Sector Project Disaster Risk Management in Development Cooperation

Sector Project Education and Conflict Transformation

Basic Education and Disaster Risk Management

Concept Paper

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Sector project - Education and Conflict Transformation
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By this paper the two sector projects "Education and Conflict Transformation" and "Disaster Risk Management" funded by the Federal Ministry for Economic Cooperation and Development (BMZ) introduced their concept in linking basic education and disaster risk management. It is aimed in particular at personnel in international cooperation engaged in promoting basic education, emergency/transitional aid, disaster preventive reconstruction and disaster risk management. Disaster risk management is about preventing disasters caused by natural events such as earthquakes, floods, landslides, storms or volcanic eruptions.

Connection between basic education and disaster risk management

More than 80,000 schoolchildren and 3,000 teachers in Sri Lanka were affected by the tsunami at the end of December 2004. Altogether 182 schools were destroyed. Ninety-five schools must be rebuilt at new, safe sites. Japan in contrast has already learnt its lessons from earlier disasters. Schools are earthquake-proof. Children are already made familiar with natural hazards at primary school and learn how to prepare for natural disasters. They always carry their small disaster kit with them: a pocket torch, a whistle and a pocket radio.

As these examples already indicate, the three core fields of activity for disaster risk management in the education sector are:

- instilling long-term risk awareness through risk mitigation methods
- training in lifesaving responses in emergencies
- construction of disaster-resistant schools.

Disaster risk management in basic education work

Risk awareness and risk-mitigating and lifesaving responses in emergencies can be imparted in both in-school and out-of-school education and via supplementary informational and instructional events.

A culture of safety and resilience calls for risk awareness on the part of citizens and a readiness to take preparatory measures. Education for disaster risk management instils this risk awareness. It is important here to account for and apply traditional and local knowledge of protection against natural disasters. One of the major challenges is making the complex cause-effect chains between human behaviour and environment understandable to children and youth. Education for disaster risk management can be imparted in different ways, for example through passing on experience in the family, education courses, informational events using new technologies (e.g. Internet) and media.

Education in risk and hazard awareness should begin already in early childhood so that it can take lasting root in society. Teachers, youth and children can act as multipliers for disaster risk management awareness in all social areas. There are many ways to assimilate risk management aspects in everyday life in and outside school. Teachers, children and youth must be made aware and given suitable information material for this.

Disaster risk management can be mainstreamed in in-school and out-of-school education, curriculum development and teacher training. The measures aim at

- enabling people to recognise and understand natural hazards and their significance for their personal environment and for social development,
- imparting knowledge and appropriate competencies for action in disaster prevention and mitigation in families, schools and communities,
- imparting knowledge on response measures in disaster and acute disaster management.

Informational and explanatory measures can also contribute to raising public risk awareness beyond formal education. On the annual International Day for Disaster Reduction, for example, UN/ISDR announced a writing and painting competition for children in Africa. At a ceremony, the winners were awarded prizes for their contributions, which were then published. This kind of event helps people to appreciate how they intervene in the natural environment and actively increase the risk of natural disasters. They also publicize measures in disaster risk management.

1 United Nations International Strategy for Disaster Reduction

Need for disaster-resistant school buildings

A safe school is located in a danger-free zone or has been built to withstand an extreme natural event. Schools can be made safe through measures such as land use planning, structural reinforcement and emergency plans. In the long run, improving quality and constructing new, safe school buildings should make up part of national development planning. A safe and disaster-resistant school is important to reduce the number of pupil and teacher casualties. In addition, schools are generally known refuges during and after a disaster. Explicit account must therefore be taken of these so-called safe havens in disaster management. Nevertheless, it is important to resume school operations as fast as possible after a disaster.

School buildings are a large investment for a municipality, so they should be built to last and that also means they need to be disaster-resistant, because building/rebuilding a school always incurs heavy costs and these place an additional burden on scarce budget funds in times of emergency.

2 United Nations Educational, Scientific and Cultural Organization

3 Hyogo Framework for Action 2005-2015. Building the Resilience of Nations and Communities to Disasters, http://www.unisdr.org/eng/hfa/hfa.htm World Conference on Disaster Reduction 18.-22.1.2005, Kobe, Hyogo, Japan. Hyogo Declaration, www.unisdr.org/wcdr

Specific lines of action for development cooperation

Under the International Strategy for Disaster Reduction - ISDR, UNESCO has undertaken to support research and development in know-how to make an active contribution to a resilient society. The contribution education can make to reducing vulnerability was also stressed at the World Conference on Disaster Reduction in 2005 in Kobe, Japan. Education is cited in the final declaration and specified in the plan of action for 2005-2015 as one of six major activities. As the population in poor countries in particular suffer from the consequences of extreme natural events, international development cooperation can make a substantial contribution here in three ways.

