Guidance on

Mainstreaming Disaster Risk Reduction

in the Education Sector, Myanmar - Rural Settings

Ministry of Social Welfare, Relief and Resettlement
and
Ministry of Education

In partnership with
Association of South East Asian Nations (ASEAN)
United Nations (UN)
Asian Disaster Preparedness Center (ADPC)

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Cover: Top - UNESCO, State High School, Pyapon, Ayeyarwady Division
Cover: Bottom - UNESCO, Mock drill in action, Yankin Township, Yangon

Guidance on Mainstreaming Disaster Risk Reduction in the Education Sector, Myanmar *Rural Settings*

Based on the E periences Learned from Cyclone Nargis

PREAMBLE

The Union of Myanmar is exposed to multiple natural hazards including cyclone, storm surge, earthquake, tsunami, floods, forest fire, fire, landslide and drought. Its coastal regions are exposed to cyclones, storm surges and tsunamis. Rainfall-induced flooding is a recurring phenomenon across the country. The whole country is at risk from earthquakes, droughts, and fires, while the country's hilly regions are also exposed to landslide risks. Fire is the most frequent disaster and accounts for 71 percent of the disasters within the country. Storms and Floods account for 11 percent and 10 percent of the disasters respectively while other disasters including earthquake, landslide, etc accounts for 8 percent of the disasters.

Though the country has been periodically hit by natural disasters but the Cyclone Nargis of 2008 was the worst disaster in the living memory of Myanmar. It led to the loss of 84,537 human lives, 53,836 persons missing and damage to property to the tune of approximately 4.1 billion USD. It also led to severe interruption of livelihood and destroyed developmental gains of several decades and thus led to emphasis on interrelation between disaster and development process as a whole.

In light of the multi-hazard proneness of Myanmar, Disaster Risk Reduction DRR has been a key element in all key Cyclone Nargis recovery initiatives which includes Post Nargis Joint Assessment PONJA report, Post Nargis Recovery and Preparedness and Plan PONREP and four Periodic Reviews by Tripartite Core Group TCG . Also, the Government of Myanmar's Standing Order on Natural Disaster Management has focused on preparedness and risk reduction.

Recovery and Development continuum calls for inclusion of DRR into developmental interventions for long term risk reduction and thus enhancing resilience. The Government of Myanmar led Myanmar Action Plan on Disaster Risk Reduction MAPDRR 2009-2015 focuses on preparedness and long term risk reduction and includes seven components including 'Mainstreaming DRR into development and mitigation'. This component has prioritized Housing, Health, Education and Infrastructure sectors for mainstreaming DRR.

During the Cyclone Nargis, Government of Myanmar, ASEAN, UN Agencies and NGOs undertook a number of initiatives on DRR which includes Development of Community based DRR planning manual, Capacity building of carpenters and bar benders on construction of multi-hazard resistant shelters, Construction multi-purpose cyclone shelter-cum-school and hospital and Resource Pack on Do's and Don'ts of disasters for students and teachers.

Hence, to build on the heightened sense of awareness on disaster risk reduction, consolidate the DRR interventions and support the initial implementation of MAPDRR and thus laying foundation for long-term risk reduction, the Association of South East Asian Nations ASEAN initiated a consultative and inclusive process to develop the guidance on mainstreaming DRR into three sector, namely Housing, Health and Education. The process has been led by Government of Myanmar with support of ASEAN and UN and technical assistance of ADPC.

The '***Guidance on Mainstreaming Disaster Risk Reduction into Education Sector Rural Settings, Myanmar*** has been developed by Ministry of Social Welfare, Relief and Resettlement and Ministry of Education, in association with ASEAN, UN and ADPC. This 'Guidance' has been developed through a series of consultations with a range of agencies. The draft outline of the Guidance was developed in consultation with the Education Thematic Working Group chaired by UNICEF and Save the Children and finalized through a

wider consultation workshop. This Guidance was discussed and reviewed at different stages of its development by a technical group comprising Ministry of Social Welfare, Relief and Resettlement and Ministry of Education, , ASEAN, UNICEF, UNDP, UNESCO, Save the Children, Recovery Coordination Centre (RCC)/Delta Coordination Unit (DCU), Myanmar Red Cross Society (MRCS) and ADPC. The RCC/DCU, Co-chairs of Education Working Group and Co-chair of DRR Working Group discussed the draft Guidance with the respective members of working group and provided comments for improvement.

The scope of the Guidance is primarily the education in rural settings in Myanmar, but it covers some of the issues which have pan Myanmar implication and relevance. Considering the importance, complexity and vastness of the subject, similar type of initiatives on urban school and education system and other issues needs to be taken up in future.

The '*Guidance on Mainstreaming Disaster Risk Reduction into Education Sector, Myanmar – Rural Settings,*' has four sections namely Introduction to this Guidance, Rationale for Mainstreaming DRR in the Education Sector, How to Mainstream Disaster Risk Reduction in Reconstruction Process of Education Sector in Myanmar and Creating an Enabling Environment for Safer Education. The Guidance also includes good practices of various agencies involved in Cyclone Nargis education sector recovery as example. It also acknowledges and provides reference to a number of technical documents developed by different agencies on education and school recovery such as Design Specifications of School Buildings of the Ministry of Education, Guidance Notes on Safer School Construction, Manual for Child Friendly Schools.

This Guidance is made possible by collective effort, valued inputs and collaborative spirit of all related agencies. It will enhance the overall understanding among DRR and education sector related agencies in particular on mainstreaming DRR in the education sector and to promote culture of safety and risk reduction.

Acronyms and Abbreviations

AFXB	International Association of Francis Xavier Bagnoud
ASEAN	Association of Southeast Asian Nations
ASEAN-ERAT	ASEAN Emergency Rapid Assessment Team
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CFS	Child-Friendly School
CRC	Convention on the Rights of the Child
DALA	Damage and Loss Assessment
DCU	Delta Coordination Unit
DPRE	Disaster Preparedness and Response Education Working Group
DRR	Disaster Risk Reduction
EC	European Commission
EFA	Education for All
ETWG	Education Thematic Working Group
FRC	French Red Cross
GFDRR	Global Facility for Disaster Reduction and Recovery
HFA	Hyogo Framework for Action
IASC	Inter-Agency Standing Committee
IEC	Information, education and communication (materials)
INEE	Inter- Agency Network for Education in Emergencies
IFRC	International Federation of Red Cross and Red Crescent Societies
INGO	International Non-government Organization
MAPDRR	Myanmar Action Plan on Disaster Risk Reduction
MDG	Millennium Development Goals
MERP	Myanmar Education Recovery Programme
MES	Myanmar Engineering Society
MIMU	Myanmar Information Management Unit
MLRC	Myanmar Literacy Resource Center
MoE	Ministry of Education
MRCS	Myanmar Red Cross Society
MSWRR	Ministry of Social Welfare, Relief and Resettlement of Myanmar

NDPCC	Natural Disaster Preparedness Central Committee of Myanmar
NFPE	Non-formal Primary Education
NGO	Non-government Organization
NRC	Norwegian Refugee Council
PONJA	Post-Nargis Joint Assessment
PONREPP	Post-Nargis Recovery and Preparedness Plan
PTA	Parent Teacher Association
SC	Save the Children
SDC	Swiss Development Cooperation
TCG	Tripartite Core Group
TEO	Township Education Officer
ToT	Training of Trainers
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHABITAT	United Nations Human Settlement Programme
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Risk Reduction
UNOCHA	United Nations Office for Coordination of Humanitarian Affairs
USD	United States Dollar

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SECTION: I
Introduction to this Guidance

1.1 Purpose of this Document

The "Guidance on Mainstreaming Disaster Risk Reduction in the Education Sector – *Rural Settings*" highlights the need for mainstreaming disaster risk reduction (DRR) in the education sector in Myanmar and identifies key approaches for mainstreaming based on the good practices, innovative ways, and lessons learned by government, UN agencies, Red Cross, NGOs and other stakeholders involved in the Cyclone Nargis recovery. Lastly, this document presents the key challenges and opportunities in integrating DRR in the education sector in Myanmar.

1.2 Target Users of this Document

- This Guidance is intended for the use of the government, primarily by the Ministry of Education (MoE), which is responsible for developing, implementing, and monitoring the education sector initiatives in Myanmar. It can provide means of incorporating DRR elements in the management of school construction, repair, maintenance and overall administration of school systems.
- Other government agencies such as Ministry of Social Welfare, Relief and Resettlement supporting the disaster risk management activities of education sector in Myanmar may also find this document valuable to support their contribution to the disaster preparedness and recovery work.
- This document is likewise aimed at UN agencies, inter-governmental organizations, NGOs, and development partners.
- Although this "Guidance" is NOT targeted directly at the donors, this can still be used as a reference material in formulating practical and relevant strategies in support of the education sector.

1.3 Scope of this Document

- Based on the Cyclone Nargis recovery initiatives particularly relating to mainstreaming DRR in the recovery of the education sector, this Guidance tackles the structural, pedagogical, and non-structural aspects of the education system, and recommends approaches for mainstreaming DRR in these aspects.
- The structural aspects discussed in this document are LIMITED to RURAL areas only but the non-structural aspects are applicable to both RURAL and URBAN settings.
- This Guidance DOES NOT provide technical specifications for school construction but provide critical factors to be considered in including DRR elements in school construction.
- This document also includes references of existing sector related technical guidelines or documents developed by government and other stakeholders in Myanmar.

1.4 Disaster Risk Reduction Terminology[1]

- ***Disaster***: A disaster is a "serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources".
- ***Risk***: Risk is the product of hazards over which we have no control and vulnerabilities and capacities over which we can exercise very good control.
- ***Disaster Risk***: The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period.

[1] From the prevention website http://www.preventionweb.net/english/professional/terminology/

- ***Vulnerability***: Vulnerability is the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. A school is said to be 'at-risk' or 'vulnerable', when it is exposed to known hazards and is likely to be adversely affected by the impact of those hazards if and when they occur.
- ***Preparedness***: Preparedness is the knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.
- ***Mitigation***: Mitigation refers to the process of the lessening or limiting of the adverse impacts of hazards and related disasters.
- ***Response***: Response is the provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.
- ***Recovery***: Recovery is the restoration and improvement, where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors.
- ***Disaster Risk Reduction***: Disaster risk reduction is 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, wise management of land and the environment, and improved preparedness for adverse events.
- ***Retrofitting***: Retrofitting is the reinforcement or upgrading of existing structures to become more resistant and resilient to the damaging effects of hazards.
- ***Mainstreaming***: Mainstreaming in the context of disaster risk reduction is a strategy that refers to the practice of integrating risk reduction concepts and understandings in various subject matters ranging from development to education to agriculture with the hope of instilling a culture of safety in the society. Mainstreaming involves ensuring that disaster risk reduction perspectives are central to all activities - policy development, research, advocacy, legislation, resource allocation and planning, implementation and monitoring of programmes and projects.

SECTION II
Rationale for Mainstreaming Disaster Risk Reduction in the Education Sector

2.1 Impacts of Disasters on Education Sector

In addition to providing venues for educational purposes, the school buildings often serve as community meeting points and in case of emergencies as temporary sleters. Their locations are well known within the community and are usually spacious enough to accommodate families taking refuge from their damaged homes. When these school buildings are damaged by natural disasters, it affects not only the students disrupting their studies and undercutting the quality of education but also affects the entire community. Unsafe school buildings are also hazardous on their own, threatening the lives of students, teachers and education officers.

In addition, the loss of the lives of teachers in a disaster event has tremendous impacts on the society. Deaths of qualified teachers deprive the national education system of highly trained professionals and the students are deprived of mentors. The experience of losing friends, family members or teachers who bear influence in their lives, can leave the students and adults alike traumatized.

Asia and Pacific regional scale, following facts and figures indicate the impact of disasters on education sector[2].

Interruption to the education system caused by natural disasters affect numerous students worldwide. Annually, flooding alone has displaced more than half million children from school for extended periods of time all over the world[3]. In the lower Mekong basin countries of Cambodia, Lao PDR and Vietnam, the yearly flooding season coincides with the school period and the commute between the school and the home become a perilous affair. When the floods become severe, schooling has to stop completely.

In the event that the school is spared from any serious damage, its use as a temporary shelter has bearing on regular classes being interrupted. In the midst of the school term, the educational activities of students could be disrupted.

In the immediate post-disaster situation, the children along with their families and the community further face threat of diseases brought about by shortage of food, clean drinking water and proper healthcare and sanitation facilities.

In the Cyclone Nargis experience, the education of school children was impacted. As the affected families, especially the poor, struggle to restore their living conditions and livelihood, school age youngsters are obliged to help out the family to earn additional income and drop out of schools. Under the circumstances, mainstreaming of DRR in the formal education sector will not suffice and non-formal education system needs to be looked into as well.

- More than 7,000 children were killed in their schools during 2008 Sichaun China earthquake and an estimated 7,000 classrooms were destroyed.
- The 2007 Sidr cyclone in Bangladesh destroyed 496 school buildings and damaged 2,110 more.

[2] Guidance Notes on Safer School Construction. Inter- Agency Network for Education in Emergencies (INEE) and the Global Facility for Disaster Reduction and Recovery (GFDRR) at the World Bank.

[3] Power point presentation on "Disaster Risk Reduction as a contribution to Inclusive Education", presented by UNISDR at the Workshop on "Inclusive Education: Public Policies", 48th International Conference on Education (ICE), November 2008, International Conference Centre, Geneva, Switzerland

- The Super Typhoon Durian in the Philippines caused 20m USD damage to school, including 90-100% of school buildings in three cities and 50-60% of school buildings in two other cities.
- The 2005 Kashmir earthquake in Pakistan killed at least 17,000 students in schools. It also seriously injured another 50,000, leaving many disabled and over 300,000 children affected and close to 900 teachers perished. The high student casualty was caused mainly by the collapse of over 10,000 school buildings; in some districts 80% of schools were destroyed.

2.2 Natural Disasters in Myanmar

Fringed by Bay of Bengal in the west and Andaman Sea in the south, 2400 km long coast line of Myanmar in the south and west[4] are occasionally visited by cyclones. Major disasters that occurred in the past decade are:

- 2003 Taungdwingyi earthquake which recorded 7 lives loss and severe damage to rural houses in Taunggwingyi,
- 2004 Indian Ocean Tsunami with 61 lives loss in the Ayeyarwaddy division,
- 2006 Cyclone Mala with 37 lives loss and damage cost 428.56 million kyats (approximately 430,000 USD), and
- 2008 Cyclone Nargis with 84,537 lives loss and 53,486 persons missing.
- 2010 Cyclone Giri led to loss of 45 lives and affected 200,000 people

According to the 1947-2008 data, 35 cyclones have made landfall on Myanmar coast with the highest concentration of landfall made at Sittwe (20.8%) followed by Maundaw (9.6%); both situated along the western coat of Rakhine, south (3.2%) at Ayeyarwaddy Delta. Cyclone Nargis[5] is by far the most devastating natural disasters the country has experienced affecting over millions of people in Ayeyarwady and Yangon Divisions and damage approximately costing 4.1 billion USD.

The arid and semi-arid zones situated in the central plains of Myanmar spread over Mandalay, Magwe and Sagaing Divisions, are surrounded by mountains on three sides but opened towards the south. The region is susceptible to agricultural drought. Country-wise, Myanmar can be called earthquake prone as it lies on one of the two main earthquake belts of the world, known as Alpide Belt.

Nevertheless, fire is the most frequent hazards people in community face accounting for annual losses of 1 billion kyats (approximately 1 million USD). Between 2000 and 2007, 6,915 cases were recorded with 64% taking place in Yangon, Mandalay and Sagaing divisions.

Flooding in the country is second only to fire. It is estimated that over 2 million people in the country are exposed to flood hazard every year. Rural areas usually suffer from riverine floods due to intense rain in the upper catchment areas and urban areas face localized floods due to a combination of factors (cloudburst, poorly built infrastructure, vulnerable locations, etc.). Landslides and flash floods normally occur in the mountainous areas and sometimes landslides are triggered by floods and earthquake but they are not frequent.

[4] The west Rakhine coast faces more frequent cyclone and tropical depression than the southern coast line.

[5] Although both cyclone Mala and Nargis have 150 mph maximum wind speed at landfall, Cyclone Mala hit Gwa where human settlements are comparatively less dense with maximum surge height of 4.57 m whereas Cyclone Nargis made landfall in densely populated Ayeyarwaddy Delta with 7.02 m storm surge.

2.2.1 Impacts of Cyclone Nargis on the Education Sector in Myanmar

When Cyclone Nargis struck Myanmar in May 2008, it brought about large scale loss of life and destruction of properties, livelihoods, and infrastructures. Notable among infrastructures damaged were schools. The Post-Nargis Joint Assessment (PONJA) report put the estimate of damaged or destroyed schools, including monastic schools, to about 50 to 60 percent; while the Village Tract Assessment (VTA) shows 63 percent in the 30 most severely affected townships. The number of schools damaged is said to be 3,600-4,500. Of this number, 57% is said to have unusable latrines. For private education, about 242 Early Childhood Care centers were either partially or totally damaged. University buildings, about 378 of them, and higher education administrative offices suffered toppled roofs. According to UNICEF, Cyclone Nargis has disrupted the education of about 500,000 children.

A young school boy walking along the verandah of a damaged school in Thuwana, Yangon.

Total damages and losses incurred in the education sector are calculated at US$ 118,094.42. Of this amount, US$1,038.58 is estimated as losses. The losses include costs in providing interim public school facilities during reconstruction, compensation to families for teacher deaths, professional training for staff replacements, and provision of psycho-social counseling in affected areas. Information on damages of school buildings, including furniture and educational materials and damages to the public general education sector are given in Annex 1.

People affected by the Cyclone Nargis find shelter inside a primary school in North Okkalapa Township on the outskirts of Yangon. (AFP/Hla Hla Tay)

The PONJA report also conveys that the use of schools as emergency shelters strained limited educational resources, but since the schools were able to re-open within a month of Nargis incident[6], the disruption was limited. Besides, the fact that in certain areas, the possibility of the school buildings to accommodate cyclone affected families proved the sturdiness and multi-purpose functions of schools in the country. Cyclone Nargis has not only destroyed school buildings and facilities, thereby affecting resources for the sector, but also resulted in the death of 113 teachers and school personnel. The PONJA also reports 250 teachers have been absent from their post due to the cyclone. An equally significant impact of Cyclone Nargis to the education sector is the psychological trauma suffered by children.

[6] The schools re-opened during the last week of June 2008, just 3 weeks after the regular school season.

2.3 Vulnerabilities of the Education Sector

In the context of Myanmar, a number of significant points can be identified as key contributing factors in making the education sector vulnerable to any natural disaster in both structural and non-structural aspects. They are discussed below.

