



Sri Lanka

Teaching Disaster Risk Management in Sri Lanka's Schools

Experience Since the 2004 Tsunami

gtz



Imprint

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Introduction

The dramatic impacts of the tsunami of 26 December 2004 sounded the starting bell for a new approach to dealing with natural hazards in Sri Lanka in the context of disaster risk management. National and international policymakers urged that efforts to change values and behaviour be launched early in schools in order to reduce disaster risks and prepare young people to better meet the challenges of climate change. New guidelines were developed in a defined strategy adopted jointly by Sri Lanka's Ministry of Education and the Ministry of Disaster Management and Human Rights.

Sri Lanka is a country facing a complex and daunting range of potential hazards. Seventy percent of all disasters there are wrought by weather – with climate change driving this tendency even higher. Many inhabitants suffer the ravages of disasters, particularly of flooding, tropical cyclones and drought. The sectors of the population hardest hit are those that due to poverty, lack of knowledge and other disadvantages are unable to adequately protect themselves against emergencies. Children, especially in the nation's northern regions affected by civil war, are in need of particular attention in this context.

The Government of Sri Lanka therefore asked the German Government for its support in introducing disaster safety education in Sri Lankan schools. The German Federal Ministry for Economic Cooperation and Development (BMZ) then contracted the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) in October 2005 to implement the 'Disaster Risk Management & Psycho-social Care' project, which was financed by special tsunami relief funding. The project's objective was to develop the planning and implementing capacities of the education authorities with respect to disaster preparedness and thus ultimately better protect schoolchildren and their

families against disasters. By the conclusion of the initial phase of the project at the end of 2008, the following objectives had been successfully achieved through joint efforts of the project partners – the Sri Lankan Ministry of Education and the National Institute of Education:

- Instructors and lecturers at the National Colleges of Education now also teach revised curricula that include disaster risk management, and
- Teachers at state-run schools instruct their students on the basis of revised syllabuses that include disaster prevention and mitigation.
- This was achieved by integrating disaster-relevant topics in training and education curricula.
- As a result of this adaptation of training and education curricula as well as targeted action to build competencies in school disaster safety, some model schools and colleges are now better prepared for emergencies, and students as well as teachers are more aware of disaster risks.

In addition, co-financing from World Vision Germany enabled the project to repair and equip several schools damaged by the tsunami or the civil war.

The project's success is due to four main factors. Firstly, targeted efforts succeeded in sensitising and motivating political decision-makers, generating the impetus needed to make changes within the education authorities. Secondly, collaboration between the various education authorities was improved, and coordination of activities and strategies between institutions was made more effective and transparent. Thirdly, the project decided not to introduce any new, additional course subjects or training structures based on the conviction that new topics can best be launched in small doses and by way of existing structures. Fourthly, this sensitive approach coupled with teaching appropriate concrete responses to disasters rather than theoretical, academic knowledge, was a crucial factor in gaining acceptance of the project on the part of the education system. In contrast, cooperation proved difficult, particularly in the northern and eastern provinces, where the civil war often made it impossible for the project to provide the advisory assignments planned, as a result of which the work was performed using only local personnel.

The project concluded its activities within the framework of tsunami relief on schedule at the end of 2008. However, the disaster risk management component was then integrated into the GTZ 'Education for Social Cohesion' programme in order to further institutionalise the project measures and roll out the pilot measures such that they become part of the regular education system.



Figure 1: Classroom instruction on natural hazards at the secondary school in Malwala, in Ratnapura District | Photo: P. Bitter, GTZ

1. Context

The Indian Ocean tsunami disaster of 26 December 2004 clearly demonstrated that the population of Sri Lanka was not prepared to deal with the hazards threatening them. The populace did not recognise the risks, did not know how to protect themselves, and in decisive moments often responded inappropriately. For example, many Sri Lankans actually ran out onto the beach as the sea receded dramatically in the drawback just before the flood wave came crashing ashore, and were thus lured to their deaths.



Figure 2: Temporary school building of the Sri Mathumai Ambal School in Trincomalee – the tsunami destroyed the original school | Photo: B. Logeswaran, GTZ

Sri Lankans are threatened by numerous other natural hazards such as floods and landslides which are becoming increasingly devastating in the wake of climate change.

The high numbers of dead and surviving victims of the 2004 tsunami and of frequent landslides and floods in the past make it abundantly clear that there is an urgent need for action in Sri Lanka in the field of disaster management. The destruction of many schools revealed that educational facilities are particularly vulnerable to disasters. What is more, countless Sri Lankan families lose their livelihoods in the wake of natural disasters with the result that their school-age children are required to work to help make ends meet. The first who are then forced to leave school are girls from particularly poor, disadvantaged families. This, in turn, negatively impacts the nation's level of education.

For the Sri Lankan Government and the international community, the tragic event that occurred as 2004 drew to a close marked a historical turning point. Ever since, a disaster-resilient society is viewed more than ever before to be an important prerequisite for sustainable development. Disaster preparedness and reduction thus takes on greater importance than 'after-the-event', response-based disaster relief. Education is deemed to play a key role in this context as a vehicle for communicating the knowledge and skills necessary for reducing vulnerability and achieving a culture of disaster safety. The new approach will start at primary level. Educational facilities are in the future also to be built to disaster-resistant design standards and will be provided with emergency management plans.

The international community has assured Sri Lanka of its support to implement these efforts. This support is based on international agreements, in particular on the Hyogo Framework for Action adopted in 2005 at the World Conference on Disaster Reduction in Kobe, Japan. This document attaches great importance to educational measures as a means of reducing the vulnerability of poor sectors of the population to disasters.

The strategy of the Sri Lankan Government to integrate disaster preparedness into the education sector is fully in line with international programmes such as the 'Disaster Risk Reduction begins at school' campaign (2006 to 2007) launched by the UNISDR¹. The principal objectives of the campaign were to integrate disaster preparedness into curricula and improve the safety and construction standards of school buildings. This strategy is now being continued under the auspices of the UN Decade of Education for Sustainable Development (2005 to 2014), under the aegis of UNESCO, and was also introduced at the International Conference on Education (ICE) in Geneva in 2008.

The 'Disaster Risk Management & Psycho-social Care' project implemented by GTZ in collaboration with the Sri Lankan Ministry of Education and the National Institute of Education fitted in well to this international context. Together with its Sri Lankan partners, the project endeavoured to restructure the country's education sector in a way that rendered it more disaster-resilient. The experience gained from these efforts is presented in this publication in a way that identifies entry points for other countries and projects, demonstrating how disaster preparedness can be mainstreamed in school education.

¹ United Nations International Strategy for Disaster Reduction



Figure 3: International Conference on Education, Geneva, 25-28 November 2008 | Photo: P. Bitter, GTZ

This publication consists of six sections. Section 2 explains just how necessary education is for disaster safety. Particular emphasis is placed on the importance of taking a broad approach to disaster preparedness, starting at school level. Section 3 then describes how the project supported the strategy of the nation's

education sector, while Section 4 looks in more detail at the successes achieved. Section 5 discusses the three most important factors that paved the way for the success of the project. We wind up with a summary that also spells out what future challenges must be met.

2. The need for education in disaster risk management

2.1 Sri Lanka – a nation marked by countless natural disasters

In Sri Lanka alone, the 2004 tsunami cost the lives of 35,000 people and left behind over one million surviving victims, among them some 200,000 school-age children and university-level students as well as thousands of teachers. In coastal regions along the island nation's battered southern and eastern shorelines, classroom teaching came to an almost complete halt for several weeks. 182 schools were severely damaged or destroyed, while 287 schools served as emergency shelters for thousands made homeless. Many months went by before reconstruction efforts were able to complete the repairs to damaged schools and to build 95 new schools at different, safe locations.

The dramatic impacts of the tsunami horrified not only those living in the regions hit all round the Indian Ocean, but people everywhere around the globe, who were stunned by the thousands of dead and injured and the scale of destruction. Yet, in Sri Lanka, tsunamis are not the natural events that wreak the greatest suffering and damage. The floods, droughts and storms that plague the people year after year bear this dubious distinction. Far more Sri Lankans are at risk during their lifetime from the latter natural hazards than from tsunamis – even if these other natural events take fewer lives and thus receive less international attention.



