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Introduction

This manual is the result of the recent flood disaster in Namibia and efforts made to improve the preparedness for future disasters in the education sector. It is being piloted and tested out in Caprivi. Comments and feedback will be incorporated in the development of the planned National School Manual on Emergency Preparedness and Response.

The north and north-east areas of Namibia are prone to annual seasonal flooding. The Cuvelai ecological area of the northern regions is characterized by thousands of shallow drainage channels locally known as ‘oshanas’. Flooding of the ‘oshanas’ in the Cuvelai normally occurs after heavy local rains or good rainfalls in the highlands of neighbouring Angola. The regions face yearly small scale floods, which sometimes result in damage of varying magnitudes.

The north east regions of Kavango and Caprivi have experienced a yearly increase in the level of flooding since 2003. Floods are caused by the Zambezi and Kwando river systems which overflow, high ground water levels and above normal rainfall. Eastern Caprivi comprises the area east of the Kwando River. The eastern part is surrounded by three perennial rivers to the west (Kwando), south (Linyanti), south-east (Chobe) and north (Zambezi). The second part is formed by the Caprivi Strip or West Caprivi to the west of the Kwando River and stretching up to the Kavango River. More than seventy percent of the Caprivi population lives in rural areas in traditional dwellings with limited access to sanitation facilities. According to the Human Poverty Index for 2000, Caprivi was ranked as the poorest region in the country. The Caprivi region is characterized by extreme flatness and about thirty percent of the region is inundated every year during seasonal floods.

In 2009, the Namibian government declared a national emergency after the highest flood level in fifty years causing extensive damage to socio-economic infrastructures in the six northern regions. The disaster response was characterized by poor coordination and lack of preparedness. It is anticipated that, in the future floods could last as long as eight months, from February to September. One of the recommendations made by the national government in January 2009 was to prepare for future emergencies by developing a school manual on emergency preparedness and response.

In January 2010, the Caprivi Regional Education Office, UNESCO and UNICEF organized a three-day workshop to formulate recommendations for improvements to local, regional and national disaster risk contingency plans in the field of education. The goal was to develop the disaster prevention, recognition and preparedness of the education sector in Namibia. Representatives from fifteen of the most affected schools in Caprivi, the Regional Education Forum and the National Institute for Educational Development (NIED) shared their best practices and developed recommendations. Relevant materials and outcomes from the workshop have been included in this manual and adapted for radio programmes that will be disseminated through Community Media and Learning Centres in flood-affected regions.

The target audience for this manual is education personnel in order to enable a culture of disaster risk reduction, and to enhance disaster risk management and knowledge management in Namibia. The manual is meant to be a practical guide for teachers on how to prepare and involve the learners, parents, school boards, community members and local authorities in a participatory way.

Chapter 1 focuses on commonly used disaster management terminology, disaster risk reduction, the various phases in an emergency - disaster preparedness, mitigation, prevention and response, and the contingency planning process and outputs; Chapter 2 focuses on reasons why education is essential, explores some tools that can assist in ensuring quality education during disasters and disaster risk reduction in education; Chapter 3 explains the legal obligation to ensure a child friendly learning environment and how to do so; Chapter 4 focuses on children’s right to participate and how they can actively contribute to disaster risk reduction; Chapter 5 emphasises the important role of community participation in disaster risk reduction and management; Chapter 6 presents ideas on what teachers
can do, or get help to do, to improve their own situations during emergencies and at the same time ensuring that quality teaching takes place; Chapter 7 provides ideas and suggestions on how to ensure quality learning before, during and after emergencies; and a number of appendix provides ideas and tools for disaster risk preparedness activities at the school and in the community.

The Caprivi region was selected to pilot the manual as the area is most prone to floods in Namibia. Due to the scarcity of educational materials on disaster risk reduction for the Namibian context, the manual draws on experiences from Southern Africa, from similar disaster responses in Asia along with best practices from the Inter-Agency Network in Education in Emergencies. See references at the back for further reading.

There have been many contributors to this pilot manual. It is based on ground work prepared by colleagues at the Prime Minister’s Office, the Ministry of Education, the various Regional Councils and UNICEF. Special thanks go to Mr. D.M. Liswaniso and Mr N. Sibeya at the Caprivi Regional Education office, Mr. Ndpou at the Regional Education Forum, Mr. P. Simalumba at NIED, and Mr. A. Chunga, Mr. F.K. Kachingo, Mr. L. S. Mulonda, Mr. F. M. Imenda, Mr. L.M. Muletwa, Mr. R.S. Longwani, Mr. B. Sisamu, Mr. A. Sinyepe, Mr. F.N. Mbanga, Mr. S.B. Matengu, Mr. F.M Kayoaka, Mr. D.M Mufalo, Mr. G. Nkando, Mr. J. Imasiku and Mrs. D. M. Ntema, principals in Caprivi.

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1) What is a disaster? Key concepts and risk factors

This chapter focuses on commonly used disaster management terminology, disaster risk reduction, the various phases in an emergency - disaster preparedness, mitigation, prevention and response, and the contingency planning process and outputs.

A HAZARD is a natural or human made phenomenon or event that can potentially trigger a disaster; examples include earthquakes, mud-slides, floods, volcanic eruptions, tsunamis, and drought. These physical events need not necessarily result in disaster.

The most prevalent hazards in Namibia are drought, flooding, epidemics (human health), climate change, environmental degradation, livestock epidemics, forest and veld fires, and road and traffic accidents. See hazard profile and the impact of these in the National Policy for Disaster Risk Management in Namibia.

A DISASTER is a serious disruption of the functioning of a community or a society trigged by a hazard causing widespread human, material, economic or environmental losses exceeding the ability of the community to cope using own resources. A disaster can be slow-onset (e.g. drought) or sudden-onset (e.g. floods).

Three categories of emergency include: (a) natural disasters which include hurricanes, earthquakes, tsunamis, droughts, cyclones, epidemics, and floods. (b) Man-made disasters, including civil unrest, war, occupation, economic blockage, and (c) complex emergencies, which combine both natural and man-made emergencies.

Common elements for disasters:
- Affects people;
- Triggered by a hazard;
- Directly related to vulnerability;
- Exceeds capacity of household, community or group of people to cope;
- Social processes play a role; and
- More to do with society than natural phenomena.

A RISK is the product of hazards over which we have no control. It combines the likelihood or probability of a disaster happening & the negative effects that result if the disaster happens. These are increased by vulnerabilities (characteristics/circumstances that make one susceptible to damaging effects of a hazard) and decreased by capacities (combination of strengths, attitudes and resources).

The primary responsibility for disaster risk management in Namibia rests with the government. Since 1992, the Republic of Namibia has developed structures to deal with disaster risk management and has a national emergency management system in place and the National Policy for Disaster Risk Management in Namibia (DRM) was launched October 23, 2009. The goal is to contribute to the attainment of sustainable development in line with Namibia’s Vision 2030 through strengthening of national capacities to reduce risks and build resilience to disasters. The policy aligns itself with the global Hyogo Framework Action (2005-2015), the Africa Regional Strategy for Disaster Risk Reduction, the SADC Disaster Strategy and other international conventions.

The policy aims to manage disaster risks holistically on a continuous basis, reduce impact and increase resilience, and minimize vulnerabilities and build resilience. It strives to involve all segments of society especially those most exposed to anticipated hazards. The fulfilment of the policy requires full participation and ownership of all stakeholders, and capacity development is a prerequisite for successful disaster risk reduction.
The **Regional Disaster Risk Management Committee** (RDRMC) is in charge of disaster preparedness and response at the regional level. It liaises with the Directorate of the Disaster Risk Management (DDRM) at the Prime Minister’s Office. The National Disaster Risk Management Committee (NDRMC) is chaired by the Secretary to the Cabinet and is composed of Permanent Secretaries, UN agencies, strategic NGOs and institutions. The NDRMC is responsible to the President and the Prime Minister. It is the highest level of coordination forum. It acts as a policy advisor and recommends to the President on the need to declare a state of national emergency and to call for international assistance. The Constituency Disaster Risk Management Committee (CDRMC) and Village Disaster Risk Management Committee (VDRMC) are instrumental in cascading disaster support to constituencies and villages levels.

If the government declares a disaster the critical period is the following 90 days for humanitarian response to take place. The second phase is the recovery. The better prepared the easier the response is. The Regional Disaster Risk Management Committee will be coordinating an eventual disaster response in your region on behalf of the Office of the Prime Minister (OPM) and in close coordination with your Regional Education Office and other relevant stakeholders.

There are a few terms that we need to memorize and understand:

- **Prevention**: outright avoidance of the adverse affects of hazards/disasters;
- **Mitigation**: the process of lessening or limiting the adverse affects of hazards/disasters;
- **Preparedness**: knowledge and capacities to effectively anticipate, respond to and recover from impacts of likely hazard;
- **Risk reduction**: practice of reducing risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure, lessened vulnerability, improved preparedness; and
- **Response**: provision of emergency services to save lives, meet needs.
Disaster MANAGEMENT is a collective term encompassing all aspects of planning for and responding to disasters, including both pre-and post disaster activities. It may refer to the management of both the risks and consequences of disasters.

Disaster management is about:
- Identifying hazards;
- Reducing risk;
- Reducing vulnerability; and
- Increasing capacity.

Disaster risk REDUCTION (DRR) means the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, application of measures including environmental management, land-use and urban planning, protection of critical facilities, application of science and technology, partnership and networking, financial instruments, early warning systems including forecasting, dissemination of warnings, preparedness measures and reaction capacities.

The Bonn Declaration following the Education for Sustainable Development (ESD) World Conference in Bonn (2009) specifies under Clause 7 the potential for ESD to help societies to address different priorities and issues inter alia, such as water, energy, climate change and disaster and risk reduction.

In line with this, the recently validated Namibia National Strategy on ESD makes reference to disaster prevention and mitigation as one of the key environmental dimensions of Sustainable Development. Drought is further specified to be one of the main environmental issues under the Sustainable Development challenges in Namibia. Following this, disaster and risk management preparedness will be incorporated as sustainable development concern in curriculum revisions.

Key performance areas of the National Disaster Risk Policy in Namibia:
1. Establish sound, integrated and functional legal and institutional capacity for total disaster risk management;
2. Improve disaster risk identification, assessment and evaluation mechanisms;
3. Reduce the underlying risk and vulnerability factor by improving risk management applications at all levels;
4. Strengthen disaster risk preparedness for effective emergency response and recovery practices at all levels; and
5. Enhance information and knowledge management for disaster risk management.

Activity for school management:
- Read through the DRM key performance indicators in the National Policy and highlight the ones relevant for 1) the education sector and 2) your role and responsibilities;
- Discuss with colleagues how this will affect the education sector’s and your school’s contingency planning; and
- Facilitate a hazard hunt in your school identifying the various hazards in your community. Make sure to employ a participatory approach by including learners and parents, and agree on measures that need to be carried out to minimize the risks.

After the 2008 and 2009 flooding in the northern regions in Namibia critical challenges such as increased death by drowning; increased cases of malaria cases and related deaths; closed schools; rehabilitation of washed away sewerage ponds; poor sanitation with contaminated environment; shortage of food supplies and poor distribution; damaged and destroyed roads, water and municipal infrastructure were identified.
**Contingency planning** involves preparedness planning for most likely disasters, based on vulnerability and risk analysis. Elements of contingency planning include:

- Development of likely disaster scenarios based on risk analyses with estimates of numbers of affected people and types of impact;
- Capacity mapping of stakeholders, e.g. strength and resources among community development committees, NGOs, health personnel, police and etc;
- Identification of roles and responsibilities for components of emergency response;
- Establishment of sector and cross-sector coordination mechanisms at local, regional and national level;
- Response plans prepared by all sectors including clear objectives, strategies, policies and procedures and articulating critical actions that must be taken; and
- Preparedness actions such as developing uniform assessment instruments, supply stockpiling and long term agreements, disaster management training.

During an emergency, time pressure is one of the most acute problems. Contingency planning allows time to deal with anticipated problems before the onset of a crisis. It provides an opportunity to identify constraints and focus on operational issues prior to the onset of a crisis. For example, it provides opportunities to map the vulnerabilities of a potential target population, potential areas of rights violations, assess logistical infrastructure such as port or warehousing capacity, and assess coordination and institutional capacity. By working together in a contingency planning process, people develop a common understanding of common challenges, of each other’s capacities and organizational requirements.

**At the Caprivi Lessons Learned workshop January 2010 a principal shared at what happened during the flooding in 2009:**

“The school is situated in rural area outside Katima. From early March up to the end of April the school was surrounded by water. The school forwarded its request for support to the regional council and the circuit office. The school was informed that boats, tents, food and support material would be provided, but nothing was done.

Teachers and learners started crossing the deep water to the school and first period was always affected due to the long distance. Furthermore, the level of water increased all over and it became impossible to continue to cross the water by foot. Until then both teachers and learners had been wading to school with water up to the waist. The teachers were left without transport and accommodation while other schools were provided with the basic needs. The school was forced to close for two weeks because teachers could not access the site and conduct classes.

After two weeks private boats were used for transport, and the school reopened. However, some learners lost their books and school bags on their hazardous way to school. Two teachers and several learners almost lost their lives due to boats capsizing on their way to school. Learners at the school received food aid by end of April when the school was about to close for the term. No assessment was done by either the Regional Disaster Risk Management Committee (former REMU) or the regional office during or after the flood”.

**Recommendations from the participants attending the workshop:**

- Document and disseminate lessons learned to minimize future risks;
- Ensure mechanism/procedure for community participation during emergency preparedness planning;
- Clear and transparent logistical procedures;
  - Fair distribution of relief assistance and support according to needs e.g. sufficient number of hover and engine boats for each affected school;
  - Transparent process with proof of receipt of emergency supplies to schools, inform receiver in advance of goods to receive, confirmation to sender of receipt with copies to relevant ministries.
• Ensure education-related needs assessments coordinated through the Regional Disaster Risk Management Committee to the regional office. This is to enable timely budget allocation specific to education in emergencies at regional level.

The Namibia National Education Contingency Plan was developed by the Ministry of Education in January 2009 and forms part of the National Contingency Plan (for all sectors). The objectives are to ensure safety, security, physical and psycho-social well-being of all learners and teachers before, during and after the emergency; Safety of physical infrastructure (schools), access roads, etc; Minimum disruption of learning activities due to disaster; Access to schools (education); and Learning materials protected.

The MoE Contingence Plan includes activities to be done before an emergency such as:
• Risk mapping for schools and qualitative analysis of physical infrastructure;
• Simulation exercises;
• Pre-positioning of learning and emergency materials;
• Community and teacher sensitisation on early warning;
• Establishment of coordination structures for education and with other sectors and clear communication channels;
• Dissemination of the Minimum Standards for Education in Emergencies;
• Development of a school manual on emergency preparedness and response; and
• Development of guidelines on camping at schools.

Components of school disaster management include assessment and planning, risk reduction and response capacity development. System disaster management includes education preparedness and response plans within government policy, including funding for the implementation and capacity building.