2.3.1 Structure Design Standards and Specifications

According to PONJA, most of the schools partially or totally damaged during Cyclone Nargis were built without the enforcement of proper construction standards. At the national level, the Ministry of Education has its own design standards and specifications for school construction process[7]. The normal practice is for the Ministry of Education[8] to sub-contract a private construction firm to do the job. During the construction process, inspections are carried out occasionally due to the limited financial and human resources. For complete assurance of the adoption of the design standards, it would definitely be more effective if frequent visits can be arranged.

2.3.2 Maintenance of School Buildings

Another factor cited as the reason for damages caused to school buildings is the inadequate maintenance of the built structures. Many school buildings in Myanmar are long-standing infrastructure that calls for regular maintenance. The responsibility of maintenance functions falls on the authority of the respective school. Although there already exists an established procedure[9] for maintenance of school buildings, administered by the Ministry of Education in Myanmar that takes place annually, with the limited budget, it is hard to spare money to fulfill regular maintenance needs for every school.

2.3.3 Structural Soundness of School Buildings

Rural schools in Myanmar are built mainly using such construction materials as wood and bricks, and in some areas, bamboo and thatch. They are built with the key purpose of providing a learning space and their endurance to natural hazards is limited. Structurally, sturdier construction materials like bricks and woods would make a school relatively strong but whether it will be able to natural disasters would also depend on the construction methods.

2.3.4 Application of Hazard Resilient Features

As discussed previously, many rural schools, single or multi-storied, are constructed with the aim of accommodating teaching and learning activities and adoption of hazard resilient features during their construction is normally not extensive. With suitable strengthening techniques to the wall and the roof, these structures can be made more durable.

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[7] Under the Departments of Basic Education (1), (2) and (3), there are engineering units within each that oversee the construction of schools in the area of their responsibility. Building codes and designs for schools are also prepared and enforced by the respective unit.

[8] Before a new school is constructed, 'school construction management committee' is formed at the township level with Township Education Officer (TEO) as chair and members are made up of representatives from Township Peace and Development Council, Township Department of Public Works, Parents Teachers Association (PTA) and headmaster as well as any skilled personnel (construction) from the community. At the school level, another committee exists under the supervision of the township committee to oversee the actual construction.

[9] Annually, around February and March, each individual school reports to the MoE the repairs and maintenance works required at their schools. The written reports need to be accompanied by photographs as proofs of damages. They are then prioritized based on the extent of damage and for final approval of funding, endorsement from township engineer (from township Department of Public Works) is also required.

2.3.5 Assessment of Risks

Location of schools can exacerbate their vulnerability if no assessment is undertaken before the construction or repair work commences to identify local hazard risks. In case of Myanmar, it is found that most of the school buildings are located on prime sites, meaning close to city/town/village center with a walking distance from other public facilities. The structure of the school buildings can be strengthened with suitable measures based on the outcomes of the site assessment studies.

2.3.6 Disaster Preparedness at School Level

The Ministry of Education (MoE), in collaboration with UNICEF and UNESCO, has been actively working on raising the awareness of education authorities, teachers and students on disaster risk reduction through various means: trainings and workshops for teachers and education officers, integration of disaster risk reduction concepts in school curriculum, encouraging the development of sector-wise as well as school level disaster preparedness plans. Information materials in the form of booklets, posters, etc., have been developed and distributed widely across the country. Notwithstanding accounts on improved understanding on the subject there still remain concerns about not having adequate preparedness at the school level for emergency situations. After Nargis, MoE issues standing orders asking all schools under the Ministry to prepare school preparedness plan. However, these plans need to be put into practice and tested through mock drills for further improvement.

Box-1

Why mainstream disaster risk reduction into education sector?

- It is a cost effective measure to reduce long term impact of disasters. Each USD invested in resilience and prevention, around USD 4 are saved in response.
- It helps prepare each new generation through institutionalization of disaster preparedness in the formal learning process.
- It ensures the safety of children who are among the most vulnerable groups and also the future of the society.
- It has far reaching impact of raising the awareness of the community as the educated children share their knowledge with the parents at home and also with their children when they become parents.
- It promotes construction of safer school buildings and encourages pro-active preparedness initiatives. The result is that it protects the lives of students, teachers and school officials and also those who take refuge at schools as the buildings are often turned into safe shelter during disasters.

Sources: (1) Let Our Children Teach Us (2006), UNISDR. (2) The Case for Business to Undertake Disaster Risk Reduction Activities; Executive Summary (2007) Dalberg Global Development Advisor. (3) Manual on School Safety for Myanmar (2009), UNDP and ADPC.

2.4 Challenges in Mainstreaming Disaster Risk Reduction into Education Sector

2.4.1 Teaching of Disaster Risk Reduction and Related Information

Under the leadership of the Ministry of Education (MoE), DRR components have been integrated into current school curriculum in the life skills and science subjects. Nevertheless, in an education system like Myanmar, the emphasis has been more on completing the formal syllabus than attention given to extra-curricular activities or non-academic related subjects. Thus, learning priority is usually given to topics that are considered more relevant for the exams than disasters and related information. However, understanding the subject could make the children more concern about their surroundings and imbue a sense of responsibility

to protect it. By skipping the issues, the society misses out on nurturing children to become effective, vibrant and active change agents.

2.4.2 Role of Children in DRR

In general view, children belong to one of the most vulnerable groups in the society, passive dependent of the capable adults. It would be an oversight to assume so and it can obscure the actual role the children could play as the active disaster risk reduction practitioners, particularly in disseminating the disaster awareness information they learn in the classroom to their family and friends. Mainstreaming efforts, hence, need to highlight the invaluable contribution the children can provide and should look into creating opportunities for them to obtain prominent roles in community based disaster risk management programs.

2.4.3 Shortage of Qualified Suppliers and Builders

Even with support from the MoE and the international agencies, implementation of codes and specifications at the ground level will be a big challenge. This is due to two main reasons; (1) the builders: carpenters, masons and artisans, may not be familiar with the more multi-hazard construction techniques and (2) the suppliers might not have the essential materials. This proves the capacity building on disaster risk reduction needs to be extended to construction workers and also to people working in the support industry.

2.4.4 Intangible Results

In evaluating the mainstreaming efforts, the biggest challenge is to prove the results: the behavior and attitude change of the students, teachers, education officials and the community. The proof needs investment of considerable amount of time and gaining financial and policy support sometimes can be difficult as the results are not tangible. The implementing agency should bring out this issue on the outset to sensitize all stakeholders involved to avoid raising misguided expectations.

2.5 Opportunities for Ensuring Safer Education

The key opportunities highlighted under this section reflect the situations after cyclone Nargis.

2.5.1 Political Will and Support from the Government

Ministry of Education of Myanmar, has taken up mainstreaming initiatives since mid 2000, high level of support and political will expressed by the Government of Myanmar after Nargis create greater opportunities for expanding the activities. The partner agencies in both government and non-government sectors, hence, are able to build on what has already been done. It is based on PONJA findings, and the Myanmar Action Plan on Disaster Risk Reduction (MAPDRR)[10] both identified Education Sector as one of the priority sectors. They underline mainstreaming measures that reflect the political intent to improve current practices on school construction towards making them disaster-resilient and to increase awareness and capacities among its populace.

2.5.2 Recognition of Linking Disaster Impacts to Development

The invaluable experiences from Nargis recovery has driven the government to take decisive actions towards integrating disaster risk reduction in the recovery of key sectors, among them, education, in order to restore development gains, expand them, and eventually

[10] MAPDRR looks into future disaster risk reduction needs and translate them into activities which align with the Hyogo Framework for Action (HFA) and the ASEAN Agreement on Disaster Management and Emergency Response (AADMER).

secure those gains. A key objective of the Government's Programme for Reconstruction of Cyclone Nargis Affected Areas and Implementation Plans for Preparedness and Protection from Future Disasters cites 'preparedness and protection from future natural disasters'. This reflects government's recognition of the impacts of disasters to the development of Myanmar. Combined that with the pre-Nargis undertakings of the Ministry of Education, more effective and development-oriented programs can be developed for the education sector.

2.5.3 Increased Awareness

The foundation laid by the Ministry of Education and its partners since mid 2000s has been instrumental in post-Nargis period to promote greater awareness on the vulnerabilities of children and the need to safeguard their lives and well-being through provisions of DRR learning kits, textbooks, games, etc. and the development and conduct of school safety plans and activities. Such awareness raising activities has been coupled with resource mobilization to reconstruct schools in safer ways. Consequentially, Nargis recovery initiatives further emphasize the disaster safety and the child-friendly principles.

2.5.4 Improved Collaboration among Agencies

The existence of such platforms as Education Cluster[11], and Disaster Preparedness and Response Education (DPRE)[12] Working Group provide settings for all agencies, including MoE, working in education, development and disaster risk reduction sectors to come together and formulate collaborative programs. Particularly after Nargis, fruitful and mutually beneficial partnerships have been fostered among the member agencies (both international and local). Information sharing, as a result, has been improved tremendously and at the same time, collective capacity has been enhanced through reciprocal learning.

2.5.5 Availability of Technical and Financial Resources

Matching the increasing political momentum is the long term commitment made by regional and international players that are implementing DRR mainstreaming programs in Myanmar. Together with the national agencies, they have combined their technical and financial resources and their efforts have gained ground and provide a tremendous opportunity to carry out DRR in the broader realm of national development work.

[11] Education Cluster Working Group was established to undertake PONREPP implementation in education sector and would merge with the Education Thematic Working Group (ETWG) at the end of PONREPP.

[12] More information on Education Sector Recovery Program is given in Annex 4.

SECTION III
How to Mainstream Disaster Risk Reduction in the Education Sector

It is worth noting that among the most vulnerable population identified by the Post-Nargis Periodic Review-I, are "children living in sub-standard accommodation (defined primarily as overcrowding), and "school-age children not attending school"[13]. This highlights the importance of access to formal education as well as strengthening non-formal education. The repair and construction of safe schools and the development and integration of DRR in the curriculum significantly contribute to the long-term Development Plan of the country which emphasizes access to basic education and improvement of quality of education at all levels. The access to formal, non-formal and informal[14] education where DRR is a vital element would pave the way to increased awareness, reduced vulnerability, and overall, the creation of safer environment for children and communities in Myanmar.

Box -2

What is Disaster Risk Reduction in the Education?

Protect educational assets–school children, infrastructures, educational material and knowledge

- School safety and resilience enhancement, including retrofitting
- Libraries, Field Libraries, community learning centres, mobile knowledge resource centres(truck/boat)
- Databases to document lessons learnt and successful cases

Raise awareness and build knowledge about disaster situations, empower communities to take well-informed decisions to reduce their vulnerability to disaster and build a culture of prevention

- Integration of Disaster Risk Reduction into school curricula
- Identification and dissemination of good practices, exchange of experiences
- Training of teachers and community leaders
- Conducting mock drills, awareness-raising campaigns, commemorating Disaster Reduction Days /Weeks
- Informal educational activities(Games, comics, TV programmes, family activities, media, youth groups)
- Build on traditional knowledge for disaster risk reduction

Source: Power point presentation "Disaster Risk Reduction as a contribution to Inclusive Education" by UNISDR

Structural Aspect

Regardless of whether the new schools are being constructed or the existing ones are retrofitted/ repaired, the priority is the usage of multi-hazard resilient school designs. In the past year, as part of the Nargis recovery in Myanmar, the construction of schools undertaken by the Ministry of Education and members of the Education Thematic Working Group (ETWG) has focused on cyclone-resistant designs. Much can be learned from these in order to move towards deriving key considerations for multi-hazard school design that shall serve as a guide for those involved in the construction of schools in the country.

The structural soundness of school proves a crucial factor in protecting the lives of all those who make use of the building since the teachers, the students and staffs spend a good part of their days in school. However, it is imperative to note that not one design will fit all the

[13] Post Nargis Periodic Review I, 2008,page 46.

[14] Formal education refers to the learning and teaching process for registered students within an official school system whereas non-formal education offers learning opportunities for students who do not or cannot attend schools by strictly following the official syllabus to enable its learners to eventually join the formal school system. Informal education, on the other hand, is simply a form of gathering knowledge from any sources outside the school: from family members, from radio, etc., without following any standardized system or syllabus.

requirements and thorough assessments have to be carried out to ensure the social, physical and gender needs[15] of the students, the teachers and the community are met.

Box -3

Why do we need to build safer schools?

In addition to saving lives, sustaining economies and minimizing harm to students, teachers and school personnel, safer school construction is urgent because:

- Safer schools can minimize the disruption of education activities and thus provide space for children's learning and healthy development.
- Safer schools can be centers for community activities and constitute social infrastructure that is critical in the fight against poverty, illiteracy and a disease free world.
- Safer schools can be community centers to coordinate response and recovery efforts in the aftermath of a disaster.
- Safer schools can serve as emergency shelters to protect not just the school population but the community a school serves.

Source: Guidance Notes on Safer School Construction, (2009), INEE and GFDRR.

3.1 Preliminary Assessment of the School Construction Site

The most important point to be considered in new school construction is to carry out an appraisal of the school site ahead of the actual construction process**.** A single competent organization or a consortium of several organizations or a designated group of people representing various agencies should be tasked with carrying out the appraisal. This is to avoid confusion by having a single source and to ensure the process is managed smoothly. Seeking the involvement of school authority and community representatives, particularly selected local builders for whom the assessment will offer a capacity building opportunity, could further guarantee any functional requirements of the school will be effectively considered in the appraisal and the resulting construction plans.

- Key considerations to be taken in conducting the appraisal are provided below. ***Geological and hydro-meteorological hazard maps*** need to be referred to determine the site specific hazards, the sources, hazard characteristics, associated risks and vulnerabilities. In Myanmar, since detailed hazard and vulnerability mapping is still in its development stage, the information available might not be comprehensive. Still, the Department of Hydrology and Meteorology and non-government agencies such as Myanmar Engineering Society (MES) and Myanmar Geosciences Society (MGS) have basic hazard maps on floods, cyclones and earthquake. Myanmar Information Management Unit (MIMU) also generates detailed maps of Nargis affected areas in the Delta and are in the process of preparing maps that cover the entire country.
- Another good sources of information that can shed light on *frequent hazards and disaster experiences in the past at the school site* is the historical record at national and sub-national levels and most importantly to tap into the community knowledge of their own neighborhood.

[15] Social needs – using schools as a meeting place for the community for celebratory events and as safe shelter after disasters, etc. Physical needs – having ramps, strong additional railings along verandah, etc. Gender needs – separate sanitation facilities and recreation areas for boys and girls, etc.

- The ***topographical characteristics*** of the site also has to be considered; if mountainous, to check slope stability and soil characteristics, if along any running water body, to investigate the watershed areas.
- ***Other considerations*** are:
  - ✓ Accessibility – the school should be easily accessible for all mode of transportation. In rural areas, school should be within walking distance for all children; maximum distance between children's houses and school should be equivalent to a 45-minute walk.
  - ✓ Availability of and connectivity to water and power supplies, sanitation and waste management services, and adequate drainage.
  - ✓ Proximity of structures in surrounding areas that may serve as shelter in emergencies.
  - ✓ Distance (i.e. away) from sources of pollution and toxic or hazardous materials.

In Cyclone Nargis recovery, Township planning process, drawing from village level consultations, was a fundamental element of the PONREPP's Education Sector Recovery Program. This planning process led by the Township education authorities with assistance from the international community "ascertained the best location and configuration of the school infrastructure given the opportunity to re-site some destroyed schools"[16]. The guide questions and sub-questions to be considered for site vulnerability are at Box-4.

Box -4

Site vulnerability considerations

Site vulnerability questions	Sample sub-questions
What site characteristics make a site more or less vulnerable?	• Is the sub-soil sufficiently dense to prevent liquefaction due to an earthquake? • Is the water table deep enough to prevent water-logging and ensure timely drainage? • Do natural wind blockades exist to diminish wind loads on school buildings? • Has the slope been stripped of vegetation by logging or farming, thus making it more susceptible to a mudslide?
Would the site and surrounding area expose the school to secondary hazards?	• Are there any industrial facilities or chemical plants which might accidentally release toxic materials during a flood? • Are there nearby vulnerable structures which might fall and potentially damage a school in the event of an earthquake? • Has the site experienced storm surge flooding during coastal wind events?
Is the site easily accessible?	• Can effective and safe evacuation routes be established for the entire school population, including those with special needs? • Can emergency response personnel access the school during or after a hazard event? • If a school or school building is to serve as a shelter or safe haven can the population access it?
What will be the effects of future development at the site and in surrounding areas?	• Is there sufficient space for future expansion without increasing the school's vulnerability? • Will future land use or development in surrounding area

[16] Post Nargis Recovery and Preparedness Plan (PONREPP), Tripartite Core Group (TCG), 2008.

	pose greater risks to the school?
Source: Guidance Notes on Safer School Construction, (2009) INEE and GFDRR.	

3.2 Mainstreaming Disaster Risk Reduction in the Repair of Schools

To undertake the repair of schools after a disaster or in carrying out regular repairs and maintenance works, the process should contain structural assessment of the building to determine retrofitting needs. The assessment is undertaken to determine the level of risk and the reliability of the structure to withstand forces of nature. If the structures are found to be unsound, complete reconstruction of school building and facilities should prevail over repair. A sample form for school impact assessment fro floods is at Box-5.

A temporary school in Ayeyarwaddy Delta before repair works after Nargis

Measures such as renovation/ retrofitting incur financial social implication; but in the long run it reduces the vulnerability and risk factor. Here, the partaking of the school authority in the assessment team is vital as this will create school-based expertise for future maintenance functions.

Box - 5

A Sample School Impact Assessment Form for Floods

School name:……
Commune:……District:… ……Province:……
School telephone number…….. Fax:……

1. General information:

1.1. Teachers information

Total	Male	Female	No. of persons trained on flood hazards		No. of persons who need support	
			Male	Female	Cannot swim	others

1.2. Students information

Grade	Male	Female	No. of persons trained on flood hazards		No. of persons who need support	
			Male	Female	Cannot swim	others
1st grade						
2nd grade						

……..						

1.3. Status of school facilities:

1. Is your school flooded during flood season in last year?.....
2. If yes, how high was the water level?.....
3. Was there any students of your school drown during last flood season?.....
4. How far is the school from the main road?.....
5. Is the school near the river or canal?.....
6. If yes, is it dangerous? Any safety signal installed?.....
7. During the flood season, how do students go to school?.....
8. Did your school organize any boat to transport children to school?.....

Please circle the following words that reflect your school's status.

