasters, in the relevant sectors of curricula of pre-school, secondary and highest education.”

The HFA report 2009 – 2011 interim gives the same level of progress achieved and says that DRR is not complete included in the national educational curriculum with the following means of verification:

- \* No: Primary school curriculum
- \* No: Secondary school curriculum
- \* No: University curriculum
- \* No: Professional DRR education programs

It gives the following description:

“Mainstreaming of disaster risk reduction issues into the system of official and informal education, using of knowledge and experience for forming culture of safety and ability of communities and population to resist to disasters on all levels is an important aspect of disaster risk reduction.

In this connection, Government of the Republic of Tajikistan, the CoES and international organizations, active in DRR field are elaborating and integrating system of measures, which will supply the population with catchy information about the hazards, disaster risks, as well as disaster preparedness and prevention methods.

Within the Government structure, different information exchange systems are being established; different reference books with the best practices on effective and efficient disaster risk reduction measures, including lessons learned are being developed.

CoES Training Center has developed training system, which includes different manuals and training packages on disaster management and intended to train the state decision makers, local authorities, representatives of public sector as well as private sector, CoES staff, and members of vulnerable communities, the basic knowledge of disaster prevention and response. In 2006-2007 with the support of the SDC and UNDP and by attracting international consultants training programs and materials for this Center were significantly changed and updated, for example instead of themes dedicated to civil defense during wartime there was introduced themes about disaster preparedness, prevention and response.

International donor organizations played and still are playing significant role in the field of disaster risk management both in Tajikistan and the Central Asia as a whole. In this connection it should be highlighted that the Program of the Swiss Agency for Development and Cooperation for 2004-2008, implemented in Tajikistan and other Central Asian countries and directed to increase awareness and strengthening capacity of governmental structures, communities, prevention and mitigation of natural disasters consequences simultaneously ensuring sustainable development, poverty reduction in solving problems of natural disaster reduction.

The Office of the European Commission for Humanitarian Aid implements Disaster preparedness Program in the Central Asia (DIPECHO) since 2003. 9 million EUROS were delivered by international organizations in the Central Asian countries for implementation of projects, majority of which were implemented in Tajikistan. Organizations like RCST, UNDP, ISDR, Mission East, Oxfam, Caritas and etc. significantly contributed almost in all regions of the country. At present implementation of GTZ large-scale project for the Zeravshan valley is coming to an end, within the framework of this project it is also envisaged instruction and trainings for preparation and increasing awareness of population, preparation of rescuers and etc. The last of such trainings with the participation of local and international governmental and nongovernmental organizations was held in Shing jamoat of the Panjakent district on October 26, 2010.

This allows significantly improve awareness of population, to strengthen capacity for risk management, to prevent and respond the disasters, to assist in strengthening cooperation of agencies working in the field of DRM and to mainstream DRM into development plans on local and national levels.

Disaster risk reduction was included into school curricular and curricular of Universities, with the support UNDP and UN ISDR. Within the framework of implementation realization of the Hyogo Framework of Action in the field of disaster risk reduction in education the following were elaborated:

- Program of “Teaching schoolchildren of 2nd and 6th forms of comprehensive schools of the Republic of Tajikistan the basis of preparedness for emergencies and civil defense” – put in action on September 1, 2009.
- Program of preparation and teaching students of higher education institutes of the Republic of Tajikistan the basis of preparedness for emergencies and citizen defense” – put in action on September 1, 2010.

On April 15, 2009 the trilateral Memorandum of Understanding was signed among the Ministry of Education of the RT, the CoES and representative office of the UN Children’s Fund (UNICEF) for the implementation of the joint project “Support of Disaster Risk Reduction in vulnerable communities of the Central Asia”. The purpose of signing of the Memorandum was establishment of cooperation and partnership among parties for the implementation of requirements of the Hyogo Framework for Action for 2005-2015 with the accent to disaster risk reduction in education according to Priority #3 of this framework.

Within the framework of realization of this project specialists from the CoES with the support of the UNICEF chose 510 vulnerable schools, from among which 21 schools were prioritized for the implementation of pilot projects. With the financial support of the UNICEF 10 trainers were chosen from among instructors of the Training Center of the CoES as well as regional and district courses of CoES, who attended training for professional development on topic “Disaster Risk Reduction in the sphere of education”.

At the end of this training certain teaching materials were adapted to the conditions of the RT and translated to Russian and Tajik languages.

Instructed trainers were distributed to regions for further transfer of acquired skills to 1020 teachers of schools, 310 leaders of communities and heads of education departments of pilot regions. Prepared teachers educated more than 130 thousand schoolchildren of 6-11th forms, and community leaders held discussions and meetings with community people.

In addition to received teaching materials, according to regulatory-legal acts on emergencies specialists of the Committee developed certain important documents (for example, “Plan of preparation and elimination of emergencies in secondary school”, “Regulations of brigade units in comprehensive schools”, “Regulations of emergencies staff in comprehensive schools” and etc.) and handed them over to each pilot school.”

A study on “Integration of DRR into Curriculum/ Formal Education in Tajikistan Review and Recommendations”<sup>51</sup> was performed with the main objective of developing an action plan to incorporate DRR aspects into the formal education/ the school curriculum. Under this objective two major tasks were performed:

- Reviewing existing education policies and standards as well as other relevant documentation to assess the status of DRR education in Tajikistan
- Developing recommendations and an action-plan to integrate DRR into formal education/ the curriculum

The final report includes recommendations and a draft final action plan on the integration of DRR into education.