Suggestions for your school:
- Learn principles and practice of disaster risk reduction and review the Namibia Contingency Plan for Education with your colleagues;
- Become aware of disaster risks in your community and how to reduce them by facilitating a risk mapping in your school and create a local contingency plan ensuring community participation;
- Consult with the Regional Education Office and the Education in Emergencies Committee on how to adapt the national plan;
- Prepare and implement school disaster plans and disaster risk reduction efforts;
- Create clear roles and responsibilities for all personnel, learners and school board for carrying out the contingency plan in case of emergency;
- Submit your plan and assessed needs (material, food, transport, health, sanitation, shelter, training) to the regional education office; and
- Organize simulations drills and appropriate response to early warnings available in your school and community to make sure your plan is functional and updates it regularly.

FOR THE EDUCATION SECTOR AS A WHOLE AND WIDER GOVERNMENT:
• Identify possible types of disasters and geographic risks;
• Carry out multimedia awareness raising campaign;
• Identify preparedness measures;
• Provide pre-training for vulnerable communities;
• Government should do risk assessment survey before construction of any buildings in emergency-prone areas;
• Incentive training ;
• Government should prepare emergency shelters and evacuation plans;
• Affected structures should be repaired;
• Early warning systems to be improved and accessible to schools;
• Committees to be established under OPM with all line ministries, UN, NGOs, church leaders to focus on DRR;
• Development of curriculum for pre-service and in-service training on DRR; and
• Each region should then formulate committees under REMU with line ministry participation to implement national DRR plans in the regions.

Note: A crisis is the time to follow the crisis plan, not to make a plan from scratch!
2) The importance of Education in Emergencies

This chapter focuses on reasons why education is so essential, explores some tools that can assist in ensuring quality education during disasters and disaster risk reduction in education.

Globally disaster risk reduction and the Hyogo Framework identify knowledge and education on disaster risk reduction as ONE of the FIVE priorities for actions in order to achieve disaster resilient communities and nations. International actors actively involved to reduce the risk of disasters have expressed their commitments and initiative to support the planning, guidance and reporting on accomplishments of this priority:

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation;
2. Identify, assess and monitor disaster risks and enhance early warning;
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels;
4. Reduce the underlying risk factors; and
5. Strengthen disaster preparedness for effective response at all levels.

Note; Learning takes place in a variety of circumstances in the child’s wider environment – at home, after school, in religious institutions and in interactions with other community members. The school is one of many social institutions where learning takes place.

Why Education in Emergencies?

- Education is a right. This right is articulated in various international humanitarian and human rights instruments, including the Geneva Conventions, which apply in times of war, as well as the Convention on the Rights of the Child, the Universal Declaration of Human Rights and many regional rights instruments. The right to education is also stated in The Namibian Education Act and Vision 2030.

- Education in emergencies is a necessity that can be both life-sustaining and life-saving, providing physical, psychosocial and cognitive protection. Education in emergencies saves lives by directly protecting against exploitation and harm, and by disseminating key survival messages, such as landmine safety or HIV and AIDS prevention.

- Education is prioritised by communities. Communities often start up some kind of education/school themselves during an emergency. Maintaining this during a crisis can be difficult, however, due to diminished local capacities and fewer resources. Emergencies offer opportunities to improve the quality of and access to education.

- Education response in emergencies is focused on meeting the actual needs of the affected population, as well as on formal schooling. The needs depend on the phases and the situation:
  - **The acute/flight/displacement phase**: Crucial information/messages, such as mine, health and environment risks etc, and emphasis on psychosocial and recreational elements
  - **The chronic or coping phase**: organised learning; formal and non-formal, including messages and topics to prepare for return (if displaced), for the future, risk elements and also peace building and human rights education
  - **The return, reintegration and rehabilitation phase**: facing the future, rebuilding and upgrading the whole school system. Without disregarding the devastation that may have been caused to the education system, this phase should make use of the positive opportunities that may follow in the aftermath of an emergency. These opportunities may involve the development of more equal gender policies and practices and the revision of previously divisive curriculum and teaching practices, and requires that sufficient time is given for curriculum development, training of teachers and the gradual development towards a new defined goal.
Children and youth have enormous potential, for learning, for cooperation and for contributing to society. This potential can be constructive or destructive; children and youth without meaningful opportunities and positive influences are easily recruited or attracted by alternative and often negative activities. No society can afford to lose the constructive potential of its young people; it must be safe-guarded and cared for even in crisis situations. And at last but not least, education can help prevent and mitigate disasters in the future.

As mentioned above disasters are also an opportunity to Build Back Better:
- Bringing back learners, enroll out of school children, and keep them there;
- Ensure equal access for all (disabled, orphaned, girls and boys);
- Provide psychosocial support;
- Employ teaching and learning methods for children to express themselves;
- Ensure quality education, including disaster prevention;
- Develop disaster-resistant, safe and accessible schools; and
- Enhance capacity of education planners and managers.

The Inter-Agency Network for Education in Emergencies’ (INEE) Minimum Standards for Education in Emergencies, Chronic Crises and Early Reconstruction is both a handbook and an expression of commitment that all individuals – children, youth, and adults – have a right to education during emergencies. They echo the core beliefs of the Sphere Project; that all possible steps should be taken to alleviate human suffering arising out of calamity and conflict, and that people affected by disaster have a right to life with dignity.

The standards were designed to be an immediate and effective tool to promote protection and coordination at the start of an emergency while laying a solid foundation for holistic, quality education and disaster preparedness during reconstruction. The handbook is designed to give governments and humanitarian workers the tools that they need to address the Education for All and UN Millennium Development Goals. It is the first step toward ensuring that education initiatives in emergency situations provide a solid and sound basis for post-conflict and disaster reconstruction.

The standards can be used to assess, monitor and identify remaining needs, funding gaps and priorities during emergencies. The standards can assist teachers in providing essential survival, school safety and life skills information and establishing a safe and secure environment; to enforce a holistic approach to emergencies and humanitarian aid, promoting educational responses in the early relief effort that incorporated a view to longer-term reconstruction and development of ‘building back better.’

1) MINIMUM STANDARDS Common to All Categories focuses on the essential areas of community participation and utilization of local resources when applying the standards in this handbook, as well as ensuring that emergency education responses are based on an initial assessment that is followed by an appropriate response and continued monitoring and evaluation. Below are some of the standards particularly relevant for disasters:
- Emergency-affected community members actively participate in assessing, planning, implementing, monitoring and evaluating the education programme;
- A timely education assessment of the emergency situation is conducted in a holistic and participatory manner;
- All relevant stakeholders regularly monitor the activities of the education response and the evolving education needs of the affected population; and
- There is a systematic and impartial evaluation of the education response in order to improve practice and enhance accountability.

2) Access and Learning Environment: focuses on partnerships to promote access to learning opportunities as well as inter-sectoral linkages with, for example, health, water and sanitation, food aid and shelter, to enhance security and physical, cognitive and psychological well-being;
• Protection and well-being;
• Learning environments are secure, and promote the protection and mental and emotional well-being of learners; and
• Education facilities are conducive to the physical well-being of learners.

3) Teaching and Learning: focuses on critical elements that promote effective teaching and learning: 1) curriculum, 2) training, 3) instruction, and 4) assessment;
• Culturally, socially and linguistically relevant curricula are used to provide formal and non-formal education, appropriate to the particular emergency situation.

4) Teachers and other Education Personnel: focuses on the administration and management of human resources in the field of education, including recruitment and selection, conditions of service, and supervision and support.

5) Education Policy and Coordination: focuses on policy formulation and enactment, planning and implementation, and coordination.

Cross-cutting issues, such as human and children’s rights, gender, the right of the population to participate, HIV and AIDS, disability and vulnerability, have been incorporated into the relevant standards rather than being dealt with in separate standards. Acceptance of the minimum standards is a commitment to increased accountability, transparency and quality. See appendix 4 and 5 for further details.

With active actors (UNESCO, UNICEF, Red Cross and etc), global frameworks are supporting national efforts in a coordinated manner to be of greater impact by COMBINING our EFFORTS and reviewing current initiatives, gaps and opportunities related to DRR, developing a work plan based on outputs and indicators, working in close collaboration with Governments activities and commitment to DRR, sharing of lessons learnt and network exchanges and among national, NGOs, private sectors, schools associations.

The objectives of disaster risk reduction (DRR) in Education:
• To seek political commitment in integrating DRR into education curricula, school construction and education sector plans;
• To promote the integration of DRR into non-formal education and extra-curricular activities and recognize the importance of traditional and indigenous knowledge;
• To highlight the role and contribution of learners, local communities, in particular women, as well as local authorities and implementing partners (NGOs, national societies) in the educational process;
• To recognize the special needs of vulnerable groups including disabled children; and
• To identify good practices and identify national “champions” in integrating disaster risk reduction into school curricula and in developing school safety programmes.

Disaster risk reduction (DRR) activities
• Integrating DRR into the curriculum, training teachers, constructing disaster-resistant school infrastructure, and development of DRR resources for children and teachers are practical examples of DRR activities which can be supported by the Ministry of Education and partners;
• Children are important agents for improving safety and resilience and should be involved in DRR efforts; and
• Ensuring safety at school is paramount in order to save the lives of learners and teachers, prevent injuries and facilitate a culture of resilience.

Note: Remember to develop school and community contingency plans IN ADVANCE for school continuity. This should be in line with regional contingency plans and national policies. Include as necessary: alternate school locations, alternate transportation, alternate schedules, alternate curriculum
delivery methods, retention and recruitment of learners, exam preparation and administration, and resources and training for psychosocial support, and back-up educational records in safe locations.
3) Protection during emergencies

This chapter explains the legal obligation to ensure a child friendly learning environment, and how to do so

Safety is a human concern – this concern must be taken more decisively by school communities given that they are in the business of caring for the young and in preserving lives. It is a concern that must be taken seriously and strive continually to achieve at all times especially during emergencies.

- Emergencies have an impact on a child’s personal growth and development, education systems and disrupt the environment in which children learn and grow;
- Emergencies affect education opportunities for children differently, depending on the nature of the emergency, attitudes toward girls and other marginalised groups, and a community’s own resources; and
- Emergencies can have a profound psychological effect on children. It is important to understand that the effects of trauma are normal reactions to abnormal circumstances and that each person can be affected by traumatic experiences in a different way.

According to research carried out by the United Nations children are exposed to many physical and physiological threats that jeopardize their health and safety during emergencies. While all children may be exposed to threats to their security and wellbeing in and around school, some are at particular risk. The most vulnerable groups include children with special needs, disabilities or health impairments; those affected by abuse, discrimination, exploitation, war or natural disaster; orphans and children affected by HIV and AIDS; minority children; those in remote, rural areas or urban slums; and girls. Children who face a combination of these factors are at an even higher risk of discrimination and physical and psychological violence, exploitation and abuse.

The Convention on the Rights of the Child spells out the obligations of governments to facilitate children’s right to learn in a safe and secure environment, whether a conventional school or a designated learning space in an emergency. The International Conference on School Safety held January 2006 in Gujarat, India reaffirmed both the Hyogo Framework of Action Priority for Action 3 “Use knowledge, innovation and education to build a culture of safety and resilience at all levels” and the UN Millennium Development Goal number 2 to “Achieve universal primary education by year 2015”. Recognizing that every child has both the right to education and the right to safe and sustainable living, set the goal to achieve “Zero Mortality of Children in Schools from Preventable Disaster by the year 2015”.

It has been statistically proven that children who are not in the care of their parents or other responsible adults are more prone to traffic accidents, victims of fire and less protected against criminal actions. When the village school is closed due to flooding, hostels are full or parents cannot afford the costs of boarding, people are being creative in how to ensure that their children still gain access to school. A traditional practice in Namibia is called “home service” where learners are placed in temporary shelters close to the school. During that time learners are entrusted in the care of elder siblings attending the same school. The children often have to commute over large and hazardous distances to acquire their food from the village of origin. Special precautions need to be taken by the parents, school administration and local community to ensure the protection and wellbeing of these learners, especially during emergencies, until government can provide safe access to school for all children.

What can parents/primary care givers do? Parents should ensure that the children’s basic needs are covered (food, shelter, clothing, health and security); Ensure safe access and transport to the place of learning; Attend school parent meetings; Visite learners in schools and relocation camps to familiarize themselves with the situation; Support school development funds and; Attend to parent-learner education on DRR.
Following the INEE Minimum Standards we need to ensure that learning environments are secure, and promote the protection and mental and emotional well-being of learners, and ensure that education facilities are conducive to the physical well-being of learners. Schools should have a learning environment where children are free from fear, anxiety, danger, disease, exploitation, harm or injury. We need to create a healthy, safe and protective environment through the provision of school-based health, nutrition, water and sanitation services, and codes of conduct against violence.

**What can teachers do?** Teachers cannot be psychologists, but they can play a critical role in the trauma healing process and in the emotional adjustment of the learners and the preservation and promotion of the mental health of the children. This means providing safe and protective schools that are adequately staffed with trained teachers; equipped with adequate resources and graced with appropriate conditions for learning; Recognize trauma and refer more serious cases; Explain what disasters are and why they happen; Facilitate participatory learning and safe space for expression, grieving and play; Teach disaster awareness and prevention education; Ensure disaster awareness and prevention is included in curriculum and; Report incidents to relevant authorities. See appendix 8-12 for more details on how to recognize trauma and suggested activities

Poor conditions influence children’s well-being and their future livelihood. It creates challenges that make it difficult for children to enrol in school, attend regularly, complete the final year of the cycle or achieve the prescribed level of learning.

**How to verify that access and learning environment is according to Minimum Standards?**

- The learning structure is located in proximity to the population it serves and accessible to all regardless of physical ability;
- Access is safe and secure for all, no dangers on the way to “school”;
- Learning environment is free from dangers that may cause harm to learners;
- Training programmes for teachers, learners and the community are in place to promote safety, security and protection;
- Teachers and other education personnel are provided with the skills to give psychosocial support to learners’ emotional well-being;
- The community is involved in decisions regarding location, systems and policies to ensure that learners are safe and secure,
- Nutrition and short-term hunger needs of learners are addressed to allow for effective learning to take place;
- Basic health and hygiene are promoted in the learning environment;
- Class space and seating arrangements are in line with an agreed ratio of space per learner and teacher, as well as per grade level, in order to promote participatory methodologies and learner centred approaches;
- Adequate sanitation facilities are provided in close proximity of the learning environment; and
- Adequate quantities of safe drinking water and water for personal hygiene are available at the learning site.

Food and water insecurity, malnutrition, parasitic infestations, unhygienic surroundings, chronic poverty, household chores, harmful traditional beliefs and practices, domestic overcrowding, gender discrimination, HIV and AIDS, domestic violence, childcare deficiencies and the increasing prevalence and severity of natural disasters related to climate change are factors that can wreak havoc with a child’s right to attend and complete school. Schools must therefore focus on the whole child, which means taking into account conditions in the family or community that might be hindering his or her educational progress.

**What can school administrators do?** School administrators can; Inform the authorities about the activities and needs; Organize safety awareness activities for staff, learners and community; Integrate safety and disaster awareness in the curriculum; Create emergency and contingency plans; Organize a school emergency preparedness committee; Organize emergency drills; Conduct trainings for the staff;
Coordinate with emergency agencies; Implement safety policies and building maintenance; Conduct a site vulnerability and risk assessments; Implement risk reduction measures; Raise funds to purchase safety equipment and petition government for funds for relocation or retrofitting; Establish school safety clubs and task forces in schools and provide training to them; Prepare tools like manuals, games and activity kits for training school teachers and learners in disaster management; Train teachers for creating a culture of safety in schools, and; Institutionalize the program through training of trainers.

