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Synthesis Report

Disaster Resilient Primary Education in Bangladesh

Problems, priorities and actions for risk management in primary education

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ACRONYMS

ADC	Additional Deputy Commissioner
AE	Adult Education
ATEO	Assistant Thana Education Officer
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka (currency, I USD=70BDT)
BMEB	Bangladesh Madrasha Education Board
BNFE	Bureau of Non-formal Education
BRAC	Bangladesh Academy for Rural Advancement
BSEE	Bangladesh Standard of Education in Emergency
CE	Continuing Education
C-in-Ed	Certificate in Education
CPE	Compulsory Primary Education
DG	Director General
DNFE	Directorate of Non-formal Education
DPE	Directorate of Primary Education
DPEO	District Primary Education Officer
DPHE	Department of Public Health and Engineering
DPP	Development Project Proposal
DSHE	Directorate of Secondary and Higher Education
DMB	Disaster Management Bureau
DRR	Disaster Risk Reduction
DP	Disaster Preparedness
DRM	Disaster Risk Management
Ebtadey Madrasa	Religious school offering primary education
EiE	Education in Emergency
EFA	Education for All
FCPE	Formal free and Compulsory Primary Education
FFE	Food for Education
FGD	Focused Group Discussion
EWS	Early Warning System
GDP	Gross Domestic Production
GoB	Government of Bangladesh
GPS	Government Primary School
HFA	Hyogo Framework for Action
ICDDR,B	International Centre for Diarrhoeal Dieses Research, Bangladesh
ICDP	Integrated Community Development Project
IDEAL	Intensive District Approach to Education for All
IEC	Information, Education and Communication
IRR	Internal Rate of Return
LGED	Local Government Engineering Department
LGRDC	Local Government and Rural Development Council
MDG	Millennium Development Goals
MOE	Ministry of Education
MOPME	Ministry of Primary and Mass Education
MIS	Management Information System
NAPE	National Academy for Primary Education
NCPE	National Committee on Primary Education
NCPME	National Council for Primary and Mass Education
NCTB	National Curriculum and Textbook Board
NFBE	Non-formal Basic Education
NEC	National Education Commission
NGOs	Non Government Organizations
NPA	National Plan of Action

PRSP	Poverty Reduction Strategy Paper
PTA	Parents and Teachers Association
PEDP	Primary Education Development Program
PLCE	Post Literacy and Continuing Education
PMED	Primary and Mass Education Division
RNGPS	Registered Non-Government Primary School
PSC	Primary School Certificate
PRSP	Poverty Reduction Strategy Paper
PTI	Primary Training Institute
SMC	School Management Committee
SoD	Standing Order on Disasters
TA	ThinkAhead Limited
TNA	Training Needs Assessment
UN	United Nation
UNICEF	United Nation International Children Emergency Fund
UPE	Universal Primary Education
Upzila	Sub district, third administrative level of Bangladesh
Union Parishad	Union Council, lowest administrative level of Bangladesh
URC	Upazila Resource Centre
UDMC	Union Disaster Management Committee
UzDMC	Upazila Disaster Management Committee
VCA	Vulnerability and Capacity Assessment

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We are very happy to submit this study report to Plan International Bangladesh and Save the Children UK. As a team, we enjoyed working in this remarkable new research agenda that has the importance and the potential to influence policy and practices in building a resilient primary education for the children of Bangladesh.

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1.1 After poverty, disaster is arguably the most important factor preventing Bangladeshi children from enjoy their right to education. While the country made significant progress in creating effective policies, institutions and practices in disaster risk management, it remains too fragile with its primary education to protect rights of its children.

1.2 Country adopted Education for All (EFA) Action Plan 2001 had adopted a few projects to improve access, quality and inclusion in the primary education. The country also achieved significant progress in gross enrollment and gender parity; but many challenges remained with rates of dropout, repetition and competency. Disaster is most likely to have an influence over those challenges.

1.3 Many schools are already located in areas prone to regular flooding, cyclone, tidal surges and at high risk from earthquakes. Since the devastating cyclone of 1970, an estimated average of 900 education institutions are completely damaged each year by cyclone, flood and river erosion. Being one of the most populated countries in the world, disaster in Bangladesh means millions are affected. For example, during above mentioned period more than half a million people died with as high as one third of population affected in national scale disasters such as the flood of 1998. Disasters deepen poverty, preventing households to invest in their children's education during and immediately after the disaster which often results in complete separation from education.

1.4 Disasters' impacts on education and associated recovery cost have significant pressure on the country's national budget. For example, three disasters during 2004 to 2007 incurred costs of BDT 11.2 billion in education infrastructure alone.

1.5 The Government of Bangladesh (GoB) has been implementing school up-gradation program to reduce the physical risk to school infrastructures. But they produce limited successes due to the magnitude of disaster that affects not only the infrastructure but also the entire process of education. Limited systematic and proactive measures are not defined or undertaken to reduce the risk of primary education to disaster. Disaster risk management in education is largely a reactive paradigm, while there are initiatives by the GoB and NGOs to work with schools.

1.6 One of the primary reasons for DRR in education being overlooked is the limited knowledge about the significance of the problem. Past studies conducted by government and NGOs are limited to specific aspects or limited to geographical area. This study is undertaken to fulfill the gaps in knowledge.

2. THE STUDY

2.1 BACKGROUND

Plan International Bangladesh and Save the Children UK Bangladesh commissioned this study to ThinkAhead Limited to examine disaster risk to primary education in Bangladesh and draw a set of risk management strategies to mitigate those risks.

2.2 OBJECTIVES OF THE STUDY

A. **Impact of disaster:** Analysis of impact and risk of disasters on primary education.
B. **Vulnerability:** Factors at various levels making primary education, families, students, teachers, education managers, vulnerable to disaster.
C. **Stakeholder Mapping:** Existence, current activities and potential role of all public, private and community/informal stakeholders at national to upazila and union parishad level to make primary education disaster-resilient.
D. **Capacity assessment:** About current capacity of the stakeholders, capacity building needs, existing resources and strategies for disaster risk management (DRM) in education.
E. **Disaster Risk Management in primary education:** Current status, challenges and defining strategic priorities for DRM.

2.3 THE REPORT

This is the synthesis report summarizing core analysis of the impact of disaster on primary education; associated factors making primary education vulnerable to flood and cyclone; stakeholder analysis; capacity building needs; and a set of conclusions. Separate component-wise and location-wise reports are also available. The big underlying question this report answers is if Bangladesh needs to approach DRM and education differently in the context of climate change to achieve universal primary education for all.

2.4 METHODOLOGY

- Qualitative and quantitative methods are applied in this study. Focus group discussion (FGD), key informant interview and direct observation are the major tools used to understand nature of the disaster problem in education. Questionnaire survey is conducted to understand the degree and scale of the problem.
- Devastating flood and cyclone of 2007 is considered as benchmark for the study to understand impact of disaster on primary education. A comprehensive stakeholder and training need assessment is conducted to understand the level of input required to protect primary education from disaster at a scale of 2007 disasters.
- A total number of 7,998 boys, girls, parents, teachers, member of School Management Committee (SMC) and Parents Teachers Association (PTA) and all other formal and informal, government and non-government stakeholders engaged in a four months long data collection and consultation process. A total number of 23 unions from 10 districts are selected based on relative vulnerabilities of those locations. Further to that, 342 schools participated in the quantitative survey. Separate analysis is conducted for each level of administrative system of education that is schools, union, upazila and district.