1. Introducing disaster preparedness measures in schools and educational facilities

- Schools prepare an emergency plan geared to the prevalent natural hazard and in line with the municipal emergency plan.
- Emergency plans are introduced and regular disaster drills conducted.
- Teachers are qualified to take suitable measures in the event of a disaster.
- The children are aware of the disaster risk and heed warning signs and signals accordingly.
- The schools are fitted out in line with international standards to function as safe havens and emergency shelters.
- The parents know that the school is a disaster-resistant refuge (safe haven) and that teachers are qualified to take appropriate measures in the event of a disaster.
- Regular disaster risk management training is carried out with teachers, pupils and parents.

2. Mainstreaming disaster risk management in education measures and informational and instructional events

__ Topics such as natural hazards, climate change and disaster risk management, including long-term prevention and disaster preparedness, make up part of the curricula for in-school and out-of-school educational work and teacher training.

__ Teachers and if necessary parents are trained in disaster risk management and relief.

__ Enough teaching materials for teachers and pupils have been developed and are available to integrate disaster risk management in relevant school subjects.

__ Hazard and risk awareness is raised through informational and instructional events in cooperation between the school/community and other organisations (fire brigade, Red Cross, etc.).

__ Support is given to national education ministries and national UN platforms for disaster risk management. Through best practices, case studies and contributions to dialogue events and conferences etc., the theme of education and disaster risk management is addressed in national and international decision-making processes (e.g. UNESCO International Decade of Education for Sustainable Development 2005-2015, the UNISDR campaign - Disaster reduction begins at school).

3. Building safe, disaster-resistant schools and educational facilities

__ Safe sites are defined in a detailed risk analysis.

__ New schools are built for disaster resistance in compliance with building regulations.

__ Existing schools are assessed and brought up to regulation standards through structural reinforcement if necessary.

__ Minimum standards for regional building regulations are developed and applied.

__ Special attention is paid to schools in land use and development planning.

Range of services by the sector projects disaster risk management and education and conflict transformation

1. Know-how transfer on strategies and instruments in disaster risk management, including project experience from Latin America, Africa and Asia.

2. Training for German development cooperation personnel in disaster risk management.

3. Advisory services in the following:

__ Preparing thorough risk assessments, taking into account sociocultural and socioeconomic aspects

__ Developing teaching and learning materials for mainstreaming disaster risk management in in-school and out-of-school education and in teacher training

__ Mainstreaming disaster risk management in curricula of in-school and out-of-school education as well as teacher training

__ Designing and running awareness and qualification courses for disaster risk management in teacher training

__ Implementing disaster preparedness measures

__ Capacity building in organisations and authorities for disaster risk management

To convey an idea of the practical shape projects can take, here are three examples of measures conducted by the German Technical Cooperation (GTZ) on behalf of the BMZ in Indonesia, Sri Lanka and Mozambique.

With their different approaches, the case studies show the different ways of implementing disaster risk management in education work as part of German technical cooperation.

Educational disaster risk management activities began in Indonesia with a sixmonth short-term measure in 2005. They have always been run by ongoing and established education projects - in Indonesia by the Science Education Quality Improvement Project (SEQIP). The training has been very well received and the recurrent headlines about new natural disasters underline how large the need is in Indonesia. A measure of how effective the project has been is the fact that all the pupils and parents trained survived the earthquake in Yogyakarta in 2006. The measures in Indonesia have been continued beyond 2005.

Disaster risk management in Sri Lanka makes up a component part of disaster prevention reconstruction. The project with duration of three years is attached to the Basic Education Sector Programme (BESP) and supports the Ministry of Education and the National Institute of Education in incorporating disaster risk management in curricular reform and teacher training. As part of reconstruction after the tsunami in 2004, the Sri Lankan government entrusted GTZ with the lead agency role for mainstreaming disaster risk management in education.

In Mozambique, including disaster risk management in local curricula is run by a pilot project in four schools in the Sofala region. Particular emphasis has been placed here on the connection between disaster risk management and climate change. Local cooperation has been carried out via the Rural Development Programme engaged in the region (PRODER), which is already successfully advising municipalities and disaster risk management (DRM) committees on disaster risk management and local early warning systems.

Project case study Indonesia: Disaster awareness in primary schools (daps)

Indonesia is afflicted by many natural disasters, such as landslides, volcanic eruptions, floods and earthquakes, the latter being the most frequent type of natural hazard due to the geology/tectonics of the country. That is why the project focuses on this.