Figure 4: The school grounds of Zahira College in southern Sri Lanka, flooded by the tsunami | Photo: taken by a teacher at Zahira College



Tsunami report by 11-year-old Perinparaja Brindha from Kalmunai, student at Sri Mamanga College

My name is Perinparaja Brindha. I study in grade five in Km/Sri Mamanga Vidyalayam. I was caught in the Tsunami waves on the 26th December 2004. That day I went to the school for a religion lesson. At that time, I could see a big wave coming from the school playground. We were afraid. We told the teacher that we wanted to go home. The teacher said that "there is nothing to be afraid", because the water was only due to heavy rain.

I was afraid and ran away from the school. At that time, a big wave came and I was pulled by that wave. One old lady saw me and asked me not to run to that side but to run to the other side. I listened to her and ran to the side she asked me to run.

There was a van parked. Some police officers put me in to the van. The van went to Ampara. One of our relations took me at Ampara and kept me with them for three days and later handed me over to my parents. All my friends who were in the school at that time died.

Source: A collection of experience reports collated by the project

Figure 5: Disasters and the numbers of people affected in Sri Lanka from 1957 to 2004

Type of disaster	Number of events	Number of affected people
Flooding	37	9.157.728
Droughts	10	8.613.000
Storms	5	2.018.000
Tsunamis	1	1.019.306
Landslides	3	130

Source: Emergency Events Database (EM-DAT); the OFDA/CRED International Disaster Database, Catholic University of Leuven/Brussels, Belgium, November 2005, and the International Strategy for Disaster Reduction (ISDR) 2005

Figure 5 reveals that, while the frequency of floods and drought is greatest, the impacts of the tsunami far exceed the magnitude of these other events.

Although the impacts that this one single tsunami event had on the population were extremely devastating, extensive analysis of past disaster events made apparent to the Government of Sri Lanka that, ultimately, disaster risk management should not be based exclusively on tsunami events. Rather, a holistic, comprehensive approach was needed that embraced all natural hazards as well as fire disasters, civil war and acts of terror.

Added to this fact came the realisation that, if no countermeasures are introduced, advancing climate change will cause disasters to increase in frequency and severity in the future, for fully 70% of all disasters recorded in Sri Lanka are brought about by weather. Scenarios for the coming 20 years suggest that rice production will decline by some 20 to 30% owing to rising temperatures and decreasing rainfall². This development would result in growing poverty with many families hit by food shortages, which in turn would greatly increase their vulnerability to disasters.



Figure 6: Sharpening the public's awareness of the threat posed by land mines and explosives: 'Watchfulness Reduces the Danger!'

| Photo: P. Bitter, GTZ



Figure 7: Landslides in Sri Lanka's interior triggered by heavy rainfall destroy buildings and roads

| Photo: P. Bitter, GTZ

Moreover, wider fluctuations in rainfall induce increased flooding. River valleys and highland regions as well as the extensive lowlands in Sri Lanka's north and east, where tropical

cyclones drop vast quantities of rainfall are already affected today. Experts also anticipate that epidemics, such as malaria and dengue fever will worsen as climate change advances.



Figure 8: The various disaster risks prevalent in Sri Lanka

2.2 Discrimination as a factor in disaster vulnerability

Sri Lanka is a country marked by great regional disparities when it comes to providing the people with access to state-run services. Particularly in rural areas and in the northern regions occupied by the Tamil separatists, immense deficits prevail with respect to the presence of state organisational structures as well as personnel and technical capacities. The education and health sectors suffer particularly from inadequate infra-

structure and the poor quality of teaching and medical care. Those regions ravaged by more than 20 years civil war are burdened even more by the cruel fact that their schools, administration buildings, roads and bridges are frequently the very targets of attack. A public administration weakened by armed conflict results in legal uncertainties, a shortage of teachers and destroyed or plundered school furnishings and equipment, to give just a few examples of the negative consequences.

These factors make the inhabitants of disadvantaged regions highly vulnerable to natural disasters. The people living there are often unaware of the risks to which they are exposed. They do not know how to prevent and mitigate disasters and are not prepared for emergencies. Children, who make up almost one quarter of the total population of Sri Lanka, are especially vulnerable. They are the ones who suffer most from the consequences of both the armed conflict and the tsunami, physically and mentally, as victims of land mines and armed clashes, as child soldiers or orphans of the flood disaster.

2.3 Sri Lankan policy of teaching disaster safety in schools

The Government of Sri Lanka had to take decisive and systematic action in order to better mitigate disaster risks and create a more disaster-resilient society. To this end, the Ministry of Disaster Management and Human Rights was established on the basis of an act of the Sri Lankan Parliament of May 2005 that made disaster management a national mission. This ministry is thus responsible for directing and coordinating inter-ministerial efforts. In a first step, the ministry prepared a national plan of action for disaster management, termed the 'Road Map'. The Road Map is based on an analysis of all sectors to determine their potential for reducing disaster risk. The Road Map documents the contributions of the various ministries involved, thereby establishing a binding framework for disaster management. The education sector was singled out as a vehicle of central importance for achieving the defined goals. Children are to be taught in school how to protect themselves from hazards and how to conduct themselves and respond correctly in the event of a disaster. Children and teachers thus also become the messengers of disaster safety, carrying these topics home to their families and out into society as a whole, meaning that schools act as important multipliers.



Figure 9: School girls pay close attention at an emergency mock drill
| Photo: P. Bitter, GTZ



Figure 10: A school in the Ampara District destroyed by the tsunami | Photo: C. Kreussler, GTZ

The Disaster Management Centre acts as the lead agency responsible for implementing policy provisions and standards. It also assumes the task of analysing disaster risks.

The destruction of school buildings wrought by the 2004 tsunami and the flooding and landslides of 2003 and 2006 as well as the many previous disasters that hit Sri Lanka also made clear the necessity of constructing buildings to disaster-resistant design standards while likewise revealing the vital importance of preparing schools to handle emergencies.

Both of these approaches in the education sector, i.e. firstly acting as a catalyst for long-term society transformation to enhance safety, while secondly being prepared to respond appropriately to concrete disasters, should be considered extremely important. For, in the face of the probable rise in the number and severity of flood, drought and storm events due to climate change, Sri Lankans must increasingly attune their lives to reducing harm and damage through risk management, and bracing themselves for emergencies through preparedness.