3. MAJOR FINDINGS

IMPACT OF THE 2007 DISASTER ON PRIMARY EDUCATION -

ON ACCESS

3.1 Disasters have a significant individual and cumulative impact on primary education in the study locations over the last ten years. At least 90% school buildings experienced full or partial collapse of the infrastructure. Cumulatively, the schools in the study locations experienced 4,483 school day losses with a significant higher average in the flood areas (37 days per school) than cyclone areas (8 days per school).

3.2 *OVERALL IMPACT*. At least 93% schools are affected by 2007 disasters caused varying nature and degree of damage to infrastructure, learning environment and wellbeing facilities for children. More than 50% schools sustained physical damages. However, the impact is not just caused by direct impact of disaster on school but by destruction in overall physical environment such as embankments, access roads, etc.

3.3 Low intensity but frequent hazards such as storm, high tide, localized flooding have higher cumulative impact on schools while they also increase vulnerability to high impact hazards.

3.4 *SCHOOL CLOSURE*. It is often assumed that the school can reopen once water receded or the cyclone is over. But this study finds that many schools remained closed or limitedly functioning due to occupancy of school by the affected people. At least 19% schools in both flood and cyclone areas experienced more than four weeks of school closure in 2007. The school closure is found to be significantly higher problem for the flood area than cyclone areas. The study finds that there is no straight forward way that resulted in school program. At least 42% schools were closed during 2007 disasters that were not officially declared as closed in the study areas.

3.5 *ADDITIONAL IMPACT OF DISASTER SHELTER AT SCHOOL*. The government has adopted a policy to construct school-cum-disaster shelters in the vulnerable areas. The non-governmental actors implemented many school up-gradation programs during the same time. The study found that at least 18% schools that are used as disaster shelter in the study locations have experienced on an average eight days of closure in addition to school days loss as a result of direct impact of disaster. When school is used as shelter it causes an impact on school infrastructure, learning environment and wellbeing facilities. At least 40% of the schools that are used in 2007 were not constructed for this purpose in the study locations. Existing official procedures do not clarify roles and responsibilities of the stakeholders to minimize the damage to the school and learning environment while school being used as shelter as well as no policy guideline is available to return the school in original condition.

3.6 *TEACHING MATERIALS* such as learning materials, furniture, and co and extracurricular materials, of schools as input to quality education have been subject to severe damage in disasters of 2007 and 2009. The damage is significantly higher in the cyclone areas than flood areas. There is no fund allocated to the schools to deal with this kind of losses. On the other hand, the current early warning messages disseminated by both government and non-government actors do not include protection of teaching and learning materials in the cyclone area.

3.7 *DROPOUT*. Dropout from school is a major concern for education in Bangladesh. The figure is quoted as high as 47% in normal time. The study finds that at least 3% of the students dropped out as a result of direct impact of food and cyclone. While there is a negligible gender difference with combination of flood and cyclone data, but more girls are dropped out in flood areas than the cyclone areas. Other reasons for dropout mentioned by the schools include temporary relocation as a result of disaster, engagement in family income immediate after a disaster and early marriage. Irregular attendance is also seen as a significant problem caused by loss of learning material, in addition to the above mentioned factors. The girl child, especially the young girls in class four and five, face specific challenges to access education during a disaster. The reasons include engagement in household work, early marriage and privacy related issues.

ON QUALITY EDUCATION

3.8 Careful discussion with school teachers and students suggest significant subject-wise loss as a result of 2007 disasters. More than three quarter FGDs in the study locations pointed out that Mathematics and English being the subject that suffered most in 2007 disasters. FGDs with boys and girls pointed out that analysis of socio-economic condition of the households can explain why some students can recover from the losses and while others cannot. The families that can afford private tutors and have members who can support them in their studies are in a better position to recover the losses. With the current trend of disaster, a student in flood-prone area faced at least two to three disasters in her or his ten years of schooling. The implication of climate change which suggests higher frequency and intensity of disasters is most likely to be severe on the competency of the student if current impacts are not mitigated with appropriate actions.

ON FINANCIAL COSTS

3.9 The financial cost of the 2007 disaster on school is around BDT 84,000 with significantly higher numbers in flood areas compared to cyclone areas. However, even after two years of disaster incidents, many schools are found to be running with significant damages to their facilities. At least 33% in the flood area and 49% in cyclone area reported no recovery at all in their physical infrastructure. Wellbeing facilities such as water and sanitation are identified as most neglected area in the recovery efforts.

4. VULNERABILITY AND RISK

4.1 Section four of the report discussed about the 'pressure and release model' that was used to present the risk and vulnerabilities of primary education in Bangladesh. The model views disaster as a function of hazard (physical events such as flood or cyclone) and vulnerability (factors making a subject such as primary education more exposed to hazard). Further, the model divides progression of vulnerability into three progressive components. First, unsafe conditions which are the immediate factors making a subject exposed to hazards. Second, dynamic pressure that are the factors conditioning the unsafe conditions. And finally, root causes are the key factors constructing the dynamic pressure and unsafe conditions.

4.2 The seven risk factors are identified by the study:

- First, the physical location of the schools, and their fragile construction that is inadequate to withstand disasters.
- Second, use of schools as disaster shelter, especially in flood prone areas, makes those schools incur additional day loss of schooling. Even if schools are open, children from pocket areas cannot access schools because approach roads are inundated or damaged. This problem is heightened for the girl child and the students of class one to three.
- Third, when household and local economy is affected, children are also engaged in household income-related activities instead of continuing their education.
- Fourth, there is a serious lack in institutional preparedness from school to national level in protecting education from disaster.
- Fifth, while there is a high level of awareness about the importance of EiE, skills and knowledge gaps are evident to transform that skills and knowledge. Very limited initiatives are undertaken to support that transformation. Various disaster preparedness activities approach schools as means for risk reduction rather acknowledging and addressing risk to education.
- Sixth, DRM in education is yet to be developed in policy and practice term in Bangladesh. Education and disaster management are vertically aligned without a meaningful horizontal linkage. This is clearly evident both in existing disaster and education related policy and guidelines.
- Seventh, this study identified important DRM actions which are yet to be defined as roles and responsibilities of both education and disaster management related strategic and operational documents. As a result, there is a problem with role clarity at both school and union level.

5. PROPOSED BANGLADESH STANDARDS FOR EDUCATION IN EMERGENCIES (BSEE)

Building on the Minimum Standards in Education in Emergencies (MSEE), the fifth section of the report proposes a set of standard to achieve a disaster resilient primary education in Bangladesh. The study team added additional DRM standards to strengthen MSEE for Bangladesh.

6. STAKEHOLDER ANALYSES

6.1 Section six of the report highlights that Bangladesh has strong institutional foundation sufficient to promote risk reduction in primary education. Separate institutions therefore may not be required to promote the idea of Education in Emergencies (EiE).

6.2 However, existing institutions run with various constraints and challenges, which may equally be the limiting factors unless they are not addressed to even perform their regular duties. Within the institutional arrangement a voice responsiveness framework should be adopted to promote and sustain EiE.

6.3 For responsiveness the education offices upazila and district level should be the leader in promoting EiE. But, their current roles and responsibilities should include such provisions supported with human resource, logistic, IT, knowledge and skill input. At the school level, SMCs should continue the leadership role in school level risk mitigation measures. Again, the role and responsibility of SMC do not include required component for EiE.