8	The walls of the school are made of	concrete	wood	soil	thatch	
9	The roof of the school is	tiled	thatch	corrugated iron		
10	The floor of the school is	tiled	cement	Soil		
11	The school is	new	old	strong	weak	nearly collapsed

2. Strength and weakness:

No.	**Items**	**Answer**		**Remark**
19	How is communication system in your school?	Good	Not good	
	Is your school equipped life-vest, floating things?	Yes	No	
	Does your school have school map for emergency?	Yes	No	
	Does your school have any transportation means? What are they? (write in remark column)	Yes	No	
	What is the status of transportation means?	Good	Not good	

3. Flood risks and vulnerabilities:

3.1. General information on impacts of flood in previous year

3.2. Forecasting strength of flood in the year

3.3. Items may be affected by flood

No	Items	Unit	Quantity	Remark

3.4. Identify who are vulnerable? Why

No	Name	What are risks?	Why?	Remark

4. Recommendation:

No	Items	Activities	Expectation	Responsibilities	Cooperation	….
	Structural measures					
	Non-structural measures					
	……					

Source: School Flood Safety Manual (2007) Asian Disaster Preparedness Center (ADPC).

3.3 Mainstreaming Disaster Risk Reduction in the Designs of the Schools

After assessment of the hazards, risks and vulnerabilities of a particular location/ site, appropriate mitigation measures should be identified for actual implementation. It is

important to consider the implications on logistic matters just to bring caution on related expenses[17]. Regardless of whether the school is to be newly constructed, whether it needs repair and retrofitting, following matters need to be incorporated into the design to make it more disaster resilient.

3.3.1 Incorporation of multi-hazard resilient features in school design

Safer school construction calls for incorporating multi-hazard resistant features. During the Cyclone Nargis recovery, MoE as well as the NGOs has increasingly adopted these features in their construction activities. Depending on the location, the disasters the school is likely to experience may differ but key factors to be considered will be the same such as having strong foundation, sturdier roofs and walls, though may be with slight variation. Specific points to be considered are:

- Extra bracings and cross bracings (diagonal) for walls and roofs
- Rigid horizontal and vertical enforcement at the levels of plinth, lintel and top of the wall.
- In multi-storied buildings to design the staircases to withstand the wind and earthquake loads and to have the vertical frames connected to the foundation to transfer the load directly to the ground.
- All structural elements: floors, walls and roofs, are securely connected together. Additional bolts or brackets at the joints are recommended to make the buildings stronger.
- Stronger foundation, cement foundations if possible
- Elevated plinth level[18] particularly in flood and storm prone areas
- Extra reinforcement around openings (windows and doors) to prevent them from buckling and forming cracks. In storm-prone areas, just adding reinforced hinges and latches would help resist the wind loads.

Ideally, multi-hazard resilient features should be part of the building codes and specifications applied in school construction or repair, officially accepted and mandated by the national authorities. In case such codes are non-existent, the involved parties need to develop a suitable set of codes to be approved by the Ministry of Education. The Cyclone Nargis school sector recovery saw many organizations employing the school building standards established by UNICEF (who adapted it from INEE minimum standards) with varying forms of alterations on the ground.

Detailed specifications of school building designs by MoE are given in Annex 2.

3.3.2 Use of local resources

It is important that hazard-resistant designs explore and to the extent possible, make use of local technologies and materials that are environment friendly and involvement of local artisans to boost the local economy. Construction of schools must use local skills in order to build capacities and sustain gains for the education sector in Myanmar. There is no specific evidence indicating the usage of local materials during school reconstruction in Nargis recovery but a more thorough study on the advantages of using local resources can be undertaken to encourage this practice in the future.

[17] All school construction projects have to go through scrutiny of MOE and require MOE's permission.

[18] Elevated plinth level varies from 3', 6' or 8' depending on the location of the schools – coastal, mid-land or in-land in the Delta area.

3.3.3 Inclusion of emergency shelter features:

In addition to multi-hazard elements, it is important to include in the design specifications the features for enabling the schools to be used as emergency shelters. When planning such a service, it is essential to consider how school operations will continue when longer term community shelter is needed. Minimum disruption of student learning has to be top priority, if not totally avoided.

One required precaution is to find out the anticipated number of families or people who might use the school for such purpose. Assessments undertaken in the beginning of the construction process should include this point with the involvement of the community leaders. In the Nargis recovery, 17 cyclone shelters out of 28[19] constructed by the Government of Myanmar are school cum shelter and MoE has already equipped them with school furniture. The said structures incorporate the requirements for school functions and shelter facilities with multi-hazard resilient designs. They are elevated to a height based on the highest water level during Nargis and as windbreaks, trees are planted around the building at a safe distance. Water storage and sanitation facilities are also installed and hillocks constructed right next to the building provide safe place for livestock.

3.3.4 Adoption of child-friendly school model[20]:

To ensure the development of students mentally, physically and intellectually, child friendly school features such as spacious and brightly painted classrooms, clean floors and colourful displays on the walls, usage of child-appropriate furniture, having activity centers or learning corners and adequate water and sanitation facilities[21]. As pointed out in the Manual for Child Friendly School (CFS) "child-friendly schools can be seen as a dynamic model that can bring about change not only in schools and education systems, but also in homes, communities and societies". By introducing a more conducive learning environment, repetition and drop-out rates can be reduced with teachers playing the role of facilitators for learning. (A note on Child-friendly Schools in the Cyclone affected areas of Myanmar is at Box-6.)

3.3.5 Considering the environmental impact:

School reconstructed by MoE with rain water storage features

While the utilization of local resources for school construction is encouraged, it needs to make sure that the local forests and other mineral resources do not get exploited to a point of environmental chaos. At the same time, energy efficient designs of the building need to be looked into such as placement of windows to let in maximum amount of light to reduce electricity consumption. Approaches such as installation of rain water harvesting equipment, provision of proper sanitation facilities and planting trees in the perimeter of the school should be promoted. In areas where cyclones and strong winds are common features, trees can serve as wave and wind breakers but they need to be planted at a safe distance from the school so that in case they

[19] The cyclone cum school shelters can accommodate between 300-500 persons.

[20] Manual for Child Friendly Schools.

[21] Provision of nutritious meals and recreation kits are part of the model.

fall, will not do harm to the building. Besides, these approaches also support climate change adaptation practices and strive for more sustainable construction methods[22].

Box - 6

Child-friendly Schools in the Cyclone Affected Areas of Myanmar

The Child Friendly School (CFS) elements include provision of adequate toilets, safe drinking water, play areas, and clean and safe environment inside school compound, and ventilation/light and space in classrooms.

Following the devastating Cyclone Nargis in May 2008, in Sinku Village, Dedaye Township of Ayeyarwady Delta region in Myanmar, in order to allow children to continue their studies while the parents rebuilt the village, UNICEF[23] provided a temporary safe-learning space and school materials for all students. While learning conditions were not ideal, the sense of structure and the interaction with other children helped students regain some sense of normalcy.

Kungyangone reinforced concrete model school

Scale model of a light weight school

Immediately afterwards, in collaboration with the Ministry of Education, UNICEF has rebuilt the Sinku Primary School (based on the light weight model) as a child-friendly model, featuring well-lit and ventilated classrooms, a teachers' office, a library, water and sanitation facilities, access ramps for students with disabilities, and a large playground. The school was built to resist earthquakes up to 5.0 on the Richter scale and to withstand strong winds. And to prevent flooding, the building was raised above the highest surge level in the area.

In addition to teaching and study materials, UNICEF provided all of the school's furniture and playground equipment. MoE conducted training for teachers, school authorities and local residents to improve the quality of education and ensure proper school management and community involvement.

"The change in the children is already immense," observed the principal, Daw Hlar Hlar Nwe. "The children are motivated; they participate, are active and seem so happy." "In the old school, all four grades were taught in one room, which made it really difficult for us to teach and for the children to concentrate because of the noise," she added.

Student numbers have almost doubled, from 72 to 136, since the new school opened its doors in June

[22] The demand for brick buildings in the Nargis recovery has increased the number of brick making kilns in the Ayeyarwaddy Delta, which is an environmental concerns expressed by alarmed parties.

[23] UNICEF employs competitive bidding processes to select the most economical and capable construction company to oversee the actual process with rigid quality control Guidances. The selected firms are always oriented on the new and improved school designs and upon implementation, they are encouraged to hire local labourers. UNICEF is also experimenting with soil-cement brick or cement fiber plaster blocks developed by the Asian Institute of Technology. These blocks are energy efficient since they require the transportation of only cement to the construction site, require no fuel wood for firing, and only minimal mortar, which makes it a very easy kind of brick to lay.

2009.
"Parents in nearby villages are sending their children here because they know that the school is safe and good," said U Chit, the village head. "It makes me very proud. We know our children are safe, and we have a shelter in case of another bad storm."

Community support
The local villagers have shown their support from the beginning. Before construction began, they pooled their money to buy a big enough lot to fit all the new facilities. And they know it is their responsibility to keep the school in good condition. "We have agreed to check the school grounds every day and to report any problem to the Parent Teacher Association (PTA)," said the principal. "The PTA will then be in charge of any repairs."

Source: UNICEF.

3.4 Capacity Building on Making School Safer

In general, hazard-resilient construction would need a new set of knowledge and skills for those involved in school construction, from the government to partners, donors, and community members. Capacity building for engineers, carpenters, masons, bar benders, among others is imperative to make sure schools are safe from disasters. At the same time, the basic functionality of the schools needs to be enhanced to ensure child-friendliness, environmental preservation and provision of an inducive environment that induces the willingness of the students to learn.

3.4.1 Capacity building of local builders, carpenters and artisans:

Building the capacity of local construction workers on multi-hazard resistant construction can eventually trigger a trickle-down effect where they ideally would transfer the skills to individual households. Depending on the existing capability of the local builders and the available training resources, the modality applied can vary from learning by doing to large scale training to a combination of two: on-site training. The last method in particular has proved to be most effective on the ground. In previous disasters such as 2004 Indian Ocean Tsunami, Save the Children's Tsunami Rehabilitation and Reconstruction program in Aceh and Nias train local carpenters and artisans. A similar approach was successfully executed by UNICEF and Save the Children for school reconstruction in Cyclone Nargis recovery in Myanmar.

3.4.2 Capacity building of engineers and architects

In Myanmar, engineering institutions cover the study of hazard resistant structural design. But Myanmar Engineering Society (MES) havs been working on such topic for over a decade and its senior members are experienced engineers who can provide mentoring to new breeds of engineers on the same topic.

Moreover, some of the international organizations actively working in Nargis recovery have engaged international specialists to oversee the safer construction projects. In the Guidance Notes on Safer School Construction of INEE, it has clearly stated that if the international experts are to be engaged, pairing local and national engineers with these experts can build local engineering capacity. Training programs designed to educate engineers are most effective when there is a good balance of theoretical and practical learning opportunities.

3.4.3 Capacity building of planners and implementers and community members[24]

Familiarizing education authorities and staff members of NGOs as well as the community on basis DRR features can also help them differentiate between a building with and without special features. The approach may be different for different target audiences: formal trainings with supplementary guideline (see 3.5.1) for education authorities and NGOs and IEC materials or simplified guidelines for the community. This would, encourage local champions who might be able to take the lead of the long-term maintenance works.

3.5 Development of Support Materials for School Construction and Maintenance

In support of the capacity building process is to develop and distribute guidelines and instruction notes covering an array of subjects: construction, retrofitting, supervision of activities, operation and maintenance of safer school buildings with disaster risk reduction mitigation features.

3.5.1 Guideline for Safer School Construction in Rural Areas

Development of a series of guidelines for safer school construction with child-friendly concepts and DRR and environmentally friendly features can further assist in raising the awareness. Separate guidelines might be required for each target group: planners (guidelines with more focus on management aspects), engineers (technical guidelines), local builders (step-by-step guide), community members (simplified IEC materials). Currently in Myanmar, UNICEF is in the process of developing a comprehensive guide book on safer school construction in partnership with other partners such as Save the Children. At the international level, "Guidance Notes on Safer School Construction", by The Inter-Agency Network for Education in Emergencies (INEE) and Global Facility for Disaster Reduction and Recovery, serves as the key reference document for building safer schools.

3.5.2 Development of School Maintenance Plan

To ensure a safe learning environment for all concerned and to maintain the functionality of the school to the full extent of its design life and even beyond, a realistic school maintenance plan need to be prepared for each individual school. The need for this is even more crucial as the limited government budget poses difficulty to cover every school in need of repair in the country. Having a plan at the school level might inspire some donors to fund the activities or the school can raise its own funds within the community for specific needs. The plan will consist of:

- Terms of reference and composition of school maintenance committee, made up of a combination of students, teachers, Township Education Officers (TEO), engineers from Public Works at the township level and community members.
- A ready-to-use form for inspections. Orientation of the maintenance committee to the form should take place immediately after the formation of the committee.
- Schedule for regular inspection by school maintenance committee. If needs identified during the inspections are beyond the capacity of the maintenance team to address or if the building has undergone major changes (such as damage induced by a hazard event), a qualified inspector/engineer should be consulted.
- Schedules for maintenance works such as re-painting, etc., with projected budget.
- Funding strategy. Strategy would mention the source of budget and how it would be accessed.

[24] If private and religious schools are to be addressed, a different approach may be required. One strategy is to establish incentive programs for private school owners that encourage hazard resistant construction and retrofitting.

It needs to be made clear from the onset that the cost of rebuilding a deteriorated school is much greater than the cost of maintaining one. The recurring cost of maintenance will vary on the design and age of the school and the availability of resources required to carry out repairs.

UNICEF and Save the Children developed and prepared specific maintenance manuals for the schools they funded during Nargis recovery. UNICEF manual contains clear instructions on short, medium and long term maintenance that needs to be undertaken jointly by school authorities, teachers and students.

Box -7

Questions that can be Asked to Determine How Safe your School is

- Have all natural hazards posing a threat to schools been identified?
- How often are these risks reassessed?
- Are the school population and the local community aware of the risk(s)?
- Were the school buildings designed to meet building code standards?
- Who designed the schools?
- Did (Does) the building code provide guidance on hazard resilient design?
- Was the soil tested before the school was built?
- Were builders trained to apply hazard-resilient techniques?
- Was the school construction supervised by a qualified engineer?
- Who is responsible for managing the school maintenance program? Are mechanisms in place to ensure school maintenance is financed and executed?
- Do natural hazard events regularly create disruptions in the school calendar? Is there a backup plan to ensure that school operations continue?
- Are school furnishings and equipment designed and installed to minimize potential harm they might cause to school occupants?
- Do students, teachers, staff, and school administrators know what to do before, during and after a hazard event?
- Has a safe location been identified if the school must be evacuated? Is the passage to that location safe?
- Does a disaster management committee exist in the school or the local community?
- During a hazard event, does the school serve as a shelter? Has it been designed to do so?
- Are the school population and local community aware of how they can reduce their vulnerability to the damaging impacts of a hazard event? Are they actively taking measures to do so?

Source: Guidance Notes on Safer School Construction. (2009), INEEE & GFDRR.

Non-Structural Aspect

This aspect focuses on the long term goal of establishing a culture of safety. They require long term commitment and range from broader national level initiatives like integration of disaster risk reduction into school curriculum and raising the awareness of teachers and educators to more specific individual school level disaster preparedness planning.

3.6 Mainstreaming Disaster Risk Reduction in School Curriculum in Basic Education

Children have been identified as one of the most vulnerable groups in general. At the same time, their potential as efficient disaster risk reduction communicators is recognized and attempts in harnessing that capability has been on-going in Myanmar. One of the means emphasized as highly effective is the mainstreaming of disaster risk reduction concepts into formal school curriculum at the primary and secondary levels. Before Nargis event in 2008,

the Ministry of Education has initiated disaster risk reduction mainstreaming in the education sector since early 2000.

3.6.1 Development of disaster risk reduction Curriculum

Following the initial review of the current curriculum, series of workshops could be undertaken to develop the specific DRR contents of identified appropriate subjects and lessons for DRR integration. A new subject, instead of integrating it in current subjects whichever way the ministry decides to approach DRR mainstreaming in education, the development of the DRR contents follows the curriculum format and standards required by the Ministry of Education to facilitate learning and teaching. The DRR curriculum materials for development can include in the modules and teaching aids of Basic Education schools and teachers colleges. In Myanmar, basic curriculum materials on disaster risk reduction have been developed for both formal and non-formal education. It was led by the Ministry of Education, with support from UNICEF and UNESCO and has been included into the school curriculum from Grade (5 to 11).

Three kinds of activities commonly seen throughout the country are:

1. Non-formal education on Community Learning Center (CLC) where occasional trainings and workshops are held. These activities are taken up by NGOs or Government through establishment of community libraries.
2. EXCEL project jointly implemented by MoE, UNICEF, Pyinnya Tazaung, Myanmar Literacy Resource Center (MLRC), Karuna Myanmar (KMSS), KBC and BDA (Border Area Development Association) which focuses on life skill training.
3. Non-formal Primary Education (NFPE) is jointly implemented by the Ministry of Education, Education for All (EFA) Secretariat, UNICEF, Save the Children, Pyinnya Tazaung, NGOs, well-wishers and Myanmar Literacy Resource Center (MLRC). NFPE is usually held at the formal school location, at the end of daily routine school programs. The objective is to achieve equivalency and to help the students to enter the formal school system at the completion of NFPE.

Non-formal education has already initiated DRR mainstreaming activities in their programs, particularly in producing supplementary reading materials (books, posters, reading cards and activities). More detailed information on current mainstreaming achievements of MoE and its partners is provided in Annex 3.

It has to be clearly stated from the beginning that this process does not aspire to create disaster risk reduction managers but to heighten the awareness of students, teachers and education officers so as to help them better prepared and reduce the impact of disasters and ultimately the knowledge is expected to pass on to the community via family and friends.

3.6.2 Capacity building for Teachers to Enable Teaching of DRR Lessons

An appropriate strategy to expand coverage of teacher training and eventually institutionalize it in the teacher training system of the Ministry of Education is to train those responsible in the regular pre-service and in-service teacher trainings in the country. Importantly, the trainings can focus on a range of pedagogical strategies and skills to enable effective delivery of the DRR curriculum materials.

Under the mainstreaming program jointly implemented by the Ministry of Education, UNICEF and UNESCO, over 10,000 teachers have been trained till 2010 in various subjects such as psychosocial support, Child Friendly School practices and disaster risk reduction.

3.7 School Preparedness and Emergency Planning

3.7.1 Development of Guidelines on School Preparedness Plan

A School Disaster Preparedness Plan is an essential disaster risk reduction tool for each individual school to assist in the planning and implementation of effective school emergency activities within the broader range of hazards and threats that school must now be prepared to face. Under the leadership of the Ministry of Education, the first step to be undertaken could be the development of a guideline outlining step by step procedures on how to prepare a school preparedness plan. The goal of the guideline is to help each individual school in mapping out and employing proactive measures in order to minimize the risks of disasters. The guideline while targeting at the school authorities need to also contain a section for education officials at different level.