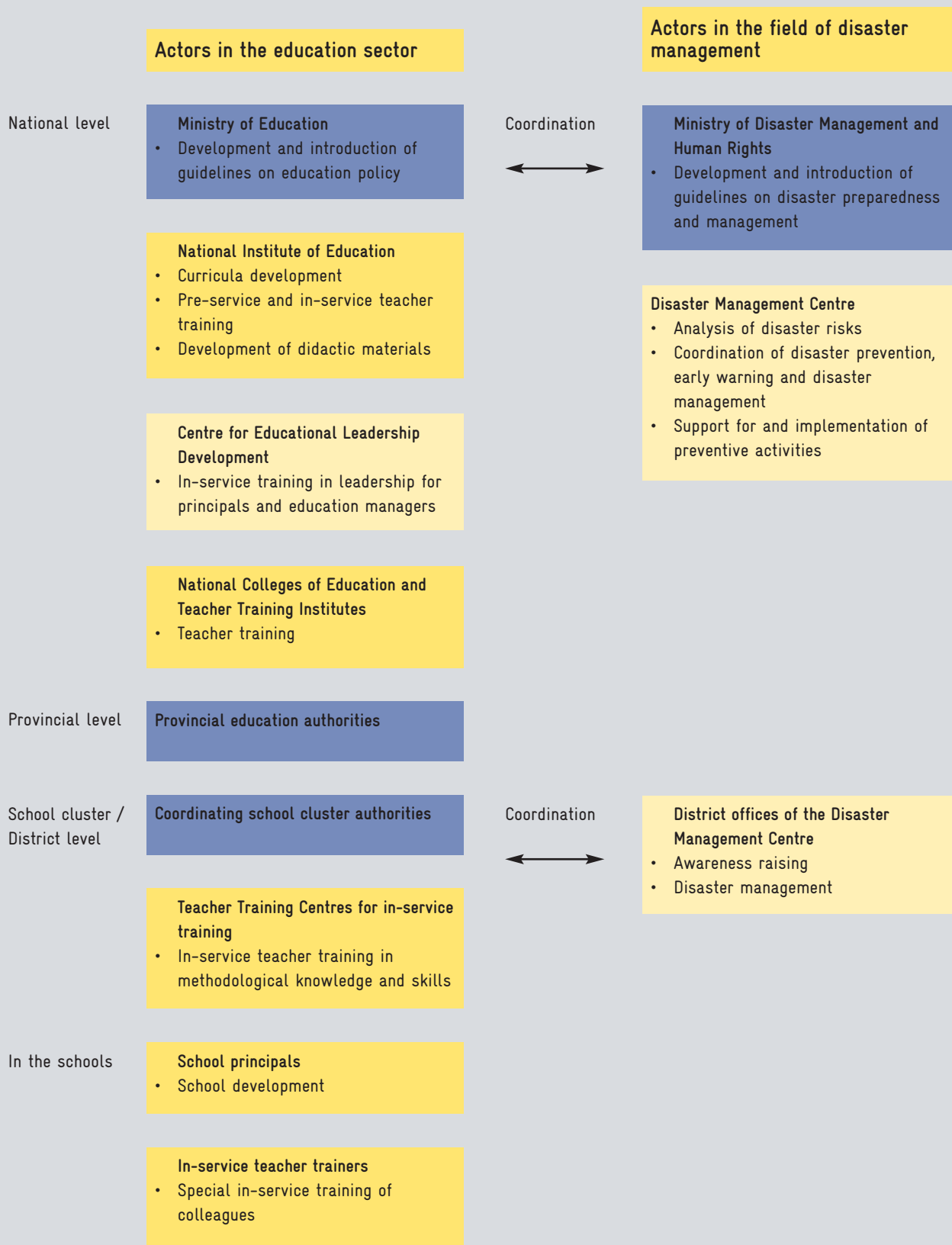
It became clear that the entire education sector would have to be involved in order to mainstream these changes in the education system in the long term:

- The **Ministry of Education** assumes the lead role for directing the process. It is responsible for issuing guidelines and developing education policy, including provisions governing the new topic (disaster safety).
- The **National Institute of Education** is in charge of developing guidelines for action on the basis of policy provisions. Its scope of competence includes training of college lecturers and instructors, implementing teacher training and preparing syllabi and instruction materials – all key areas for integrating new topics into the curricula.

- In Sri Lanka teacher training is provided by 17 **National Colleges of Education**. In line with national standards, but with different areas of specialisation, these colleges train teaching staff for the entire country.
- In-service training for teachers and school principals is structured as follows: There are about 100 **Teachers Training Centres** in Sri Lanka. These centres are responsible for expanding the methodological knowledge and skills of teachers within the scope of pre- and in-service training. School based **in-service teacher trainers** pass on what they have learned to their colleagues in their respective schools. In addition, the National Institute of Education maintains a **Centre for Educational Leadership Development**, the mission of which is to prepare teachers to assume leadership roles in education management and administration. The focus is thus on developing managerial and organisational capacities.

In order to ensure that schools are safe from natural disasters, teaching efforts cannot be limited to classroom instruction alone. Various actors cooperate closely at local level working to ensure the safety of schools. The school safety committees assume responsibility for coordinating these efforts, with the school principal presiding as chairperson. In an emergency, in order to enable evacuation and first-aid procedures to be executed as smoothly as possible, schools must collaborate with a number of institutions and organisations: the education and disaster control authorities, municipal administrative officials, the army, police, the fire brigade, the Red Cross and emergency rescue services, local hospitals and physicians as well as other relevant local organisations. It is particularly important that each and every school be soundly integrated into the local context while duly observing all regional and national guidelines.

Figure 11: Actors with whom the project cooperates



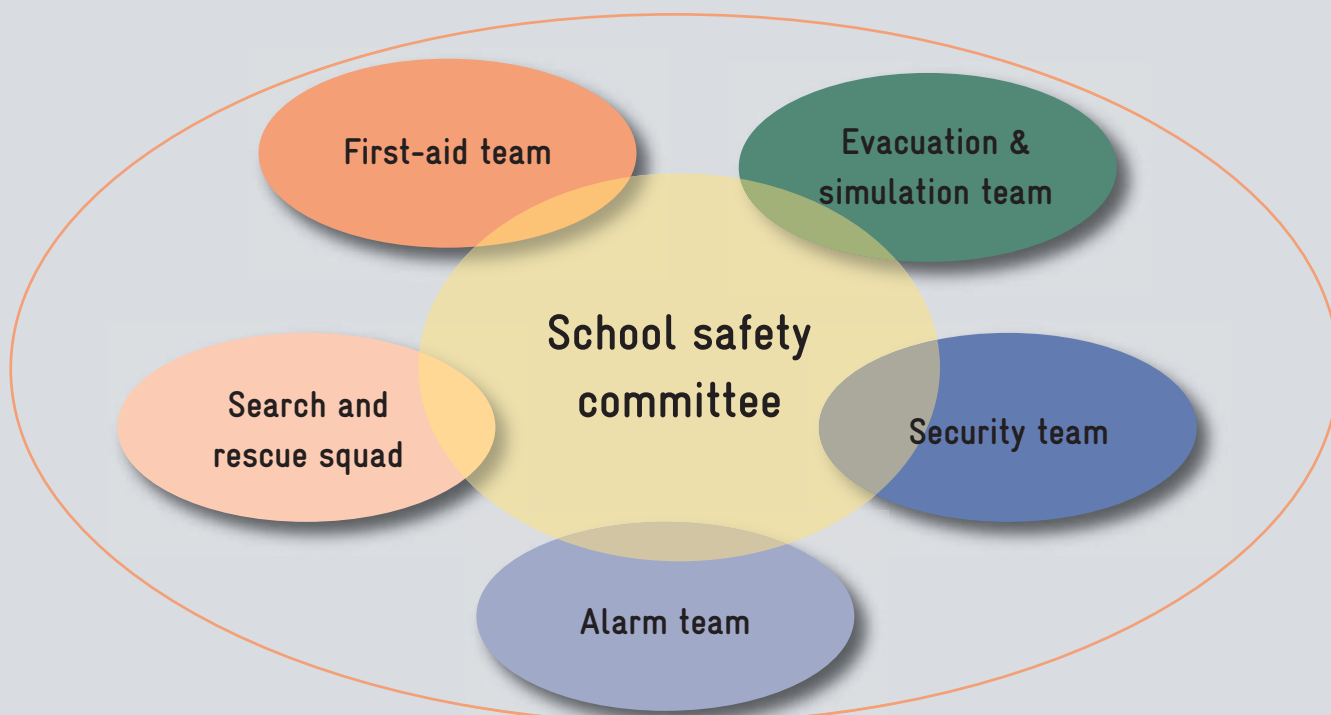
Example:
Establishing the school safety committee at
Thalahene Secondary School

Gathered around the table are the school principal, teachers and a parents' representative. A visiting staff member from Sri Lanka's Disaster Management Centre explains to those present the significance of disaster preparedness at their school. Together, they discuss what activities need to be carried out at the school in order to develop an emergency plan. Evacuation routes are identified based on the school's floor plan. It is decided that the 10th and 11th graders, with the assistance of their teachers, should draw evacuation plans to be displayed in all classrooms. The sports ground is selected as a safe zone where everyone should gather after any evacuation. Next, they clarify who should be invited to observe the first emergency drill. It is agreed that policemen from the local station and the community physician should attend. The parents' representative expresses an interest in mobilising additional parents. The representative from the Disaster Management Centre proposes that a demonstration on fire-fighting also be given and that the local fire brigade attend. The school principal supports this proposal. One teacher would like to motivate students to draw and paint their impressions of natural hazards. The committee then begins to jointly prepare the kick-off event, the first School Safety Day.