Education managers cannot and should not be engineers, but can be trained and supported to play a key role in the prioritization, planning and monitoring of school reconstruction. One factor is to involve the community and encourage them to take charge of the SCHOOL MAINTENANCE COMMITTEE. The Education Act of 2001 gives each School Board a larger responsibility for the maintenance of their facilities. To successfully take on this responsibility the schools will need skills and insight in the planning and organisation of maintenance as well as in the practical measures. In 2003 Ministry of Basic Education, Sports and Culture published “Schools Lasting Longer” a manual for simple repair and maintenance in Namibian Schools. It describes how to plan, implement and follow up maintenance and gives step by step instructions on how to take care of and maintain schools. The manual should be made available in all schools.

One of the important ways that schools develop response capacity skills and raise awareness of the need for assessment, planning and risk reduction is by conducting REGULAR EMERGENCY DRILLS. Drills offer the opportunity to identify training needs, establish new reflexes and teach through action and repetition. For example practice on putting on life jackets and practicing water safety for an eventual evacuation or transport by boat. Three types of drills are all useful: simple drills that focus on specific skills and behaviour that may at first seem unnatural; table-top exercises especially for management and school-based leadership that emphasize a range of coordination tasks; and full-scale scenario drills that involve all members of the community. Scenario drills provide a chance to practice coordination of functional organization of response as well as operational skills such as light search and rescue, fire suppression, hazardous materials control and logistics skills to facilitate life-saving, security, nutrition, shelter and sanitation, and psycho-social support. See appendix 14 for more information on Fire Drill.

Good practices from Philippines: “Using participatory risk assessments, parents and children in an urban neighbourhood began to think about flood risks. Parents made life vests for the children, and initiated drills at a nearby swimming pool”.

What can teachers do? Teachers can advocate by teaching safety and disaster awareness and organize safety awareness activities, conduct emergency drills, join the school emergency preparedness committee, teach how to prepare a safety kit, learn first aid and join safety trainings, report unsafe conditions and faulty safety equipment, volunteer in safety assessment and building investigation, raise funds to purchase safety equipment and petition government for funds.

Suggestions based on the Lessons learned from Caprivi:

- Revitalise or create a school maintenance committee, fast-track the infrastructure development, especially in those areas that affect security, such as school fencing and repair of broken windows;
- Make the children aware of dangers e.g. strong currents, snakes, crocodiles, hippos in the streams or rivers;
- Prepare and implement school safety plans; taking steps to assess the hazards to schools and to address/strengthen and properly maintain them with a multi-hazard approach; and ensure that new schools are designed, sited, and constructed with hazards in mind;
- Ensure that there is adequate teaching staff or adult volunteers from the school board, at school at all times, for example, one or two teachers to supervise children during breaks and on the playgrounds;
- Ensure that teachers know who is authorized to pick up the child, ensuring that the learner is only allowed to leave the school premises with a specified adult;
• Train guidance counsellors and teachers to be able to provide psychosocial support and referrals for children at risk.

**Health-related policies** in schools can help ensure a safe and secure physical environment and a positive psychosocial environment. They should address all types of school violence, such as the abuse of learners, sexual harassment and bullying and help maintain the education system in the face of HIV and AIDS.

**Provision of safe water and sanitation facilities**, as first steps in creating a healthy school environment can reinforces hygienic skills and behaviours. Providing separate sanitation facilities and privacy for girls is an important contributing factor in reducing dropout during and before menstruation.

**Skills-based health education** that focuses on the development of knowledge, attitudes, values and life skills is needed to make appropriate positive decisions, to establish lifelong healthy practices, and to reduce vulnerability to substance abuse and HIV and AIDS.

**School-based health and nutrition services** that are simple, safe and familiar, can address problems that are prevalent and recognized as important by the community, including the provision of counselling to cope with the AIDS epidemic.

During larger disasters affected populations might be forced to relocate to a safer space. Many are then dependent on the authorities or humanitarian agencies to cover their basic needs such as food, health, shelter, education and security. There exist extensive minimum standards and guidelines on **camp management**, e.g. Sphere Standards and Camp Management Toolkit. With a good contingency plan everything should ideally be planned in advance and catered for, in real life this not always the case. Furthermore, when you have a large number of people gathered in a limited space the risk of spreading of diseases, fire incidents, sexual abuse and exploitation increases proportionally with the number of people. Special measures needs to be taken to deal with for example refuse removal, allocation of space to individuals and families, location of clinic and school and other basic services, access to safe drinking water and a variety of security and protection issues.

**Safety measures recommended in RELOCATION CAMPS based on Lessons learned from Caprivi:**
- Relocated education personnel to liaise with camp management;
- Ensure that access to quality education is equal and free from stigma and discrimination and that facilities are according to standards;
- School administrators/teachers to implement a confidential monitoring system for allegations of sexual and gender based violence;
- Train teachers, volunteers and community members on the systems that have been put in place to prevent, monitor and report violations of the Code of Conduct and Confidentiality;
- Ensure establishment of a school board for the camp school, health and hygiene committee and a security committee to maintain law and order, and dissemination of information on prevalent risks;
- Organize pickup points where children, especially girls, can be picked up and taken home at the end of the day, and organize safe transport or walking clubs so that children can walk home in groups rather than alone; and
- Plan for the safe return and reintegration to the area of origin.

**In Namibia, it is against the law to physically or sexually abuse a child.** It is important to immediately report cases of abuse to the police to enable collection of information and evidence so that the abuser can be arrested and aligned in court. Every region has a ‘Women and child protection unit’ within the police, often based at the local hospital. There prescribed special procedures and organise immediate needs for the abused such as medical attention, prevention of HIV and other sexually transmitted diseases and pregnancy, and psycho-social support services. Cases should be reported as soon as
possible, so the child can be asked important questions about the abuse while she or he still remembers clearly, to assist the police in their investigation. Just remember that the child’s own safety comes first, and it would be wise to speak to a trained counsellor or social worker about how to do this in the best possible way.

At the Caprivi Lessons Learned workshop January 2010 a principal shared at what happened during the flooding in 2007;

“One teacher and two learners were being evacuated from the school to the relocation camp during the flooding in 2007. In the boat was also the driver, two members of the National Defence Force (NDF) and belongings of several of the teachers at the school. Rain and strong wind made it difficult to navigate and then the heavily loaded boat suddenly capsized. Some of the adults managed to swim to the shore and get help from the nearby house. They then paddled in a dug-out boat (traditional boat) to the next village, where a community member helped to inform members of the NDF in Schuckmansburg and report the incident. The NDF sent two speed boats which were able to rescue the driver, teacher and NDF personnel, but it was too late for the two learners who drowned. All the items in the boat were lost and the teachers have not received compensation for their lost belonging up to this day.”

Recommendations from the participants at the Caprivi Lessons Learned workshop:

- Awareness raising campaigns in communities of the importance of emergency planning and preparedness;
- Provision of clear safety and security standards, procedures and regulations;
- Organise evacuations drills and safe transport training for children as many travel to school by boat or are crossing rivers and flood water by foot during rainy season;
- Ensure adequate provision of hover and engine boats for each affected school for transport including life jackets or other floating elements.
- Schools to provide information about needs e.g. tents, boats and etc, to regional Education Office as part of the contingency planning - in due time;
- Provision of danger allowance and compensation related to official duties (replacement of lost items, visas/border pass/emergency travel certificate/passport). This needs to be follow-up with the teacher unions; and
- Trained marine specialists should be in charge during evacuation, other personnel should be trained, currently not enough trained personnel assigned to important tasks, e.g. boat drivers and security measures.

A nurturing and supportive environment helps children cope with adverse situations, and contributes to build their resilience. Parents, school teachers, government and other duty bearers have to provide this support to the children.
4) Disaster risk reduction - What can children do?

This chapter focuses on children’s right to participate and how they can actively contribute to disaster risk reduction

DRR activities include all sectors and should be embedded throughout the disaster management cycle. DRR seeks to minimise vulnerabilities and disaster risks throughout a society, to avoid or to limit the adverse impacts of hazards on communities and their development. Generally the poorest segments of society are affected by disasters the most and proportionally children are among the most vulnerable when disaster strikes. In this regards it is important to promote children’s role as an active citizen who are capable to participate in making a decision and taking an action on issues relevant to their own lives.

“Children and youth are part of society, so regarding whatever is affecting them and their communities, they must participate in thinking, expressing their ideas and solving the problems. Children, especially those in disaster-affected areas, don’t just need help or to be all-time receivers they also want to stand up and fight.” - A youth worker with Save the Children’s Child-led Disaster Risk Reduction program in Thailand.

Article 13 of the United Nations Convention on the Rights of the Child gives children the right to have a say in matters affecting their own lives, to prepare for their responsibilities in adulthood. This article is applicable to all children in all emergency situations, including chronic crisis and early reconstruction.

Studies made by Save the Children Sweden in Cuba and Thailand show that children and youth can play an active role in community affairs that are relevant to them, especially if they are appropriately trained and supported by adults, like teachers and community members. Children are pleased to participate if they are informed about what the whole thing is about and why and how should they be involved; if they are empowered by the process; if it is fun, attractive and not too difficult; if issues are relevant to them; and if they get sufficient support from adults.

Note that children’s participation requires long-term commitment and close supervision. It is also important to keep in mind that children possess capacities according to their stage of development which form the basis for their active participation in emergency response, preparedness and mitigation. The interaction between teacher and learners, with the teacher as authority figure and facilitator of learning and the learner as active participant is a democratic process that involves mutual respect.

Good practice from South Africa, Eastern Cape Province: “A school competition enables students to demonstrate their knowledge on disaster risk reduction through art, music and drama. This best practice was selected for replication in two other provinces. Multi-stakeholder cooperation and local media interest supports children in reaching the entire community.”

DRR education provides children with the knowledge and skills needed to systematically recognize hazards and vulnerabilities, to reduce the physical risks in their environment, make use of capacities and resources, and protect themselves and others from hazard impacts. It strengthens children’s thinking, team-building and problem-solving skills, encourages young people to analyze information, identify problems, propose solutions, and motivates them to take an active role in community protection and environmental stewardship. Education counteracts fatalism and passivity, and facilitates changes in attitude and behavior towards a culture of safety. Participation of children builds their self-esteem and self-confidence which helps them contribute to the safety of their families and communities. Children who participate in disaster risk reduction programs are aware of their rights, know how to be safe and know where to go for help.

What can children do?
Children can identify disaster risks in their communities; Conduct community risk and resource mapping; Develop an educational campaign to raise awareness of communities to reduce those risks; Act as role
models for younger children; Organizing hazard hunts and safety awareness activities; Participating in emergency drills; Form a student disaster preparedness committee; Volunteer in emergency brigades; Prepare a do-it-yourself kit; Learn first aid; Report unsafe conditions and faulty safety equipment; Raise funds to purchase safety equipment and petition government for funds; Suggest improvements in school activities or reporting; Prevent abuse within the learning environment and; Organise recreational activities.

Based on the Lessons Learned by Save the Children Sweden in Thailand after the Tsunami in 2005 one possible way to enhance children’s participation is as follows:

1. Train a few youth trainers from the community;
2. Organize an orientation for school administrators, school board and teachers to introduce the activities and consult with them so that everyone understands the concept and process;
3. Sensitize parents and community members on the importance of children’s participation, and what they can do to support the children;
4. Select and involve children in the project/activity, involve children and youth in the conceptualization, setting of criteria and selection of youth trainers, also include out of school children;
5. Conduct training on DRR concepts and activities for the children so that they have a good understanding on hazard, disaster, risk, vulnerability and capacity, and acquire basic skills for conducting DRR activities in their schools as a next step;
6. Conduct training in presentation skills, community survey, identifying disaster risks in community and producing risk and resource maps, on how to plan and strategise educational campaign to raise awareness on situation at risk and risk behaviour in the community;
7. Conduct community trips to carry out risk and resource mapping: after being trained, participating learners would develop a method for a community study and conduct a field trip to selected communities. Information gathered from the field would be used for risk and resource community mapping and for preparing an appropriate DRR education campaign;
8. Conduct a community education campaign on DRR that features puppet shows, dramas, brochures, posters and other education material launched in schools and communities; and
9. Document the process and lessons learned to be shared and duplicated in other schools and regions.

Note that boys and girls might have different perceptions and needs. In risk assessment and action planning activities with children and youth, consider having groups for girls and boys separately.

Good practice from Thailand: “Local partners innovated with a “Child-Led Disaster Risk Reduction in Thailand” supported by Save the Children Sweden, a child-focused NGO. Youth trainers reached hundreds of children in dozens of schools to be catalysts taking the lead in DRR activities. Children took community trips, conducted risk and resource mapping, and developed a disaster risk reduction education campaign”.

“In Thailand children interview and map their communities; conduct assessments of risk and vulnerabilities; educate peers and communities about these risks; they advocate for government understanding of issues relating to children in disasters; lead the community in developing action plans to mitigate risks; and they conduct program assessments to measure the impact of the work”. Save the Children Sweden.

Good practice from Philippines, Sta. Paz Sur: “In the barangays (villages) of San Francisco municipality, school children learned in 2006 that their high school was located in a landslide risk area. Students debated whether and how to relocate the school. The headmaster opened the decision to a community-wide referendum. The students were in favour of relocation, though parents were concerned about the extra travel time and local businesses worried about loss of lunch trade. Student organizations in the high school developed an education campaign and their proposal won the vote by 101 to 49 (Plan International, 2007). They dug ditches around their temporary school site and put up tents with their parents. Students now bicycle to their new permanent school that incorporates earthquake mitigation measures and preparation for use as an emergency shelter”.
**Formation of various DRR teams:** Children can further form an early warning group, rescue and evacuation group, first aid group, etc for whom training can be given on their roles and responsibilities. These groups will help the other learners when disaster occurs when they are in the schools. If this idea shall be taken to the community, adults need to be involved in these groups for better delivery of services for the ultimate aim to reduce the disaster risks within the school and within the community.

**Simulation exercises:** Now and then artificial emergency of flood and tsunami can be set up within the school and ask the children how to respond towards it. It will sustain the impact in the better way since the children always remember what they do, instead of learning what to do. The similar exercise can also be practiced within the community.

**Life Skills:** DRR should not be considered as a separated project but could be integrated into life skill learning. These DRR skills make us not to get panic towards a specific situation, how to deal it, and what kind of precautions to be taken. For example how to behave in a boat, train for evacuation.

“In Vietnam situational analysis showed that drowning was a high cause of fatality amongst children. This research consequently provided the framework for their programming. The Child-Led DRR program went on to institute swimming lessons and produce posters to educate the community on the importance of children learning how to swim”. Save the Children Sweden.

Flooding is often associated with elephants, buffalo, lion, hyena, crocodile and hippo attacks, drowning, snake and insect bites, and contaminated water. When aware of the risks children can be role models for their peers and take the needed precautionary measures. The older children can for example inform the younger to only cross a stream if it is clear and shallow during day light. By organizing a buddy system where the older lead a group of children over a stream while holding hands will create a safer access to and from school if adult supervision is not an option. Children like to swim and to prohibit them from playing in the river will never work. Learners should be informed about the dangers of swimming in deep water. Organizing swim clubs supervised by responsible adults is also an excellent opportunity to include out of school children. Children take charge in clearing high grass surrounding the school premises to avoid snake bites and inform on how to identify and avoid contaminated water.