6.4 Various risk assessment exercises conducted under the leadership of Upzila Disaster Management Committee (UDMC) currently do not include risk reduction aspect of education. The existing

Standing Order on Disaster (SOD) does not provide such direction and set out responsibilities to do so.

6.5 PTA and local civil society groups have important role in demanding risk reduction measures for education. The education committees at various levels are largely inactive in both cyclone and flood prone research districts which can play an important bridge between education and DRM. Participation of the key stakeholders, that is, parents and students is not evident in the key processes of education management and rehabilitation of schools in disaster. Participatory environment is the key precondition to promote and sustain the EiE which may require revision of certain provisions both in SOD and various circulars related education.

6.6 Coordination among the stakeholders both in education and disaster management works in parallel in all the research districts. This is clearly evident that the coordination performed well in the area where quality of leadership is better. External facilitation from agencies, training and the political culture are the three key factors that explain differential performance in coordination. There is a need for revision in the specific section of both education and disaster management guidelines in order to have more convergence in the coordination mechanism to promote EiE.

5 TRAINING NEEDS

7.1 Section seven of the report discuses about training of the various stakeholders in order to achieve BSEE. This also highlights the implication of additional role of BSEE implementation on their current job responsibilities.

7.2 Study highlights high level of awareness among the stakeholder about the importance of EiE. Gaps in skills, knowledge and orientation are also identified, which can transform the awareness into practice, once they are implemented.

7.3 The key training needs include: i). mmainstreaming DRM into primary education management focusing inclusion of DRM in URC and PTI activities esp. in: a) school lesson planning; b). school management; c). Education risk assessment; ii). School disaster risk management. a) school risk assessment, b) planning and implementing a school contingency plan; and local resource mobilization; iii). psychosocial Care for children affected by disaster. Assessment and handling of emotional well being of students by their teachers; iv). disaster Response and coordination in Education. Assessment, communication, MSEE, information management, and coordination; v). management of shelter in schools; vi). advocacy module for project partners; viii). management of alternative schooling and volunteer teachers

8. CONCLUSIONS

7.4 Most of the schools in the country are located in one or more kinds of disaster prone areas. Physical infrastructure of schools is regularly affected by disasters because historically school construction did not factor in disaster risks. Up to 90% of schools can be affected badly by any disaster in the impact zone.

7.5 The current frequency and magnitude of disaster has serious implications in achieving and sustaining current progress in education. Climate change is predicted to increase both frequency and magnitude of disasters. Such a scenario is most likely to have significant implications on primary education. For example, a student in a disaster prone area currently faces two to three large scale disaster in his/her entire school life with a significant implication on his or her right to quality education. Upward frequency thus shall have far more consequences on his or her life. The risk and vulnerability factors identified by the study should be addressed today for building a resilient primary education in Bangladesh. Current approach in disaster and education will not be sufficient to achieve both EFA and MDG goal in Bangladesh.

Section 1 introduction

1.1 ABOUT THE REPORT

Plan International Bangladesh, an international NGO, commissioned a consultancy to ThinkAhead Limited for conducting a set of studies on education in emergencies in Bangladesh. The key purpose of the studies is to generate understanding on disaster risk and explore actions to build a disaster resilient primary education system.

This is the synthesis report summarizing the core analysis of the impact of disaster on primary education; associated factors making primary education vulnerable to flood and cyclone; stakeholder analysis; capacity building needs; and a set of conclusions. Separate component-wise and location-wise reports are also available. The big underlying question this report answers is if Bangladesh needs to approach disaster risk management (DRM) and education differently in the context of climate change to achieve universal primary education for all.

The terms of reference is attached in annex A.

1.2 DISASTER PROBLEM IN PRIMARY EDUCATION IN BANGLADESH

Education is a right for all children, applicable to all circumstances and at all times. Like any parts of the world, this right is denied in many ways in normal time in Bangladesh. After poverty, disaster is arguably the most important factor putting children in denial of that right in various forms and degrees. Being a country highly prone to an array of high magnitude and frequent disasters, the impact on education is no less than any other development sector. Impacts are felt directly on school infrastructures and functions that result in, even in regularly-occurring disaster, school closure for a considerable period of time. Disasters affect the entire education system with significant negative consequences on children's access to quality education.

Bangladesh registers good progress in primary education especially in enrollment and gender parity but challenges remain significant with quality of education, competencies, rate of repetition, and drop-out[1]. However, the question remains whether Bangladesh could have achieved much faster progress had disaster impact been mitigated in education.

Bangladesh faces most types of disasters, geo-physical and hydro-metrological, to industrial and to food related crisis. Being one of the most populated countries in the world, a single disaster event can result in millions of people affected with severe impact on overall development especially in infrastructure, livelihood and home. With the highest disaster mortality rate in the world[2], Bangladesh lost 516,239 of its men, women and children during the period 1970-2005 in 171 disaster events[3]. While the average number of people killed and affected by disasters has fallen in the long run, this remains more than 50 million people in every five years from 1986 to 2007[4]. The economic costs associated with disaster are increasing with significant burden on HH and local economy. At least 0.8 million houses have been destroyed each

[1] *Education Watch Report 2008*. Campaign for Popular Education CAMPE. Dhaka. 2009.
[2] UNDP Vulnerability Index
[3] Calculated by the authors, based on various information such as DMIC/Ministry of Food and Disaster Management (MoFDM) and Centre for Research on the Epidemiology of Disaster (www.cred.be)
[4] ibid

year by disaster from 1970 to 2007. The disaster problem has been further exacerbated by the impact of climate change[5].

Many schools are already located in areas prone to regular flooding, cyclone, tidal surges and at high risk from earthquakes. Even though the cumulative impact of disaster on all aspects of primary education is not systematically assessed, the available data shows a frightening scenario. Since the cyclone of 1970, an estimated average of 900 education institutions are completely damaged each year by cyclone, flood and river erosion[6]. At the same time, an average of 4,666 schools are affected each year, with areas which are flood affected being more in number than cyclone prone coastal districts.

Table 1.1: Disaster impact on primary education infrastructure 1971-2007

Type of hazard	***Fully damaged school***	***Partially damage school***
Floods	17036	105341
Cyclone	16025	34225

Impact of disaster on students' wellbeing and learning environment results in poor quality of primary education. High frequency and intensity of natural hazards are among the key factors that can explain the larger differences in poverty at household and geographical level. Impact of disaster on a household's wellbeing and livelihood often erodes its ability to invest in education, prevents it from accessing education, and affects the study environment at home. The direct impact of disaster on teachers is ignored in many cases but this affects the quality of teaching. Disaster related livelihood insecurity, seasonal migration, engagement of children in HH work, and insecurity of girls are the key factors making vulnerable children unable to access education.

Recovery cost for education has a significant impact on the national budget. During 2004 to 2007, three disasters alone caused BDT 11,196 million in losses, causing significant pressure on education[7].

Education in emergencies is an emerging area of focus in both education and humanitarian response. Often, the objectives of these two areas are implemented separately in normal and disaster time, whereas in recent times there are signs of convergence in many parts of world supported by numerous guiding documents. However, the funding to make education safer from disaster and funding for recovery and early recovery support after a disaster is unpredictable and insufficient[8].