Figure 12: Founding meeting of the school safety committee at Thalahene Secondary School | Photo: P. Bitter, GTZ

Figure 13: Coordinating the issue of school disaster safety



3. The 'Disaster Risk Management & Psycho-social Care' project

Sri Lanka enjoys a literacy rate of about 90%, which is well above the average of other Asian nations. Nevertheless, Sri Lanka's education sector is marred by the poor quality of classroom instruction, particularly in disadvantaged regions of the country (see Section 2.2). This is why the Ministry of Education launched a comprehensive reform of the education system in 1997. These reform efforts aimed to broaden the capacities of teachers as well as of specialist personnel working for the education authorities (at the ministry, the National Institute of Education and the National Colleges of Education, etc.) with a view to preparing students better for life and specifically promoting their competencies. It is also important that school administrations, teachers and schoolchildren – and through the children their parents as well – be enabled to respond appropriately to future disasters. This will not only help to bring down the numbers of disaster victims, but also reduce the economic losses incurred.

World Vision Germany, convinced by the project's conceptual approach of promoting disaster preparedness in the wake of the tsunami through school education, agreed to co-finance the project. This additional funding made it possible to repair and re-equip some of the schools damaged in the tsunami and civil war and to supply several dozen educational facilities with first-aid supplies and fire extinguishers.

The objective of this project was to promote knowledge and skills of personnel employed in the education sector with respect to disaster preparedness and school disaster safety. The project's direct target group were teachers, who were to be enabled to instruct students in disaster preparedness and how to respond to emergencies. In order to generate this knowledge and build methodological competency among teachers, the project worked with the 17 National Colleges of Education as well as the 100 Teacher Training Centres for in-service training. Decision-makers at these educational institutions acted as intermediaries and were responsible for the internal dissemination of the new curricula content. The project also delivered policy advisory services to the education sector and trained managerial staff of the educational institutions (i.e. the Ministry of Education, the National Institute of Education, the National Colleges of Education and the Teachers Training Centres). The project concluded its activities within the framework of tsunami relief on schedule at the end of 2008. However, the project's disaster risk management component was subsequently integrated into the GTZ programme Education for Social Cohesion, to facilitate the sustainable institutionalisation of these measures, and make possible the roll-out of pilot activities across the regular school system.

The project initially kicked off by conducting a thorough investigation of weaknesses and strengths in the education system with respect to disaster preparedness and school disaster safety. Based on this information, a needs analysis was drawn up, that was used to help the project and its partners to develop a strategy that would be implemented with the project's support.

Figure 15 below provides an overview of this strategy. The arrows printed in bold type indicate the main activities supported by the project, while the light arrows with dotted shafts indicate the project's limited contribution towards developing school curricula. Owing to the limited project term, these activities were performed simultaneously. The shaded text boxes indicate the desired impact (i.e. results) that the project intended to achieve with respect to disaster risk management.



Figure 14: Training event on the new disaster safety education curriculum of the National Colleges of Education | Photo: J. Kodituwakku, GTZ

As GTZ is the only organisation active at all levels of intervention of the education sector, from the national right down to the local level, the Sri Lankan Government asked German development cooperation to assume the lead role in education for disaster risk management. In October 2005, GTZ was contracted by the German Federal Ministry for Economic Cooperation and Development (BMZ) to implement the 'Disaster Risk Management & Psycho-social Care' project within the framework of the Sri Lankan education reform.³

³ The Sri Lankan Ministry of Education dubbed its reform initiative the Education Sector Development Framework and Programme (ESDFP), which also intends to contribute to the country's peace and reconciliation process, and formed part of the strategy for disaster-resistant reconstruction.

The project approach was based on two complementary pillars. In addition to the long-term strategy of system change, from policy level all the way down to implementation level, the project pursued a bottom-up approach. This means that results achieved directly in pilot schools were to be incorporated in strategy development at the super ordinate level in order to ensure the practical feasibility of all planned measures.

The intention was not only to integrate the theme of disaster preparedness into classroom instruction in a manner relevant to all curriculum subjects, but in particular to complement this theoretical knowledge with practical skills (e.g. how to use fire extinguishers). Simulation drills also provide a good vehicle for teaching correct responses to emergencies.

Figure 15: Project strategy

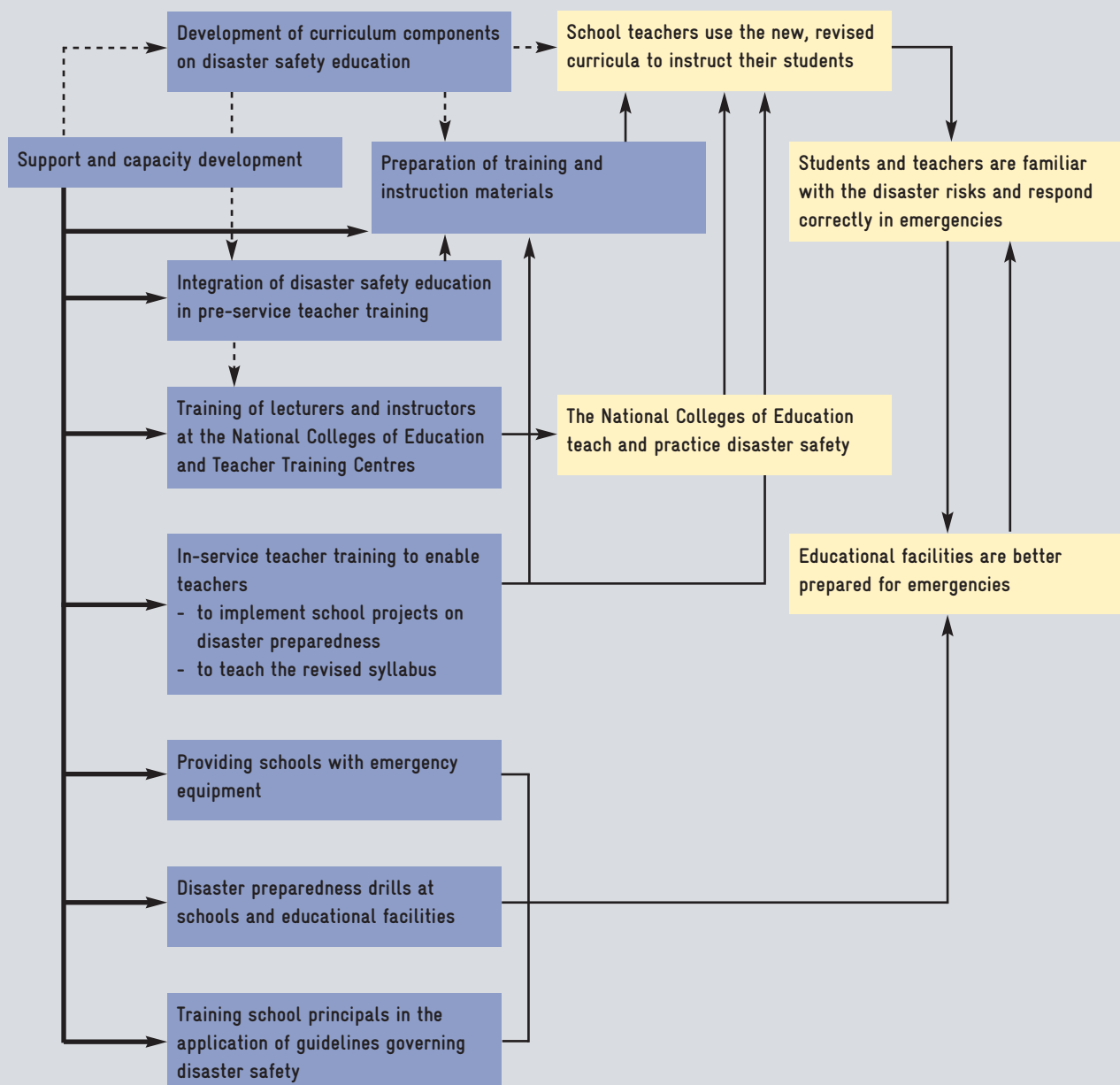




Figure 16: Training in-service teacher trainers in disaster risk management | Photo: J. Kodituwakku, GTZ

To get started, the project sought the necessary political support by sensitising decision-makers within the education sector to the importance of disaster safety. Twenty-five executives and experts from the Ministry of Education, the National Institute of Education and the National Colleges of Education completed a two-week course at the Indian National Institute of Disaster Management in August 2006. A second group of instructors from the Teacher Training Institutes and leading education administrators were trained in India in 2008. The knowledge they

gained from this instruction on integrating disaster risk management and school disaster safety into the school system helped these professional educators to apply this experience to the Sri Lankan context and to initiate corresponding in-service training programmes in their own institutions. A train-the-trainers system was used. Thanks to the snowball system this makes it possible to reach a large number of people within a very short space of time. Some 3,500 instructors and students of the National Colleges of Education were actively involved in 2006 and 2007.