The schools health committee should train the learners on preventive measures in case of snake and insect bites, scorpion and rat bites and encourage them to assist each other in the efficient buddy system. During emergencies the space around the schools or play ground becomes less spacious due to excess water, and litter, broken bottles are spread all over by the water. Diseases related to contaminated water e.g. cholera and dysentery are widespread during flooding. By teaching the learners how to avoid stagnant water and spreading of diseases the messages will be spread among their siblings, friends, their families and thus affect the whole community.

The children representatives can also perform theatre, drama or puppet shows with regular intervals in the schools for other children as well as in the community for mass awareness. Community radio can also be used as a medium for DRR.

Based on Lessons Learned from Caprivi, radio programmes on DRR will be disseminated through the Community Radio.

**DRR activities for children:**
- Learn principles and practices of disaster risk reduction;
- Become aware of disaster risks in your own community and how to reduce them;
- Participate in preparing and implementing school disaster plans and disaster risk reduction efforts;
• Participate in drills and appropriate response to early warnings available in your school or community; and
• Participate as bridges to spread disaster risk reduction knowledge to families and communities.

**DRR activities for teachers to ensure child participation:**

• Appoint focal person to coordinate training of learners on risk reduction;
• Promote compulsory swimming lessons in a safe environment for learners;
• Include messages about not panicking in sensitization of children and teachers;
• Provide general health and hygiene education;
• Identification of safe crossing areas;
• Make early warning systems accessible to learners and teachers; and
• Promote compulsory training on first aid for teachers and learners.

**Good practice in including children with disabilities in DRR from Indonesia:** “Arbeiter-Samiter-Bund (ASB), in partnership with the Provincial Department of Education, Yogyakarta, has conducted earthquake preparedness training for teachers and students at all of the province’s 60 special needs schools. Teaming with deaf colleagues at a local NGO they developed multimedia earthquake preparedness materials including an educational drama involving deaf children. Audio based materials for blind children were also developed. The project also provided teachers with communicative training, including simple sign language and mime techniques. Trainings are supported by visual prompts including oversized game cards. New materials will cover multi-hazards for disabled children in and out of schools”.

**Good practice in including children with disabilities in DRR from Iran:** “Pilot outreach to deaf students in 2006 has showed a high level of interest among students. In an exploratory needs assessment workshop, deaf child survivors of the Bam earthquake conveyed their own experiences and parallel discussion sessions involved 180 students, parents and teachers in exploration of core notions of school safety for deaf children, appropriate methodologies for conveying earthquake education to them, and identification of their basic needs following a disaster. The results will inform the design of outreach programmes to deaf students in the future”.

Schools should have disaster risk mapping (hazard zone and safe zone along with vulnerable section (disabled) within school campus). The map can be displayed within the school campus at the prominent place for information dissemination to other children in the schools. Active members from women groups, Constituency and Village Development Committees, local leaders, and so on can be included. As risk mapping is not a onetime activity, which has to be updated once in 6 months (at least once in a year), it can be initiated and led by children in the community and 30 to 40 percent adults should be involved. This will ensure sustainable impact of child led DRR.

**Good practice from Nepal, Bhaktapur, Syangja & Chitwan:** “The Nepali Red Crescent Society has worked in more than 450 communities prone to earthquakes, floods and landslides. School students are involved in hazard mapping and vulnerability and capacity assessments in their communities. Using peer learning sessions, competitions and Junior RC Circles, students have raised funds for awareness and mitigation work”.

The goal should be to promote schools as centers for community disaster risk reduction, mobilizing a culture of safety through mobilization and organization and promoting initiatives among children in and out of schools that make them leaders in risk reduction in the community.
5) Disaster management and community involvement

This chapter emphasises the important role of community participation in disaster risk reduction and management.

As mentioned in previous chapters disaster risk reduction (DRR) seeks to minimise vulnerabilities and disaster risks throughout a society, to avoid or to limit the adverse impacts of hazards on communities and their development. DRR activities include all sectors and should be embedded throughout the disaster management cycle. Generally the poorest segments of society are affected by disasters the most and proportionally children are among the most vulnerable when disaster strikes. DRR is cost-effective - every $1 spent on DRR saves $4 spent on relief and rehabilitation. A school safety program has many benefits for linking the school to the family and community in disaster risk reduction.

According to the Lesson learned from the Pakistani earthquake in 2005 the remaining challenges required to achieve success and ensure sustainability were corresponding training for contractors and engineers; formalization of roles and responsibilities, including reporting procedures; continuous revision/update of plans; inclusion in standard training programmes and curriculum; and coordinated planning, evidence-based and community-based standards and procedures. In the hours following a disaster search and rescue and the provision of immediate assistance to the injured and homeless are almost entirely carried out by family members, relatives and neighbors. In the case of small-scale events, communities may be left entirely to their own devices, as there may be no external assistance available at all. Even the most vulnerable communities possess skills, knowledge, resources and capacities. These assets are often overlooked and underutilized and, in some cases, even undermined by external actors. It is therefore crucial that at-risk communities are actively involved in the identification and analysis of the risks they are facing, and participate directly in the planning, design, implementation, monitoring and evaluation of disaster risk activities.

Minimum Standard number 1 on Community Participation is to ensure that emergency-affected community members actively participate in assessing, planning, implementing, monitoring and evaluating the education programme;

- Parents and households have regular, meaningful two-way communication with the school;
- Parents have an integral role in assisting school learning;
- Parents are full partners in decision making about education outcomes for their children;
- Parents are welcome in the school and their support for children’s learning is sought.

DRR should be made as part and parcel of the schools and community. The communities might celebrate events or arrange festivals for linking the school to the family and community in disaster risk reduction. A rights-based approach to education means that governments are the ultimate duty bearers, with a responsibility to ensure access to quality basic education for all children. However, parents and communities are ‘first-line’ duty bearers, responsible for accessing available opportunities for their children and for supporting quality education in their community. Parents and communities have a duty to lobby their government for schools that can provide quality education for their children. In the absence of such government provision, parents and communities still have a duty to their children and need to establish schools that can provide quality education.

Good practice from Philippines, Banaba: “A regional NGO, the Center for Disaster Preparedness, and local environmental coalition Buklod Tao (People Bonded Together) pioneered in the development of Child Oriented Participatory Risk Assessment and Planning Tools. Children and parents are engaged in participatory hazards, vulnerability and capacity assessment. A resulting action plan led to mothers
producing life vests for children, and flood evacuation drills with children using life vests in local swimming pool were initiated. Disaster preparedness education messages are conveyed through banners in each of 7 neighbourhoods (Luneta, 2007).

**Good practice from Iran:** “A pilot effort in 2 schools was initiated in 1996 by the Public Education Department of International Institute of Earthquake and Engineering (IIEES) By 2008, the 10th National Earthquake and Safety Drill reached more than 14 million students in over 124,000 schools the country. The Ministry of Education, Ministry of Interior (National Committee for Natural Disaster Reduction), IIEES, Iranian Red Crescent Society, and Iran National Television and Radio Broadcast cooperate to support the drill. An Earthquake Safety Alarm is broadcast on national and local radio. Voluntary School Earthquake Safety Councils involve teachers and parents in risk reduction and preparedness efforts at school sites”.

Parents and communities must be closely involved in all aspects of the school and must be prepared to support it by shouldering the fair and reasonable costs required to promote quality education. Parents should have a vested interest in what schools offer and in the outcomes of the education process for their children and communities. In turn, schools have an obligation to be sensitive to the communities they serve, to care for and protect the children entrusted to them, and to be accountable to the local community in their governance and management. School boards and parent-teacher committees are the governance and management mechanisms through which this linkage and accountability are manifested:

- Mobilize parent, learners, local community and education staff to champion school safety;
- Schools to prepare and implement school safety plans including measures to be taken both within school premises and in the immediate neighborhood. This must include regular safety drills; and
- Promote active dialogue and exchange between schools and local leaders including police, civil defense, fire safety, search and rescue, medical and other emergency service providers.

Often families and households do not feel empowered to take on these roles, nor are schools prepared to support them. Therefore, it is important to involve families in their children’s education and establish community school links at the earliest stages. Communities will generally support teachers and identify with schools (local ownership) if children are learning, teachers are committed to facilitating learning and the school is responsive to the concerns of the local community, and if the communities are involved in the planning and decision making process.

**What can parents and community members do?** Parents and community members can support the teachers others in safety awareness activities; they can join the school emergency preparedness committee and emergency drills; encourage coordination among local official, business and schools to maximize efforts in preparedness and response; volunteer in school safety assessment, and raise or donate funds for the purchase of safe equipment or repair of facilities and petition government for funds for relocation/retrofitting; and spread disaster risk reduction knowledge to families and communities and; advocate for all new school buildings to be adherent to building codes that incorporate disaster resilience (design, location, construction, materials and methods, inspection, monitoring and maintenance).

**Good practice from Jamaica;** “150 professionals and PTA representatives from an initial 30 target schools have knowledge and skills to develop comprehensive school emergency preparedness and response plans and sensitize community members on how to use a hazard map, community vulnerability assessment, basic disaster management, shelter management and basic first aid. This small-scale programme highlights longer-term needs and priorities”.

**DRR activities for teachers and parents at school level;**

- Promote active dialogue and exchange between schools and local leaders including police, civil defence, fire safety, search and rescue, medical and other emergency service providers;
• Ensure that also non-teaching staff receive the opportunity for training in disaster risk reduction;
• Be accountable for applying prescribed safety norms and regulations in your own schools.
• Establish committee on DRR;
• Ensure active participation of school community, including children and parents, in preparing and implementing school disaster plans and disaster risk reduction efforts;
• Be prepared to respond to emergencies;
• Encourage and support children to participate in spreading disaster risk reduction knowledge, acting as bridges to families and communities;
• School construction needs to take into account risk assessment;
• Advocate for bridges and signs;
• Advocate for construction of storm water channels;
• Improve drainage systems near schools.

Awareness campaigns needs to be planned during community meetings, radio, newspapers, churches and schools. Advocacy messages can be shared on notice boards, assembly meetings, parent gatherings, information centre e.g. market places, clinics and etc. Messages could be;

- Use mosquito/insect repellent and purification tablets;
- Avoid littering and broken bottles both on land and in water;
- Ensure that school site and play ground has no stagnant water;
- Cleaning of utensils after use to avoid cockroaches and rats;
- Clear bushes around water points;
- Learners should move in groups to avoid harassment (sexual/criminal);
- Report dangerous animals to elders, parents and teachers; and
- Sexually transmitted diseases and prevention measures.

See appendix 17 for more information on for more ideas on how to arrange a Community Awareness Campaign.

Schools can actively engage communities through activities such as;

- Training community members on what to do, what to carry, when floods strike - accessing safe areas during disasters;
- Emphasis on buddy system where community members work together;
- Establish committee to lead DRR activities at community level in conjunction with local authorities including;
- Establish guidelines to advise community members on where to build their houses;
- Training community members on use of local resources and establish guidelines on where to fish during floods and to pre-position food in advance of floods Prepare temporary emergency shelter and establish evacuation plans so community members know where to go; and
- Establish community-level early warning systems and upgrade infrastructure to be flood resistant.

The key features of continuity planning for schools involve:

- Alternative school locations identified in advance.
- Off-site back-up kept of key student records.
- Plans for continuity of student learning in the event of school closures (e.g. instruction via local radio or television, distance instruction, telephone trees, mailed lessons and assignments).
- Plan for continuity of core operations: staffing and communications.

When the crisis occurs the plan is ready to act upon!
6) How to ensure quality education - Teacher challenges and support

This chapter presents ideas on what teachers can do, or get help to do, to improve their own situations during emergencies and at the same time ensuring that quality teaching will take place.

During emergencies teachers have crucial role. They gather early warning messages, disseminate information, host and coordinate local decision making meetings, facilitate evacuations assist in distributing relief goods, and they often take care of learners outside office hours. This is in addition to their teaching responsibilities and ensuring a protective learning environment.

As a teacher you are a role model for your learners. During and recovering from a disaster dealing with your own grief and pain you are also needed by your learners to help them deal with theirs. This is not an easy role. There is a risk of increasing the trauma of a child to see their caretakers responding in a disorganized, confused or anxious manner. If you as a teacher feel overwhelmed or irritable, it is best to simply help the child understand why you also react. Communicate your feelings as normal reactions, and the learners will understand and not be afraid. To be able to care for others you need to take care of yourself as well.

While taking a plane, during the security instructions, you are told to put on your own oxygen mask before you try to help another person. In any emergency, whether in school or in an airplane you will be better equipped to help the people in your care and they will learn from you and be comforted by your example. Please note that the support that teachers can provide to one another should be considered as a tremendous asset. Remember during stressful periods to remind each other to take a break. See appendix 20 for Effective Self Care for education personnel.

At the Caprivi Lessons Learned workshop January 2010 a principal shared at what happened during the flooding in 2007; Teachers stranded between elephants and crocodiles:

“It was in the year 2007, when the flooded schools were re-opening for the second term in May. A private boat of passengers was heading back to the school. On the way within 5km of their trip, the boat was about to capsize. The driver decided to leave a few teachers on a small island on the Botswana side of the Chobe River, close to Chobe National Park, opposite to Masikili on the Namibia side. They were left there at about 3pm, and remained there for over five hours without help. They hoped for some time that the boat would return to pick them up, but in vain, and were worried about attacks by wild animals, with elephants on one and crocodiles on the other side. Since they were not able to reach any of the regional authorities calling with their mobile phones, they then tried and succeeded in contacting the emergency unit in the capital Windhoek (1200km away). Windhoek then called the regional governor in Katima Mulilo (the regional capital). The governor and his team drove to Ngoma and contacted local police officers there, and managed to locate the location where the teachers were stranded. Fortunately, they were able to reach them by rubber boat at about 10pm. The teachers were then dropped off in Ngoma to try to make the same journey again the next day. In addition to the risk of being attacked by elephants or crocodiles, had they been found by Botswana Defence Forces, they could have been mistaken for poachers and been shot.”

In the situation described above there was a lack of safety and security standard being followed, local/ regional emergency services were not available, teachers were not being provided any coordinated support in reaching their place of work, having to fend for their lives to make the dangerous journey. Teachers did not receive any support to deal with trauma accumulated during the emergency.

Recommendation from the Lessons Learnt workshop in Caprivi:

- Formal recognition of the critical role of the schools in emergencies for all sectors, i.e. as hubs of information gathering and dissemination, distribution of goods, meetings;
• Empower principals during emergencies to ensure better coordination of school-related activities, incl. relocation of school;
• Clear roles and responsibilities in an emergency, teachers, learners, community, authorities
• Ensure functioning of information and communication channels relevant to emergencies in education (e.g. between affected schools and the regional education office);
• Improved coordination of education-related needs assessments through the Regional Disaster Risk Management Committee;
• Provision of danger allowance and compensation related to official duties (replacement of lost items, visas/border pass/emergency travel certificate/passport) – to be followed up with teacher unions;
• Integration of disaster risk reduction into school curricula, school construction/location and the education sector plans
• To use different fora, i.e. principals’ forum and other teacher assemblies to share information on disaster preparedness and teacher support;
• More teachers trained on disaster risk reduction.