The Government of Bangladesh (GoB) has been implementing school up-gradation program to reduce the physical risk to school infrastructure. This often produces limited success due to the magnitude of disaster that affects not only the infrastructure but also the entire process of education. The small amount of systematic and proactive measures taken are not defined or properly carried out to reduce the risk of primary education from disaster.

The national capacity for responding to disaster immediately after disaster continues to grow, as it was evident in cyclone Sidr in 2007. Improvement in communication and transport infrastructure translated into a much faster delivery of assistance. However, the national capacity, which is based on the assumption that the country may face one national disaster in every three to five years, merits revision in the context of climate change and increasing frequency of disasters. Disaster risk management in education is largely a reactive paradigm, however there are initiatives taken by the GoB and NGOs to work with schools.

[5] Alam. KA et. al Comparative Risk Profile in Climate Change of the Selected Agro-ecological zones in Bangladesh. Oxfam GB. Bangladesh. 2009.

[6] Calculation done by the authors based on information provided by DMIC/MoFDM.

[7] Advancing Public Interest Trust. www.apitbd.org

[8] Delivering Education for Children in Emergencies: A Key Building Block for the Future. Save the Children Alliance. UK. 2008.

One of the primary reasons for DRR in education being overlooked is the limited knowledge about the significance of the problem. Past studies conducted by government and NGOs are limited to specific aspects or limited to geographical area. This study is undertaken to identify these gaps in knowledge.

1.3 PURPOSE OF THE STUDY

This study is conducted to understand disaster risk to primary education in Bangladesh and draw a set of risk management strategies to mitigate those risks.

The objectives are as follows:

F. **Impact of disaster:** Analysis of impact and risk of disasters on primary education.
G. **Vulnerability.** Factors at various levels making primary education, families, students, teachers, education managers, vulnerable to disaster.
H. **Stakeholder Mapping**: Existence, current activities and potential role of all public, private and community/informal stakeholders at national to Upazila and union Parishad level to make primary education disaster-resilient.
I. **Capacity assessment:** About current capacity of the stakeholders, capacity building needs, existing resources and strategies for disaster risk management (DRM) in education.
J. **Disaster Risk Management in primary education.** Current status, challenges and defining strategic priorities for DRM.

1.4 CONCEPTUAL FRAMEWORKS

The study used four conceptual frameworks, i.e. i). disaster impact on primary education, ii). training needs assessment, iii). stakeholder analysis, and iv). risk and vulnerability analysis, to design the study questions and methodology. The frameworks are discussed at the beginning of each of the relevant sections and briefly discussed below.

1.4.A. IMPACT OF DISASTER ON PRIMARY EDUCATION

There are many frameworks available to examine different sectoral impacts of disaster but impact assessment in education is still a newly emerging area. For this study, impact is defined as all direct and indirect negative effects of disaster on primary education that may have an implication on 'access' and 'quality' which are two of the major goals of primary education in Bangladesh.

Three important factors are considered to design the impact framework. First, various aspects of the primary education system is considered to determine the nature and pattern of impact. Second, types of schools are considered as disaster may not have equal impact on all types of schools and schools may not have similar vulnerability. Third, the type of disaster, flood and cyclone, is considered to understand if there is any difference in their impact.

The country faced two national scale disasters in 2007 - flood and cyclone Sidr - which were considered to understand the impacts. In addition, cyclone Aila, April 2009, was also considered to understand its very unique nature of impact. The impacts are presented in the study according to type of disaster and type of schools.

1.4.B. STAKEHOLDER ANALYSIS

Stakeholders are defined as all who are involved with the primary school and education system and might play roles at varying degrees in making education resilient to disaster. The relevant stakeholders, including individuals such as teachers, children's groups, SMCs and local institutions/organizations including local government departments, NGOs/CBOs will be examined in order to develop relevant training programs. This should be done at district, Upazila, union and school levels.

1.4.C. VULNERABILITY AND RISK

Vulnerability as a concept explains differential impact of hazard on location and population groups. Risk is comparatively a new concept in disaster management, adopted widely from mid 1990s and received international recognition in HFA in 2005. Adopted by all governments at the world conference on Disaster Reduction in Japan, 2005, HFA provides the conceptual basis, framework and priorities for risk reduction. Risk reduction focuses on proactive measures to reduce probable negative consequences of disaster on community, economy, society as well as sectors such as education, health, etc.

The concepts are applied to identify and assess the risk to education from disasters and the factors constructing the vulnerability of primary education. This has examined risks and vulnerabilities of the overall primary education system; different types of schools, students and parents. A combination of Vulnerability and Capacity Analysis (VCA) Framework used by Red Cross and many other non-governmental organizations, and Pressure-Release Models are used to define the framework. Discussions are elaborated at the beginning of the impact analysis section.

1.4.D. CAPACITY AND TRAINING NEEDS ASSESSMENT

For this study, capacity need is defined as 'various requirements of the stakeholders i.e. education administration, school community to achieve a minimum standard of education in emergencies (protect education from disaster, continue education during disaster with equal access and quality; and recover the loss quickly) at 2007 scale of flood and cyclone'. Please see more discussion at the beginning of the training needs section.

The capacity assessment may include the following:

a) Policy: education and disaster-related (e.g. policy is not clear or providing direction; or itself is a barrier in protecting education from disaster). You should identify the aspects of policy and practice that pose a problem and find out what should be included in the policy.
b) Planning and program development (e.g. we know the problem but do not know how to design and budget a program)
c) Conceptual clarity (e.g. we do not think education in emergencies is a significant problem, there are many other unsolved regular problems; or there is no awareness at policy level on this)
d) Human resources (we know the problem, but we do not have adequate human resource to do this; we are already under a heavy work load)
e) Disaster assessment (e.g. format is not comprehensive, information collection on time is a challenge, quality of the methodology does not cover all aspects, manual compilation, and problems with dissemination-equipments, etc)
f) Decision making and unclear roles (as a result they cannot act well in advance, or after a disaster e.g. setting up alternative schools, etc). You need to review existing roles and make suggestions on where there is a need to revise the role of a stakeholder.
g) Financial (not enough budget, or enough roles and authority to reallocate existing budget in the time of emergency)

1.5 THE METHODOLOGY

1.5.A. METHODOLOGICAL FRAMEWORK

In order to draw a comprehensive analysis, the study collected information from all relevant stakeholders and levels, which are described below:

1. Who's Perspective? Input from students, parents and teachers to determine impact of disaster on primary education; and stakeholder analysis to determine the big picture on risk and vulnerability. All relevant education and disaster management stakeholders at school, union, upazila and district levels are engaged with the study.
2. The nature and degree of problems that disasters impose on primary education and their solutions are established through qualitative and quantitative tools and techniques of data collection and analysis.
3. Review of available literature, polices and past studies.
4. Three-step analysis workshop is conducted with all members of research team to generate synthesis and key conclusions from the qualitative phase of the study. Statistical procedures i.e. frequency, mean, medium, cross tabulation are performed to generate quantitative analysis.