Box- 8

What is school safety?

There are two broad areas of school safety: first of all, buildings are structurally safe, that is multi-hazard resilient, and there is system in place to handle primary rush in case of an emergency. Secondly, building leadership and skill of the children, teachers and school management committees to save their own lives and handle emergency situations in community.

Source: School safety approach and the scaling-up strategy, Nepal (2007) Action Aid.

The guideline will go into details to ensure the achievements of the following components required for a good school disaster preparedness plan.

- Clear objectives on why the school preparedness plan is needed.
- A disaster preparedness/ management committee made up of the headmaster/ headmistress as chairman/ chairwoman township education officers, Assistant township education officers (TEO/ATEO) representatives from teacher and student groups as members. Clear roles and responsibilities of the committee and each of its members should be included (for both normal and emergency periods).
- An analysis of risks and vulnerabilities, particularly the hazard risks identified in the vicinity and both structural (school building) and non-structural (impacts on students and school officials) vulnerabilities to be considered in the overall strategy.
- A menu of preventive and mitigation options and activities before, during and after disasters. For instance adoption of appropriate warning system within the school premise, when to evacuate the building, where to evacuate, where to keep the important documentations (marking a particular place/ room for such purpose), in case the school is turned into a shelter which area will be designated for such purpose and which as teaching area, etc. A scheme on transitional/ temporary structure is to be provided in case the main school building gets destroyed which should not be too far from the site where the school is to be rebuilt and it is especially important that children feel safe in the temporary structure.
- Compositions of various teams (first aid, evacuation, cleaning up, communication, early warning, etc.) with students and teachers and clearly defining specific tasks of each team.

- A monitoring and evaluation framework with indicators that monitor progress toward risk reduction objectives.
- Time and schedule of regular drills and exercises to be conducted.
- Maps of surrounding areas, clearly marking safe areas and escape routes, which can be displayed widely at school as well.
- The budget lines for suggested risk reduction measures and emergency education activities

Fund raising strategy with a separate committee or group (made up of representatives from the school and the community) responsible for identifying funding opportunities and converting them into actual financial support for school disaster management and other development related programs.

Following the Cyclone Nargis, UNDP worked with the ADPC developed a "School Safety Manual" intended to be used by the School Principal, Teachers, Students, Parents and Teachers Association (PTA) and other concerned authority for safe school. A consultative process involving UN agencies, NGOs and sample communities was applied to make it more relevant towards the needs of the communities and also to build on the coping mechanisms already present at the ground level. Seven chapters capture the key elements of the manual: composition of school disaster management committee, vulnerability and capacity assessment, development of school disaster management plan, constitution and capacity building of disaster management team, dissemination of school disaster management plan, planning and conducting mock drill and lastly, evaluation and update of the plan.

(1)Proceeding to a designated area evacuation

(2) Earthquake drill in the school

(3) School map with route

3.7.2 Capacity Building in Developing and Implementing School Preparedness Plan

Guidelines and manuals need to be accompanied by orientation and training of school authorities; the key responsible personnel to carry out the recommended school preparedness planning procedures. Together with the concerned personnel from the individual schools, local education officials need to be made aware of the importance of having school preparedness plan and their expected roles to support the process. Training-the-trainer format would be most effective as it can create champions who can assist in disbursement of further information as well as to support actual planning process.

In the last quarter of 2008, the Ministry of Education issued a standing order[25] to all departments and all colleges[26] and schools[27] under its administration to implement disaster preparedness activities, to form college/ school level disaster preparedness committees and to develop individual disaster preparedness plans.

Up to 2010, over 2,000 principals and teachers have been trained on DRR in eight priority townships in the Yangon and Ayeyarwady Divisions, as part of the Myanmar Recovery Program of the Ministry of Education and UNESCO, to serve as focal persons for the implementation of disaster preparedness plans and activities in their own schools. During the Training of Trainers (TOT) conducted by Disaster Preparedness and Response Education (DPRE) Working Group, together with Save the Children, 148 participants participated in Yangon. Multiplier courses were carried out in May 2009 to Sept 2010, benefitting 3,250 principals and teachers. The trainings included the development of school preparedness and emergency plan and carrying out drills. A monitoring team from the Ministry of Education visited a total of 56 schools (5 or 6 schools per township) and found out that 75 percent of the schools have effectively implemented drills, the use of radio, and have made use of the DRR materials and posters that were provided. In 2010, Mingalar Myanmar is holding trainings for teachers from 200 schools from 43 townships in Yangon Division on disaster risk reduction basic knowledge.

In addition, the Myanmar Red Cross Society and the French Red Cross has expanded their training of teachers, particularly in Kunegyangone, Kyone Pyaw and Ye Kyi Townships, where they have initiated a community-based DRR coastal program. They trained teachers on school risk awareness and basic first aid. School safety plan workshops were conducted in July and December 2009. School disaster management committees were set up in 83 target schools and School Safety Plan implementation were initiated. Furthermore, simulation drills for flood, fire, earthquake, and cyclone evacuations were programmed and organized. Altogether 457 teachers and 12,860 students profited from the program. Between 2011 and 2013, project activities are to be extended to 12 selected townships in Bago, Rakhine and Yangon Divisions. Japan is highly prone to earthquake and it has put a system of regular mock drill at school and a note is at Box-9.

[25] 4 pa-sa-la/2944/standing order (08), 2 October 2008 of Department of Educational Planning and Training, Ministry of Education. Letter no. 24 khwe-1 (kha) 2008 (3121) of Ministry of Education.

[26] Including Education College (20 colleges) and Teachers Training Colleges (20 colleges).

[27] Covers primary schools (kindergarten to grade 4), middle schools (grades 5 to 8) and high schools (grades 9 and 10).

Box: 9

Earthquake drill at Schools in Japan

Japan is frequently hit by earthquake and hence it has taken a number of initiatives for mitigation and preparedness including Disaster risk education at school. At public elementary schools in Japan, earthquake drills are held once a month. If an earthquake strikes while they're in a classroom, children learn to get under their desks, head first, and to hold on to the legs of the desk until the quake is over. After that the teacher leads them out of the building and calls the roll to make sure everybody is there and safe. If a quake hits when the children are in the schoolyard, they are taught to gather in the middle, away from the school building.

Sometimes, with help from the local fire department, children also take turns practicing in earthquake-simulation devices, which are special rooms that can be made to shake just as they would in a serious earthquake. At schools with three floors, the older children may also practice using emergency chutes to get to the ground from the top level. Another feature of the drills is to pretend that a fire has broken out and to find a safe way out of the school. The location of the imaginary fire is different every time, so the children can learn what to do no matter where it breaks out. The teachers and children in the upper grades also watch videos to learn how to use fire extinguishers.

If a serious earthquake strikes during school hours, the children stay at school with their teachers until somebody from home comes to get them. This is because it may be dangerous for them to try to go home by themselves, or something may have happened to their house or apartment building in the earthquake, and their family may be staying someplace else. The kids also practice waiting at school this way as part of their earthquake drills

SECTION IV
Creating an Enabling Environment for Safer Education

Considerable gains have been attained through past and current mainstreaming efforts in Myanmar but much to be done to ensure the sustainability. An enabling environment has to be built on the existing achievements to attend the ultimate goal of creating a culture of safety.

4.1 Championing Applied Research on Disaster Risk Reduction in Higher Education

While mainstreaming of DRR in basic education sector could help create enhanced awareness on the subject, the DRR integration into various disciplines of higher education sector could foster future professionals with DRR oriented mindset who could lead the way towards achieving sustainable development in the country. Rather than confining the DRR to text books and reference materials of the studies, a more efficient way of generating higher interests in DRR would be sponsoring innovative applied research studies on the subjects in relation to building an environment of safer education. It would, at the same time, allow the students to learn, on their own initiatives, the links between research and action in disaster risk reduction. Also, the feasibility of diploma or degree course on Disaster risk reduction should be explored as DRR is still emerging and advanced studies can help in developing innovative solutions.

Interdisciplinary research studies in particular should be encouraged for cross cutting issues like climate change adaptation, gender and environmental management but at the same time specific field focused studies should also be paid attention to. For instance, studies on building of safer buildings using locally available materials in a specific geographical location, agricultural related study such as growing of salt-water proof crops in coastal areas, and even a DRR focus research on risk and vulnerability assessment, etc., would be of great value for development purposes. Moreover, such studies would offer immense opportunity for not only improving cross sectoral collaboration but also for engaging with commercial sectors which could gain hugely from the outcomes of the studies and thus, could be one of the main sources of funding for research.

4.2 Building the Collaboration among the Stakeholder Institutions

The multi-fold benefits that can be obtained through increased collaboration between the Ministry of Education and other stakeholder institutions of both government and non-government nature are:

- *Widening the (financial, materials, human) resource base and getting access to expertise in other related areas* such as construction and building proficiency from the Ministry of Constructions, UNHABITAT, etc., health and psychosocial know-how from the Ministry of Health, Myanmar Red Cross Society (MRCS), etc., in-depth disaster risk reduction knowledge from the Ministry of Social Welfare, Relief and Resettlement, UNDP, UNOCHA, MRCS, Action Aid, ADPC, etc., early warnings information from the Ministry of Transportation (Department of Meteorology and Hydrology) and environmental management related-intelligence from the Ministry of Forest and other relevant agencies and so on.
- *Support as well as greater influence* on any associated activities undertaken by non-government organizations.
- *Improved dissemination of awareness information* through community based organizations.
- *Creation of a knowledge network*.

Furthermore, as pointed in 4.1, involvement of commercial sector can be persuaded through joint applied research in DRR and development focused subjects, expanding the resource base further. In addition, such existing organizations as Parent Teacher Associations (PTA), Board of Trustee (BoT) and Alumni Associations can provide additional professional and financial reserves.

4.3 Ownership of the DRR mainstreaming in the education sector

The success of mainstreaming disaster risk reduction in the education a lot depends on ownership of this initiative by a range of agencies. In Myanmar, the Ministry of Education, with the invaluable experience and knowledge gained over the years working with its international and national partners, is fully behind the efforts of mainstreaming. It is important to sustain these initiatives which require there is a need of technical and financial resources. Hence, during the future budgetary allocation for education sector, the issue of DRR into education sector should be considered and appropriately addressed.

The policy makers should be sensitized on relevance and importance of mainstreaming DRR into education sector. The financial benefits of disaster preparedness need to be highlighted, especially the higher costs of rebuilding after disasters compared to building the schools safely in the first place. Secondly, creation of a culture of safety as an integral part of the education system would have to be stressed so as to improve the risk information dissemination. In the end, the attitudes, beliefs, perceptions and values that everyone share in relation to DRR would be what dictate making of a more informed and resilient community.

4.4 Development of National Guidelines on Safe School Construction

The impacts of Cyclone Nargis to the Education Sector in Myanmar underscore the significance of ensuring safe school construction in the country. The experience and noteworthy initiatives in repair and reconstruction of schools undertaken by the government with development partners during Nargis recovery provides an invaluable basis for the development of National level Guidelines on Safe School Construction. The Guidelines can widely cover challenges faced by the implementing agencies and offer solutions to counter them. It can highlight the advantages of preliminary assessment/ evaluation of school sites, vulnerability and risk analysis and having school disaster preparedness plans.

Before developing the national guidelines, it is crucial to review various guidelines produced by individual agencies on the same issue and to aim for consolidation of these documents. Formation of a review and guideline development committee with representatives from MoE and NGOs would bring different perspectives from both government and non-government point of view and by adopting multi-stakeholder consultation process, the existing collaborative effort between the Ministry of Education and its NGO partners could be further strengthened.

The guidelines would led out standards that will help in meeting the objectives of a good, inclusive, child-friendly, and safe school and would consider the different modes of construction, e.g. contractor-based or community-based, weighing the pros and cons individually so as to help the implementing agency to select the most suitable methods to be employed.

4.5 Integration of Disaster Risk Reduction in the Sectoral Plan of the Ministry of Education

The post Nargis Periodic Review IV reported that in the Nargis affected areas, the attendance of children age between 11 and 15 decreased from 69% in 2008-2009 school year to 64% in 2009-2010 school year. For children age between 5 and 10, the rate dropped from 89-90% to 84% for the same school year. One reason cited for non-attendance is the cost associated with education, among them, uniforms, books, stationery and contributions to maintenance and improvement of school facilities. Another common reason is because they are required to work in order to supplement the dwindling family income brought upon by the loss of livelihood opportunities and other private assets due to the Cyclone. The physical and social impacts of Cyclone Nargis after 2 years are still adversely impacting the education sector, especially in access to education in the country. Thus, for greater access to education to be realized by all children of schooling age, disaster risk reduction has to be made part of the broader education agenda of the country. In other words, disaster risk reduction should be included in the sectoral plan, in the formal and non-formal education systems as well as in the construction of school buildings.

An initial review of the existing Sectoral Plan of the Ministry of Education would have to be undertaken to understand the priorities of the sector and identify where in those priorities disaster risk reduction related objectives could be incorporated. The assimilation would warrant allocation of adequate resources to DRR mainstreaming efforts in education sector and would help identify more opportunities to keep the knowledge enhancing process going for newcomers as well as to refresh the DRR understandings of current human resources: the education sector authorities, school officials and educators.

4.6 Enhancing the Efforts of Mainstreaming Disaster Risk Reduction in the Non-formal Education

Building on the existing efforts and taking advantage of the partnerships and networks established after Cyclone Nargis, efforts can be augmented to introduce DRR in non-formal education sector. Community Learning Center (CLC) can serve as the bridge between formal education and community based learning; a mechanism that can disseminate effectively DRR related knowledge to the community. Community theatre and other inventive techniques can be planned and delivered through CLC. In EXCEL and Non-formal Primary Education (NFPE) programs, since considerable amount of basic DRR information has already been in place, more emphasis can be given to programming and conducting extra-curricular activities in relation to life skills where learners are given assignments to collect data on historical hazards in their villages and surrounding areas. Discussion forums can be organized at CLC where EXCEL and NFPE learners can take part to present their findings or to generally share information on DRR related topics. A number of NGOs as well as MRCS have launched community centers in Cyclone Nargis affected villages; for example - red cross posts by MRCS, can act as platforms for wider information exchange.

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Annex 1

Damages on School Buildings and Damages to the Public General Education Caused by Cyclone Nargis

Table 1: Damages in Education Sector by School Type and Location

	Damages (Kyat million and USD equivalent; 1 USD=985 Kyat)		Percentage
Public general education	106,390	$108,010.15	
Totally or partially damaged schools	68,040	$69,076.14	58.8
Roof damaged schools	12,518	$12,708.63	10.8
Furniture, equipment and learning materials	25,832	$26,225.38	22.3
Monastic education			
Partially damaged schools	1,584	$1,608.12	1.4
Furniture and learning materials	259	$262,944.16	0.2
Early childhood, youth and adult literacy centers			
Partially or totally damaged public institutions	392	$397,969.54	0.3
Furniture and learning materials	84	$85,279.19	0.1
Partially or totally damaged private institutions	2,939	$2,983.76	2.4
Furniture and learning materials	508	$515,736.04	0.4
Higher education			
Roof damaged higher education institutions and offices	2,742	$2,783.76	2.4
Furniture, equipment and learning materials	208	$211167.51	0.2
Administrative offices	559	$567512.69	0.5
Total	**115,665**	**$117,426.40**	**100**
Source: PONJA Team estimates			

Table 2: Damages in Public Primary, Middle and Secondary Schools

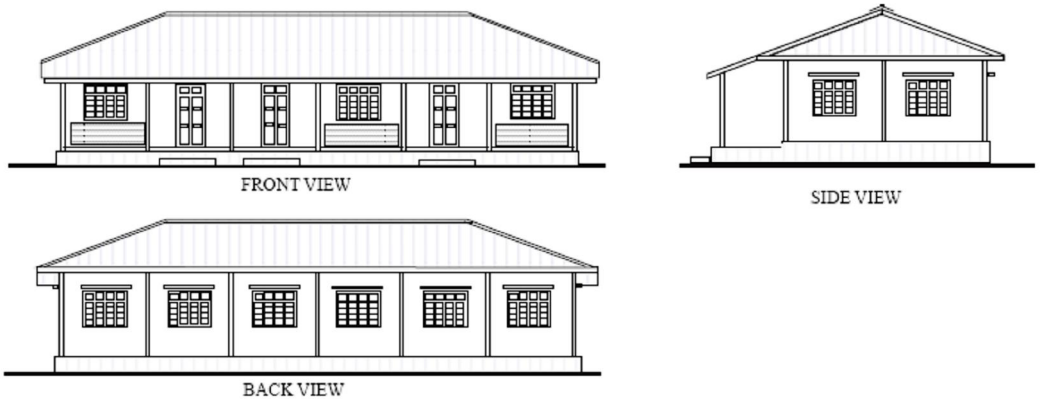
	Damages (Kyat million and USD equivalent; 1 USD-985 Kyat)		Percentage
Primary school			
Totally or partially damaged schools	59,297	$ 60,200	55.9
Roof damaged schools	10,407	$ 10,565.48	9.8
Furniture, equipment and learning materials	22,352	$ 22,692.38	21.1
Middle school			
Totally or partially damaged schools	5,118	$ 5,195.93	4.8
Roof damaged schools	1,005	$1,020.30	0.9
Furniture, equipment and learning materials	1,964	$ 1,993.90	1.9
High school			
Totally or partially damaged schools	3,367	$ 3,418.27	3.2
Roof damaged schools	1,105	$ 1,121,82	1.0
Furniture, equipment and learning materials	1,434	$ 1,455.83	1.4
Total	**106,050**	**$ 107,664.97**	**100**
Source: PONJA Team estimates.			