Another issue during emergencies is the time management. When the school has to close due to lack of access, security or be relocated to a safer location planned classes has to be postponed or cancelled. This again might lead to learners missing out on vital information in order for them to pass their exams. The teachers know in which subjects learners are weak or strong. During emergencies you should focus more on strengthening the weaknesses. For example focus more on individual learner support in mathematics and science and give self study or group work in other subjects were learners are stronger. Many teachers work weekends and afternoons when recovering after an emergency to ensure quality education. By planning alternative schedules in advance and managing your time carefully it is possible to ensure both a safe learning environment and quality education. This should be part of your disaster risk preparedness.

**Teachers’ motivation and commitment** are as much a part of the reform process as their knowledge and technical competencies. However, building capacity and strengthening the role of field level education supervisors as resource persons who follow up with teachers in their schools or at the school cluster level will be crucial in the effort of ensuring disaster risk reduction in Namibia;

• Enhancing the capacities of head teachers as mentors and ‘catalysts for change’ at the school and community levels;
• Helping teachers develop self-confidence in their professional competence and become increasingly autonomous as capable child-friendly school practitioners.

**Good practice from Sri Lanka on teacher training for DRR:**
Following the 2004 Tsunami under leadership of the Ministry of Education and the National Institute of Education and with the support of the German Technical Cooperation, an effort began to integrate disaster risk reduction into the teacher training curriculum and prepare teachers country wide for its implementation. India’s National Institute of Disaster Management provided initial expert support and contributed to the development of a practical, skills-focused curriculum. Through the National Colleges of Education all future teachers are reached during their pre-service training and acquire basic Disaster Management know-how and relevant skills for implementing School Safety programmes.

A rights-based approach to education means that governments are the ultimate duty bearers, with a responsibility to ensure access to quality basic education for all children including teacher training and capacity building. Experience to date suggests that school-based, on-the-job training, support and close supervision are most appropriate for building teacher competencies and maintaining momentum around the change process in classrooms and schools. In providing such training, it is essential for teachers and head teachers to be treated as professionals with a stake in developing their school and their own practice.
“In Sierra Leone, Seychelles and Tanzania, disaster risk reduction education and teacher training have been piloted as a prelude to integration into the curriculum”.

Long-term and sustainable capacity-building for disaster-resilient education and safe schools relies upon embedding these competencies in higher education programmes for teacher-training. Partnerships with pedagogic institutes will be vital to the success of these efforts. Three complementary approaches are all important for long-term sustainability and mainstreaming of disaster prevention education:

1. Partnerships with teacher-training institutions and support for faculty-training and seeding;
2. Development of distance-learning self-study tools to support widest low-cost dissemination of education; and

Higher education and vocational training programmes are also important areas for capacity development for disaster prevention education and safe schools.
7) How to ensure quality learning - Study tips

This chapter provides ideas and suggestions on how to ensure quality learning before, during and after emergencies.

INEE Minimum Standard 1 on Curricula under **Teaching and Learning Standard** is to ensure that culturally, socially and linguistically relevant curricula are used to provide formal and non-formal education, appropriate to the particular emergency situation.

**Good practice from India, Central Board for Secondary Education:** “Primary schools introduce disaster management through extra-curricular performing and visual arts activities. Formal education in disaster management begins in Standard VIII”.

Identifying curricular needs in your school:

- Involve the local community or IDP community members, teachers in the identification and development of appropriate curricular materials and guides;
- Check on the availability of existing curricular materials, textbooks, teachers guides and supplementary materials;
- Assess whether textbooks and curricular materials are appropriate for post-crisis and transition situation; and
- Consider using or adapting curricula as appropriate, in accelerated learning, vocational education, non-formal education, life skills, HIV and AIDs, peace education and other appropriate curricula, including mother tongue education.

**Good practice from New Zealand:** “The Ministry of Education contracted with an educational consultancy to work with both teachers and Civil Defence Officers in planning, developing and testing a teacher and child-friendly curriculum. “What’s the Plan, Stan?” features Stan the dog and 5 children who model what to do before, during and after 6 types of disasters. It can be used to incorporate disaster risk reduction and content across all areas of the curriculum for students aged 8-12. Components include teacher’s handbook with unit plans, activities, simulations and information for school planning, CD-ROM for teachers and students including stories, interactive games, hazard map, research material, tips and resources. There is also a storybook and accompanying audio-CD, poster, and website with information and interactive activities and templates (www.whatstheplanstan.govt.nz). Workshops introduced this resource to teachers.”

**Good practice from Mali:** “The Ministry of Education and Directorate of Civil Defence introduced disaster prevention messages to build resilience to drought, locust invasions and flood by introducing messages on the covers cover and 1 internal sheet of children’s exercise books (providing a total of 8 sides of information). This simple and cost-effective way of raising awareness in schools has already reached more than 25,000 students with the help of the Young Business Owners’ and Managers’ Federation, even before mainstreaming disaster risk reduction into the curriculum is implemented”.

The ability of teachers to create appropriate teaching learning aids, often from low-cost, locally available materials, bolsters success. The approach also assumes that teachers will involve children in helping to produce learning materials, and that learners’ schoolwork will be posted on school walls for instructional purposes and to instil a sense of pride.

Use polystyrene packing material, packing boxes, tin cans, bottle tops, pebbles, flowers, leaves and inexpensive, easily obtained materials to make pocket boards, flash cards, big books, charts and models illustrating textbook lessons. By calling on their ingenuity, teachers’ latent talents are revealed and they develop new confidence and pride in their professional competencies. Moreover, production of innovative, low-cost teaching aids from locally available resources requires wider, more regular consultation among teachers within the school and clusters.
Good practices from India, Uttar Pradesh: School communities in Uttar Pradesh have made extensive use of street theatre, magic shows and puppetry to convey disaster risk reduction messages. Collaboration between performing artists and disaster risk reduction experts has led to creative and engaging educational scripts.

Examples of disaster risk reduction integration in various subjects;

- **Language Arts** Read literature, news articles, concerning disasters, hazards, risks. Read critically, explore myths, and use persuasion. Research; write essay, proposal, and letter to elected officials regarding disaster risk reduction.
- **Mathematics** Solve problems related to assessment and solutions to natural hazard induced risks.
- **Geography** Explore climate, habitats, geology and human/environmental interactions producing disaster risk, vernacular architecture, urbanization, livelihood impacts of disaster.
- **Sciences** Learn mechanisms of geological and hydro-meteorological phenomena. Investigate local measures for environmental protection. Conduct experiments to learn principles of disaster resistant construction. Learn home and industrial hazardous materials safety. Explore and practice environmental stewardship.
- **History and Humanities**; Explore historic impact of natural hazards on civilizations, indigenous knowledge for settlement and livelihood protection.
- **Civics** Meet with elected officials and participate in community planning, local disaster risk reduction and advocacy.
- **Health & Life Skills**; Basic first aid, family disaster planning, response preparedness, health hazards and pandemic prophylaxis.
- **Vocational training**; Learn non-structural mitigation measures and tools. Learn principles of disaster resistant design and construction.
- **Foreign Languages**; Read passages about natural hazard threats and community-based risk reduction.
- **Arts**; Select disaster risk reduction as a theme for visual and performing arts projects and community exhibits.

Good practice from Turkey: “Basic disaster awareness is included in the national education curriculum of primary school: from 1st grade to 12th grade. Its goal is to help students to identify the many small steps that can be taken to reduce disaster risks, to assist families in risk reduction and preparedness, and to help ourselves and those around us following a disaster. It covers: Hazard and Risk Awareness, Before a Disaster, During and After a Disaster, and Next Steps [www.ahep.org]”

Monitoring is a more immediate and continuous process meant to keep things on track and ensure that the right inputs are included for successful implementation of a model.
8) References

“Behaviour change communication in emergencies: a toolkit” - Kathmandu : UNICEF Regional Office for South Asia (ROSA), 2006


“Community Disaster Risk reduction Implementation” Participants Workbook 1 www.adpc.net Disaster reduction for safer communities and sustainable development Asian Disaster Preparedness Center MODULE 6 - SESSION 7 Child Focused Disaster Risk Reduction , Save the Children, 16th Community Based Disaster Risk Management Course Bangkok, Thailand 16 – 27 July 2007


Education in Emergencies - A Resource Tool Kit © United Nations Children’s Fund Regional Office for South Asia (UNICEF ROSA) 2006

“Education in Emergencies- A tool kit for starting and managing education in emergencies” Susan Nicolai - Save the Children 2003


“Minimum Standards for Education in Emergencies, Chronic Crises and Early Reconstruction”; Inter-Agency Network for Education in Emergencies (INEE) 2004

“National Policy for Disaster Risk Management in Namibia”, Directorate for Disaster Risk Management, Namibia 2009

“Outcome document of the International Conference on School Safety” Ahmedabad, India 18th - 20th January, 2007


“Teacher Training in Earthquake Affected Areas”, UNESCO and Ministry of Education, Pakistan 2006

9) Appendix

1. Flooding scenario Caprivi 2009
2. Emergency Preparedness, Response and Recovery
3. Capacity Mapping of Stakeholders
4. Standards for Education in Emergencies, Chronic Crisis and Early Reconstruction
5. Introduction to the technical components of Education in Emergency
6. Education Monitoring Tool
7. Tool for Recognizing the Symptoms of Stress in Children in Emergencies
8. Age Specific Activities for Children after Stressful Events
11. Some ways to help children to cope with disaster
12. UNICEF Supplies for Temporary Learning Spaces
13. Sample Checklist on Basic Safety Requirements
14. Example of Fire Drill Plan
15. How to Set Up a Temporary Learning Space
16. Roles of Stakeholders in School Repair and Construction
17. Public Awareness Campaign Public Awareness Campaign
18. The Role the School Committe can play
19. School Disaster Reduction & Readiness CHECKLIST
20. Effective self-care for teacher support
21. Earth Science/flood lesson plan grade 6-8
APPENDIX 1: Flooding scenario Caprivi 2009

The following information is based on data collated by the former Regional Emergency Management Units (REMU).

**The Situation 72 Hours after the onset of the Emergency:** February 23, 2010, in the middle of the rainy season, the Zambezi River has overflowed its banks, resulting in massive flooding in the Caprivi Strip and Kavango regions, affecting almost all the constituencies in the two regions. This flooding is much worse than the 2009 floods and has affected more people. Nearly 20,000 people in Caprivi have been displaced and have sought higher ground. In Kavango, nearly 30,000 people have been displaced. The downstream communities have been especially hard hit. The overall death toll is expected to be not more than 100 in both regions. The total number of displaced is expected to be at least 50,000, while as many as 150 may be missing. Nearly 50% of the displaced population is expected to be 18 or under.

In Caprivi five of the six constituencies (Linyanti, Kabbe, Katima Rural, Katima Urban, Kongola) have been affected, with Kabbe hit the worst. Due to the flooding, 10 roads in Caprivi are impassible and bridges have been destroyed together with culverts under roads. A total of 18 camps have been set up so far on higher ground. It is anticipated that Katima Urban will also need at least 5 more camps.

**Shelter:** Nearly half of the displaced people are seeking shelter in relocation camps set up by the Red Cross and government. The displaced are being housed in tents and makeshift shelters of plastic sheeting. The Red Cross and government have been distributing tents, tarpaulins, hygiene kits, and other non-food items to the resettlement camps. All essential services, including education, have been disrupted in both regions, with expected displacement of teachers and children. Phone communication has been disrupted, though is still working in some places but electricity outages disrupted battery recharging.

**Health:** The Ministry of Health fears a cholera outbreak and malaria is now a much greater threat than usual. The dissemination of information and education about hygiene and health are essential to the affected population.

**Education:** The schools have all closed since access to them has become impossible. A few schools have been damaged by the flood waters. Nearly 40,000 children have had their schooling interrupted either through displacement or lack of access to schools. About 200 schools have been closed because some are submerged in water and others are inaccessible because water levels make it too dangerous for children to cross to areas of higher ground where they are situated.

**3 WEEKS AFTER FLOODING in Caprivi** families have fled the affected areas and the Red Cross has set up camps for all 20,000 displaced people. Helicopters have been able to drop food and non-food items. No education assistance has reached these people yet despite the fact that there are 10,000 school children relocated in the camp with their parents.

The Namibia Red Cross Society has deployed tents and set up relocation camps for almost all 30,000 displaced people and World Food Program is working hand in hand with the Emergency Management Unit to provide food. About 14,000 children are not attending school (Caprivi. Kavango)
APPENDIX 2: Emergency Preparedness, Response and Recovery

The PREPAREDNESS phase
- Know the community and surrounding hazards;
- Identify and involve stakeholders, bring together leaders and community representatives;
- Consider existing efforts/revise existing plans and determine what crisis the plan will address;
- Define roles and responsibilities for teachers, students, caregivers, security, medical staff and spokesperson including backups;
- Develop and establish methods and clear terms for communicating with the staff, students, families and the media;
- Prepare for immediate response (and reverse evacuation/return) including students/staff needing special assistance;
- Obtain necessary equipments and supplies, and create maps and facilities information;
- Develop accountability and students release procedures (students, teachers and visitors present – inform parents of release procedures);
- Define assembly area in case of immediate danger;
- Practice - Create drill and training schedule log and facilitate tabletop discussions;
- Address liability issues (e.g. accident during evacuation; school responsible); and
- Plan for recovery - both psychosocial and practical);

THE CRISIS PLAN - emergency response:
- Expect to be surprised (confusion);
- Assess the situation and choose the appropriate response (quickly & carefully);
- Notify appropriate emergency responders and the school crisis team;
- Evacuate and lock down the school as appropriate;
- Triage injuries and provide emergency first aid to those who need it;
- Keep supplies nearby and organized at all times;
- Trust leadership designated command structure;
- Communicate accurate and appropriate information;
- Activate the student release system;
- Allow for flexibility in implementing the plan; and
- Documentation (financial expenditure, incidents etc).

The RECOVERY phase
- Assemble the assigned Crisis Management Team and/or school board;
- Return back to normal teaching & learning as quickly as possible;
- Schools and districts need to keep students, families and the media informed (what support the school can provide taking into account cultural and language differences;
- Focus on the building, as well as people, during recovery;
- Provide assessment of emotional needs of staff, students, families and responders;
- Provide stress management during class time;
- Conduct daily debriefs for staff, responders, volunteers and others assisting in recovery;
- Take as much time as needed for recovery;
- Remember anniversaries for crises or larger incidents affecting the community;
- Evaluate - prepare for the next crisis - which recovery strategies would you change and why?
- Make regular school safety & security efforts part of mitigation/prevention practices to reduce the risks during eventual future emergencies.
APPENDIX 3: Capacity Mapping of Stakeholders

1) “Why Mapping/Stakeholder Analysis”

The mapping exercise provides an opportunity to know:

- Who are the potential relevant partners to support Disaster Risk Reduction activities, available in the community, circuit or region;
- What are their mandates, locations and areas of intervention;
- What are the staff capacity and comparative advantage of each organization;
- What are the resources and sustainable means available for DRR activities;
- What is the extent of their local connection and capacity for rapid response?

2) Collect information, analyze and disseminate among relevant stakeholders & decision makers

Examples of Questions for gathering information (the questions are used exhaustively for each service provider):

- What type of organization? (Whether line ministry, non-governmental organisations, UN Agencies, Traditional Authorities, School Board, Village or Constituency Development Committee and etc).
- What expertise is available within the organization? What are the strengths/weaknesses of each of the organization/institution/agency?
- Who assist affected population to overcome key constraints (e.g., protection/mitigation, health/nutrition, shelter, transport, repair and etc)? What services do they provide (information/counselling, training, mosquito nets, food, storage, boats and etc)? When (before, during or after emergencies)?
- Who are their target groups? Are certain groups excluded from some of the organizations (e.g., children, youth, men, women, elders or particular ethnic/language groups)? If so which ones and why? What are the implications of non-participation?
- What services can the outside institutions e.g. Red Cross and etc. offer?
- What are their contact details (telephone, e-mail etc)?