Figure 17: Meeting to plan introduction of school disaster safety issues at the National Colleges of Education | Photo: P. Bitter, GTZ

At the same time, the project gave great importance to coordinating and agreeing the various activities both within and between the individual education authorities, as well as between the education sector and the Ministry of Disaster Management and Human Rights. The same principle was pursued on a transnational basis. Using the Asia and Pacific Forum and Conferences on disaster risk education and school safety, which were supported by UNISDR and UNESCO, the project contributed its experience in Sri Lanka to the regional network on school disaster safety. The project also used publications and presentations at international conferences to publicise the experience gained from its work in Sri Lanka. On issues of school disaster safety, the project collaborated with one of the leading institutions in Asia in the field of disaster risk management, the Asian Disaster Preparedness Center (ADPC).

German development cooperation faced particular challenges in project implementation as a result of the civil war in Sri Lanka. Maintaining regular communication and work relationships with the nation's northern and eastern provinces and gaining access to those regions proved difficult, which is why an independent regional office staffed with local personnel was established there. Project activities also had to be crisis- and conflict-sensitive (following a 'do no harm' approach⁴). In accordance with national policy, the project set great store from the very start in achieving balanced participation by all ethnic groups and minorities in the planning workshops and training measures. Conducting all workshops and preparing all of the related materials in three languages (Tamil, Sinhalese and English) likewise helped defuse any conflict, as all groups were thus enabled equal access to the knowledge and learning materials being offered. Moreover, the project approach promoted gender equality by ensuring a balanced number of women and men in project activities and training programmes conducted in Sri Lanka as well as in other countries.

By sticking to these principles, the project also contributed actively to fostering the peaceful co-existence of population groups, reducing conflict potentials, developing a culture of safety and combating poverty. It is for these reasons that the project was integrated into the partner's strategy for peace and reconciliation in Sri Lanka, known as the Relief, Rehabilitation, Reconciliation (or Triple R) framework process, and the crisis-preventive reconstruction effort after the tsunami, while the project also contributes to BMZ's priority area in Sri Lanka 'Conflict Transformation'.

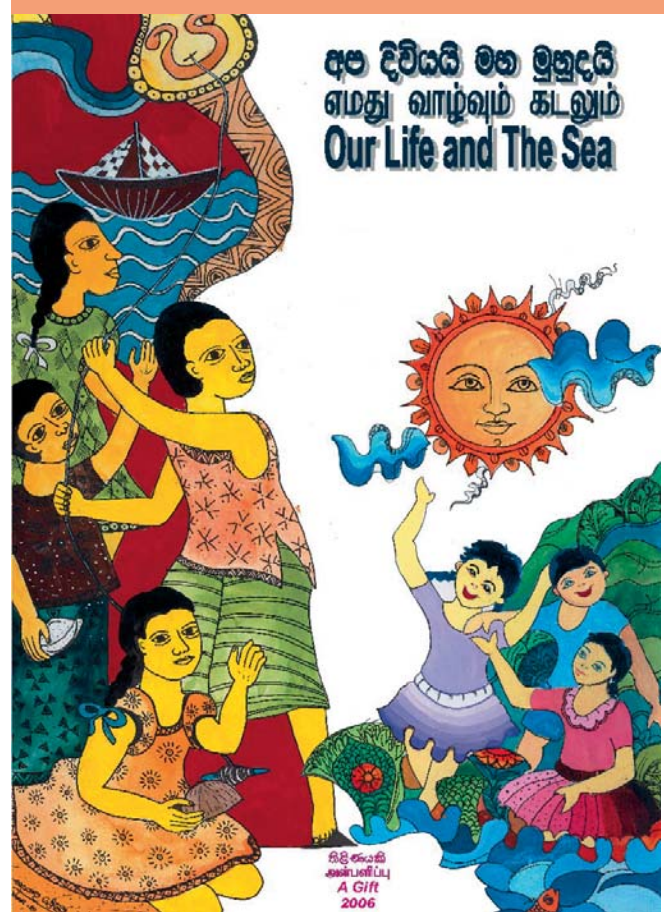


Figure 18: The songbook prepared by the project

⁴ The 'do no harm' approach is a principle of action that ensures conflict-sensitive project planning and implementation, particularly in war zones or regions in conflict. The interests of the various actors involved are taken into account as far as possible, thereby reducing or at least not aggravating politically or ethnically driven tensions.

4. Project results

The impact-chain logic presented as the project strategy in Figure 15 can serve as a basis for analysing the project results achieved. In that illustration, the four observations in the yellow-shaded text boxes provide insight into the success or failure of project efforts:

1. The National Colleges of Education teach and practice disaster safety;
2. School teachers use the new, revised curricula to instruct their students;
3. Educational facilities are better prepared for emergencies;
4. Students and teachers are familiar with the disaster risks and respond correctly in emergencies.

Whereas the results reflected in the first three of these observations were targeted more or less in parallel through appropriate activities, the fourth intended result builds on the second and third.

4.1 The National Colleges of Education teach and practice disaster safety

Preparation of a new syllabus for pre-service teacher training that also incorporates disaster safety education constituted an important project milestone. Instructors at Sri Lanka's 17 National Colleges of Education are now teaching the new subject on this basis. The syllabus was prepared by a core working

group comprising managers and experts in teacher training and curriculum development from the National Institute of Education as well as the National Colleges of Education. Three representatives of the Indian education system who already possess a wealth of experience in developing curricula on disaster safety education supported the Sri Lankan team. Care was taken not to overload syllabi with disaster preparedness components. Rather, the focus was on communicating the basic concepts of



Figure 19: Student teachers conduct a fire drill | Photo: P. Bitter, GTZ

hazards and vulnerability and on holding practical drills. Rather than adding disaster preparedness as a new, separate subject, it was integrated as a relevant, overarching issue into the subjects 'Educational Practices' and 'Psycho-social Counselling', 'Health Education' and 'Sports'. The practical aspects of disaster safety were incorporated into the recreational programme of the National Colleges of Education. Students prepare vulnerability analyses, run emergency evacuation drills, and practice fire-fighting as well as first-aid techniques.

The syllabus was approved by the National Institute of Education at the end of 2007 and subsequently translated into Sinhalese and Tamil. At the same time, the working group offered a training course in which several lecturers and instructors from each National College of Education were trained in the new subject matter and methods. The new National College of Education syllabus was then introduced in 2008. In addition, appropriate teaching materials were prepared to help instructors communicate the new topics to students.

The new, cross-subject syllabus consists of five training modules:

1. Basic concepts of disaster risk management, disaster mitigation and disaster relief
2. Disaster safety at schools
3. Practical drills and exercises in disaster safety, including vulnerability analyses of schools, emergency management and evacuation plans, fire-fighting techniques and first aid
4. Post-disaster psycho-social counselling
5. Post-disaster health care practices

Example: Helping children traumatised by the tsunami overcome their experiences

Working with clay, conceived as part of post-disaster psycho-social counselling (the fourth training module noted above), has proven to be a good way to help children come to terms with their individual tsunami tragedies. 'The main advantage of using clay as a medium is that children can express their feelings very effectively through clay. Things can be made and destroyed and remade again. Children can give an idea about the things that they have lost and the process of creating it is greater than the actual end product. During their creation process, they are able to think about the loss and later during a sharing round they can talk about it and bring out their feelings. Some children may not even talk but the process of making that model would have released some of their emotions.'

Source: Sekar, K., Biwas, G., Bhardra, S., Jayakumar, C., Kumar, K.V.K., Tsunami disaster; Psychosocial care for children, NIMHANS, Bangalore. 2005.