1.5.B PROCESS OF THE STUDY

Two-track, but internally liked, process is used in the study which is presented in following table:

Table 1.2: Study process flow chart

Qualitative Process/steps	**Quantitative Process/steps**
1. Step 1: Study designing workshop, with participation of TA, Plan, SCF, partners etc. Literature review. Design of checklist, sampling, stakeholder mapping.	1. Step 1: Designing Questionnaire. Two sets of exercise conducted to design the questionnaire for school survey. Major input came from MSEE and in-depth phase of the study. LFA analysis done to identify baseline indicators.
2. Step 2: In-depth phase-in Gaibandha and Patuakhali, with engagement of school, union, upazila and Zila stakeholders. The school survey questionnaire was designed based on the fining of in-depth phase. An analysis and review workshop conducted.	2. Step 2: Questionnaire tested in three schools in Sirajganj. Training conducted for quantitative researchers.
3. Step 3: In-depth phase analysis workshop conducted. TNA generated for PLAN and SCF.	3. Step 3: Field work conducted in 21 unions in 6 districts.
4. Step 4: Extended phase, in which eight more districts and Upazilas are covered to capture broader analysis.	4. Step 3: Data entry, cleaning and analysis performed.
5. Step 4: Final analysis workshop held in Dhaka to generate key conclusions from the study. Literature review. National stakeholder interview. Synthesis process of the field reports.	5. Step 4: Report writing.
6. Step 5: Report Writing.	

1.5.C. TOOLS AND TECHNIQUES

Following are the tools and techniques used in the study:

- **Qualitative study:** Focus group discussion, key informant interview and direct observation are the three major tools used in the study. Moreover, a wide variety of records and information is also reviewed at various levels, especially from the school, education offices and DMB/DMIC. Literature review is conducted with key interview of national stakeholders.

- **Quantitative study:** Two sets of questions combined in one questionnaire used for the school and baseline survey. A guideline in Bangla also developed and used to aid the study team.

1.5.D. COVERAGE OF THE STUDY

1.5.D1. GEOGRAPHICAL COVERAGE

The map attached in annex B shows the study locations. The locations are chosen from the rural areas affected by flood and cyclone in 2007. Some of the cyclone prone areas are also affected by cyclone Aila in 2009, so the impact of disaster was reasonably high on those areas.

- **Selection of Union.** A total number of 21 unions[9] are selected for the school survey. All these unions are selected based on their physical vulnerability to flood and the cyclone path of Sidr. Three indicators are used to select the union from flood prone areas: i). very close to river (6 unions), ii). located within 10 km of river (3 unions), and iii). typically flood plain (4 unions). Similarly, three criteria are also used to determine union selection from cyclone prone coast: i). frontiers/physically closer to cyclone path/sea (6 unions), ii). inland coast (2 unions), and iii). adjacent to Sundarbans (3 unions). See annex C for detailed sampling procedure.

- **Selection of unions for In-depth assessment**. Two more unions are also selected for in-depth assessment of schools. The first union was selected from flood prone Shaghata upazila of Gaibandha and second one selected from cyclone affected Nilganj upazila of Patuakhali district.

- **Selection of District and Upazila:** 10 upazilas and districts are selected for qualitative part of the study, where separate upazila and district-level impact assessment, stakeholder analysis and TNA are conducted. These upazilas and districts are selected with a good spread and representation of the country's flood and cyclone prone areas.

[9] Unions are comprised with several villages. This is the lowest administrative unit of Bangladesh, governed by elected representatives. The Union Parishad (council) do their own planning and often oversee development in their area.

1.5.D2. POPULATION COVERAGE

The study represents a view of a total number of 7,998 boys, girls, parents, teachers, members of SMC and PTA and all other formal, informal, government and non-government stakeholders at different levels. The following table presents the summary of number of people participated in the study.

Table 1.3: Number of people participated in the study by level, type and location

Level of analysis	Stakeholders	Number of stakeholders in cyclone and flood area	
		Flood area	Cyclone area
School	Students-boys and girls, drooped out, physically challenged	QL: 105 QN: 947 (B: 579 and G: 493)	QL: 124 QN: 1672 (B: 813 and G: 871)
	Unorganized parents/Parents Teachers Association (PTA)	QL: 100 QN: 126	QL: 96 QN: 290
	School teachers	QL: 20 QN: 565	QL: 24 QN: 544
	School Management Committee (SMC)	212	398
Union	Chairman, Secretary, members and UDMCs and Education committees	7	3
Upazila	UNO, PIO, UEO, LGED, Teachers Association, Political leader, URC, Media, NGO, Local government and education committee.	64	40
District level	DC, ADC, DRRO, DPEO, LGED, PTI, Press Club, Political leaders, NGOs and TA	38	47

Note: QL=Qualitative exercise. QN= Quantitative exercise.

Coverage of the school

A total number of 342 primary schools are covered in the study, following a cluster survey techniques employed in 21 unions.

Table 1.4: Coverage of the school in the survey by type and disaster context

Type of school	Type of disaster context		Table Total	
	Flood 2007 affected districts	Cyclone SIDR and AILA affected districts		
	# of schools	# of schools	# of schools	Percentage
1 GPS	65	77	142	41.5%
2 RNGPS	56	59	115	33.6%
3 NGPS	3	7	10	2.9%
4 Ebtadia Madrasa	7	5	12	3.5%
5 Attached Ebtedia Madrasa	6	10	16	4.7%
6 NGO School	3	12	15	4.4%
7 Kindergarten	2	6	8	2.3%
8 Attached High School	1	0	1	0.3%
9 Community School	11	12	23	6.7%
Table Total	**154**	**188**	**342**	**100.0%**

1.6 COMPOSITION OF RESEARCH TEAM AND THEIR TRAINING

Two teams with members combining relevant skills and experience collected the information for study.

The qualitative assessment is conducted by a group of five researchers, led by a capacity and risk assessment expert. The quantitative school survey is conducted by 15 field researchers with support from two research supervisors and a quantitative survey expert. In order to combine education and disaster experience in the team, researchers are selected from those backgrounds. On top, an education advisor also hired for the team to provide input to the process. Geographical Information System (GIS) data is collected by a group of students from Jahangirnagar University, under the supervision of the Management Information System (MIS) expert of the team.

The teams are supervised and led by an internationally reputed expert in disaster and climate change.

Risk assessment to education is a new area; therefore training was an important component of the study which is described below:

- ***Qualitative Research****:* The field researchers received *2* days of training on participatory vulnerability exercise, which covered good practices in participatory exercises and other tools and techniques designed for the study. The field testing was also conducted to review the tools and checklist for interview and group discussion. They all also have had orientation on MSEE standards and child participation principles and values in research. Regular review and reflection was organized after each of the phases to improve the checklist and process of information collection.
- ***Quantitative Research****:* Three separate trainings, each in Sirajganj, Khulna, Kurigram, were organized for the quantitative field researchers. The field testing of the survey instruments was also conducted as part of the training. A total number of 15 field investigators and 4 supervisors participated in the training courses.

1.7 STRUCTURE OF THE REPORT

The report is divided into eight sections.

First section presents an overview of the research problem and methodology of the study. **Section two** deals with how the pattern and nature of disaster is changing and its implication on primary education. **Section three** puts together a summary of key impacts on access, quality and inclusion of primary education, in relation to national targets (EFI and MDG). **Section four** provides an analysis of risk of disaster to education and their vulnerabilities, in a manageable form so that they can easily be translated into a concrete program. **Section five** proposes a set of standards that should be followed by the stakeholders to make education in disaster resilient. **Section six** provides an analysis of key stakeholders in disaster and education at various levels in Bangladesh; their current roles and responsibilities; and also suggests how those roles and responsibilities can be transformed for building a disaster resilient education. **Seventh section** deals with training needs of the stakeholders to achieve those standards set out in section six.