<table>
<thead>
<tr>
<th>Name</th>
<th>Type of organization</th>
<th>Services provided</th>
<th>Areas Covered</th>
<th>Segment of Population covered</th>
<th>Expertise available in organization</th>
<th>Contact details</th>
</tr>
</thead>
<tbody>
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### APPENDIX 4: Minimum Standards for Education in Emergencies, Chronic Crises and Early Reconstruction

<table>
<thead>
<tr>
<th>Common Category: Community Participation</th>
<th>Category: Teaching and Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard 1: Participation.</strong> Emergency-affected community members actively participate in assessing, planning, implementing, monitoring and evaluating the education programme.</td>
<td><strong>Standard 1: Curricula.</strong> Culturally, socially and linguistically relevant curricula are used to provide formal and non-formal education, appropriate to the particular emergency situation.</td>
</tr>
<tr>
<td><strong>Standard 2: Resources.</strong> Local community resources are identified, mobilised and used to implement education programmes and other learning activities.</td>
<td><strong>Standard 2: Training.</strong> Teachers and other education personnel receive periodic, relevant and structured training according to need and circumstances.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Common Category: Analysis</th>
<th>Category: Teachers and Other Education Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard 1: Initial assessment.</strong> A timely education assessment of the emergency situation is conducted in a holistic and participatory manner.</td>
<td><strong>Standard 1: Recruitment and selection.</strong> A sufficient number of appropriately qualified teachers and other education personnel are recruited through a participatory and transparent process based on selection criteria that reflect diversity and equity.</td>
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<tr>
<td><strong>Standard 2: Response plan.</strong> A framework for an education response is developed, including a clear description of the problem and a documented strategy for action.</td>
<td><strong>Standard 2: Conditions of work.</strong> Teachers and other education personnel have clearly defined conditions of work, follow a code of conduct and are appropriately compensated.</td>
</tr>
<tr>
<td><strong>Standard 3: Monitoring.</strong> All relevant stakeholders regularly monitor the activities of the education response and the evolving education needs of the affected population.</td>
<td><strong>Standard 3: Supervision and support.</strong> Supervision and support mechanisms are established for teachers and other education personnel, and are used on a regular basis.</td>
</tr>
<tr>
<td><strong>Standard 4: Evaluation.</strong> There is a systematic and impartial evaluation of the education response in order to improve practice and enhance accountability.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Category: Access and Learning Environment</th>
<th>Category: Education Policy and Coordination</th>
</tr>
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<tbody>
<tr>
<td><strong>Standard 1: Equal access.</strong> All individuals have access to quality and relevant education opportunities.</td>
<td><strong>Standard 1: Policy formulation and enactment.</strong> Education authorities prioritise free access to schooling for all, and enact flexible policies to promote inclusion and education quality, given the emergency context.</td>
</tr>
<tr>
<td><strong>Standard 2: Protection and well-being.</strong> Learning environments are secure, and promote the protection and mental and emotional well-being of learners.</td>
<td><strong>Standard 2: Planning and implementation.</strong> Emergency education activities take into account national and international educational policies and standards and the learning needs of affected populations.</td>
</tr>
<tr>
<td><strong>Standard 3: Facilities.</strong> Education facilities are conducive to the physical well-being of learners.</td>
<td><strong>Standard 3: Coordination.</strong> There is a transparent coordination mechanism for emergency education activities, including effective information sharing between stakeholders.</td>
</tr>
</tbody>
</table>
APPENDIX 5: Introduction to the technical components of Education in Emergency

1) Cluster/sector coordination mechanism – stakeholder group of the education sector led by Ministry of Education and supported by UNICEF, Save the Children and other I/NGOs and other organisations responsible for preparedness and response planning to deliver education in emergencies

2) Education assessments – assessments conducted to gain information about the impact of an emergency on the affected areas, including # of children displaced, # of schools damaged and destroyed, # of teachers displaced, availability and condition of teaching materials, etc. This information is vital to formulating an education sector response

3) Education response planning – the process of systematic response planning developed by the education sector coordinating group to deliver education to affected children and communities based on identified needs

4) Human and financial resources – determination of the kinds of human resources needed to implement the response plan beyond the capabilities of the staff of the education sector coordination partners. This might include local NGOs, consultants, temporary staff, or even an international education cluster coordinator if the emergency is extensive. Financial resources need to be mobilised by the sector through existing funds or by developing proposals and budgets for additional aid to meet emergency needs

5) Education supplies and logistics – kits with play and recreation materials, learning materials, and other classroom supplies are ordered to replace damaged materials and facilitate teaching and learning in temporary learning environments

6) Temporary learning spaces – temporary classrooms are established in tents, public buildings, under trees or quickly assembled temporary structures using local materials to provide safe and protective places for children to learn and play

7) Psychosocial support and strategies – structured activities to allow children to engage in play, recreation, and creative activities to help them overcome the emotional impacts of the emergency

8) Emergency education curricula – teaching and learning materials provided in literacy, numeracy, life skills, and other emergency areas to allow learning to continue and for children to gain new skills related to their new environments, including life saving skills to avoid threats such as disease, land mines, exploitation, etc.

9) Mobilisation and training of teachers and education personnel – recruitment of additional teachers and community volunteers and training schemes to prepare them to deliver emergency education and psychosocial support activities

10) Rehabilitation and construction of schools – repair of schools damaged by the emergency and construction of new schools to replace destroyed schools and including additional schools to accommodate out of school children who may enrol after the emergency

11) Resumption of formal education – in the early recovery period, efforts to restart formal education include back-to-school and go-to-school campaigns; reintegration of students who were displaced or dropped out as a result of the emergency; and reintegration of teachers who were displaced or new teachers trained during the emergency

12) Monitoring and evaluation – systematic monitoring programme to assess the extent to which the emergency education response plan was implemented in order to adjust targets and response activities, and evaluation of the quality impact of the response
## APPENDIX 6: Education Monitoring Tool

| Monitoring tool | • What information do you need to collect?  
|                | • What monitoring indicators will you use to give you the information you need?  
|                | • How will you create a monitoring tool or tools that will track the information about planned results, actual results, and gaps?  
|                | • What locations will you monitor?  
|                | • What do you need to know to adjust the response activities to meet the needs of the target populations?  
| Roles and responsibilities | • What will be the roles and responsibilities of the government and other education sector partners in data collection, collation, and sharing information? What are the capacities of partners?  
|                | • Who will take the lead on information management?  
|                | • How will tasks be divided?  
| Monitoring team | • Who will participate on the monitoring team? What will be the role of the regional education office?  
|                | • How will they be trained?  
|                | • How many people are needed?  
|                | • How long will the process take?  
| Logistics | • What are the transportation needs? What vehicles or transport methods are available?  
|            | • What resources do you have? Mobile phones, computers, radios?  
|            | • Do you need logistical support? From whom?  
| Community involvement | • Who will you interview? Teachers, children, education officials, parents, community leaders, displaced people, women’s organisations, local organisations?  
|                | • How will you locate them?  
| Data collection methods | • How will you get the information you need on numbers of teachers, students, etc.?  
|                        | o Classroom observation  
|                        | o Analysis of school enrolment register and policy documents.  
|                        | o Discussion with school principal and committee.  
|                        | o Discussion with learner representatives.  
|                        | o Discussion with children who are out of school (and parents)  
|                        | o Observation in community  
|                        | o Meetings with key community groups/reps  
|                        | o How will you verify the accuracy of the information?  
| Data collation, information sharing and reporting | • Will you collate data electronically? If not how?  
|                 | • How will you create a database for the information  
|                 | • How will you train people to do the data entry, cross-check and analyse the data collected  
|                 | • How will you share data at different levels and with different agencies? Who should the information be disseminated to?  
| Gap analysis and response planning | • How will the data be analysed and gaps determined?  
|                | • How will the gaps inform the ongoing emergency response planning?  
|                | • Programme adjustments are made, when necessary, as a result of monitoring.  
|                | • Who will be responsible for addressing gaps?  

### APPENDIX 7: Tool for Recognizing the Symptoms of Stress in Children in Emergencies

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Possible Symptoms</th>
</tr>
</thead>
</table>
| Very young children (0 – 5 years) | • Anxious clinging to caregivers  
• Temper tantrums  
• Fear of going to sleep  
• Nightmares and night terrors  
• Excessive fear of real or imagined things, e.g., thunder, monsters |
| Young children (6 – 12 years) | • Poor concentration, restlessness or bad behaviour at school  
• Anxious behaviour including hyperactivity, stuttering and eating problems  
• Psychosomatic complaints, e.g., headache, stomach pains  
• Behavioural change, becoming aggressive or withdrawn and passive  
• Sleeping problems  
• Regression – acting like a younger child |
| Adolescents (13 – 16 years)  | • Self-destructiveness and rebelliousness, e.g., drug taking, stealing  
• Withdrawal – cautious of others and fearful of the future  
• Anxiety, nervousness  
• Psychosomatic complaints, e.g., headaches, stomach pains |
### APPENDIX 8: Age Specific Activities for Children after Stressful Events

<table>
<thead>
<tr>
<th>Preschoolers</th>
<th>Elementary (grades K-5)</th>
<th>Middle/Junior High to High School (grades 6-12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw-a-picture</td>
<td>Draw-a-picture</td>
<td>Art, music, dance</td>
</tr>
<tr>
<td>Tell-a-story</td>
<td>Tell-a-story</td>
<td>Stories, essays, poetry, video production</td>
</tr>
<tr>
<td>Coloring books on disaster and loss</td>
<td>Books on friendship, families, animals, upbeat and joyful stories</td>
<td>Books on friendship, adventure, poetry</td>
</tr>
<tr>
<td>Doll, toy play</td>
<td>Create a play or puppet show about a disaster – But if it has a sad ending never let the child leave without further discussions and always end on a positive note</td>
<td>Create a play, puppet show, or - If it has a sad ending never let the child leave without further discussions and always end on a positive note</td>
</tr>
<tr>
<td>Group games</td>
<td>Create a game about disaster recovery, disaster preparedness, partnerships</td>
<td>Group discussions about disaster preparedness, or disaster recovery and partnerships</td>
</tr>
<tr>
<td>Talks about disaster safety and self-protection</td>
<td>School study or community service projects</td>
<td>School projects on health or natural and social sciences Community service projects</td>
</tr>
<tr>
<td>Colouring books on happy family times</td>
<td>Ask the children to create a play or puppet show about positive outcomes after a disaster – or simply “happy times” with friends and family.</td>
<td>Group discussions about what they would like to do/be when they grow up</td>
</tr>
</tbody>
</table>
What to do?

- Teachers and other adults need to know how to recognise these most vulnerable (least resilient) children, and refer them for special help (i.e., medical doctors, traditional healers, mental health professionals, or other appropriate service providers.) These children should be included in all of the structured, normalising activities and education opportunities organised for the other children as much as possible.

Interventions need to

- Reconnect children with family members, friends and neighbours
- Foster social connections and interactions
- Normalise daily life
- Promote a sense of competence and restore a person’s control over their life
- Allow for expression of grief within a trusted environment, when the child is ready and follow up is guaranteed

<table>
<thead>
<tr>
<th>Children’s Needs</th>
<th>Possible Psychosocial Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Sense of Belonging</td>
<td>• Establish an education structure where children feel included</td>
</tr>
<tr>
<td></td>
<td>• Promote the restoration of cultural, traditional practices of childcare, whenever possible</td>
</tr>
<tr>
<td>Relationships with Peers</td>
<td>• Provide a dependable, interactive routine through school or other organised educational activity</td>
</tr>
<tr>
<td></td>
<td>• Offer group and team activities (i.e., sports, drama, etc.) that requires cooperation and dependence on one another</td>
</tr>
<tr>
<td>Personal Attachments</td>
<td>• Enlist teachers that can form appropriate caring relationships with children</td>
</tr>
<tr>
<td></td>
<td>• Provide opportunities for social integration and unity by teaching and showing respect for all cultural values, regardless of differing backgrounds</td>
</tr>
<tr>
<td>Intellectual Stimulation</td>
<td>• Enhance child development by providing a variety of educational experiences</td>
</tr>
</tbody>
</table>
APPENDIX 10: IASC Guidelines on Mental Health and Psychosocial Support
in Emergency Settings Checklist

Education Check List
- Promote safe learning environments
- Make formal and non-formal education more supportive and relevant
- Strengthen access to quality education for all
- Prepare and encourage educators to support learners’ psychosocial well-being
- Strengthen the capacity of the education system to support learner experiencing psychosocial and mental difficulties.

Core Principles
- Human rights and equity
  Humanitarian actors should promote the human rights of all affected persons and protect individuals and groups who are at heightened risk of human rights violations. Humanitarian actors should also promote equity and non-discrimination.
- Participation
  Humanitarian action should maximise the participation of local affected populations in the humanitarian response. In most emergency situations, significant numbers of people exhibit sufficient resilience to participate in relief and reconstruction efforts.
- Do no harm
  Work on mental health and psychosocial support has the potential to cause harm because it deals with highly sensitive issues. Humanitarian actors may reduce the risk of harm in various ways, such as
  - Participating in coordination groups to learn from others and to minimise duplication and gaps in response
  - Designing interventions on the basis of sufficient information
  - Committing to evaluation, openness to scrutiny and external review
  - Developing cultural sensitivity and competence in the areas in which they intervene/work
  - Developing an understanding of, and consistently reflecting on, universal human rights, power relations between outsiders and emergency-affected people, and the value of participatory approaches
- Building on available resources and capacities
  All affected groups have assets or resources that support mental health and psychosocial well-being. A key principle, even in the early stages of an emergency, is building local capacities, supporting self-help and strengthening the resources already present. Externally driven and implemented programs often lead to inappropriate mental health and psychosocial support and frequently have limited sustainability. Where possible, it is important to build both government and civil society capacities.
- Integrated support systems
  Activities and programming should be integrated as far as possible. The proliferation of stand-alone services, such as those dealing only with rape survivors or only with people with a specific diagnosis, can create a highly fragmented care system.
- Multilayered supports
  In emergencies, people are affected in different ways and require different kinds of supports. A key to organising mental health and psychosocial support is to develop a layered system of complementary supports that meets the needs of different groups.

www.humanitarianinfo.org/iasc/content/products
APPENDIX 11: Some ways to help children to cope with disaster

- **Talk.** Provide children with age-appropriate information. Speak about your thoughts and feelings. Honesty and openness will help the child develop trust.

- **Listen.** Listening (while being careful not to avoid or over-react) and providing comfort will have a critical, long-lasting positive effect on the child.

- **Discuss.** Encourage children to speak with you, and with one another, about their thoughts and feelings. This helps reduce their confusion and anxiety related to the trauma. Respond to questions in terms they can comprehend.

- **Provide a consistent, predictable pattern as much as possible.** It is helpful to try and keep regular schedules for activities in school as well as eating, playing and going to bed to help restore a sense of security and normalcy for children. Make sure the child knows the pattern. When the day includes new or different activities, tell the child beforehand and explain why this day’s pattern is different.