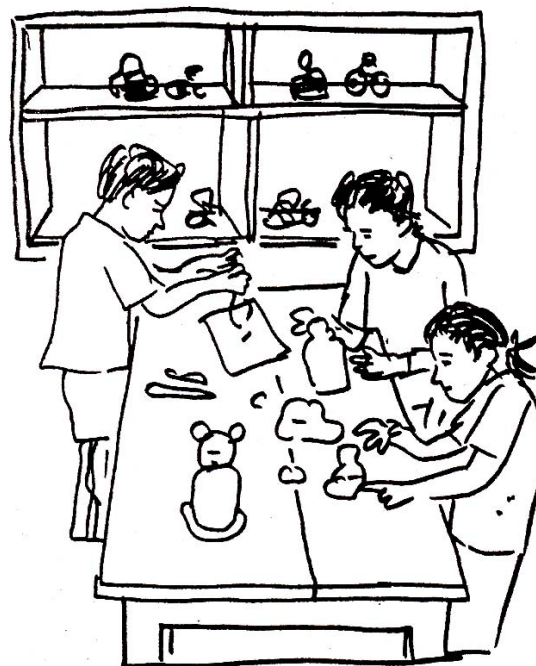


Figure 20: Children express and overcome their traumatic experiences while kneading and modelling clay

4.2 School teachers use the new, revised curricula to instruct their students

As noted in the previous section, the National Colleges of Education have been teaching disaster safety since 2008. However, the transformation achieved in teacher training will only become noticeable gradually as the new generation of teachers enters the nation's schools. This is why the project strategy provided for in-service teacher trainers in the schools to act as additional change agents. Hence, some 400 in-service teacher trainers⁵ active in social-science fields were trained by the already qualified professional staff of the National Institute of Education in the basic concepts of disaster risk management and school disaster safety. A small manual gives them thematic and methodological support, to help them pass on their newly acquired knowledge to their colleagues in the schools. What is more, in collaboration with the Centre for Educational Leadership Development work has begun on developing in-service training modules for school disaster safety and these elements are being integrated into the pre- and in-service training for school principals and education administrative staff.

In addition to helping expand the range of subject knowledge on disaster risk management and school disaster safety, GTZ also promoted the methodological competency of teachers with the aim of improving the quality of instruction. The methodology of the project's work is a form of open classroom teaching well suited to teaching practical skills by giving students opportunities for hands-on practice. Over the course of the project, 225 lecturers and instructors from the National Colleges of Education as well as teacher trainers and in-school in-service teacher trainers were introduced to the project methodology. This pedagogical instruction and an accompanying manual taught the participants how they can introduce disaster preparedness in classroom lessons at the junior secondary school level. The National Institute of Education is responsible for directing these training efforts.



Figure 21: Disaster safety lessons for teachers | Photo: P. Bitter, GTZ

⁵ Particularly experienced and dedicated teachers are selected to become in-service teacher trainers, who conduct school-specific training activities and pass on to their colleagues the changes in the syllabi.

School project of Bolessagama School in the Kalutara District: Identifying and reducing flood damage

Introduction

Part of this community's school is flooded frequently when the nearby river breaks its banks. The areas usually affected are the primary school wing, the computer room and the school playground. This flooding not only wreaks significant damage: it also endangers the lives of the schoolchildren.

Goals and activities of the school project

1. Identify the annual seasons in which the floods occur

A survey of villagers and the village elders revealed that flooding is more likely to occur in the months of May, June, September and December.

2. Identify the areas affected

The areas of Bolessagama, Diyagama, Welikanda and Uyanagoda, which lie in the vicinity of the school, are often flooded. Seventy-eight families living in the school's immediate neighbourhood have been hit by flooding at least once, if not more often. In addition, the village square as well as the road from Kalutara to Kathehena have been flooded several times in the past.

3. Analyse the reasons for the flooding

During heavy rainfall, the river usually breaks its banks at those locations where sand has been removed and trees and bushes felled, while canals branching off from the river are in a dilapidated condition.

4. Analyse the flood risk

Flooding causes widescale destruction: damaged or destroyed homes, crop losses and the spread of diseases. Not infrequently, people are traumatised by the experience or even lose their lives in the flood waters.

5. Prioritise a number of measures designed to reduce risks

Swimming lessons and maintaining boats on hand constitute simple yet effective and practicable ways of reducing risk. The rapid activation of the disaster management committee is another measure to be taken to minimise damage. Over the long term, buildings – and the school in particular – should be moved to a higher area within the community that is networked to a functioning water supply grid. People should refrain from quarrying sand from the river's edge, and reforestation efforts should be undertaken along the riverbanks, particularly at those locations prone to flooding. In addition, posters, brochures and small theatre performances should be used to sensitise the entire community to the issues of disaster risk management.

4.3 Educational facilities are better prepared for emergencies

The Centre for Educational Leadership Development based at the National Institute of Education conducted a pilot project on emergency management in schools with the support of the Asian Disaster Preparedness Center (ADPC). The GTZ project coordinated this collaborative effort while also contributing sectoral and technical input.

One important result of this project was the development of National Guidelines for School Disaster Safety, which were subsequently reviewed within the framework of a participatory process by other ministries and donors and ultimately officially recognised by the Ministry of Education. The pertinent authorities (the Ministry of Education and the Ministry of Disaster Management and Human Rights) now intend to make the introduction of school disaster safety measures in Sri Lankan schools binding and mandatory as of 2009.

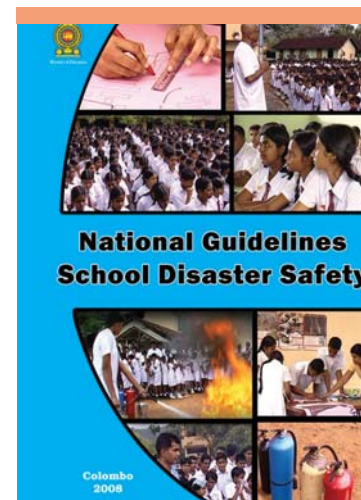


Figure 22: Sri Lanka's National Guidelines for School Disaster Safety



Figure 23: Fire drill at Thalahene Primary School
Photo: P. Bitter, GTZ



Figure 24: Student teachers take part in an evacuation mock drill | Photo: P. Bitter, GTZ

All school principals will then be responsible for introducing and maintaining disaster safety practices at their schools. This will be achieved through awareness raising, risk analyses, emergency management plans, emergency drills, fire safety, first aid and school safety teams. Within the scope of this programme, the students are given simple pointers on what to do in various emergency scenarios (see Fig. 24). These activities are being embedded in the existing school development programme.

It has proven important not only to orient the school programme to a teaching syllabus that addresses all natural hazards, but also to adapt programme content to the local context, for it makes little sense for example to focus on the tsunami risk at schools in the country's interior or to present disaster mitigation measures that are not financially and organisationally feasible. Rather, efforts should always endeavour to reflect as closely as possible the actual reality of the students' daily lives (and those of the teachers) and to propose response options that they can also put into action.

In the northern and eastern provinces, school disaster safety projects and emergency planning have also been launched at schools that were hit by the tsunami. The local project office held four training events for more than 100 key education administration staff, who then passed on their newly acquired knowledge to the school principals. The school principals, in

turn, organised initial education measures on disaster safety at some 200 schools. The school disaster safety concept was introduced at 30 pilot schools. It was particularly important in these regions to also address the hazards posed by civil war and terrorist attacks.

School disaster safety is being called for and taught not only in primary and secondary schools, but also at the National Colleges of Education, although not yet nationwide. At some colleges, experts trained in India have already been teaching their colleagues and students about school disaster safety, focusing particularly on facility evacuation, fire protection and first aid. Since these colleges did not have sufficient emergency management materials, they had to be provided with appropriate, basic fire-fighting equipment and first-aid supplies.

All student teachers undergoing their year of in-school training were obliged to conduct a school project on disaster risk management and school disaster safety, which also helped disseminate the new concept of school disaster safety. Thus, in 2008 some 2,000 budding teachers carried the theme of disaster preparedness into their placement schools and introduced these issues to the schoolchildren.



Tips on what to do in case lightning strikes:

It is dangerous to remain outdoors during thunderstorms.
So – seek shelter indoors or in a car.