The project, Disaster Awareness in Primary Schools aims to raise risk awareness in Indonesian primary schools and train the school communities to be able to respond in the event of disaster so as to prevent or minimise casualties as far as possible. The measure was implemented by the GTZ Science Education Quality Improvement Project (SEQIP).

To achieve this objective, training measures have been carried out in the following:

- Imparting knowledge on the causes and consequences of natural disasters, especially earthquakes
- Measures to take before, during and after an earthquake

Implementation steps:

Taking the background of Indonesian teachers into account

Conceptual knowledge is generally limited in the individual subjects. Training is often insufficient and only imparts a very limited range of teaching methods. The lessons revolve around the teacher at the centre, while the pupils are treated just as passive recipients of information with no interaction. Social and interactive modes of working, such as teamwork, are hardly ever applied. These practices can only be changed in the long term, as the experience gained by SE-QIP shows.

Information workshop and module development

In an initial workshop, the available material on the topic was examined to find out what could be used for the planned training courses. Although much was found, particularly dealing with volcanoes and tsunamis, the available material was unsuitable for planning the training courses. Most of it had not been prepared in keeping with target-group needs and conditions, was very wordy and almost impossible for the teacher and pupils to cope with. A new course and a training video by teachers for teachers were therefore prepared.

The courses take three days and are subdivided into eight different modules:

Module 1: Natural disasters and their causes
Module 2: Earthquakes and their consequences
Module 3: Early signs of earthquake disasters and measures to take
Module 4: Drafting evacuation maps for escape routes
Module 5: What to do during and after an earthquake
Module 6: First-aid methods and resources
Module 7: Role of the school community in earthquake disasters
Module 8: Earthquake management at home

Belief in supernatural forces and fatalism is common in Indonesia and natural disasters are accepted as admonitions and retributions. This basic attitude towards natural disasters hampers proactive disaster risk management and cannot be changed in three days. Nevertheless, appropriate and culture-sensitive methods can turn a fatalistic into an appropriate response because people are aware of risk and are concerned for their families.

Training of trainers

Altogether, 24 trainers were selected from the pool and trained by SEQIP advisers. A learning-by-doing approach was adopted for the training of trainers (ToT). All the trainers went through each step in the course themselves, just as the courses are subsequently to be given in the individual schools (e.g. taking cover under a school desk). The contents and modules were grasped and learnt quickly.

Selection of schools

To foster a sense of ownership and gain the support of the stakeholders in the local authorities from the outset, these were invited to information events. They also helped to select the schools to be trained. The individual districts were selected on the basis of the frequency and probability of earthquakes. Six schools were chosen in each of these districts, with two each forming one training group.

Training in schools

The concern was to heighten awareness of the need for regular evacuation exercises to make it an effective routine. To ensure this, the parents and the school committee were involved, also for the sake of the necessary transparency. Involving the school committee also made sure that the information was circulated to the parents via the training exercises.

Evacuation training comprised the following steps:

- Showing a video on evacuations from the classroom
- Evacuation from the classroom
  - Taking cover under the table or desk
  - Leaving the classroom
  - Assembling at an open location

Results and outreach:

- 24 people were trained as trainers
- 162 schools were selected
- Approx. 1,620 school members were trained
- Approx. 800 members of the school committee were informed
- Approx. 33,000 pupils were involved

Next steps:

Those involved repeatedly stressed the relevance of the training carried out, but they also pointed to the considerable need for similar measures for other kinds of natural disaster, particularly tsunamis, landslides and floods.

The project will develop suitable material and courses in a second phase.

Project case study Sri Lanka: Education for social cohesion, disaster risk management & psychosocial care (esc, drm & pc)

Owing to its geographical location, Sri Lanka is affected by many natural disasters, such as floods, landslides and storms. Due to widespread poverty and the densely populated 1,500 kilometres of coast, home to approx. 50% of the island inhabitants, the population is particularly vulnerable to natural disasters.

The tsunami flood disaster of 2004 also had a dramatic impact on education in Sri Lanka. Many schools were destroyed or converted into emergency shelters, which meant that no teaching took place for weeks. Up to 30% of the teaching posts are also vacant in the civil war zones in the North and East of the country. These problems have had a particularly severe effect on children and adolescents traumatised by the tsunami and the long civil war.