Annex 2

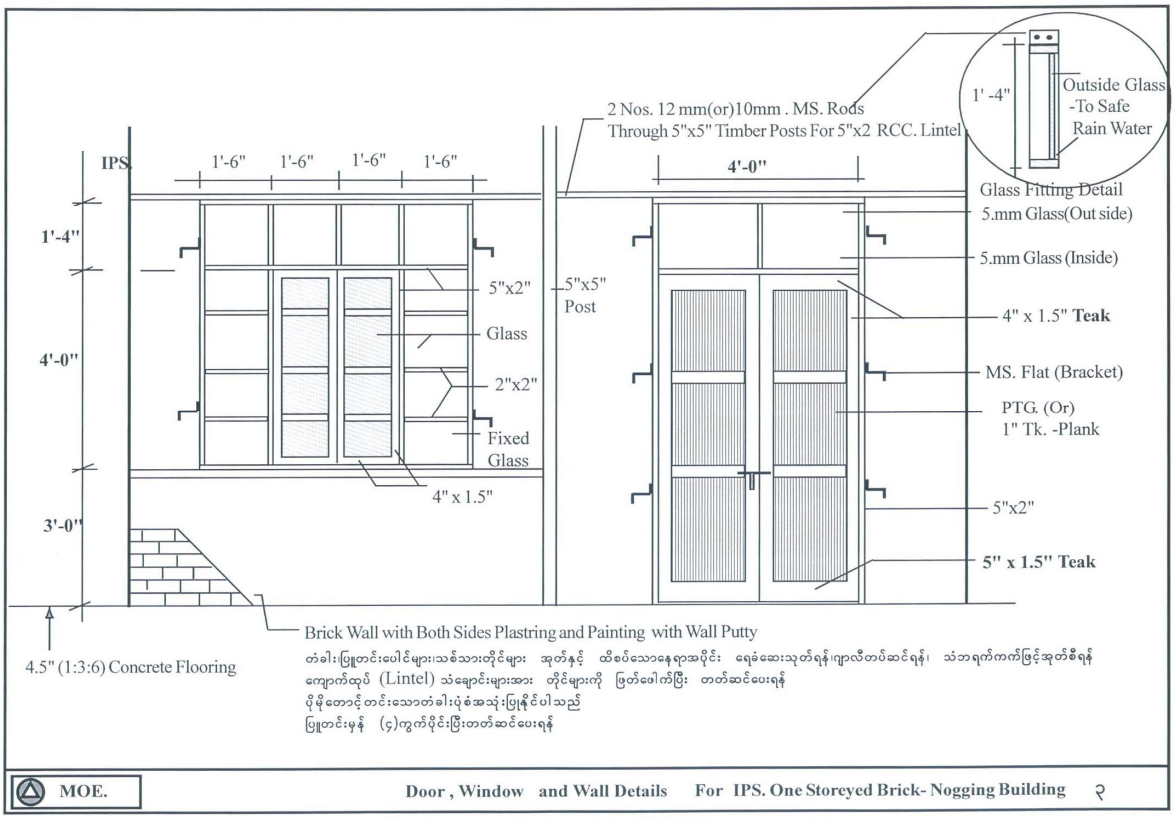
Design Specifications of School Buildings of the Ministry of Education

The following diagrams depict the design specifications issued by the Ministry of Education for an inland one storey brick noggin building that is to be used for primary school education.

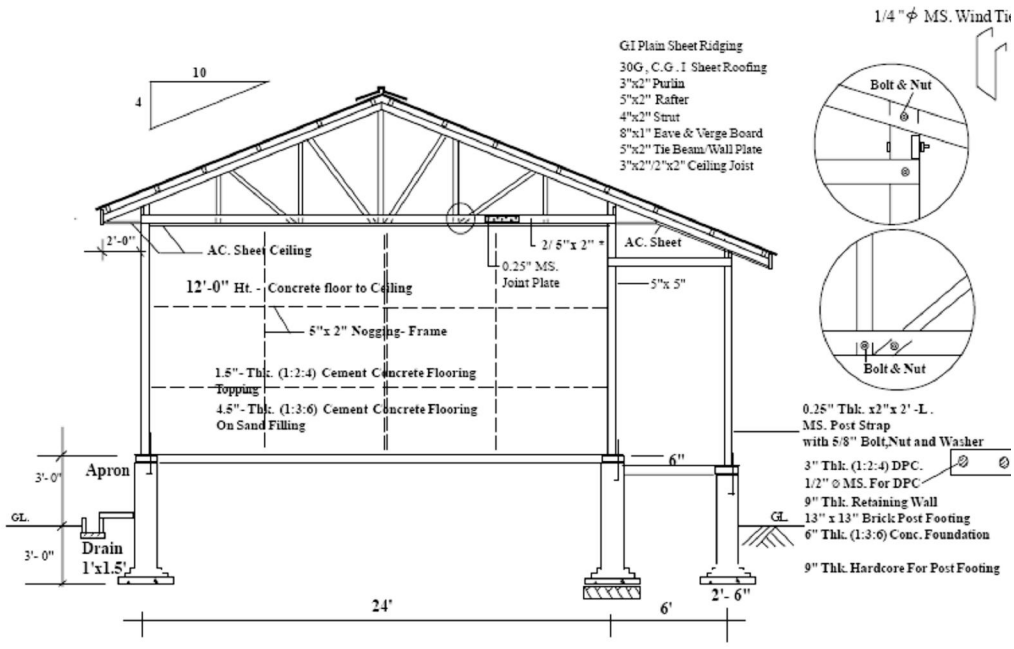
Design 1: One storey brick noggin three room school
Front, back and side views



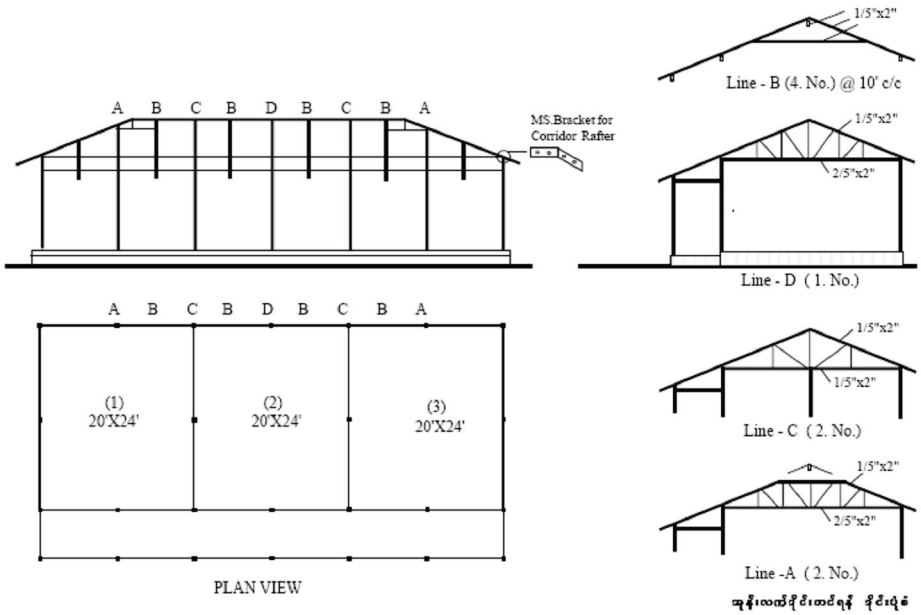
Door, window and wall details of one storey brick noggin school



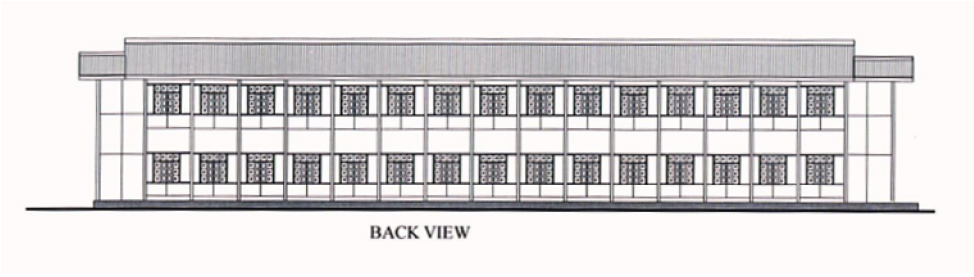
Section View showing the reinforced structures of one storey brick noggin school

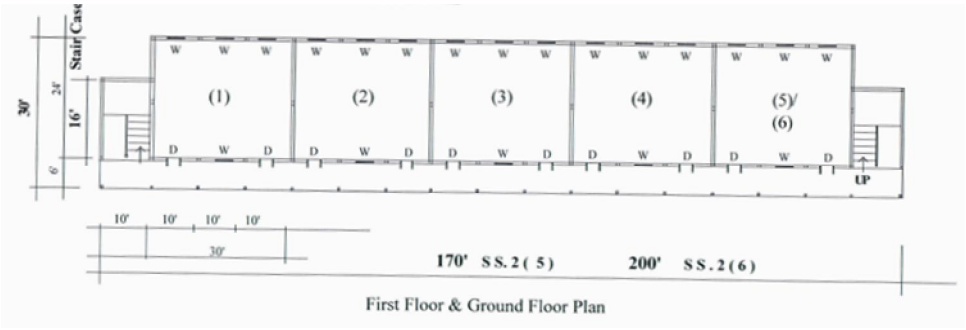


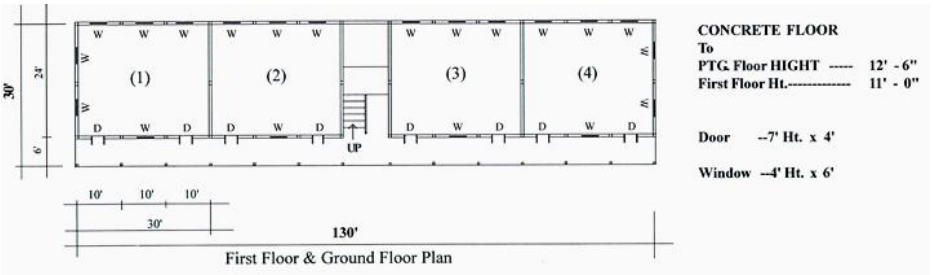
Truss details for the roofing of one storey brick noggin school



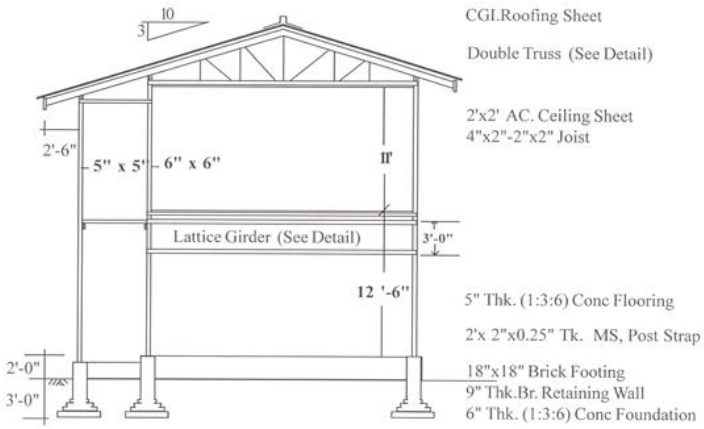
Design 2: Two storey school
Front, side and back views





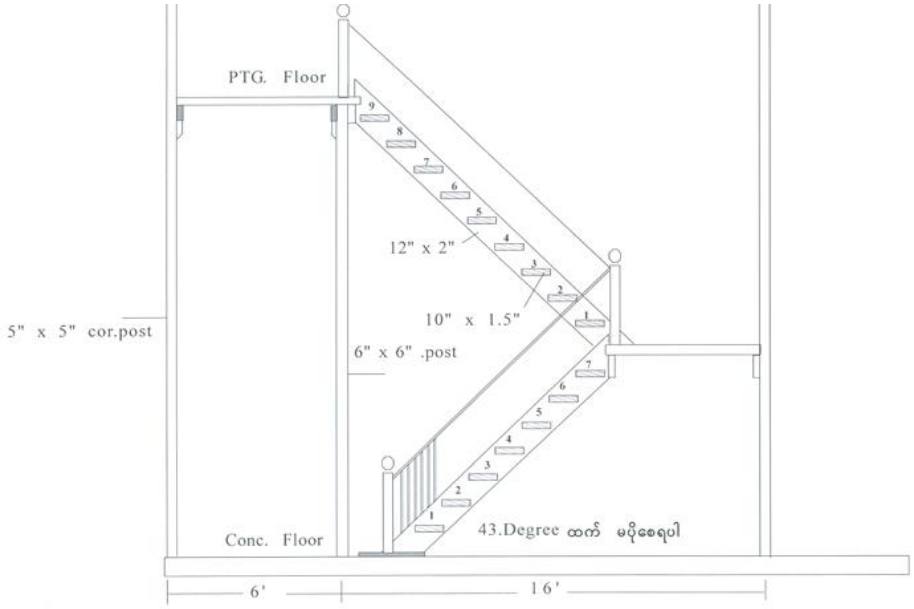


Cross section of two storey school building

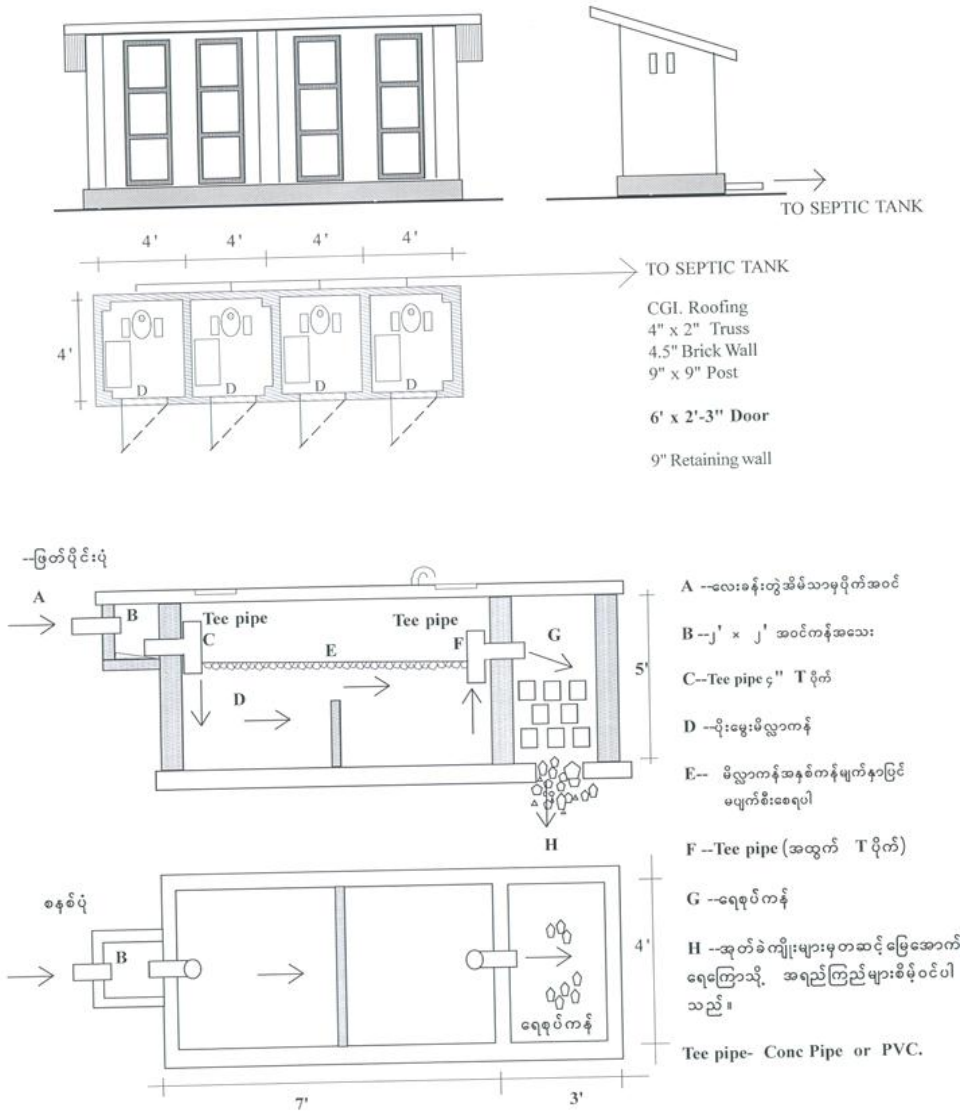


ပျဉ်းကတိုးသစ်(သို့မဟုတ်) ပျဉ်းကတိုးသစ်အုပ်စုဝင်သစ်မာများကိုသာသုံးပါရန်

Detailed staircase specifications



Design 3: Toilet and septic tank specifications



Source: Ministry of Education

Annex 3

Current Status on Mainstreaming Disaster Risk Reduction into Education Sector in Myanmar

Ministry of Education and UNICEF

The Department of Educational Planning and Training under the Ministry of Education has collaborated with UNICEF since 2006 on the integration of disaster risk related lessons in the Life Skills subject in primary Grade 5[28]. The new Life Skills curriculum for Grade 5 has reached all schools in the country. DRR related lessons/modules are also being developed for integration in the Life Skills subject for lower secondary grades intended for use in five townships in the Yangon Division. A complementary reading material on DRR for Life Skills subject has also been developed and distributed in five Child-Friendly Schools of affected townships in Yangon (two townships Kungyangone and Kawmhu) and Ayeyarwady Divisions (three townships Laputta, Mawlamyaigyun and Bogale). Below are tables presenting the DRR related lessons integrated in the curriculum in primary Grade 5 and lower secondary.

DRR related lessons in existing curriculum[29]

Level	Grade	Lesson Topic	Subject
Primary	Grade V	Caution in Emergencies	Life Skills
Lower Secondary	Grade VI	Thunderstorm	General Science
	Grade VIII	Storms	General Science
Upper Secondary	Grade X	Earthquakes	English
	Grade XI	Earth surface Processes	Geography

DRR related lessons in the process of integration in the Life Skills Subject in the lower secondary

Level	Grade	Lesson Topic
Lower Secondary	Grade VI	Emergency! It is Flooding!
	Grade VII	Disaster Preparedness
	Grade VIII	Earthquakes, Landslides
		Safety in Case of Fire
		Conservation

Supplementary reading materials titled "Ready-set-prepare" were also developed for 5 to 7 grade students and eight hazards are covered namely: cyclone, earthquake, flood, landslide, thunderstorm, tornado, tsunami and wildfire. While these activities have been underway for years, higher level of awareness caused by Nargis has opened up new doors such as selection of Nargis affected townships in Ayeyarwaddy and Yangon Divisions for teachers' trainings[30] and curriculum testing as part of the education recovery plan of MoE. Moreover, plans are being developed for integration of said subjects into the pre-service teacher's trainings.

[28] Life Skills curriculum was introduced in the schools in 1998 only. During the revision of curriculum in 2006, DRR lessons were incorporated. Since then, the new textbook or module on Life Skills curriculum for Grade V has been distributed and taught all over the country.

[29] Apart from Grade V, the rest of the curriculum integration was completed by the Ministry of Education.

[30] 70% of primary school teachers trained and books distributed to all schools in the country including monastic schools.

For non-formal primary education, Ministry of Education has also developed DRR related materials (reading cards and booklets) for out-of-school children and youth on Flooding, Earthquake, Storm, and Tsunami for NFPE and EXCEL programs. The materials have been distributed in 47 townships nation-wide.