Remember:

- > If you are in the schoolyard, go as quickly as possible into a classroom.
- > Large trees offer no protection against lightning.
- > Do not touch any metallic objects or electrical devices.
- > Move away from metal posts, wires or antennas, etc.
- > Also keep away from any pond or water tank, basin or pool.
- > Do not drive or ride on any open vehicle such as tractors, donkey carts, motorcycles or bicycles.
- > When lightning strikes, lay your hands flat behind your head, crouch down and make yourself as small as possible, and only allow the balls of your feet to touch the ground.

4.4 Students and teachers are familiar with disaster risks and respond correctly in emergencies

The 2004 tsunami and the floods of early 2006 had already brought about a noticeably enhanced awareness among the general public of disaster issues. Despite this, teachers and students lacked knowledge of the causes and consequences of disasters and of possible countermeasures. It was not until the subject was broached within the scope of reforms in teacher training and school education that they became aware that they themselves are indeed capable of influencing risk and protecting themselves in emergencies.

Rather than trying to teach mere theoretical concepts, the project focused on teaching children and young people practical knowledge and hands-on skills that will prepare them for emergencies and teach them how to respond. In school projects, environmental clubs and during free periods at school, efforts concentrated on linking theory to practice. In this way, the teachers trained with project support conducted drills for example on fire-fighting and responding to bomb attacks, tsunamis or floods. By teaching the practical skills that can mean the difference between life and death, they raised awareness of disaster preparedness among students, their parents and families and even among other teachers.

Further public events are regularly held every year on 26 December, the National Disaster Safety Day in remembrance of the tsunami disaster. One effective contribution to awareness raising was provided for example by an 'All Island Essay and Art Competition for Disaster Preparedness' held in close collaboration with the Disaster Management Centre.⁶ Schoolchildren submitted essays on disaster safety which were then published in brochures. Radio programmes broadcast a flanking campaign on disaster risk management.

In addition, the project distributed posters on natural hazards to schools and published a songbook with music cassette featuring songs about opportunities that the ocean provides - but also about its dangers.

The change in attitudes achieved through these actions is expressed for example by the fact that disaster preparedness has already become an accepted, integral part of the curricula and culture of some schools that have even incorporated the theme in their mission statement.



Figure 26: Street theatre performed by student teachers to promote disaster awareness | Photo: P. Bitter, GTZ

⁶ The Disaster Management Centre is a subsidiary institution of the Ministry of Disaster Management and Human Rights with active operations in the fields of disaster prevention and mitigation as well as disaster management.

5. Factors in success

The aspects explained below are considered to be the key, driving factors that determined the success of project efforts, as laid out here. The descriptions of these factors should encourage other projects to reflect on their own specific success factors and is intended to give them new ideas.

5.1 Awaken enthusiasm: Motivating political decision-makers

Disaster safety is a new topic for the education sector of Sri Lanka. It was the tsunami that first made starkly clear just how relevant and important education is to creating a disaster-resilient society. Professionals in the field of disaster risk management declared that raising public awareness of disaster risks and the constructive management of those risks must be given top priority. Like any other social transformation, however, such targeted attempts to alter attitudes and behaviour will inevitably encounter resistance as well and lead to conflicts. Although a

certain awareness of natural hazards may indeed exist among the general population, particularly after a tragic disaster, there is still a big difference between simply being aware and being prepared to change one's conduct and, for example, actively undertake safety precautions at home and at work. Indeed, this persistence of set ways of thinking and attitudes also prevails within public institutions.

In order to change the institutions and structures within the education sector, the project needed to win over executives within all of the partner authorities. The two-week training event in India played a crucial part in generating the necessary motivation. Thanks to their colleagues in neighbouring India, who enthusiastically practice disaster safety in their educational system, the decision-makers of the Sri Lankan education sector became convinced of the benefits and were given a very good idea as to how this goal can be achieved. As the socio-cultural and geographical background of India is comparable to that of Sri Lanka, it was possible to transfer the models developed and experience gained to the Sri Lankan context.



Figure 27: Demonstration of first-aid techniques in India | Photo: P. Bitter, GTZ



Figure 28: Education sector executives train their colleagues | Photo: P. Bitter, GTZ

The Sri Lankan executives themselves were so convinced of the need for disaster safety that they steadfastly and emphatically supported the internal innovation processes, providing the necessary political backing. Personal enthusiasm became the driving force, releasing sufficient energy within the system to successfully develop guidelines and new syllabi, hold a wide number of training events within the institutions and implement quality assurance measures despite the tight time frame and limited resources available.

5.2 Form alliances: Coordinated inter- and intraministerial cooperation

The establishment of Sri Lanka's Ministry of Disaster Management and Human Rights provides the nation with a leading and coordinating institution for the cross-sectoral topic. The national strategy, dubbed the Road Map, specifies a binding framework for disaster risk management that is also mandatory for other ministries. A division within the Disaster Management Centre acts as the actual interface to the education sector. It coordinates and agrees initiatives launched within the education sector with the Ministry of Disaster Management and Human Rights. The Ministry of Education, for its part, has appointed a focal point for disaster preparedness. She is responsible for identifying vulnerability in the education sector to disaster risks, and for deriving a strategy on this basis, as well as coordinating school disaster safety and curriculum planning activities for the entire sector. Providing support for such intra- and inter-institutional cooperation presented the project with a daunting

challenge, for previously there had been only sporadic contact between the various ministries and the education authorities and departments. This is why sensitisation measures were geared not only to clearly communicating the benefits of disaster risk management, but also to putting in place the necessary institutional and organisational framework.

Once the project achieved some initial success and positive feedback on practical work reached the ministry, the latter was willing to address these issues at the policy-making level. With project support, an informal interministerial coordination group was established to coordinate and agree concrete arrangements and regulations governing responsibilities, areas of competence and collaboration between the participating institutions. The improved communication channels, increased trust and transparent decision-making brought about thanks to these cooperative efforts led to more efficient collaboration and the establishment of national guidelines on school disaster safety.

With this alliance acting as the foundation, the next step was to integrate all other international and national organisations involved in the field of school disaster safety into this coordination effort. They too could be convinced by the intermediary services of GTZ, which also acted as a bridge between governmental and non-governmental organisations, that all participants can benefit from strategic cooperation.

5.3 Infusion: Utilising existing structures and processes to integrate disaster safety education

The project pursued a strategy that aimed not to create new structures and processes to address disaster safety in an education context, but instead to make use of existing structures and processes. The expression 'infusion' is used in expert circles as a metaphor for this process, meaning that changes are carefully introduced into the system in small doses. For example, neither in primary and secondary schools nor at the teacher education level was any effort made to teach disaster risk management as a separate, distinct subject owing to the already exhaustive scope of subjects and courses on the syllabuses. Instead, appropriate points of contact for topic linkage, interfacing and overlap were identified in the range of subjects already taught, and the new topics introduced as integral components. This approach also corresponds to the cross-sectoral nature of the topic itself, which is neither entirely at home in the natural sciences nor in the social sciences.

The same principle was applied to efforts to establish school safety committees. Instead of introducing new working groups at schools, these functions were incorporated into existing school development committees. By utilising established structures,



Figure 29: Fire safety drill at Wayamba College | Photo: C. Kreussler, GTZ

the committees handling the new theme are in no danger of being dissolved once the project has ended due to overstretched school principals and teachers.

Existing resources and processes are used for training and monitoring purposes as well. Trainers responsible for in-service teacher training and education officers responsible for school monitoring took on school disaster safety as an additional element in their own fields of responsibility. The project firstly observed and identified the structures, functions and processes already in place. It then gradually introduced supplementary components and minor changes, such that the existing education system could easily accommodate them.



Figure 30: Preparation for an emergency mock drill at Wayamba College | Photo: C. Kreussler, GTZ

6. Conclusion

Over its three-year term, the project helped steer a clear course in the Sri Lankan education sector towards achieving a disaster-resilient society. Disaster safety, consisting of prevention, preparedness and the knowledge of how to respond to emergencies, was institutionalised in pre- and in-service teacher training. It is highly likely that the knowledge acquired by students about the need for disaster safety will also be passed on to their parents and society as a whole. After the pilot phase within the framework of the tsunami relief effort, the issue of school disaster safety is now being further pursued by the GTZ's Sri Lankan programme Education for Social Cohesion. This ensures sustainable mainstreaming and will broaden the impact of successes achieved to date.