The **final section** puts together a set of priorities and recommendations for full range of government and non-government stakeholders for protecting rights of the children to education in emergencies.

Section 2 the context of the study locations

This section provides an overview of nature and pattern of disasters in Bangladesh and their changing characteristics. At the end of the section, it also gives readers an overview of primary education in Bangladesh.

2.1 OVERVIEW

Bangladesh is known for its resilience to diverse range of disasters, despite being one of the most vulnerable countries in the world. It faces almost all types of disasters with high magnitude and frequency. The flood and cyclone are the most frequent with heavy social economic and political consequences on government, community and households. Despite making remarkable progress in human development in recent years, disaster remains dominant factor in explaining geographical distribution of poverty. Bangladesh community has had historically developed innovative approaches and mechanism to deal with disasters. In continuation, the country as a whole shows very high level of political commitment and financial investment on disaster risk reduction (DRR). Being a country with 144 million people, increasing investment on DRR alone was not able to make a lasting impact on resilience building of the population. Yet, pluralistic institutional environment has created a significant promise for Bangladesh to come out of disaster risks. Climate change poses a serious threat to by changing nature and pattern of disaster.

The World Bank's Global Risk Analysis[10] put Bangladesh in the list of top 60 countries which face two or more hazard based on land area exposed to hazards. It has put 32.9% of Bangladesh's population exposed to 4 types of hazards. By using weather related data of NatCatSERVICE of Munich Re, Germanwatch put Bangladesh between 2-3 in their Climate risk Index[11] 2006.

2.2 MAJOR TYPES OF DISASTERS IN BANGLADESH

2.2.A. FLOOD

The flood[12] is the most frequent with heavy economic toll on people and country's economy as well as on the educational institutions. Flooding is reported almost every year in Bangladesh, sometime more than one event takes place in a year. Floods represent unwanted and abnormal inundation with heavy impact on people's life and livelihood. The flooding is good for people living in the flood plain in terms of their agriculture and soil fertility[13]. Between 1972 and 2009, Bangladesh faced 10 major floods. In flood 2004, a reported figure of around 400 (out of a total 628 by OCHA) people died in diarrhea in Bangladesh. Total 50,000 Number of educational institutions damaged and/or destroyed by flood in last ten years where only in 2007 flood around 13000 educational institutions fully and partially damaged.

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[10] Natural disaster hotspots: a global risk analysis. Hazard Management Unit. World Bank. Washington. 2005. (note: the author has disagreement about the figure put by WB).

[11] The Climate Risk Index analyses how countries are affected by weather-related loss events. In the face of climate change and its expected impacts they have to be seen as an indicator for climate risks. Also see the Climate Change Performance Index (CCPI) developed by Germanwatch, which includes an index-based analysis of the emissions levels, the emissions trends as well as the climate protection policy: http://www.germanwatch.org/ccpi.htm

[12] Brammer (2004), rightly distinguished flood and flooding: flooding is normal seasonal submergence of some flood plains, valley and terrace which occurs every year while flooding and to which people's traditional settlements and livelihood is well adopted. Farmers in Bangladesh accommodate to seasonal flooding so successfully that they feed one of the densest populations in earth (James D, 1998).

[13] ibid

2.2.B. CYCLONE

Over 5 million Bangladeshis live in areas highly vulnerable to cyclones and storm surges[14]. Around 55% of the coastal population lives within 100 kilometers of the 710 km long coastal belt of Bangladesh. The majority of those living in this area are low-income agricultural workers of whom about 70% are 'landless' and relatively asset-poor, deriving their livelihood from fishing, sharecropping or day-labor in the shrimp or salt farms. Seasonal migrants who move into these coastal areas at times of harvest and fish processing, swell the resident population by as much as 30% and they are amongst the most vulnerable.

The country faced 49 major cyclones between 1584 and 2009. In November 1970, between 300,000 to 500,000 people were lost with 400,000 houses and 3,500 schools completely damaged. During more severe storm in May 1991, about 140,000 people died and damaged and dislocation caused estimated loss of USD 2.4 billion. The Bangladesh Centre for Advanced Studies (BCAS) estimated between 50 to 90 percent livestock and poultry died in 1991 cyclone (Mirza, 1992). However, due to the improved warning dissemination system, active role of cyclone volunteers and coordinated effort by the government and non-government agencies, the death toll remain under 4000 in 2007 cyclone SIDR that devastated almost 30 districts and costs 2.3 billion US dollars loss to different sectors. Total 14,799 educational institutions destroyed and damaged in SIDR. Around 5000 educational institutions damaged by Cyclone Aila in 2009 and the death toll was around 400.

2.2.C. EARTHQUAKE

Bangladesh lies in an active tectonic zone, which extends throughout Himalayan, Shillong plateau and Rakan-Yoma region, and parts of the adjoining indo-gangetic flood plains (Brammer 2004). The great earthquake of 1897 had its epicenter in the Shillong Plateau of India (Meghalaya), and caused widespread damage in adjacent areas of what was then known as Bengal.

Although a number of tremors have been felt in different parts of the country during last few years, four events causing considerable damage are furnished briefly below:

Box 2.1: recent earthquake in Bangladesh 1997-2003

- May 8, 1997 Sylhet Earthquake – with a magnitude of 5.6 it resulted in cracking of several buildings in and around Sylhet ;
- Nov 21, 1997 Bandarban Earthquake – with a magnitude of 6.0 it caused damage to a number of buildings in Chittagong region while a building collapse in Chittagong city led to the death of about 20 people;
- July 22, 1999 Moheskhali earthquake – with a magnitude of 5.1 it led to the collapse of a number of mud-wall houses and cracks in some pucca buildings;
- July 27, 2003 Barkal (Rangamati) Earthquake – with a magnitude of 5.6 it resulted in cracking of a number of buildings, collapse of about 500 mud-wall houses, death of 2 and injury to about 100 persons.

Although earthquake risk to education has not been assessed yet in Bangladesh, lessons from most recent earthquakes in Asia suggest a considerable risk to education in Bangladesh. For example, a 6.6 magnitude earthquake in Udayapur in Eastern Nepal in 1998 damaged 6000[15] schools. Fortunately, the quake took place in the night so the schools were not occupied. Following table presents some of the recent earthquake took place during school time and their impact on students and school.

[14] But the number is certainly higher as the recent category IV cyclone Sidr has hit more inland and even the capital city Dhaka. This is termed as a recent phenomenon.

[15] Alam, K. *Comprehensive school safety approach and outline for up scaling strategy for Nepal*. ActionAid. Nepal. 2007.

Table 2.1: Impacts of school-time earthquake in Asia 2001-2008

Name of earthquake	Total school collapsed	Student died
Sichuan earthquake, China. 2008. Magnitude 7.9[16]	Fully-7,000 and partially 10,000	9,000
Kashmir Valley earthquake, Pakistan. 2005. Magnitude 7.6[17]	17,000	19,000
Gujarat Earthquake, India. 2001. Magnitude 7.9[18]	Primary school only 9593	7,065

2.3 DISASTER TRENDS IN BANGLADESH

The IPCCC prediction for impacts of climate change in Bangladesh summarizes that the frequency and intensity of the disasters will be increased, which is already evident at the local level. The coastal belt communities are facing increased height of high tides and more regular tidal surges than the previous years (BCAS report 2009).