This is why the programme, Education for Social Cohesion, Disaster Risk Management & Psychosocial Care (ESC, DRM & PC) aims at enhancing the planning and implementation capacities of the education authority in charge of disaster risk management in schools and for psychosocial care of child and adolescent tsunami victims. To do this, the programme works with the Ministry of Education and the National Institute for Education (NIE), which it assists in mainstreaming disaster risk management into the regular teaching curricula as part of curricular reform. The government of Sri Lanka has accorded GTZ the leading role in assimilating disaster risk management in teacher training and school lessons.

The ESC, DRM & PC programme follows up on the Basic Education Sector Programme (BESP 2001-2005), where long-standing experience has already been gained in education promotion as part of crisis prevention and conflict transformation. Besides disaster risk management, the programme comprises components on peace education, teaching in both national languages (Sinhala and Tamil) and remedial instruction for underprivileged children and youth.

Implementation steps:

Training/Qualification of teachers, lecturers and functionaries

In the middle of 2006 in New Delhi, teacher's trainers and personnel from NIE and the Ministry of Education took part in an international training course on disaster risk management and schools. The 14-day course was specially developed by the Indian National Institute for Disaster Risk Management (NIDM) for educationalists from Sri Lanka. At the teacher training colleges, the skills and knowledge acquired are applied in workshops for teacher trainers and trainee teachers to introduce basic disaster risk management and practise the right response in emergencies.

Mainstreaming disaster risk management in teacher training

The curricula at the teacher training colleges are being revised so that disaster risk management can be included in the current subjects. In addition to the teaching activities, practical extracurricular measures are carried out, such as emergency exercises. Modules for disaster risk management are also incorporated into the postgraduate courses and the training of education management personnel and school principals (in cooperation with the Asian Disaster Preparedness Centre).

4 Ministry of Disaster Management and Human Rights: Towards a Safer Sri Lanka. Road Map for Disaster Risk Management. Volume 2: Project Proposals. Colombo 2006 (ISBN 955-1393-01-5)

Mainstreaming disaster risk management in schools through project-based teaching
The intention in Sri Lanka is to integrate disaster risk management into school lessons through project work. Grades 6-9 were selected for the introduction of project-based teaching. Based on lectures and workshops, pilot projects have been developed for project work in school to heighten disaster risk awareness. At present, these pilot projects are being tried out in 30 schools. After evaluating the experience gained, the plan is to develop manuals for teacher trainers and teachers supplemented with a resources toolbox for lessons.

Developing teaching and learning materials on disaster risk management
In summer 2005, an initial scheme for curriculum development was drawn up. The teaching and learning material available at national, regional and international level on the causes of natural disasters and disaster preparedness measures was collected, collated in a bibliography and appraised for didactic usefulness and quality. The NIE educationalists selected materials that were to be adjusted to the local setting and used in the school lessons. This material, some of which stemmed from the regional UNESCO workshop, is now being revised and duplicated, with the focus on interactive learning methods.

Promoting pupils' out-of-school social commitment
Interactive school-media clubs aim to improve the media and communication competency of the pupils and promote their out-of-school involvement. The essential focus is on conveying a message of peaceful coexistence and fostering an awareness of disaster risk. A drama festival on peace education and disaster risk management has also been organised.

Psychosocial care

Since the beginning of 2005, training measures in psychosocial care have been carried out by advisory teachers and principals. In 5-day training courses for teacher trainers, the newly prepared teacher's manual, Child Mental Health, was introduced. Organisational advice is being provided to help set up a department in the NIE for psychosocial care.

Results and outreach:

Target group:
__ Pupils and teachers of primary and junior secondary schools

Intermediaries:
__ Ministry of Education
__ National Institute of Education (NIE)
__ Basic Education Sector Unit in North-East Province
__ Psychological counselling services for schools
__ 17 teacher training colleges
__ 92 in-service teacher education centres
__ 30 pilot schools
__ Teachers

Next steps:

Together with NIE, a library for education and disaster risk management is planned for integration into the existing institute library. In psychosocial care, the intention is to develop a short training course for teachers whose schools were destroyed in the tsunami. A scheme has also been devised for setting up a mobile psychosocial service, which is being discussed with the project partners.

5 „Education for Natural Disaster Preparedness in Asia Pacific in the context of Education for Sustainable Development", UNESCO Bangkok. Bangkok, June 2006

Project case study Mozambique: Introduction of disaster risk management and climate change into local curricula in Mozambique

Mozambique numbers among the poorest countries in the world and suffers in particular from natural disasters such as droughts, floods and hurricanes. Population growth and spreading poverty over the last 20 years have made the people far more vulnerable. The dry periods last longer due to climate change and drought disasters occur more frequently in areas with no previous history of water shortage. An average of three hurricanes sweeps the coast each year and flood disasters are on the rise due to heavy rainfall under the influence of El Niño.