Ministry of Education and UNESCO

In collaboration with UNESCO, the Ministry of Education has initiated the Myanmar Education Recovery Programme (MERP). The program has developed DRR learning and teaching curriculum materials. A resource pack containing a series DRR related modules intended for the use of teachers and community members have been distributed in eight affected townships (Kungyangone, Ngapudaw, Labutta, Kyaiklat, Dedaye, Pyapon, Mawlamyiaingyune and Bogale). The modules contain posters and charts to better illustrate DRR concepts. In addition, an activity book entitled "Let's be prepared for disasters" has also been developed and distributed to students; and teaching aids in the form of posters on Flood and Storm Preparedness, Cyclone, Landslide, and Tsunami were also provided to teachers of affected schools. The DRR modules of resource pack, developed based on the basic principles of Hyogo Framework for Action (HFA), in English and Myanmar languages are as follows:

- Module 1: Introducing disaster risk reduction in education
- Module 2: Developing institutional base for disaster risk reduction in education (HFA-1)
- Module 3: Identifying, assessing and monitoring disaster risks in the education sector (HFA-2)
- Module 4: Building a culture of safety through DRR education(HFA-3)
- Module 5: Reducing the underlying risk factors in the education sector (HFA-4)
- Module 6: Preparing for effective emergency response and recovery in education (HFA-5)
- Module 7: Implementing community-based disaster education

Resource Pack Materials

Collaborative Efforts between the various agencies The Disaster Preparedne

ss and Response Education(DPRE) Working Group, with the support of Save the Children, UNESCO, RCC/DCU, UNICEF also distributed one resource pack to each affected school, totaling to 2,200 schools. A radio was also included in the resource pack.

In line with the core objectives (1 & 3) of the education sector recovery program, the Education Cluster and the Disaster Preparedness and Response Education (DPRE) Working Group led by MoE and UNESCO have developed and distributed DRR learning and teaching materials to students and teachers in the nine affected townships (Kyunchangone, Ngapudaw, Laputta, Kyaiklat, Dedaye, Pyapon, Mawlamyaingyune, Bogale, Kawmhu) and one township in upper Myanmar (Wandwin).

The continuing recovery efforts have brought more DRR curriculum materials and also more children and teachers benefitting. The curriculum materials include student modules/textbooks, teaching aids, and teacher modules/guides for delivery of DRR concepts and knowledge.

Hyogo Framework: 2005-2015
Building the resilience of nations & communities to disasters as part of Sustainable Development shared with the Humanitarian agenda 2005

HFA Priority Area 3-*Use knowledge, innovation and education to build a global culture of safety and resilience at all level through:*

- *Integration of DRR into school curricula*
- *Promotion of school safety initiatives (retrofitting, construction in non-disaster prone areas)*
- *Public Awareness activities*
- *Collection and dissemination of good practices on disaster risk reduction*
- *Skills development and management, training courses*
- *Build on and disseminate traditional knowledge / wisdom*
- *Develop educational materials in local languages*
- *Knowledge management, information sharing, experience sharing on disaster risk reduction in school education*
- *Develop information portals and educational material libraries*
- *Facilitate media engagement, training courses, drills, simulation exercise etc.*

Annex 4

Education Sector Recovery Program after Cyclone Nargis

Background

The focus of the emergency relief phase was in re-establishing access to formal and non-formal education through repairing damaged schools, providing temporary safe learning spaces, and distributing education materials such as learning kits, school-in-a box, teacher kits, textbooks, furniture and blackboards.

As early recovery in the country progressed, the Government of Myanmar with the assistance of ASEAN and the international community outlined the three-year Post-Nargis Recovery and Preparedness Plan (PONREPP).

The PONREPP articulates three core objectives of recovery in the education sector, namely:

- Restoration of the primary school system, enrollments and to improve retention rates through reconstruction of schools, improving quality of the learning environment (as a mechanism to improve learning outcomes);
- Reconstruction of destroyed and damaged middle and high schools;
- Restoration and enhancement of important early childhood, non-formal and vocational education programs

Coordinated Delivery of the Education Sector Recovery Program

Government-led recovery in the education sector has been carried out in coordination with the Education Thematic Working Group (in the Nargis response phase, it was called Education Cluster[31]) in the country.

Background of Education Thematic Working Group in Myanmar

The main goal of the Education Thematic Working Group (henceforth the ETWG) is to advocate for and support the collaborative establishment of a sound and sustainable national education system in Myanmar, where the rights to education, development and the participation of children, women and citizens are realized according to the obligations and responsibilities assumed by Myanmar as a State Party to international conventions and agreements such as the Millennium Development Goals (MDG), the Convention on the Rights of the Child (CRC), and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW).

[31] The cluster approach is in accordance with the Inter-Agency Standing Committee (IASC) Guidance Note on Using the Cluster Approach to Strengthen Humanitarian Response. IASC is the inter-agency forum for coordination, policy development and decision-making involving key UN and non-UN humanitarian partners. According to the guidance note, the aim of the cluster approach at country level is to: "strengthen humanitarian response by demanding high standards of predictability, accountability and partnership in all sectors or areas of activity. It is about achieving more strategic responses and better prioritization of available resources by clarifying the division of labour among organizations, better defining the roles and responsibilities of humanitarian organizations within the sectors, and providing Humanitarian Coordinator with both '1st point of call and provider of last resort' in all the key sectors or areas of activity."

Objectives

Within the general framework of the educational priorities and objectives of the Myanmar Government[32], the main objectives of the ETWG are threefold:

1) To provide a regular opportunity for open and strategic dialogue between key education stakeholders in support of the Myanmar educational system, towards the implementation of the above-mentioned government plans and priorities;
2) To coordinate education and training initiatives, programmes and projects being undertaken by UN agencies, I/NGOS and line departments;
3) To build capacity for the inter-agency, government-supported resource mobilization strategy and advocacy activities, including emergency preparedness and response activities, while fostering bilateral dialogue with donor agencies in support of Myanmar's education system.

Realizing that Education requires a multi-agency and a multi-sectoral approach, the members adopt a coordinated endeavor to respond to the needs of Myanmar's education system, and advocate on education issues and financial resources to meet these challenges.

Functions

The ETWG will act as a forum to propose policy and strategic recommendations to donors, governmental ministries and departments, and implementing bodies working in education. The group will also contribute to the overall progress of the national educational plans and help establish priorities for key activities, proactively identify constraints, and propose strategies to overcome them, so as to ensure well-coordinated management and implementation.

To this end, the ETWG will:

1) Advocate to all stakeholders to achieve the goals set out in the Post-Nargis Recovery and Preparedness Plan (PONREPP)'s framework;
2) Coordinate educational interventions in line with national education goals and objectives, as well as advocating for educational development and advancement;
3) Enhance information exchange of education activities to achieve national education goals and objectives amongst stakeholders and partners;
4) Ensure that cross-sectoral aspects of national education priorities are taken into account;
5) Provide technical assistance to partners, based on consultations with them;
6) Review the progress of EFAs and MDGs in order to identify gaps and challenges and make appropriate recommendations;
7) Consult with donors on identifying needs for further funding for education interventions.

Composition

The ETWG will be composed of representatives from the following institutions and organizations:

- Government Departments, including but not limited to, Ministry of Education, Ministry of Social Welfare, Relief and Resettlement, Ministry of Progress of Border Areas and National Races and Development Affairs, and Ministry of Religious Affairs;
- National and international NGOs;
- UN agencies.

[32] Including, but not limited to, the Myanmar Basic Education Development Plan 20-30, and the National Education for All (EFA) Plan of Action 2003-2015.

Each member institution/organization will be responsible for designating one contact person for the ETWG to attend regular meetings. The following matrix presents the members of the Education Thematic Working Group in Myanmar who have been carrying out recovery initiatives, together with the Government of Myanmar, in line with meeting the three core objectives for the education sector as articulated in the PONREPP.

Table: Members of Education Thematic Working Group

EDUCATION COMPONENT	ORGANIZATION TYPE	ORGANIZATION
FORMAL SECTOR	INTERNATIONAL NGO	WV, JICA
	UNITED NATIONS	UNICEF, UNDP,UNESCO
EDUCATIONAL MATERIALS	INTERNATIONAL NGO	EMDH, LWF, PCF, SC, TDH Italia, WV
	NATIONAL NGO	Amara, LA
	UNITED NATIONS	UNICEF, UNESCO
TEACHER TRAINING	INTERNATIONAL NGO	PCF, SC
	NATIONAL NGO	Amara
	UNITED NATIONS	UNICEF, UNESCO
RECONSTRUCTION	INTERNATIONAL NGO	AMURT, BAJ, IRC, LWF, NRC, PCF, SC, SP, ST, TDH Italia, WHH, WV
	NATIONAL NGO	Amara, MDF
	UNITED NATIONS	UN-Habitat, UNDP, UNICEF
SCHOOL REPAIRS/ TEMPORARY SCHOOLS	INTERNATIONAL NGO	EMDH, KnK, OXFAM, SC, TDH Italia
	UNITED NATIONS	UNICEF
NON-FORMAL SECTOR	INTERNATIONAL NGO	SC, WV
	UNITED NATIONS	UNICEF
ECD	INTERNATIONAL NGO	AMURT, SC, WV
	NATIONAL NGO	MDF, PTA, YF
	UNITED NATIONS	UNICEF
LIFESKILLS	INTERNATIONAL NGO	WV
	NATIONAL NGO	PTA
	UNITED NATIONS	UNICEF
Source: MIMU		

Operation

The ETWG will be chaired by an elected member on a rotating basis and a co-chair to be designated in the absence of the chair.

- **Meeting**
  1) The Group will meet monthly during the year and ad hoc meetings can be held as necessary;
  2) Meetings will be chaired by the designated representative of the chair agency, or in its absence, by a designated chair;
  3) A written agenda will be circulated to members along with the notice of each meeting. Any member may place items on the agenda;
  4) The Secretariat will prepare meeting minutes and distribute them to members;
  5) The Group respects the sensitivities of its members around various issues;
  6) The Group will decide on a fixed time and venue for the meetings.

- **Secretariat**
  The Secretariat will plan and organize the meetings and maintain documentation for the Group. In principle, the Secretariat will be the backbone to mobilize the ETWG. The tasks of the Secretariat will be to:
  a) Provide technical support to members;
  b) Develop links with other sector coordination forums in Myanmar, such as the Basic Services Working Group etc.
  b) Share the outcomes of the ETWG with other regional stakeholders in the Education sector.

The Disaster Preparedness and Response Education (DPRE) Working Group

Under the Education Cluster, the Disaster Preparedness and Response Education (DPRE) Working Group was formed in August 2008. The working group, convened by UNESCO, consists of the Ministry of Education, UN agencies, INGOs, and local NGOs. Then it runs its activities by itself including the fund raising and developing its TOR (see the ToR below).

Disaster Preparedness and Response Education Working Group Terms of Reference

1. Purpose

The purpose of establishing the Disaster Preparedness and Response Education (DPRE) Working Group is to share information on disaster risk reduction among members, and to coordinate and jointly plan Disaster Risk Reduction in Education activities relevant to the Myanmar context, including capacity building of educational personnel on DRR in education.

2. Background

Cyclone Nargis badly hit Yangon and Ayeyarwady Divisions on 2-3 May 2008. Its impact on the education sector was enormous. An estimated 50 to 60 percent of public schools, including monastic ones, were destroyed or damaged: The total damage and losses in education are estimated at about K 116 billion, including K 25 billion from the damage to educational materials (PONJA Assessment Report, 21 July 2008, p.9).

Along with other clusters, the Education Cluster, led by UNICEF and Save the Children, was formed in Myanmar to ensure a coherent and effective response in mitigating effects of Cyclone Nargis in 2008. The Education Cluster thereby mobilized groups of agencies, organizations and NGOs to respond in a strategic manner across all key sectors or areas of activity to address the devastating situation caused by the cyclone.

One of the five objectives stated in the Education Cluster Response Plan (Revised Humanitarian Appeal) is to build the capacity of schools in Disaster Risk Reduction.

Following the discussion in the Education Cluster meetings held at the Chatrium Hotel in July 2008, the Education Cluster recommended that there is a need to establish a sub- cluster working group on disaster risk reduction in education within the Education Cluster and for this group to be led by UNESCO. The first meeting of the Working Group was conducted in August 2008.

Subsequently, in November 2008, the Education Cluster became dormant. However, the DPRE Working Group members decided to continue implementing planned activities and this decision was approved by the Ministry of Education.

Since June 2010, the DPREWG Working Group has been working at the national level, supporting activities related to the DRR and Education in Emergencies interventions in Myanmar in the context of Education for All (EFA). These activities include participation in:

- Preparation for 1) the International Day for Disaster Reduction Ceremony conducted in October 2010 and 2) a document titled *National Progress Report on the Implementation of the Hyogo Framework for Action (2099-2011)*, which was completed in September 2010
- Translation of two documents, namely, 1) Minimum Standards for Education developed by Inter-Agency Network for Education in Emergencies and 2) Myanmar Inter-Agency Contingency Plan.

3. Objectives

Reducing risk and vulnerability to disasters requires school administrators, teachers, students and the community at large to understand how they can best protect themselves, their property and their livelihoods. This working group will focus on DRR in Education with an aim to ensure that education response to the disaster includes activities and systems that can help reduce risk, and mitigate the impacts, of future disasters.

The specific objectives of the DPRE Working Group will be to support the Government of Myanmar in:

- Recommending existing resource materials and best practices on DRR in Education relevant to Myanmar, and sharing information on disaster risk reduction among members and also with related working groups
- Mainstreaming DRR into the education sector and promoting DRR practices implemented in schools of Myanmar
- Facilitating the organization of training, seminars, workshops and potentially model implementation of DRR in Education at school level

4. Membership of the Working Group

The Working Group will comprise of Education Cluster/ Education Thematic Working Group/ DRR Working Group members, who are interested in DRR in Education and made themselves available for meetings.

5. Convener of the Working Group

The Working Group will be convened by UNESCO with support from Working Group members. The convener will be responsible to:

- act as a point of contact for the Education Cluster/ Education Thematic Working Group, Working Group members and other related working groups
- organize and convene Working Group meetings
- co-ordinate planned activities
- organize agendas and minutes of Working Group meetings, and disseminate as appropriate

6. Meetings

Meetings will be held quarterly and ad-hoc meetings will be called if necessary. The Working Group will decide the location of its meetings. In addition to meetings, Working Group members may be consulted individually through email or telephone when required. Agendas and other resource materials and documents will be forwarded by the conveyor to Working Group members.

7. Term

The Working Group will carry on until it is terminated by decision of Working Group members.

Annex 5

Background information on the Ministry of Education[33]

The Ministry of Education, with the vision 'To create an education system that can generate a learning society capable of facing the challenges of the Knowledge Age', is responsible for education in Myanmar. The Ministry consists of nine departments namely:

- Department of Basic Education No. (1)
- Department of Basic Education No. (2)
- Department of Basic Education No. (3)
- Department of Educational Planning and Training
- Department of Myanmar Educational Research
- Department of Higher Education (Lower Myanmar)
- Department of Higher Education (Upper Myanmar)
- Department of Myanmar Language Commission
- Myanmar Board of Examinations

The Ministry of Education is responsible for the school system and in conjunction and in coordination with twelve other Ministries who shares the responsibility for Higher Education Institutions (Universities & Colleges).

Departments of Basic Education

The administration and management of basic education is under taken by three Departments in the Ministry of Education: Department of Basic Education (1), Department of Basic Education (2) and Department of Basic Education (3). The departments are responsible for matters concerning primary education, secondary education (middle school and high school), the inspection and supervision of school, educational planning and project management and student affairs.

Department	Geographical Coverage (states & divisions)
Department of Basic Education (1)	Ayeyarwady, Rakhine, Thaninthayee, Mon, Bago East and West
Department of Basic Education (2)	Upper Myanmar
Department of Basic Education (3)	Yangon Division

Department of Educational Planning and Training (DEPT)

Department of Educational Planning and Training is mainly responsible for formulation and implementation of basic education plans in coordination with other basic education departments, development of school curriculum and supervision of teacher education. The 20 educational colleges are under the administration of the Department of Educational Planning and Training.

[33] Institutional Arrangements for Disaster Management in Myanmar (2009), Asian Disaster Preparedness Center (ADPC). Yangon City website: Ministry of Education

Departments of Higher Education

At present, there are two Departments of Higher Education, one for Lower Myanmar and one for Upper Myanmar. These Departments are the executive branch of the Ministry of Education with the responsibility for administration and co-ordination of higher education institutions under the Ministry. Academic and administrative policy matters relating to higher education are managed by two councils chaired by the Minister of Education, these are the Universities Central Council and the Council of University Academic Bodies: The former Council is mainly responsible for the framing of broad policy and co-ordination of the work of universities and colleges while the responsibility of the Council of University Academic Board lies in the adoption of all academic regulations and co-ordination of all academic works.

Department of Myanmar Educational Research

Department of Myanmar Education Research (DMER) first came into existence under the name of Burma Education Research Bureau (BERB) in 1966. It is headed by a full time Chairman and its mandate is to promote and support research activities in education. Department of Myanmar Educational Research has the administrative capability and flexibility and resources necessary for research execution and collaboration with other bodies within and departments outside the Ministry.

Department of Myanmar Language Commission

To establish the Myanmar language which is in fact the medium of the communication for the vast majority of the people either as their mother tongue or the most practical second language in this multi-ethnic society on a sound basis, the Commission for Myanmar Literature Translation was formed in 1963. After a series of organizational and functional changes, the present commission consisting of members appointed by the Cabinet and a department under the Ministry of Education providing its management and operational requirements assumed its present form in 1983.

Annex 6

Suggested Steps Towards Greater Safety of School Buildings

The following eight suggested steps provide guidance on both the construction of new hazard-resilient schools and the retrofitting of existing schools to higher safety levels. The majority of the steps apply to both new construction and retrofitting. However, as these processes differ at various stages of construction, certain steps or guidance within a step may apply solely to the case of new construction or of retrofitting.

1. Identifying key partners – Who can contribute to the initiative?
2. Determining risk – What hazards pose a risk to existing and prospective schools and where is that risk the greatest?
3. Defining performance objectives – How do you determine the maximum amount of damage or disruption that can be tolerated? What level of hazard resilience should schools be designed to meet?
4. Adopting building codes and retrofit guidelines – What guidance and standards exist to ensure a new school or retrofitting plan can meet the performance objectives?
5. Assessing a school site – What makes a site more or less vulnerable to hazards? What other hazards pose a risk? Are there any conditions that make a site particularly vulnerable? How are local buildings constructed? What materials and skilled resources are locally available?
6. Assessing vulnerability of existing school buildings – What are the conditions of the existing school? Should it be retrofit or rebuilt? What measures might be taken to strengthen the building? How can the school community be involved?
7. Preparing a new school design or retrofitting plan – What are the design considerations for a new school or retrofitting plan? Who should be involved in the design process? What tradeoffs might need to be made? Are there any special considerations when retrofitting a school?
8. Assuring the quality of work and maintenance – What are some strategies for developing a transparent construction project? What are some approaches to training builders to use hazard resilient techniques and materials? What mechanisms can be adopted to encourage compliance to the hazard resilient design? What should be considered when setting up a maintenance program?