A middle school earthquake science and hazards curriculum<sup>52</sup> was developed to promote earthquake awareness to students in the Central Asian country of Tajikistan. These materials include pre- and post-assessment activities, six science activities describing physical processes related to earthquakes, five activities on earthquake hazards and mitigation strategies, and a codification art/literacy project. This curriculum was implemented with 43 middle school students in Dushanbe, Tajikistan in the winter of 2008. The effectiveness of each curriculum component in communicating the causes, effects, and mitigation strategies associated with

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<sup>51</sup> Final Report Integration of DRR into Curriculum/ Formal Education in Tajikistan Review and Recommendations - March 19<sup>th</sup>, Alexandra Galperin, Independent Consultant

<sup>52</sup> Earthquake emergency education in Dushanbe, Tajikistan - National Association of Geoscience Teachers (NAGT) - Mohadjer, S; Bendick, R; Halvorson, S; Saydullaev, U; Hojiboev, O; Stickler, C; Adam, Z - *Journal of Geoscience Education*, v. 58, n. 2, March, 2010, p. 86-94

earthquakes to young people was examined and significant improvements in seismic and earthquake hazards literacy as a result of the program were found.

## **5. Analysis of the outcome (constrains, needs)**

There is a good deal of activities performed in hazards and risk knowledge (assessment), structural and non structural safety (safe construction retrofit initiatives), systems, procedures and skills (emergency preparedness plans implementation & policies), and curricula (education as platform for culture of safety). Particularly in this last issue the HFA 2007-2009 report include the following comment on context & constraints:

1. Shortage of time allocated in the school curricula for the special disciplines in reduction of risk of disasters
2. Lack of literature in the field of natural disasters
3. Lack of correlation between brochures, booklets, and other teaching and information materials for increasing awareness of groups of population developed by various organizations in the area of natural disasters and preparedness
4. Duplication of activities in increasing awareness of various groups and categories of population in the same region
5. Lack of connections among specialists of research institutions, organizations implementing projects in increasing awareness and preparedness for natural disasters, and the local population
6. Shortage of qualified specialists
7. Low potential of state institutions
8. Shortage of financial support.

The HFA 2009-2011 interim report include the following comment on context & constraints:

1. Insufficient number of academic hours in school curricula for special disciplines concerning disaster risk reduction
2. Lack of sufficient amount of special literature concerning disasters
3. Disconnectedness of brochures, booklets and other materials of visual propaganda of awareness increase of different strata of population about natural disasters and preparation for them, developed by different organizations
4. Overlapping of awareness raising measures of different groups and strata of population in the same region
5. Lack of close connection between specialists of academic institutions, organizations carrying out projects for awareness raising and disaster preparedness of population.
6. Shortage of highly qualified specialists
7. Weak capacity of state organizations
8. Lack of financing

## Conclusion and Recommendations

Most of the countries included in this baseline study provided the information requested on the four dimensions included in the study. The information provided was basically the activities developed by the Government through their national and local agencies in charge of education, school infrastructure, and emergencies response; the activities developed by International Organization and NGO's working in disaster reduction activities in the education sector; and the Hyogo Framework for Action national reports, mostly produced by the national emergency response agencies, that included information on the curricular issue that mostly reflects the emergencies response agencies points of view and not necessarily the point of view of the education sector.

Further activities to develop more in-depth baseline at the national levels will require developing a specific methodology to collect the information in each country based on the methodology proposed in this study. For this purpose, two teams will need to be created to collect and analyze the information. One team will focus on hazards and risk knowledge to assess risk, vulnerability, hazards, and capabilities, and on structural and non structural safety to evaluate safe construction and retrofit initiatives. This team must be created with personnel specialized in the building industry, architects, engineers, etc., and natural hazard scientific information specialists. The other team will focus on systems, procedures and skills to analyze emergency preparedness plans implementation and policies, and curricula to analyze education as a platform for a culture of safety. This team must be created with personnel from the education sector, teachers, curriculum specialists, etc., and emergency preparedness and response specialists.

Previous commitments made by national governments and assessment of the progress made on these commitments are still a pending issue. The recent Third Session of the Global Platform for Disaster Risk Reduction and World Reconstruction Conference, Geneva, 8-13 May 2011, identified as a critical steps to recall and act upon the commitments acquired at the Second Session of the Global Platform in 2009 that set targets for disaster risk reduction<sup>53</sup>. The commitments at the Second Session of the Global Platform in 2009 included:

- By 2011, national assessments of the safety of existing education facilities should be undertaken. (The main objective of this baseline study was to include the achievements of then selected countries in accomplishing this commitment as examples of experiences that could be replicated in other countries.)
- By 2015, concrete action plans for safer schools should be developed and implemented in all disaster prone countries.
- Disaster risk reduction should be included in all school curricula by the same year.

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<sup>53</sup> Chair's Summary - Third Session of the Global Platform for Disaster Risk Reduction and World Reconstruction Conference, Geneva, 8-13 May 2011 - <http://www.preventionweb.net/globalplatform/2011/>