The rural population (altogether 4.5 million people) was struck by floods in 2000 that in combination with four hurricanes caused a huge disaster claiming 800 lives. Various projects addressing disaster risk management were then launched at local and national level as a contribution to poverty reduction and strengthening rural municipalities. In cooperation with the GTZ Rural Development Programme (PRODER), the Ministry of Education, the National Institute for Disaster Management (INGC) and the competent provincial authorities trained committees of volunteers in endangered villages that run an early warning system and pass on their know-how to the village community.

A new curriculum was introduced in primary schools in Mozambique in 2005. The special thing about this is that districts develop contents to meet local needs which then make up 20 per cent of the lessons. The schools must select relevant topics from culture and local traditions, religion, handicrafts, history, flora and fauna, etc. and prepare these for the lessons. A district committee and the provincial administration have approved the inclusion of disaster risk management so that it has already been assimilated along with climate change adjustment into the curricula at four different primary schools in the Sofala region as part of a pilot project.

Implementation steps:

First, the teachers were made aware of disaster risk management as an issue in informational events. Using participatory methods, relevant topics were then jointly prepared for local disaster risk management and developed in more depth as a basis for the new curricula. Next, the newly developed school curriculum was applied in four pilot schools. The training programme qualifies teachers, lecturers and other functionaries in disaster risk management, climate change and imparting teaching methods.

The programme lasts six days and is subdivided into the following modules:

Module 1: Natural disasters in Mozambique
Module 2: Basic concepts in disaster risk management and climate change adjustment
Module 3: Capacity building, decentralisation and responsibilities
Module 4: Disaster management tools for practical application
Module 5: Project day, where the theory learnt is put into practice in role play
Module 6: Excursion, e.g. presentation of a disaster committee

Disaster simulation
In a national disaster simulation, the flow of information in the early-warning system and the evacuation of the village community and the pupils were practised with the help of the local disaster committees in Monamicua in Búzi District.

Scenario: Hurricane Edith causes flooding in Búzi District. Owing to their exposed location, the highly endangered Zindoga people in Munamicua must be evacuated.

Participants: approx. 200 people from the village community in Munamicua, 88 members of the disaster risk management teams (GRC), teachers, pupils, various local and international development organisations (including the Red Cross, Unicef), radio and TV stations.

Results and outreach:

Target group:
__ primary and secondary school pupils and teachers in Búzi

Intermediaries:
__ Ministry of Education
__ National Institution for Education Development (INDE)
__ National Disaster Management Institute (INGC)
__ Village communities taking part in the flood warning system at the Rio Búzi SIDBAPP
__ Pilot schools
__ Teachers
__ Students of the teacher training college in Beira

Next steps:

Another workshop will evaluate the application of the new school curriculum to prepare the topics and teaching materials for higher secondary schools. Subsequent workshops will be carried out to raise teacher awareness.

6 Sistema Interdistrital do Previo-aviso da bacia do Búzi

Bibliography

__ BMZ (2004): Disaster Risk Management – Contributions by German Development Cooperation. Materialien 136. Bonn.
__ GTZ (2001): Disaster Risk Management – Working Concept. Eschborn.
__ GTZ (2004): Disaster Risk Management in Rural Areas of Latin America and the Caribbean. Selected instruments. Eschborn.
__ GTZ (2004): Guidelines. Risk Analysis – a Basis for Disaster Risk Management. Eschborn.
__ INEE (2004): Minimum Standards for Education in Emergencies, Chronic Crises and Early Reconstruction
__ ISDR (2004): Living with risk (p. 236-252). Geneva.
__ UNESCO/UNEP: APELL-Awareness and Preparedness for Emergencies at the Local Level.
__ Villacis, C. A. et al.: The UNESCO School Project: an educational component of the UNESCO cross-cutting theme initiative: Reduction of natural disasters in Asia, Latin America and the Caribbean.
__ WCDR (2005): Thematic Discussion Paper Cluster 3: Knowledge, innovation and education: Building a culture of safety and resilience.
__ Wisner, Ben (2006): Let our children teach us! A review of the role of education and knowledge in disaster risk reduction. Bangalore.

Links

__ GTZ sector project Disaster Risk Management in Development Cooperation: www.gtz.de/disaster-reduction
__ GTZ sector project Education and Conflict Transformation: http://www.gtz.de/en/themen/soziale-entwicklung/bildung/12537.htm
__ Inter-Agency Network for Education in Emergencies: www.ineesite.org
__ United Nations International Strategy for Disaster Reduction: www.unisdr.org
__ German Committee for Disaster Reduction: www.dkkv.org

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