- The frequency of flood and cyclone continues to grow[19]: serious flood causing extensive crop damage occurs on an average of about every 3-5 years. Catastrophic flood, on the scale of those in 1974, 1987, 1988, 1998 and 2004 occurs on an average of 10-20 years[20]. Consensus among the disaster practitioners grown that the catastrophic flood is likely to change its return period to six year.
- The flood has become much more unpredictable in terms of onset, scale than before[21],
- The source of vulnerability has been changed. They are not purely related to hydro-meteorology; rather developmental factors such as faulty design, collapse of embankment and drainage congestion due to unplanned structure, contribute greatly to the problem.

2.4 PRIMARY EDUCATION IN BANGLADESH

Bangladesh is one of the largest unitary authorities for Primary education system in the world with as many as 80,401primary institutions of 10 different kinds namely, GPS, RNGPS, NRNGPS, experimental schools, community schools, kindergartens, NGO schools, ebtedayee madrassas, primary sections of high madrassas, primary sections of high schools.

Primary Education (formal) in Bangladesh Refers to education, as determined by the government for the children of age group 6+ to 10+ years in classes 1 to 5 having prescribed national curriculum, textbooks, school hours and the school year which begins in January and ends in December (Baseline Survey of PEDP II, 2005).

According to the School Survey Report 2008, GPS, RNGPS, Experimental and community schools constitute 75% of the total institutions. These four categories of institutions are providing primary

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[16] *Annual Disaster Report 2008*. Centre for Research on the Epidemiology of Disaster. www.cred.be and http://www.reliefweb.int/rw/lib.nsf/db900sid/ASAZ-7T3EUF/$file/CRED_Jun2009.pdf

[17] http://www.eeri.org/lfe/pdf/kashmir_eeri_2nd_report.pdf

[18] World Bank and Asian Development Bank Joint Assessment report. (the report also mentions that According to the Government, 910 elementary, 37 secondary, 3 higher and 21 technical education students died as a result of the earthquake in the state; 1,051 elementary education students were injured, 31 teachers lost their lives and 95 were injured). See more http://www.education.nic.in/gujrateartquakereport.asp

[19] Author's note: further work should be done on how frequency and return period of flood changing. Since flood occurs every year, the key problem with a trend analysis is an absence of agreed classification of floods. The oldest flood research done by Professor Mahalanabis (report on rainfall and floods in north Bengal 1870-1922) put return period as: moderate flood once in 2 years and severe flood once in 6-7 years.

[20] Brammer 2004

[21] Alam. K. *Drowning sand and holy banana tree.* Handicap International. Dhaka. 2007.

education to 81.9% of the total primary school enrolled children of over 16.3 million. The proportions of boys and girls enrolled at the primary level are 49.3% and 50.7% respectively. A total of 3,64,494 teachers are engaged in primary teaching in all the ten categories of institutions comprising 40.4% female and 59.6% male. About 500 NGOs are currently running 48,855 learning centres for providing primary education to 10,24,495 females and 6,06,802 males in the country (CAMPE, 2007).

2.4.A. PRIMARY EDUCATION SYSTEM

Primary education system in Bangladesh is not uniform and followed three different curricula. So far, there are ten different types of primary educational institutions in the country. The government primary schools (GPS), non-government schools (registered and unregistered), community schools, experimental schools, non-formal schools, and primary attached to high schools follow the curriculum of NCTB. The ebtedayee madrassa and ebtedayee attached to high madrassa follow the curriculum of Bangladesh Madrssaa Educaiton Board (BMED). The kindergartens and English medium schools follow the British curriculum.

2.4.B. ADMINISTRATIVE STATUS

Although Bangladesh is known for managing largest primary education system in the world, the educational institutions differ by management responsibilities. The Directorate of Primary Education (DPE) looks after the government primary schools (GPS), registered non-government primary schools, unregistered non-government primary schools and community schools. Primary training institutes looks after the experimental schools. Directorate of Secondary and Higher Secondary Education (DSHSE) is responsible for primary-attached high schools and BMED looks after the Madrssas. English medium schools have no common authority.

2.4.C. INSTITUTION, POLICIES AND STRATEGIES

Government of Bangladesh, from the start of as an independent nation and state, has shown its great commitment to provide primary and mass education to its entire population, which is clearly stated in the constitution, "The state shall adopt effective measures for the purpose of ... establishing a uniform, mass oriented and universal system of education and extending free and compulsory education to all children to such stage as may be determined by law; ...". The GoB repealed all existing laws related to primary education through an ordinance and took over the responsibilities of all existing primary schools (GOB 1973, 1974). In 1990, the Compulsory Primary Education Act was passed in the parliament (GOB 1990). Establishment of the **Ministry of Primary and Mass Education** took place in 1992. The major objective of establishing a separate ministry was to make primary education universal as well as the elimination of the gender and poverty gaps. The access to primary education in Bangladesh is provided mainly by the Ministry of Primary and Mass Education (MoPME). More than 75 % schools are controlled by the MOPME, and around 83% of total children enrolled in primary level educational institutions go to these schools. Similarly, more than 70% primary teachers are working in the MoPME controlled schools.

2.4.D. SUMMARY

Bangladesh is committed to achieve the goals set in EFA and MDG (Goal 2) (described in the following table), however, a World Bank study[22] suggested that the achievement might not reach the desired levels due to structural and non-structural issues related to primary education system in Bangladesh. The

[22] EDUCATION FOR ALL IN BANGLADESH, Where Does Bangladesh Stand in Achieving the EFA Goals by 2015? Bangladesh Development Series, Paper No. 24, Human Development Unit, South Asia Region, The World Bank, April 2008, www.worldbank.org.bd/bds

challenge here is ensuring adequate finances to keep up the momentum and ensuring quality education for all.

Table 2.2: Drivers and Goals related to primary education

Drivers	**Goals (related to Primary Education)**
EFA	- Ensure universal primary education for all children by 2015. - Eliminate gender disparities in primary and secondary education by 2005, and achieve - gender equity in education by 2015. - Improve early childhood care and education. - Improve all aspects of the quality of education
MDG[23]	Bangladesh Target - Increase net enrolment rate from 73.7% in 1992 to 100% by 2015 - Reduce primary school dropout rates from 38% in 1994 to 0% by 2015

The primary education system of Bangladesh is driven and guided by number of plans, policies and circulars, i.e., SMC Formation and Operational Policy 2009, Flood Shelter Construction and Implementation Policy (2008), etc. These plans, policies and circulars addressed mostly education related issues and circulated by Ministry of while some of them addressed the issues of disaster risk management at the school level. Standing Order of Disaster (SOD) elaborates the responsibilities of Primary and Mass Education department of Prime Minister's Office though the responsibility and roles of Ministry of Education in emergency period has not been reflected clearly.