The discussion of each step begins by defining the objective of the step, stating its purpose within the overall process, and noting how it relates to other steps. The guidance provided for the planning of each step is also organized into three sections:

Introduction	Defines new concepts and/or provides general notes on the step as a whole
How do you do it?	Describes the processes, notes important criteria for decision making, highlights key issues or potential challenges, suggests good practices, and references tools to facilitate the process.
Key points to consider	Identifies enabling factors, strategies corresponding to the guiding principles outlined in Section 3, and any further considerations based on the experience of other safer school initiatives.

Although the steps have been organized sequentially, many of the activities can be conducted simultaneously.

Source: Guidance Notes on Safer School Construction,

Annex 7

Natural Disaster Preparedness and Mitigation Plan of Department of Basic Education (3), Ministry of Education
May 2009 (Translated version)

Introduction

Yangon is situated at the confluence of Bago river and Hlaing river with settlements; cities, towns and villages, located along Yangon river. Due to its immediacy to the Bay of Bengal and Andaman Sea, it experiences natural disasters once every ten years. The difficulty of predicting when and where a natural disaster might strike make it complicated for any preventive undertakings. However, through preparatory measures to enable effective response in emergency situations, risks can be reduced. Yangon Division, being adjacent to the seas as indicated previously, needs to plan in order to minimize the natural disaster risks it is exposed to.

Objective

In the events of natural disasters in Yangon Division, to react and response effectively, without delay and systematically at different levels from division, township, ward to village.

Definitions

- "Disaster" means a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.
- "Natural disaster prevention" covers all spectrums of disaster management from development of prevention and mitigation plans to disaster response. It also means the management of disaster and its impacts. It consists of pre-disaster preparedness, prevention, mitigation, response and relief in the affected areas and longer term recovery and rehabilitation.
- "Normal period" refers to the time period during which although there is no imminent danger from disasters, preparatory measures need to be undertaken for future risks/ danger.
- "Issuance of alert and warning phase" implies issuing warnings to the public of looming disaster (or) preparing to take preventive actions towards disasters/ epidemic starting from the time warnings are issued until the time the warnings are withdrawn or the threat is over.
- "Disaster phase" indicates the time duration when the actual experience of disaster occurs. It can be of protracted duration if it is drought or regular monsoon flood, i.e. over a long period of time, or immediate and short-term in case of flash flood, storm, earthquake, fire, industrial accident and landslide.
- "Rehabilitation phase" denotes the time after the emergency period during which interventions are undertaken to restore the livelihoods of affected communities, to reconstruct damaged facilities and to rehabilitate economic aspects in line with long term development plans. It consists of rehabilitation and reconstruction operations. It also comprises of carrying out continuous humanitarian functions by giving priority towards most vulnerable groups in the community.

Department of Basic Education (3) Natural Disaster Management Committee

The Natural Disaster Management Committee under the Department of Basic Education (3) (DBE-3) will be constituted as follows.

(a) Structure of Natural Disaster Management Committee

Director General	Chairman
Deputy Director General	Deputy Chairman
Director (Academic)	Member
Assistant Director (Teaching)	Member
Assistant Director (Inspection)	Member
Assistant Director (Finance)	Member
Assistant Director (Admin)	Member
Engineer	Members
Deputy Director (Academic)	Liaison Officer (1)
Deputy Director (Admin& Finance)	Liaison Officer (2)
Director (Admin & Finance)	Secretary

(b) Duties and Responsibilities

1. <u>During normal time</u>
   - 1.1. To implement strategies and decisions of the Ministry of Education and Natural Disaster Preparedness Central Committee.
   - 1.2. To authorize standing orders for natural disasters and activities of DBE-3 Natural Disaster Management Committee.
   - 1.3. To collaborate with government agencies at division/state, district, township levels and non-government organizations in natural disaster prevention and mitigation.
   - 1.4. To approve district and township level natural disaster reduction, preparedness and response plans.
   - 1.5. To identify and designate safer areas, stockpile, search and rescue, and medicinal items and prepare directives in advance of relief item distribution in areas vulnerable to flood and storm such as Kunegyangone, Kawmhu, Twantay, Kyauttan, etc., and in places susceptible to earthquake with high rise buildings.
   - 1.6. To incorporate fundamental elements of natural disasters in the curriculum.
   - 1.7. To keep important papers, financial and banking documents in save places and to prepare to transport them easily and quickly to safe places when disasters strike.

2. <u>Issuance of alert and warning</u>
   - 2.1. To install public announcement system for early warning system in regions vulnerable to flood and storm.
   - 2.2. To develop and utilize arrangements to convey instant warning messages to division/state, district, township and village.

3. <u>During disaster</u>
   - 3.1. To collaborate with government agencies at division/state, district, township levels, non-government organizations and search-and-rescue institutions.
   - 3.2. To arrange for priority transportation of important departmental documentations and papers.

3.3. To arrange for usage of educational facilities as rescue shelters.
3.4. To ensure security, preventing criminal activities.
3.5. To prioritize saving of human lives over saving the properties.

4. Rehabilitation
4.1. To submit timely report to Natural Disaster Preparedness Central Committee the data on loss of human lives, property and building damages.
4.2. To collect and compile relevant information for the Ministry to provide support and for national, regional and private donors to contribute to any requirements in recovery and rehabilitation.
4.3. During the recovery and rehabilitation period, to plan for reconstruction of damaged schools and continuation of schooling activities.

(c) Constitution of Natural Disaster Prevention Working Committee in the townships of Northern District, Yangon Division (Inn-sein, Mingaladone, Haling-thar-yar, Shwe-pyi-thar, Hmaw-bee, Tite-kyee, Hle-ku, Htan-ta-pin)

Northern District Education Officer (Inn-Sein)	Chairman
(All) Township Education Officers	Members
Assistant Township Education Officer	Member
Township Education Officer (one)	Secretary

(d) Constitution of Natural Disaster Prevention Working Committee in the townships of Eastern District, Yangon Division (Thin-gangyan, Yan-kin, South Oakalapa, North Oakalapa, Thar-kay-ta, Daw-pone, Tar-mwe, Pa-zun-daung, Bo-ta-htaung, Mingalar-taung-nyunt, North Dagon, East Dagon, South Dagon, Sake-kan Dagon)

Eastern District Education Officer (Thin-gangyan)	Chairman
(All) Township Education Officers	Members
Assistant Township Education Officer	Member
Township Education Officer (one)	Secretary

(e) Constitution of Natural Disaster Prevention Working Committee in the townships of Southern (ka) District, Yangon Division (Than-hlin, Kyaut-tan, Kha-yan, Thone-khwa)

Southern (A) District Education Officer (Than-hlin)	Chairman
(All) Township Education Officers	Members
Assistant Township Education Officer	Member
Township Education Officer (one)	Secretary

(f) Constitution of Natural Disaster Prevention Working Committee in the townships of Southern (kha) District, Yangon Division (Twan-tay, Kaw-hmu, Da-la, Seit-kyee Kha-naung-toe)

Southern (B) District Education Officer (Da-la)	Chairman
(All) Township Education Officers	Members
Assistant Township Education Officer	Member
Township Education Officer (one)	Secretary

(g) Constitution of Natural Disaster Prevention Working Committee in the townships of Western District, Yangon Divisions (Kyaut-ta-tar, La-thar, Pa-be-tan, Ah-lone, Lan-ma-taw, Kye-myin-daing, San-chaung, Ka-ma-yut, Hlaing, Ma-yan-kone, Ba-han, Da-gon, Sake-kan)

Western District Education Officer (Kyaut-ta-tar)	Chairman
(All) Township Education Officers	Members
Assistant Township Education Officer	Member
Township Education Officer (one)	Secretary

Duties and Responsibilities

1. <u>During normal time</u>
   - 1.1. To implement strategies and decisions of the Department of Basic Education (3) (main) and its Natural Disaster Management Committee.
   - 1.2. Under each district, to develop preparedness and prevention, risk reduction and response plans.
   - 1.3. Under each district, to conduct trainings, exercises and drills on natural disaster preparedness and prevention, search and rescue, etc., in collaboration with local authorities.
   - 1.4. Under each district, to appraise preparedness plans every six monthly.
   - 1.5. To form township natural disaster preparedness sub-committees and, develop and allocate tasks accordingly.

2. <u>Issuance of alert and warning</u>
   - 2.1. To cooperate with local authorities in the districts and townships for issuance of warnings.

3. <u>During disaster</u>
   - 3.1. In case of severe storms, floods, earthquakes, fire, to support the provision of emergency measures in communication, search and rescue, resettlement and healthcare per district.

4. <u>Rehabilitation</u>
   - 4.1. Under each district, to collect and collate data on damaged (total damage or partial damage) properties, deaths and missing persons and submit the data to DBE-3 Natural Disaster Management Committee.
   - 4.2. To oversee the emergency response and resettlement operations together with international NGOs, NGOs, UN agencies and donors/ private contributors.
   - 4.3. To take charge of immediate distribution of benefits (housing budget, aid money, aid materials) to the affected staff.

(h) Constitution of Natural Disaster Prevention Committee in the 45 townships in Yangon Divisions

Township Education Officer	Chairman
Heads of State High Schools	Members
Heads of State Middle Schools	Members

Heads of State Primary Schools	Members
Assistant Township Education Officer	Communication Officer
Principal of State High School (one)	Secretary

(i) Duties and responsibilities

1. During normal time
   - 1.1. Under each district, to implement strategies and decisions of Natural Disaster Prevention Committee.
   - 1.2. Under each township, to administer the construction of appropriate types of school buildings (Cyclone shelter, RC, brick noggin, etc.) based on their location in the areas categorized under coastal area, midland area and inland area.
   - 1.3. To supervise the construction process of affected (storm and earthquake) school facilities to ensure adherence to the requirements issued by DBE-3 on plinth level, junction, joints and beams.
   - 1.4. In each township, to conduct trainings on natural disaster preparedness and prevention, response, search and rescue, recovery and rehabilitation.
   - 1.5. To identify safe areas in each township and village.
   - 1.6. To identify important documentations (for example – graduation records (ka, kha), main lists, financial records, cheques, bank records) as priority (1/2/3).

2. Issuance of alert and warning
   - 2.1. To immediately convey the warnings to the responsible personnel and head teachers of imminent disaster as soon as the information is received from the media or relevant agencies.

3. During disaster
   - 3.1. To relocate to safer locations from vulnerable buildings in case of severe storm and earthquake, to prevent unlawful persons from taking the children away pretending to be their guardians (parents or family members), to protect the students like their own children by the teachers.

4. Rehabilitation and reconstruction
   - 4.1. To remove fallen trees and electricity lines within the school and education office premises as safety priority.
   - 4.2. Within the township, to collect data on damages per school and per block in details (length, width, height) and submit the report.
   - 4.3. To state in verbatim damaged furniture, media records, lists of documents, deaths and missing.
   - 4.4. Under each township, for each school, to facilitate the systematic delivery of search and rescue equipment, rehabilitation materials and financial support and to register all items received.

Information and Documentation Committee

Communication and Documentation Committee of DBE-3 will be formed as described below.

(a) Composition

Deputy Director General	Chairman
Director (Academic)	Member
Deputy Director (Academic)	Member
Assistant Director (Admin)	Member
Assistant Director (Inspection)	Member
Assistant Director (Teaching)	Member
Staff Officer (Student Affairs)	Member
Staff Officer (Admin)	Member
Staff Officer (Computer & Finance)	Secretary

(b) Duties and responsibilities

- To convey any forecasts and warnings related to earthquake, storm and flood to education offices and institutions concurrently as received from Department of Meteorology and Hydrology.
- To keep records (written and image) of all buildings and facilities (schools and offices) under DBE-3.
- To arrange for production of educational documentaries and short films on natural disaster management, preparedness and prevention.
- To organize talks and video screening (of past disasters in India, Japan, Indonesia, America, Ayeyarwaddy and Yangon Divisions) at schools.
- To plan for making of instant photo and video recording of affected areas if and when a disaster strikes.

Deployment of Liaison Officer

Following arrangements will be made to authorize the position of the Liaison Officer.

(a) Appointment

Deputy Director (Academic)	Liaison Officer (1)
Deputy Director (Admin and Finance)	Liaison Officer (2)

(b) Responsibilities

The personnel assigned as Communication Officers are to work with responsible officials at all levels on behalf of DBE-3 Natural Disaster Prevention Committee.

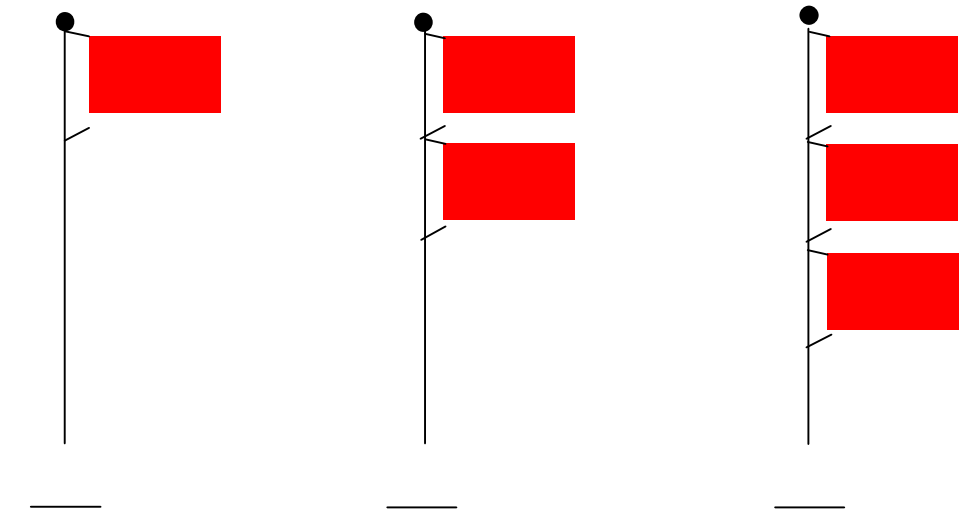
To counter such disasters as fire, earthquake and epidemic, committees formed at different levels from DBE-3 main office to district, township and school will manage the drills, preparedness and response functions.

Conclusion

Natural disasters could occur in any country, affecting people with any nationality, at any time. Therefore, operations focusing on prevention, preparedness, response, rehabilitation and reconstruction need to be planned annually and collectively.

Annexes

Setting Up of Flags for Storm Warnings at Offices and Schools



Stage1 to 3 stage 4 to 7 stage 8 to 11

Note: The flags are in red colour.

Warning stage 1: There is potential storm threat and the public need to pay attention to the weather forecasts.

Warning stage 2: A depression has been formed and the public has to pay attention and act accordingly to the weather forecasts, news and warnings.

Warning stage 3: Weather is likely to change and the public has to pay attention and act accordingly to the weather forecasts, news and warnings.

Warning stage 4: The storm is imminent but not likely to get intense and therefore the public has to act accordingly to the warnings.

Warning stage 5: The storm is gaining strength from weak to moderate and thus to be on alert.

Warning stage 6: Weather is likely to get worse and thus to take action according to the weather forecasts, news and warnings

Warning stage 7: The storm is gaining strength with higher wind speed and the public has to monitor and take action according to the warnings.

Warning stage 8: The storm is likely to get stronger and thus to prepare to move.

Warning stage 9: There is certainty that a severe storm would make landfall in this area and thus to commence the moving process.

Warning stage 10: The storm is approaching and thus to move.

Warning stage 11: The communication has been severed and the storm has arrived.

Damage Assessment Form

Damage to lives and property

Division/ State	Affected Township	Affected Area	Affected Population	Deaths (No.)	Missing (No.)	Injured (No.)	Affected Families	Completely Damaged Houses		Partially Damaged Houses	
1	2	3	4	5	6	7	8	9		10	
								Amount	Value	Amount	Value

Damage to livelihood

Loss of Livestock		Loss of Chicken/ Duck		Loss of Crops		Partially Damaged Crops (Land)		Loss in Salt Industry		Loss in Prawn Industry		Loss in Fish Industry	
11		12		13		14		15		16		17	
Amount	Value	Amount	Value	Amount	Value	Acre	Value	Acre	Value	Acre	Value	Acre	Value

Damage to schools, hospitals and health centres

Damaged Schools (number)				Damaged University/ College (number)			Damaged Hospitals (number)		Damaged Health Centres (number)	
18				19			20		21	
high	middle	primary	value	university	college	value	hospital	value	Health centre	value

Damage to religious buildings

Pagoda/ Stupa		Monastery		Nunnery		Church		Mosque		Hindu Temple	
22		23		24		25		26		27	
number	value	number	value	number	value	number	value	number	value	number	value

Other damages

Damaged Ponds & Wells		Damaged Boats		Damaged Fish Nets		Damaged Machinery		Others	
28		29		30		31		32	
Amount	Value	Amount	Value	Amount	Value	Amount	Value	Amount	Value

System for Weather Forecasting (including storm) and Signal Flags at Coastal Areas

Classification of Storm Strength

The scales of storms that are formed within or around the territory of Myanmar are classified as follows.

No.	Category	Wind Speed	
		Per hr speed over water	Per hr wind speed
1	Depression	18-27	21-31
2	Deep Depression	28-33	32-38
3	Tropical Storm	34-47	39-54
4	Cyclonic Storm	48-63	55-74
5	Severe Cyclonic Storm	64-85	75-102
6	Super Cyclonic Storm	86 & above	103 & above

Annex 8

Natural Disaster Preparedness Plan of Township Education Office, Bahan Township
April 2005 (Translated version)

Introduction

The Natural Disaster Prevention Plan of Bahan Township Education Office was developed to systematically carry out prevention, response and rehabilitation programs towards any natural disasters that might occur within the township.

Definition

Natural disaster can be defined as follows.

- A natural phenomenon that has adverse effects on the lives and properties of a society, and requires collective response of the communities and different organizations.
- Events that take place without any influence by men such as flood, earthquake, fire, storm, causing serious damages and drought leading to famine and disease outbreak.

Objective

This Plan was prepared with the objective of raising the awareness of officers, teachers and students in Bahan township on the following subjects.

- Natural conditions that could trigger hazards;
- Basic simple preparedness and preventive measures;
- Potential immediate response actions that could be and need to be undertaken, mainly the dos and don'ts, during an emergency situation;
- Measures and activities related to relief, recovery and rehabilitation of natural disaster and dos and don'ts in the aftermath of a disaster.

Different Types of Natural Hazards

Based on the climate and topography of Myanmar, followings are the most common hazards in the country.

- Fire
- Flood
- Storm
- Earthquake
- Drought.

Establishment of Committee

Bahan Township Education Disaster Preparedness Committee would be constituted as follows.