These accomplishments were achieved by applying a sensitive and participatory approach that taught teachers and students, in small digestible doses, the capacities and skills they need to respond appropriately in emergencies. Applying a snowball system, train-the- trainers workshops were held to integrate the new material into teacher training. The development of high-quality teacher guidelines and instruction materials helped these events achieve a high standard and made it easier to introduce the new material in schools.

Despite these numerous accomplishments, however, it must be recognised that quality assurance in the institutional reform processes has not yet been consolidated, as capacities for monitoring and evaluation have had to be developed virtually from scratch. If experience gained in Sri Lanka is to be transferred, care should be taken to provide for the resources needed to put in place these steering mechanisms, for example through feedback loops. The situation is similar with respect to knowledge management, a field in which the Sri Lankan education sector still exhibits shortcomings. In order to promote learning processes, greater priority must be given in future to exchanging information with other national institutions. Properly functioning knowledge management is a fundamental prerequisite for the 'learning institutions' that will become increasingly important, particularly in view of advancing climate change.

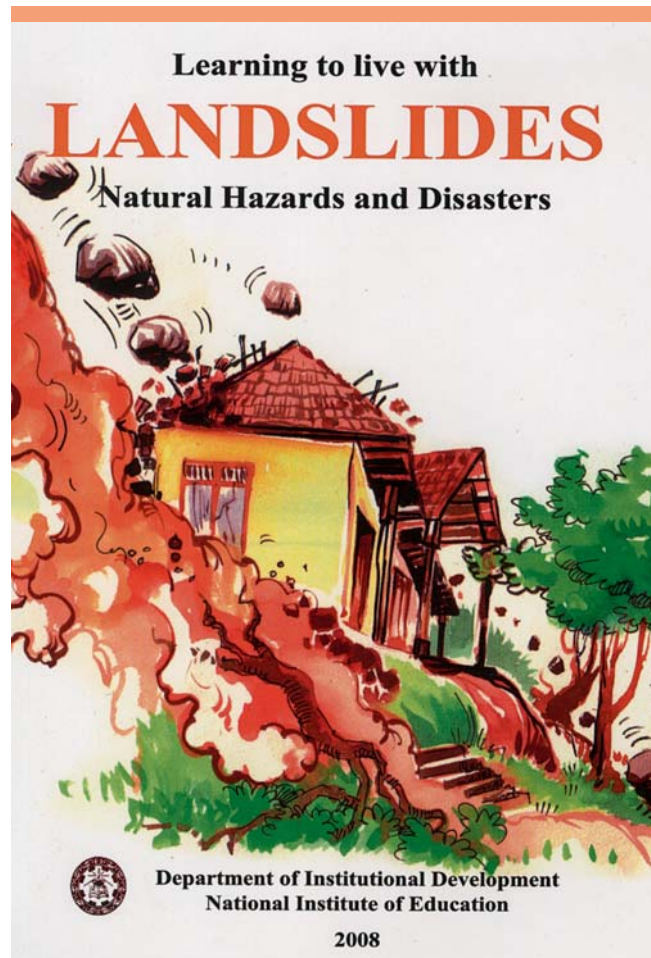


Figure 31: Teacher manual on how to deal with landslides

Further literature and links

Literature

BMZ (Ed.): Disaster Risk Management – Contributions of German Development Cooperation. BMZ Topics No. 193. Bonn 2008

GTZ (Ed.): Disaster Risk Management in Rural Areas of Latin America and the Caribbean. Selected Instruments. Eschborn 2004

GTZ (Ed.): Guidelines: Risk Analysis – a Basis for Disaster Risk Management. Eschborn 2004

GTZ (Ed.): Concept Paper: Basic Education and Disaster Risk Management. Eschborn 2007

ISDR (Ed.): Let our children teach us! A Review of the Role of Education and Knowledge in Disaster Risk Reduction. Bangalore 2006

ISDR and UNESCO (Ed.): Towards a Culture of Prevention: Disaster Risk Reduction Begins at School. Good Practices and Lessons Learned. Geneva 2007

Sri Lankan Ministry of Education/GTZ (Ed.): Disaster Safety Education. Resource Kit for National Colleges of Education. Colombo 2008

Sri Lankan Ministry of Education/GTZ (Ed.): National Guidelines for School Disaster Safety. Colombo 2008

Links

Organisations

Website of the project Disaster Risk Management & Psycho-social Care (now transferred to the project Education for Social Cohesion)

> www.gtz-esc.lk

GTZ internet gateway to disaster risk management

> www.gtz.de/disaster-reduction/english

United Nations International Strategy for Disaster Reduction

> www.unisdr.org

Asian Disaster Preparedness Center

> www.adpc.net

Coalition on Global School Safety and Disaster Prevention

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

Website on capacity development for disaster risk management

> www.preventionweb.net

German Committee for Disaster Reduction

> www.dkkv.org (in German)

Internet website of the German Commission for UNESCO for education and disaster risk management

> www.unesco.de/katastrophenbildung.html?&L=0 (in German)

Sri Lankan Disaster Management Centre

> www.dmc.gov.lk

Several good examples for exchange of materials and ideas on disaster risk management in schools

Commentated bibliography of organisations, reference literature and links – a treasure chest of materials and practical ideas especially in the education sector:

> <http://lamar.colostate.edu/~loripeek/ResourceList.pdf>

Teaching and learning materials in the form of an interactive CD from New Zealand:

> www.whatsheplanstan.govt.nz

An example of learning materials in an African context:

> www.jasiri.co.za/index.php?option=com_frontpage&Itemid=1

Example of a disaster risk management game – earthquake:

> www.nwcn.com/quake/

Materials on psycho-social counselling:

> www.globalfacilitators.org/VirtLib/VirtLib_DCI.htm

Materials and ideas for schoolchildren and teachers:

> <http://skydiary.com/kids/>

> www.msp.gouv.qc.ca/jeunesse/viensjouer/viensjouer_en.html

> <http://edu4drr.ning.com>

Materials and ideas on climate change:

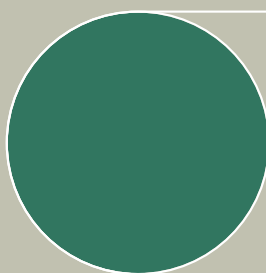
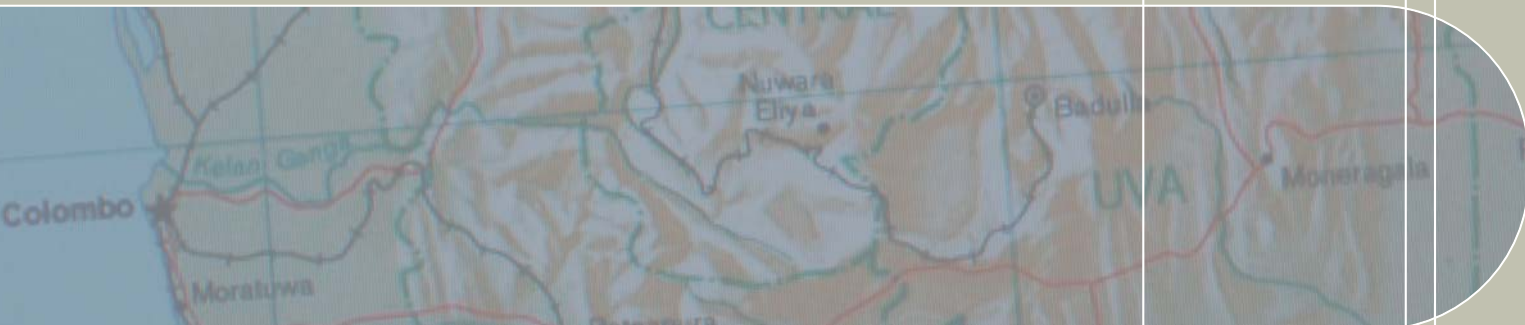
> www.climatechangeeducation.org

> www.childreninachangingclimate.org

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