- **Provide play experiences to help relieve tension.** Younger children in particular may find it easier to share their ideas and feelings about the event through non-verbal activities such as drawing.

- **Physical exercise.** There should be a regular programme of physical exercise in school for both girls and boys. Physical exercise helps to maintain a sort of psycho-physical balance. Exercise tones both the nervous system and the muscular system. The chemical reactions that take place in the body after physical exercise act as “happy drug”: except of course that it is perfectly natural. Given the grieving and sadness many of our children are suffering, physical exercise helps to lift the spirits and bring the child into balance.

- **Protect.** Do not hesitate to interrupt or stop activities which are upsetting or traumatizing for the child. If you observe increased symptoms in a child that occur in a certain situation or following exposure to certain movies, activities and so forth, avoid these activities. Try to restructure or limit activities that cause escalation of symptoms in the traumatized child.

- **Support.** Reassure children repeatedly that you care about them and that you understand their fears and concerns. Give the child choices and some sense of control. Providing hugs, kisses and other physical comfort is very important (within an appropriate context).

- **Observe.** Watch children closely for signs of re-enactment (e.g., in play, drawing, behaviours), avoidance (e.g., being withdrawn, daydreaming, avoiding other children) and physiological hyper-reactivity (e.g., anxiety, sleep problems, behavioural impulsivity). Try to comfort and be tolerant of the child’s emotional and behavioural problems (which will probably wax and wane, sometimes for no apparent reason). You might consider keeping a record of the behaviours and emotions in a log or journal and try to identify patterns in the behaviour. By identifying triggers, you may be able to help your child develop self-soothing abilities.

- **Take care of yourself.** By remembering to take care of yourself (remember the airlines’ advice to put on your own oxygen mask before you try to help another), you will be better equipped to help your loved ones and they will learn from and be comforted by your example. This is not an act of selfishness, especially if it allows you to continue to love and care for your family in healthy, positive ways.
APPENDIX 12: UNICEF Supplies for Temporary Learning Spaces

**EARLY CHILDHOOD DEVELOPMENT KIT**

*1 Kit per 30 Children*

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity per kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toy bag</td>
<td>1</td>
</tr>
<tr>
<td>Paper, newsprint for painting and drawing. A4 size, 500 sheets per ream</td>
<td>5</td>
</tr>
<tr>
<td>Wax crayon in plastic bag</td>
<td>15</td>
</tr>
<tr>
<td>Scissors safety school type, blunt round tips</td>
<td>10</td>
</tr>
<tr>
<td>Permanent markers, blue, black, red and green</td>
<td>4 x each colour, 16 per kit</td>
</tr>
<tr>
<td>Prestik</td>
<td>2</td>
</tr>
<tr>
<td>Art and craft white glue (packed 12 in a box)</td>
<td>2</td>
</tr>
<tr>
<td>Round plastic hoola hoops, various colours</td>
<td>10</td>
</tr>
<tr>
<td>Puzzles 12 piece, cardboard, African culture</td>
<td>4</td>
</tr>
<tr>
<td>Duplo size blocks, 80 pieces per bag, plastic in different colours</td>
<td>4</td>
</tr>
<tr>
<td>Puzzles 25 piece, cardboard, African culture</td>
<td>4</td>
</tr>
<tr>
<td>Puzzles 50 piece, cardboard, African culture</td>
<td>4</td>
</tr>
<tr>
<td>Ragg doll for African child</td>
<td>5</td>
</tr>
<tr>
<td>Rubber bounce balls 22” for 3-6 year olds</td>
<td>3</td>
</tr>
<tr>
<td>Soft plastic balls 22” for 3-6 year olds</td>
<td>15</td>
</tr>
</tbody>
</table>

**SCHOOL KIT**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity per kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durable box/container, easy to carry and securable</td>
<td>1</td>
</tr>
<tr>
<td>Boxes of white chalk</td>
<td>30</td>
</tr>
<tr>
<td>Boxes of coloured chalk</td>
<td>6</td>
</tr>
<tr>
<td>Clock, including batteries</td>
<td>3</td>
</tr>
<tr>
<td>Can of 5 litre for blackboard paint</td>
<td>1</td>
</tr>
<tr>
<td>Paint brush</td>
<td>3</td>
</tr>
<tr>
<td>Rope-ball of standard size</td>
<td>3</td>
</tr>
<tr>
<td>Scissors</td>
<td>3</td>
</tr>
<tr>
<td>Sellotape</td>
<td>6</td>
</tr>
<tr>
<td>Pencil sharpeners</td>
<td>3</td>
</tr>
<tr>
<td>Football</td>
<td>6</td>
</tr>
<tr>
<td>Volleyball</td>
<td>6</td>
</tr>
<tr>
<td>Volleyball net</td>
<td>1</td>
</tr>
<tr>
<td>Air pump for balls</td>
<td>2</td>
</tr>
</tbody>
</table>
### HANDOUT 13: Sample Checklist on Basic Safety Requirements

<table>
<thead>
<tr>
<th>Safety Feature</th>
<th>🌟</th>
<th>☹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water suitable for food preparation and drinking is available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water suitable for personal hygiene and cleaning is available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate lighting in all areas of the building and surroundings is provided</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A manual fire alarm system is in place</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire extinguishers are found in corridors and exit routes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire extinguisher are found at the entrances of high risk rooms such as laboratories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floors are clean, non-slippery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floors are without splinters and holes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corridors are wide and spacious</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corridors are free from obstructions especially during an emergency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roofing materials are completely and securely fastened and leak proof</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rooms doors can always be opened from the inside for emergency exit purposes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stairways have safe and adequately secured railings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical wires and cables are properly fastened and secured</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doors are securely attached to jambs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secured entrance and exit points</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combustible and hazardous chemicals and gases are safely and appropriately located</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proper segregation and storage of hazardous materials/chemicals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Functional electrical and emergency lights with battery back-up in all critical areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular emergency drills (e.g. fire, earthquake drills) are conducted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proper exit markings are provided to assist people that are not familiar where exits/ emergency exits are located</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency evacuation maps are posted in critical areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Periodic inspection, repair and maintenance of facilities and surroundings are done</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
HANDOUT 14: Example of Fire Drill Plan

- Contact your school district to be sure that you know the district’s policy regarding fire drills.

- Create a map for each classroom, showing the exit route for that particular classroom. Have alternative exit routes for classes on upper levels.

- Alarm or bell for fire should be different from the school bell to ensure everybody understands the danger and loud enough to be heard by everyone present at the school premises.

- Agree on a safe assembly point away from the school buildings and assign each class a separate place to stand outside.

- Assign tasks among the education personnel to;
  - Contact fire department/security;
  - Check if everybody is out;
  - Put out the fire with extinguishers/buckets of sand, if possible.
  - Establish an exit plan for students with physical or mental disabilities.

- Instruct teachers to switch off all electrical appliances and to check the door before opening it. If it is safe, they should proceed to open the door and wait at allocated assembly areas.

- Instruct students to walk out in single file and that they may need to crawl if there is smoke in the hall. Students should crawl or crouch down in single file to avoid confusion.

- Use buddy systems and have a plan to transport and/or assist disabled students to evacuate.

- Designate people to stand at various posts outside, so they can account for classes that should be at that particular outside location. Be sure that these people have portable communication devices with them so that they can promptly inform staff of missing students.

- Instruct teachers to maintain a fire safety folder, which includes rosters for each of their classes. When a fire drill occurs, the teacher should bring their fire safety folder and an accounting of the students present during the day.

- Maps, plans and assigned tasks need to be regularly updated and disseminated among all personnel including support staff, all students and school board.
### APPENDIX 15: How to Set Up a Temporary Learning Space

| Coordination | Coordinate with local education authorities, other education partners and the WASH and protection sectors (and if necessary, camp management and shelter sectors)  
| | If appropriate meet with community, parents and leaders to determine location and issues of safety  
| | Coordinate with appropriate partners to ensure that children’s nutritional needs are addressed in the temporary learning spaces  
| Selection of physical space | Ensure that the site is  
| | o cleared of harmful objects, such as explosives, sharp metals and glass, shade and protection against wind, rain and dust  
| | o away from main roads and distribution points  
| | o away from stagnant water, polluted drainage sites  
| | o away from military zones  
| | o close to majority of children, especially girls / disabled children  
| | Provide access to sanitation and safe water services  
| | Storage space for school supplies, food (if school feeding programme)  
| | Climate and geographical constraints (regarding reconstruction logistics)  
| | Ensure safe access to learning space if children need to travel from home  
| Provision of tents and other structures | If no suitable structures or buildings are available, consider prefabricated tents or other materials to create temporary structures  
| | This essentially involves the supplies and logistics division and involves considerations such as local procurement and staff to install tents versus external expertise.  
| | Advantages of ‘tent schools’ are that they can be stockpiled and re-used. They can also be set up quickly. Only the minim necessary time, effort and resources should be committed to temporary emergency learning spaces.  
| | Usage of local materials or materials that can be retrieved from damaged buildings  
| | Ensure heating and adequate light if needed  
| | Demarcate safety boundary with locally available materials  
| Supplies | Determine essential education and recreation supplies  
| | Order and pre-position to start activities as soon as possible  
| | Ensure all materials are culturally appropriate and relevant for both boys and girls  
| Staff preparation and support | Recruit volunteers and provide training in play, recreation, psychosocial classroom activities, and aspects of child rights  
| | Ensure communication channels are established and accessible  
| | Provide security briefing to staff and ensure that staff know and adhere to code of conduct  
| Provision of child-friendly activities | Conduct a variety of programs for children that are locally appropriate, gender appropriate, planned and provided for all age groups, and allow girls and boys to play separately as well as together.  
| | Ensure a reasonable ratio of children to facilitator. Implement double shifting if necessary to reduce ratio. If possible, aim for 1 facilitator to 20 or 30 (although it could be 40-50). Add more facilitators with younger age groups.  
| | Organise structured daily schedules with a variety of play activities, including arts, recreation and learning activities. Ensure that active play and quiet time scheduled  
| | If appropriate organise separate activity stations for a variety of experiences. Children can engage in self-directed learning and play activities. Ensure that the activities meet the psychosocial needs of children.  
| Programming for adolescents | Ensure access to safe spaces for adolescent activities  
| | Recruit and train adolescents to supervise and lead recreational and other learning activities  
| | Facilitate the formation of youth clubs for sports, health and safety, music, and drama activities  
| | Coordinate adolescent activities with education authorities  

## APPENDIX 16: Roles of Stakeholders in School Repair and Construction

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Example governmental bodies</th>
<th>Other stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard assessment</td>
<td>National or local emergency or disaster management agency</td>
<td>Scientific and technical research institutes</td>
</tr>
<tr>
<td>Building code enactment</td>
<td>National and/or state/provincial ministry and/or department s of public works, architecture and construction, municipal affairs and housing</td>
<td>Building industry entities, building product manufacturers</td>
</tr>
<tr>
<td>Building code enforcement</td>
<td>National, regional or district, or local government</td>
<td>Contract code enforcement, testing laboratories</td>
</tr>
<tr>
<td>Design and construction of schools</td>
<td>Ministry or department of education, public works; regional or local government</td>
<td>Private school owners, Materials suppliers Construction companies, Professional engineering, architecture, and building associations, community</td>
</tr>
<tr>
<td>Maintenance</td>
<td>School district, Local school</td>
<td>Community</td>
</tr>
<tr>
<td>Provision or acquisition of school site</td>
<td>District or local government</td>
<td>Community</td>
</tr>
<tr>
<td>Land use planning</td>
<td>Ministry or department of planning or urban and rural development</td>
<td>Urban and rural planning organisations, Planning professional associations</td>
</tr>
<tr>
<td>Training provision and certification of contractors and construction workers</td>
<td>Ministry or department of vocational and technical training</td>
<td>Trade unions/associations, technical/vocational schools</td>
</tr>
<tr>
<td>Training provision and certification of engineers and architects</td>
<td>Ministry or department of education,</td>
<td>University degree programs, Professional associations, Private sector companies</td>
</tr>
<tr>
<td>Financing</td>
<td>Ministry or department of education or finance, Planning Commission, Program coordination unit</td>
<td>Donor organisations, Non-governmental organisations, INGOs, regional banks and other lenders</td>
</tr>
<tr>
<td>School administration</td>
<td>Ministry or department of education, school boards or districts</td>
<td>School administrators associations</td>
</tr>
<tr>
<td>School –Community relations</td>
<td>Ministry or department of education, school boards or districts</td>
<td>Local schools, community-based organisations, non-governmental organisations</td>
</tr>
</tbody>
</table>
Sphere Standards for Water and Sanitation – Some Key Points

- Access to water to wash hands after defecation and before eating or preparing food
- Access to safe drinking water
- Water point drainage is well planned, built, and maintained
- Separate toilets latrines for girls and boys and sited to minimise threats to users and offer a degree of privacy
- For schools, 1 latrine to 30 girls and 1 latrine to 80 boys including urinals
- Toilets are no more than 50 metres from dwellings and where possible provision is made for one toilet per 20 people
- Pit latrines are at least 30 metres from any groundwater source that is used and should be built downhill from any water supply
- In malarial environments, mosquito control is undertaken such as good drainage, covering latrines, covering open wells i.e. refuse containers or clearly marked and fenced refuse pits etc
- Shelters, paths and water and sanitation facilities are not flooded
Public awareness is similar to any other form of communication: to be true communication the message sent requires a response from a receiver. If the message sent out finds no echo, it has been sent in vain. For example: if a public awareness campaign aims a decrease in the risk of infection of cholera, the response should be a change in the behaviour of the public, which in turn results in a decrease of infection.

The purpose of a planned campaign should be specific and clear, and the response should at best be observable / measurable in some way.

**Basic planning questions**

**Who** (is the target audience)?

**What** (is the aim of the campaign? What do you want to achieve)?

**How** (will you launch the campaign? Is there a special occasion to raise the profile of the campaign)?

**Where** (will you affect the campaign? Where will you perform the plays/hang up the posters/distribute pamphlets, etc)?