Township Education Officer	Chairman
Head of State High School No.(1)	Member
Head of State High School No.(2)	Member
Head of State Middle School No.(1)	Member
Assistant Township Education Officer	Secretary

Functions of the Committee

The functions of the Bahan Township Education Disaster Prevention Committee are as follows:

- To carry out activities and instructions from the higher level committees.
- To conduct educational activities occasionally such as organizing of discussion forums, speeches and dissemination of posters and brochures on fundamentals of natural disasters/hazards.
- To seek permission from the higher authority to perform immediate emergency support operations for affected offices and schools in the event of a big scale disaster.

Bahan Township Education Disaster Prevention Committee will be made up of following sub-committees in order to execute its required functions.

- Information and education sub-committee
- Emergency communication sub-committee
- Emergency search and rescue sub-committee
- Emergency relief sub-committee
- Damage assessment sub-committee
- Transportation and route clearance sub-committee
- Prevention and resettlement sub-committee
- Healthcare sub-committee
- Recovery and rehabilitation sub-committee
- Security sub-committee.

Specific Actions to be Undertaken

In handling prevention and mitigation of natural disasters, activities will be executed, under different types of disasters, according to following three phases.

1. Before disaster (preparedness and prevention)
2. During disaster (search and rescue)
3. After disaster (search and rescue, relief, recovery and rehabilitation).

Fire

Before Disaster

- To carry out fire preparedness and prevention interventions.
- To ensure rubbish and other materials that could fuel a fire are cleaned up daily.
- To install appropriately fire extinguishing equipment (hook, flat, bucket for carrying water, sand bucket, fire extinguisher, iron rod for sounding warning, etc.).
- To allocate fire prevention tasks to teachers and education officers in each building/ hall.
- To assign daily fire security and observation duties.
- To organize educational programs on fire preparedness and prevention, to convene discussion forums and speeches, to publish posters and brochures and to conduct trainings.

During Disaster

- To shut down the main (electricity) switch.
- To move valuable items to safe places.
- To report to fire brigade and other relevant departments (by phone or by messenger or any other means for immediate communication).
- To execute departmental instructions.

After Disaster

- To perform emergency search and rescue operations.

- To clean up the affected (burnt) areas.
- To execute instructions from the higher level.

Storm

Before Disaster

- To monitor and pay attention to storm warnings issued by the Department of Meteorology and Hydrology and to take actions accordingly.
- To enhance the knowledge of students, teachers and education officials by conducting trainings, workshops and discussion forums and distribution of booklets and brochures mainly on storms.

After Disaster

- To perform search and rescue operations.
- To clean up the affected areas.
- To assess the situation and report to higher level.
- To execute instructions from the higher level.

Earthquake

Before Disaster

- Since earthquake is a hazard that could happen at any time, to organize earthquake preparedness and prevention trainings at offices and schools.
- To identify and mark safe areas (open space with no buildings).
- To conduct talks on earthquake safety measures.
- To carry out tsunami awareness programs.

After Disaster

- To perform search and rescue operations.
- To clean up the affected areas (debris).
- To execute instructions from the higher level.

Conclusion

Based on the details of Bahan Township Natural Disaster Preparedness Plan, committees and sub-committees would be constituted to oversee the implementation of natural disaster prevention activities.

Annex 9

School Disaster Preparedness Plan Prepared by Basic Education Primary School 'A' in 2009

Disaster Risk Assessment

The result of school disaster risk assessment by brain storming is presented in the following table:

Disaster	Probability of its occurrence	Damage or loss that may occur due to vulnerability	The severity of affect to the function of school					Total score of the risk	Line-up of risk in order
			Operation	Satisfaction of people	Finance/ budgeting	Law/ Order & regulation	Total score of the severity of affect		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)+(5)+(6)+(7)	(9)= (2)x (8)	(10)
Fire	2	2	2	2	3	3	10	20	2
Storm	4	3	3	3	3	3	12	48	1
Earthquake	1	1	1	2	3	2	8	8	3

Note: Score level- 4= Highest, 3=High, 2= Low, 1= Lowest

Line-up of risk order: The hazard that has the highest score is lined up as number 1. The hazard that has next lower score is line up as number 2 consecutively.

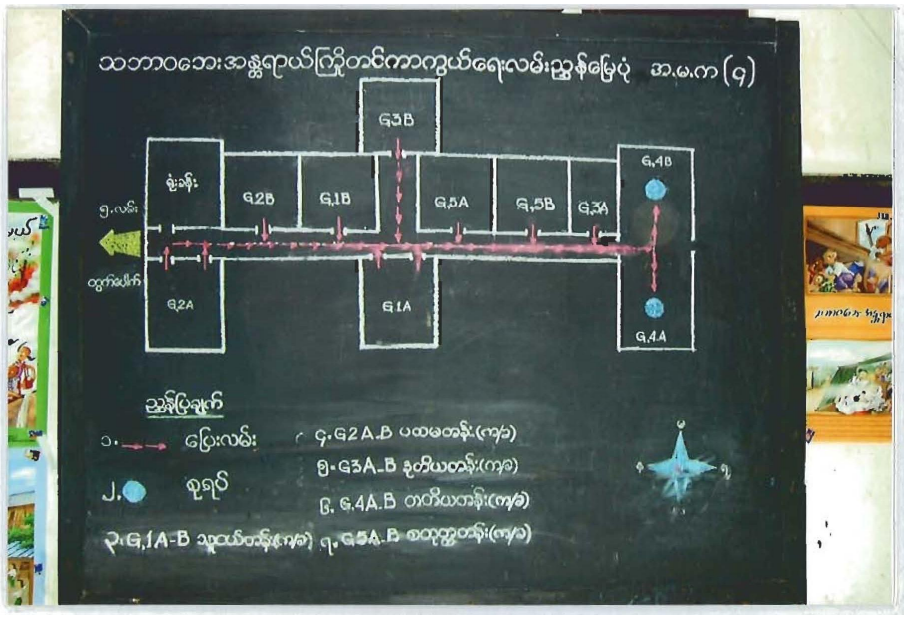
This disaster risk assessment suggested *storm/cyclone*, the highest risk.

Disaster Preparedness and Response Plan

Based on the result of assessment above, a disaster preparedness response plan for storms was drawn up as follows:

Issues	Before disaster	During disaster	After disaster
Preparedness planning	• Call a meeting with School Board of Trustees and PTA • Form a working group • Make a plan in coordination with Ward Peace & Development Council (Ya-Ya-Ka) • Practice in a simulated situation • Improve the plan	• Implement the plan	• Implement the plan • Review, assess and improve the plan • Implement the plan
Procedure	• Teach students about evacuation • Practice evacuation • Keep students in a safe place when storms strike	• Implement the policy	• Implement the policy

	• Sending children home • Close school if necessary • Set roles and responsibility for personnel		
Coordination with other organisations & community	• Inform them to observe weather conditions and listen to weather reports	• Cooperate with organisations concerned	• Cooperate with organisations at the ward & township level
Communication	• Listen to weather reports • Inform students and related organizations regularly	• Notify parents, teachers & students	• Contact and report news to parents, teachers & students
School personnel management	• Implement the policy as usual	• At the headmasterôs discretion	• Implement the policy as usual
Control of school access	• Under the supervision of class teachers	• Contact parents to pick up students	• Operate as usual
Student transportation	• Operate as usual • Make arrangements from school to back home	• Operate as planned	• Operate as usual
Instruction	• Teach as usual	• Announce a school closure	• Reorganise classes
Co-curricular Activity	• Operate as usual	• Select appropriate activities and carry them out	• Carry out rehabilitation activities
Outside school activities	• Operate as usual	• Cancel all activities	• Operate as usual
Keeping the school clean	• Operate as usual	• Carry out as planned	• Restore the environment
First aid and care	• Operate as usual	• Provide first aid treatment	• Request support from local authority



School evacuation map

School Disaster Preparedness Plan Prepared by Basic Education Middle School '*B*' in 2009

Disaster Risk Assessment

The result of school disaster risk assessment by brain storming is presented in the following table:

Disaster	Probab-ility of its occur-rence	Damage/ loss that may occur due to vulnerabil-ity	The severity of affect to the function of school					Total score of the risk	Line-up of risk in order
			Opera-tion	Satis-faction of peo-ple	Finance/ budg-eting	Law/ Order & regula-tion	Total score of the se-verity of affect		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)+(5) +(6)+(7)	(9)= (2)x (8)	(10)
Dengue Fever	2	Absence Medical expense Education affected Depression	4	3	4	3	14	28	3

Fire	4	Loss of building, facilities & documents Impact on education Financial problem	4	2	1	3	10	40	1
Storm	3	Loss of building, facilities & textbooks Loss of life Impact on education	3	4	3	3	13	39	2

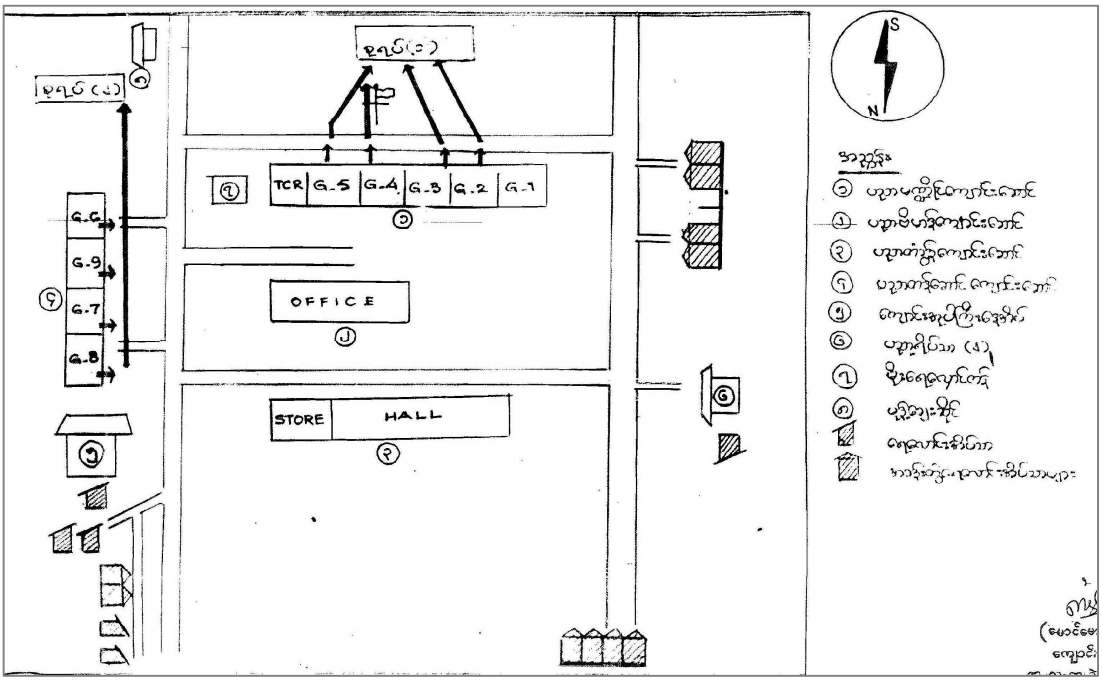
Note: Score level- 4= Highest, 3=High, 2= Low, 1= Lowest

Line-up of risk order: The hazard that has the highest score is lined up as number 1. The hazard that has next lower score is line up as number 2 consecutively.

This disaster risk assessment suggested ***fire***, the highest risk.

Possible solutions to the risks in school

Risk	Places	Solutions
Fire caused by negligence and garbage	Classrooms; storeroom, office, staff quarters, school and its vicinity	• Display instructions • Keep *meejeit* & *meegat* (iron hook and flap attached to a long pole), sand baskets & bucket • Get rid of garbage and inflammable materials in the school area • Fill water in the tank • Use fire systematically in and out of the staff quarters and school • Build firebreak to prevent the spread of fire
Tornado/ storm	School and its vicinity	• Repair the school building to become resistant to tornado/storm • Cut dangerous tree branches near buildings • Identify safe places in advance • Practice mock drills
Dengue fever	School and community	• Keep the school compound and drainage clean • Make sure the school has good ventilation and enough light • Arrange talks on health education • Contact the health department for information and advice • Provide proper medical treatment to those who have dengue fever.



The layout map BEMS *B* with evacuation routes

Annex 10

Natural Disaster Preparedness Plan
Kungyangone Township, Yangon Region
December 2010 (Translated version)

Introduction

Kungyangone is situated next to Toe river. Due to its immediacy to the Bay of Bengal and Andaman Sea, it experiences natural disasters frequently. The difficulty of predicting when and where a natural disaster might strike make it complicated for any preventive undertakings. However, through preparatory measures such as risk assessment and mock drills to enable effective response in emergency situations, risks can be reduced.

Objective

The Objective is to react and response effectively, without delay and systematically at different levels from division, township, ward to village in the events of natural disasters in Kungyangone Township.

Definitions

- "Disaster" means a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources.
- " Disaster Risk" means estimated losses (including death, injury, loss of properties and livelihood, and damage of the surroundings, etc) (or) the impact due to the vulnerability of the people and the natural disasters or man-made disasters

$$\text{Risk} = \frac{\text{disaster X vulnerability}}{\text{Response}}$$

- "Disaster Risk Assessment" means a methodology to decide the nature of the disaster by assessing the risk or vulnerability.
- "Preparedness" means to make the knowledge and capacity of the government, skilled organizations, communities and individuals on the effective response to the impact of disaster which is going to happen or currently happens ready.
- "Relief" means the support on the living and the basic need of the effected people during the disaster and after the disaster. It can be short term and long term activities.

Natural Disaster Management Committee, Education Department in Kungyangone Township

The Natural Disaster Management Committee of Education Department in Kungyangone Township in Yangon Region will be constituted as follows.

(a) Structure of Natural Disaster Management Committee

Township Education Officer	Chairman
Head of State High School(Latkhoakkone)	Member
Head of State Middle School(Tawkuu)	Member
Head of State Middle School(Tawlann)	Member
Head of State Middle School(Tawkhayan)	Member
Head of State Middle School(Tawkalait)	Member
Head of State Middle School(Wetkait)	Member
Head of State Middle School(Tawkyaung)	Member
Heads of all State Primary Schools	Members
Deputy Township Education Officer	Liaison Officer
Head of State High School No. 2 (Kungyangon)	Secretary

(b)Duties and Responsibilities

1. <u>During normal time</u>
   (aa) To implement the Disaster Preparedness Plan according to the strategies and decisions of the upper level Natural Disaster Preparedness Committees.
   (bb) To identify the coastal area, Midland Area and Inland Area in the township and to supervise the construction of school cum shelter, RC, Brick Nogging, etc.
   (cc) To supervise the school construction to be the cyclone resistant building with the plinth levels, junctions, joints, beams identified according to the building codes approved by the department.
   (dd) To conduct trainings in the township on preparedness, response, relief and resettlement.
   (ee) To identify and designate in advance the Safe Areas in the village/ward enable to evacuate when the disaster happens,
   (ff) To identify in advance the important documents of the Township Office and schools (such as School Transfer Certificates (TC), (Ka) List, (Kha) List, Cash Book, Cheques, Bank Passbooks, Service Books) as Priority (1),(2) and (3).
   (gg) To asset the plants, buildings, trees, etc which can cause the danger and draw the map and display it in the Township Office and schools.

2. <u>Issuance of alert and warning :</u>
   As soon as the warning of disaster from media or from authorities received, inform the Class Teacher calmly and arrange in advance to avoid the loss of human, building, furniture and important documents.

3. <u>During disaster</u> :
   Evacuate from risky buildings to safer place during severe storms, earthquakes and floods. Make sure that the children are not to be taken away by the unlawful persons and hand them over to their parents or guardians.

4. Rehabilitation
   (aa) To remove the fallen roofs, trees, debris and the electric wires in the school and office compound.
   (bb) To collect the detailed data on the damaged school buildings.
   (cc) To collect the detailed data on damaged furniture, documents, dead toll, people missing.
   (dd) To get the relief items and funds per township or per school quickly and to record the list of items systematically
   (ee) To arrange to submit to the upper authority the information on the damaged buildings, furniture, media, documents to be provided as soon as possible

5. Information and Documentation Committee

The Information and Documentation Committee of Township Education Office in Kungyangone Township will be constituted as follows:

(a) Composition

Head of State High School No.1 (Kungyangon)	Chairman
Head of State High School(Tawkhayan)	Member
Head of State Primary School(Ma ji Tan)	Member
Head of State Primary School(Yan Gyi Aung)	Member
Deputy Township Education Officer	Secretary

(b) Duties and Responsibilities

- To convey the forecast related to the disaster to the respective educational organizations within the township as received from Department of Meteorology and Hydrology.
- To take photographs of the buildings owned by the Departments and of the school buildings within the township for record purpose.
- To arrange talk on Disaster Management and Preparedness for the ward/village level.
- To display the video show on the disasters hit in India, Japan, Indonesia, America, Ayeyarwady Division and Yangon Division for the public awareness raising.
- To arrange to take photographs or video news at anywhere or anytime when the disaster strikes

6. Deployment of Liaison Officer

Following arrangements will be made to authorize the position of the Liaison Officer.

(a) Appointment

Deputy Township Education Officer	Liaison Officer (1)
Deputy Township Education Officer	Liaison Officer (2)
Head of State Primary School (Yan Gyi Aung)	Member

(b) Responsibilities

The personnel assigned as Liaison Officers are to work with responsible officials at all levels on behalf of Township Education Office Natural Disaster Preparedness Committee.

7. To counter such disasters as fire, earthquake and epidemic, committees formed at different levels from main office to district, township and school will manage the drills, preparedness and response functions.

8. The most likely disaster in the township and the arrangement for the preparedness

Calendar of Most likely disaster in the township

Sr. No.	Disaster	Duration											
		Jan	Feb	Mar	Arp	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1.	Cyclone					✓	✓	✓	✓	✓	✓		
2.	Tornado					✓	✓	✓					
3.	Fire	✓	✓	✓	✓	✓					✓	✓	✓
4.	Flood							✓	✓	✓			

Arrangement for preparedness

- The township plan has been developed for preparedness. (the risk map is attached)
- To develop the list of the school buildings which can be effected by the disasters
- To develop the followings points at every State High School, Middle School and Primary School
    - To develop the plan on school safety
    - To institute school disaster management committee
    - To identify the possible disaster and resources
    - To prepare the risk map
    - To conduct mock drill
    - To develop the evacuation maps
    - To paste the information related to the disaster in public place.
    - To identify school furniture and financial documents on priority basis
    - To get the emergency kits ready
    - To arrange the emergency first aid kit and other medicines to be ready

Conclusion

Natural disasters could occur in any place at any time. Therefore, operations focusing on prevention, preparedness, response, rehabilitation and reconstruction need to be planned collectively.

Guidance on

Mainstreaming Disaster Risk Reduction

in the Education Sector, Myanmar - Rural Settings