**Requirements: Creativity & imagination**

**Possible complications**

- Lack of clear focus
- Attempt to transmit too much information
- Ambiguity of message
- Unattractive medium/design

Source; Reducing Risk: Participatory Learning Activities for disaster mitigation in Southern Africa
## APPENDIX 18: The Role the School Committee can play

<table>
<thead>
<tr>
<th>Issues to be solved</th>
<th>What School Boards can do to help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children not attending school</td>
<td>School Boards can raise awareness about importance of education in the community to ensure that children are enrolled in school, and towards authorities to ensure sufficient provision of quality education facilities in rural areas</td>
</tr>
<tr>
<td>Increase in drop-outs</td>
<td>School Boards can raise awareness in the community about importance of education and support families to send their children to school through provision of scholarships especially targeting vulnerable groups to ensure that students complete their degree</td>
</tr>
<tr>
<td>Insufficient number of teachers</td>
<td>School Boards can identify in the community persons who could act as teaching assistants for the available teachers and advocate to the authorities for additional and substitute teachers</td>
</tr>
<tr>
<td>Not enough materials/teaching aids</td>
<td>School Boards can organise the community to make teaching aids from local materials as well as raise money for buying materials.</td>
</tr>
<tr>
<td>Traumatised children</td>
<td>School Boards can train community members to identify and address trauma among children, organise recreational activities and offer support to individuals.</td>
</tr>
<tr>
<td>Overburdened teachers</td>
<td>School Boards can take some responsibility for playground duty, cleaning of school premises, maintenance, financial management or fundraising, duty rosters, collection of administrative data, needs assessments etc. School Boards can also organise field visits and excursions and help to supervise these.</td>
</tr>
<tr>
<td>Insufficient recreation and/or co-curricular activities</td>
<td>School Boards can organise and supervise a range of co-curricular activities for both girls and boys</td>
</tr>
<tr>
<td>Lack of careers advice and further study advice for students</td>
<td>School Boards can invite speakers from various professions and universities and organize seminars and meetings with the students</td>
</tr>
</tbody>
</table>

Source: Adapted from the Teacher training in Earthquake affected areas manual, Pakistan
## Handout 19: School Disaster Reduction & Readiness CHECKLIST

### ACTION STEPS
1. Convene local school safety committee representing administration, faculty, staff, students and parents, and local community.
2. Study the school safety planning and action steps below together.
3. As needed assign sub-groups or individuals to be responsible for investigating and making recommendations for each task.
4. Create plan based on task group recommendations.
5. Implement the plan, involving the whole school community, setting milestones and taking action steps to achieve risk reduction and response preparedness.
6. Communicate and coordinate as needed with education authorities using the resources and support available, and advising them of resource and support needs.
7. Review and revise the plan as necessary, at least annually.
8. Be sure to keep all staff, parents/guardians, and students advised about the plan.

### ASSESSMENT & PLANNING

- An ongoing school safety committee has been established to lead disaster risk reduction and disaster response planning in our school. We hold regular meetings (including staff, parents/guardians, students and local community leaders) to develop and review our mitigation, preparedness and response plans.

- We have learned about local resources and assets (e.g., fire extinguishers, first aid kits, people with response skills, generator, ladder, search & rescue equipment) available in the community nearby from private and public sources, and discussed shared use of resources post-disaster.

- We have researched historical events and current scientific studies and considered all of the different hazards that could affect us. We are aware of the needs of vulnerable groups or individuals such as young children, students with disabilities, and language minorities, as well as the concerns of staff, students, parents and community.

- We have site and neighbourhood maps and have identified alternate staging and evacuation locations.

- We have assessed and are addressing physical risks posed by buildings, building non-structural elements and building contents, and hazards in our neighborhood.

- We have evacuation plans, including safe assembly areas, evacuation routes, safe havens and alternatives, buddy system. Student transportation systems have plans to take students to nearest safe school in case of disaster during student commute. Parents/guardians are informed of location of all possible safe havens for reunification. The evacuation plan has been shared with the nearest police, fire and hospital officials and established communication and understanding in advance of emergency situations.

- We have established a communication system for emergencies, including a warning system wherever appropriate. All necessary contact information is available for emergency response and family reunification.

- We have established student release procedures to ensure that children are released only to adults approved by parents/guardians.

- If needed we have planned to provide emergency shelter for our local community.

- We have a plan for educational continuity for our students including alternate locations to continue classes, alternate schedules and methods of instruction as needed and secure back-up of educational records.

- We have plans and regular contact with local news media (radio, newspapers, television) to communicate planning and emergency messages to families, and to use our school-based activities to promote risk reduction community-wide.

- We provide significant practical local disaster risk awareness and reduction activity at all age levels, through school-based activities and projects and/or through the formal curriculum.
We encourage staff and students to prepare for disasters at home and provide support material for doing so.

We have insurance coverage to pool economic risks.

### PHYSICAL PROTECTION

- Our building has been located appropriately, designed and built according to current building codes/safety standards for disaster safety, and inspected by a qualified structural engineer.
- The building has been checked by local fire department for fire safety.
- If our school required repair or retrofit, this has been completed without minimal disruption of education.
- We practice preventative maintenance on our buildings, protecting them from damp and other damage, and repairing damage when it occurs.
- **Earthquake, windstorm:** We have fastened tall and heavy furniture, secured computers, televisions and other electronic equipment, hazardous materials, supplies, propane gas tanks, water tanks, lighting fixtures, roof elements, railings and parapets, heating and cooling devices, storage tanks and other items that could kill, injure, or impair educational continuity. We have put latches on cabinets, and hung pictures securely on closed hooks to protect ourselves from injury and financial losses.
- **Flood, storm, tornado:** We know about early warning systems in use in our community and have plans to respond to these in order to move people and assets to safety.
- We have smoke detectors, fire alarms, automatic sprinkler systems, fire hoses, fire extinguishers, and automatic emergency lighting, and maintain these. Our building exit routes are marked.
- We have limited, isolated, and secured any hazardous materials to prevent spill or release.
- We have off-site back-up of critical information, including student emergency contacts and release permissions.
- School transportation is inspected for safety and drivers and students are trained in respective safety skills. Seat belts, helmets and other transportation safety measures are advocated and promoted.

### RESPONSE CAPACITY: SUPPLIES & SKILLS

- We have guidelines for and we hold post-disaster drills to practice safety skills with all staff and students at least twice a year. We have a buddy system for those needing help. We follow basic building evacuation rules: “Don’t talk. Don’t run. Don’t push. Don’t go back”. We hold simulation exercises at least once a year where operational teams practice response organization as well as procedures and skills in damage assessment, information-sharing, light search and rescue, first aid, fire suppression and family reunification. We discuss and improve on our practice.
- We have skills and practice building evacuation drills twice yearly as well as applicable drills for the threats faced (eg. first aid skills for life safety, drop, cover, and hold for earthquakes, water safety and swimming skills for floods, shelter-in-place for violent threats).
- We have access to reliable external information sources on disasters and to an internal communication system. We have practiced receiving updates on emergency situations, warning our community and informing the relevant authorities.
- We have emergency supplies for students and staff to last for at least the first 72 hours (including at least 12 liters of water per person, food, first aid supplies, emergency power, emergency lighting, alternate communications, alternate transportation, shelter and sanitation supplies) (Students can be asked to bring emergency supplies bag at the beginning of each year, and take it home again at the end of the school year).
- School staff and older students have and learn response skills including: first aid, mass casualty triage, light search and rescue, fire suppression, wireless communication, psychological first aid, emergency power operation, student release procedures, shelter, nutrition, and sanitation skills.
School staff know how to turn off our electricity, water and gas.

We have a standard organizational system and know the principles for organizing post-disaster self-help.

We have identified resources for psychosocial support if needed.

We have plans to use our resources for mutual aid and to support local community response.
You will never become so good at taking care of yourself that you lead a stress-free life. However, there is much you can do to help alleviate stress reactions.

No single technique will relieve all your stress, but paying attention to the following three areas of self-care may build up your *hardiness* (your ability to handle more stress with less distress) and your *resilience* (your ability to “bounce back” after particularly stressful or traumatic events).

### Physical
- Regular exercise
- Sleep
- Healthy eating
- Drinking enough water
- Humor and laughter
- Limit your consumption of alcohol
- Pilates or yoga
- Relaxation techniques (such as progressive muscle relaxation, diaphragmatic breathing, visualization and meditation)
- Massage, whirlpool, sauna
- Repetitive activities (such as crossstitching, walking, quilting, drawing and cooking)

### Emotional and relational
- Nurturing relationships
- Contact with home/friends through email, phone and tapes
- Talking
- Humor
- Ongoing support group
- Reflection: journaling, writing, meditating, poetry
- Creative activity such as drawing, sculpting, cooking, painting and photography
- Movies, books, music
- Having balanced priorities
- Understanding traumatic stress and have realistic expectations
- Counseling

### Spiritual
- Knowing your values: Where do you tend to find meaning and purpose in life?
- Participating in a community of meaning and purpose
- Regular times of prayer, reading, meditation
- Spiritually meaningful conversations
- Singing or listening to meaningful music
- Contact with religious leaders or inspiring individuals
- Time with art, nature or music
- Solitude
APPENDIX 21: Earth Science/flood lesson plan grade 6-8

TITLE OF LESSON PLAN: Flood!
LENGTH OF LESSON: Two class periods
GRADE LEVEL: 6-8
SUBJECT AREA: Earth Science
OBJECTIVES: Students will understand the following:
1. Different types of soil have different capacities for retaining rainwater.
2. If the soil in an area will not hold enough rainwater, flooding problems will ensue.
3. Soil can be tested for its water-retaining capacity.

MATERIALS:
The following materials should be distributed to each group: Three soil samples: sand, agricultural soil (potting soil), and clay; Water; Three measuring cups; Funnel and ; Filter paper

PROCEDURE:
1. Present the following scenario to your students. The class is a team of “consulting engineers” for a new housing development to be built in the next county. Many of the county’s citizens are protesting the development. They are saying that the soil in that area will not hold the rain and there will be flooding problems for all dwellings in that area. But others believe this is just an excuse to delay and block the development.
2. Tell students that their challenge is to aid in the decision-making process by testing different samples of soil to see how much water the soil will absorb.
3. Divide your class into small groups, distributing materials to each group.
4. Students should first test each type of soil in its dry state by measuring the same amount of each soil, in turn, into a funnel lined with filter paper, and then pouring a measured amount of water through it. They should use the same amount of water for each type of soil. The water that drains through each type of soil should be collected in another measuring cup and the amount recorded.
5. Have students repeat the test using the same types of soil in their saturated states.
6. Discuss with the class which soil held the most water when dry and which saturated soil held the most water. Which type of soil would be most likely to cause flooding problems?
7. Have each student write a lab report describing the soil tests, including an explanation of how communities and developers would use such tests.

ADAPTATIONS:
Adaptations for Older Students: Have students find documentation for soil testing that has been done in their own community and report their findings to the class.

DISCUSSION QUESTIONS:
1. Explain why a river can flood even if there was no recent rain in that section of the river valley?
2. Why are sediments found in rivers? Discuss how rivers carry sediments and explain how this impacts the land during a flood.
3. What characteristics determine how much water soil can hold?
4. Debate the merits of building dams upstream to prevent flooding—thereby making former floodplains available for development.
5. Discuss why hydrologists—scientists who study the water cycle—track snow accumulation as a part of long-term flood forecasting. What other data would help them make more accurate flood predictions?
6. Debate whether or not people should be allowed to rebuild homes in an area prone to serious flooding.
EVALUATION:
You can evaluate your students on their lab reports using the following three-point rubric:

**Three points**: accurate and complete description of each soil test; clear explanation of how tests would be used; careful and error-free writing

**Two points**: satisfactory description of each soil test; explanation of how tests would be used lacking in clarity; some writing errors

**One point**: sketchy description; unclear explanation or no explanation; numerous writing errors

You can ask your students to contribute to the assessment rubric by determining what information should be included in the description of each soil test.

EXTENSION:
Cities and Floods
Have students use either a map or a large local map to locate and label major rivers on the map. Students can then label major cities near the rivers. Divide the class into groups to research a particular city and the river associated with it. The research students gather should include historical, geographical, geological, and meteorological information on their river and city. Information could include the following: when the city was founded, what industries make particular use of the river, what the elevation of the city is, where the town cemetery was built, what year and season the last flood occurred, how high the river has risen, and whether the city has taken precautions against future floods.

Measure Flood Velocity
Use a stream table to explore with your students the impact of slope on water velocity. (If you don’t have a stream table, a long rectangular planter, wallpaper trough, or piece of gutter will also work.) Arrange your equipment so that students can vary the height of the container and thereby change the slope. Fill the container with sand, potting soil, or clay. Using a measured amount of water and a watch with a second hand, students can determine the velocity of the flow based on the height (slope) and length of the container. With each change in the slope of the container, have students draw the erosion patterns. Students can display their results in a graph and discuss ways that communities use this type of data. For example, they might observe the edges of a highway from a safe location and then, back in class, discuss how engineers have designed highways to be protected from high-velocity running water. How is erosion prevented?

SUGGESTED READINGS:
“Floods” by Michael Allaby. Facts on File, 1998. This work discusses floods, from basic meteorology to floods caused by tsunamis. It also discusses man’s attempts to prevent and control flooding.
“Tearing at the Earth” by Craig Childs. Audubon, May-June 1998. In the desert, flash foods strike quickly and powerfully. In the process, they move boulders and carve stone.

VOCABULARY:
- **Levee** An embankment for preventing flooding. **Context**: Eventually, rivers break through their banks and levees.
- **Monsoon** In India and adjacent areas, the season of the southwest monsoon (a wind in the Indian Ocean) characterized by very heavy rainfall. **Context**: The timetable of life is driven by the arrival and departure of the monsoon. The monsoon’s path is ultimately blocked by the mighty peaks of the Himalayas.
- **River basin** The entire tract of country drained by a river and its tributaries. **Context**: A belt of violent storms traveled right along the line of the river. All the water they produced was caught in the same river basin.
- **Silt** Loose sedimentary material with rock particles usually 1/20 millimeter or less in diameter. **Context**: Before they could begin to estimate the flood damage, hundreds of tons of silt had to be removed; it had all been washed off the mountain slopes by the torrential rain.
• **Waterlogged** Saturated with water. **Context:** The land was so waterlogged by heavy rain, the soil could no longer absorb it and the floods began to build.

**ACADEMIC STANDARDS:**

**Grade Level:** 6-8, 9-12 **Subject Area:** science **Standard:** Understands basic Earth processes.

**Benchmarks:**

*(6-8)* Knows how land forms are created through a combination of constructive and destructive forces (e.g., constructive forces such as crustal deformation, volcanic eruptions, and deposition of sediment; destructive forces such as weathering and erosion).

*(9-12)* Knows that elements exist in fixed amounts and move through the solid Earth, oceans, atmosphere, and living things as part of geochemical cycles (e.g., carbon cycle, nitrogen cycle).

*(9-12)* Knows that throughout the rock cycle (e.g., formation, weathering, sedimentation, reformation) the total amount of material stays the same as its form changes.

**Grade Level:** 6-8 **Subject Area:** Science **Standard:** Understands basic features of the Earth.

**Benchmarks:**

**Benchmark 1:** Knows factors that can impact the Earth’s climate (e.g., changes in the composition of the atmosphere; changes in ocean temperature; geological shifts such as meteor impacts, the advance or retreat of glaciers, or a series of volcanic eruptions).

**Benchmark 2:** Knows the processes involved in the water cycle (e.g., evaporation, condensation, precipitation, surface runoff, percolation) and their effects on climatic patterns.

**Grade Level:** 6-8, 9-12 **Subject Area:** Geography **Standard:** Knows the physical processes that shape patterns on Earth’s surface.

**Benchmarks:**

*(6-8)* Knows the major processes that shape patterns in the physical environment (e.g., the erosional agents such as water and ice, earthquake zones and volcanic activity, the ocean circulation system).

*(6-8)* Knows the consequences of a specific physical process operating on Earth’s surface (e.g., effects of an extreme weather phenomenon such as a hurricane’s impact on a coastal ecosystem, effects of heavy rainfall on hill slopes, effects of the continued movement of Earth’s tectonic plates).

*(9-12)* Understands how physical systems are dynamic and interactive (e.g., the relationships between changes in landforms and the effects of climate, such as the erosion of hill slopes by precipitation, deposition of sediments by floods, and shaping of land surfaces by wind).

**Source:** Susan Hurstcalderone, science and resource teacher, Blessed Sacrament School, Washington, D.C. [http://www.discoveryschool.com](http://www.discoveryschool.com)