[23] Millennium Development Goals, Bangladesh Progress Report, February 2005, *Jointly prepared by the Government of Bangladesh, and the United Nations Country Team in Bangladesh*

Section 3 impact of disaster on primary education

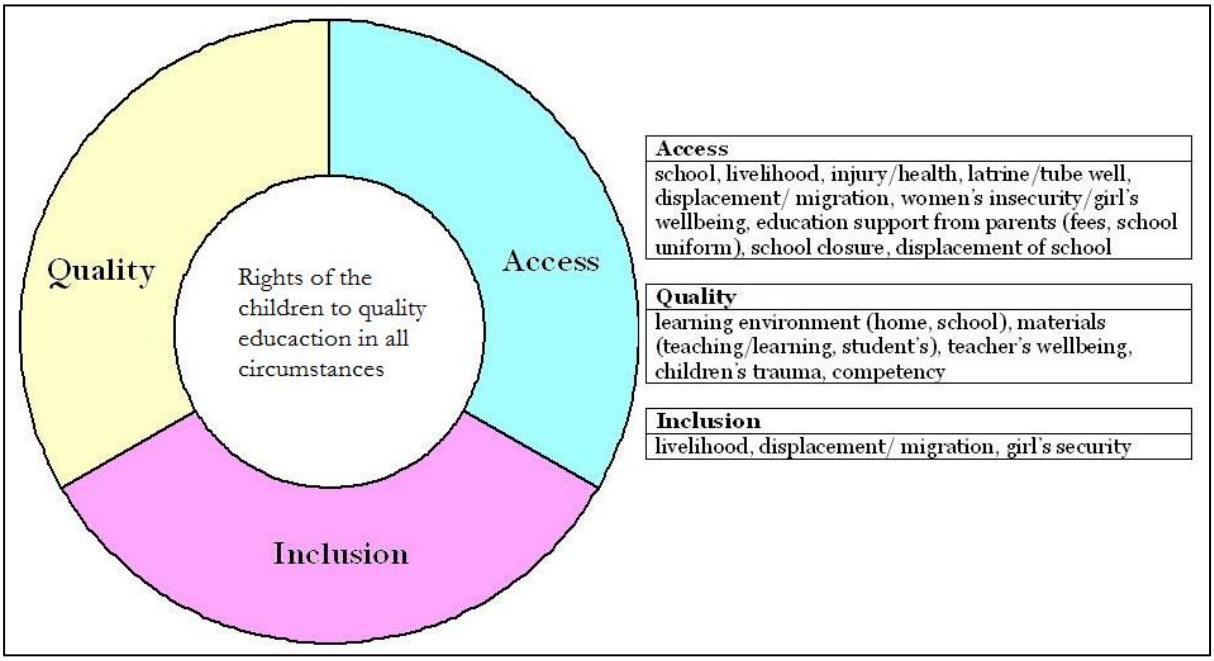
This section provides a summary analysis of the impact of disaster on primary education. The impacts are organized under three broad categories - access, quality and inclusion.

3.1 FRAMEWORK

There are many frameworks available to carry out different sectoral impacts of disaster. This study used simple input-process-outcome[24] framework to examine all direct and indirect negative effects of disaster on primary education in relation to access and quality. Bangladesh faced two national scale disasters in 2007 - flood and cyclone Sidr. The study considered these two disasters to understand the nature and degree of impacts. As most of the schools in cyclone Sidr-affected area are also affected by cyclone Aila in 2009 there might be some influence of that on the analysis.

Assessment also considered impact of disaster on relevant stakeholders, and performance of their jobs which often get affected by disasters.

Figure 3.1: Impact assessment framework



3.2 OVERALL IMPACTS ON SCHOOL DURING 2001-2009

Disasters in the study area caused a significant cumulative impact on primary education over the last ten years. The study performed an analysis to understand nature and degree of such impacts on primary education as a whole. At least 19% school buildings experienced full or partial collapse of their structure, with some difference when considering the type of hazard (flood 24%, cyclone 14%). At least 59%

[24] Used in Education Watch report of CAMPE.

schools faced one or more disasters with significant damage to the classrooms. Average number of 15% of schools, with negligible hazard difference, also experienced relocation during the same period.

In cumulative terms, schools in study locations experienced altogether 4,483 school day losses, with a significant higher average in flood area (37 days) than cyclone area (8 days).

Table 3.1: Impact of disaster on school 2001-2009

Type of impact on school by disasters	Districts by Disaster				Total	
	Flood 2007 affected districts		Cyclone SIDR and AILA affected districts			
	# of schools	% of schools	# of schools	% of schools	Count	% of schools
Never affected by disaster	8	5.5%	3	1.6%	11	3.3%
Total school building collapsed	36	24.7%	27	14.6%	63	19.0%
Partial school building collapsed	8	5.5%	6	3.2%	14	4.2%
Damage to other infrastructure such as watsan, furniture, etc.	63	43.2%	112	60.5%	175	52.9%
Classroom damaged	97	66.4%	100	54.1%	197	59.5%
Closed the school activities	80	54.8%	111	60.0%	191	57.7%
Relocation of school	23	15.8%	27	14.6%	50	15.1%
Affected by river erosion	19	13.0%	52	28.1%	71	21.5%
Total	**146**	**100.0%**	**185**	**100.0%**	**331**	**100.0%**

3.3 IMPACT ON ACCESS

3.3.A. INFRASTRUCTURE DAMAGE

Almost all schools (93%) in the study area sustained varying nature and degree of damage to their school infrastructures by the 2007 disasters. The school furniture is more often damaged, with a slightly higher frequency in cyclone area (74%). More than 50% schools sustained physical damage in infrastructure, with a slightly higher percentage damage in flood area (57%) than cyclone (44%), as shown in the following table.

The impacts are not caused directly by the hazard itself, rather a range of other factors. For example, the surrounding trees have broken down and fallen on and destroyed the school structure. Often schools are destroyed in cyclone area by tidal surges because of breach in protection embankment, which highlights the fact that protection of school is conditioned on larger protective environments and so is a job of many stakeholders.

In flood prone areas, a large number of non-concrete schools are located just below the flood level. Two factors are associated with such vulnerabilities. First, selection of school land most often does not consider the risk factors[25]. Second, the changing character of flood especially ever increasing height and duration cause risks to schools that were initially built above flood level or upgraded as C[26] type by government. For example, two schools upgraded in Sirajganj ten years ago are no longer considered safe due to increase in the river bed.

[25] Most of the schools in Bangladesh are built on land donated by individual or community. But disaster consideration is most often not assessed by the community in such donation process, which is a particular problem in flood plains of Bangladesh.

[26] School Types specified according to Height above ground (LGED): Type A = 2.5 ft off the ground; Type B = 5.5 ft off the ground; Type C = 10 ft off the ground

Table 3.2: Impact of flood and cyclone in 2007 on school infrastructure by location

Type of impact on school by disasters	Districts by Disaster				Total	
	Flood 2007 affected districts		Cyclone SIDR and AILA affected districts			
	# of schools	% of schools	# of schools	% of schools	Count	% of schools
No impact	8	6.0%	14	8.6%	22	7.4%
Total school building collapsed	11	8.2%	19	11.7%	30	10.1%
School building partially damaged	76	56.7%	72	44.4%	148	50.0%
Relocation the school	3	2.2%	1	0.6%	4	1.4%
Furniture damaged	83	61.9%	121	74.7%	204	68.9%
Roof totally damaged	5	3.7%	20	12.3%	25	8.4%
Roof partially damaged	26	19.4%	36	22.2%	62	20.9%
Door/window damaged	64	47.8%	122	75.3%	186	62.8%
Total	**134**	**100.0%**	**162**	**100.0%**	**296**	**100.0%**

Low-intensity but frequent hazards like small cyclones/storms, localized flooding, tides, Nor'westers have higher cumulative impacts on schools as well as increasing their vulnerability to high impact hazards. Many schools sustained damage to their infrastructure by 2007 disasters were already weak due to: i). the affect of small scale disasters in the past, and ii). limited investment to fix those damages.

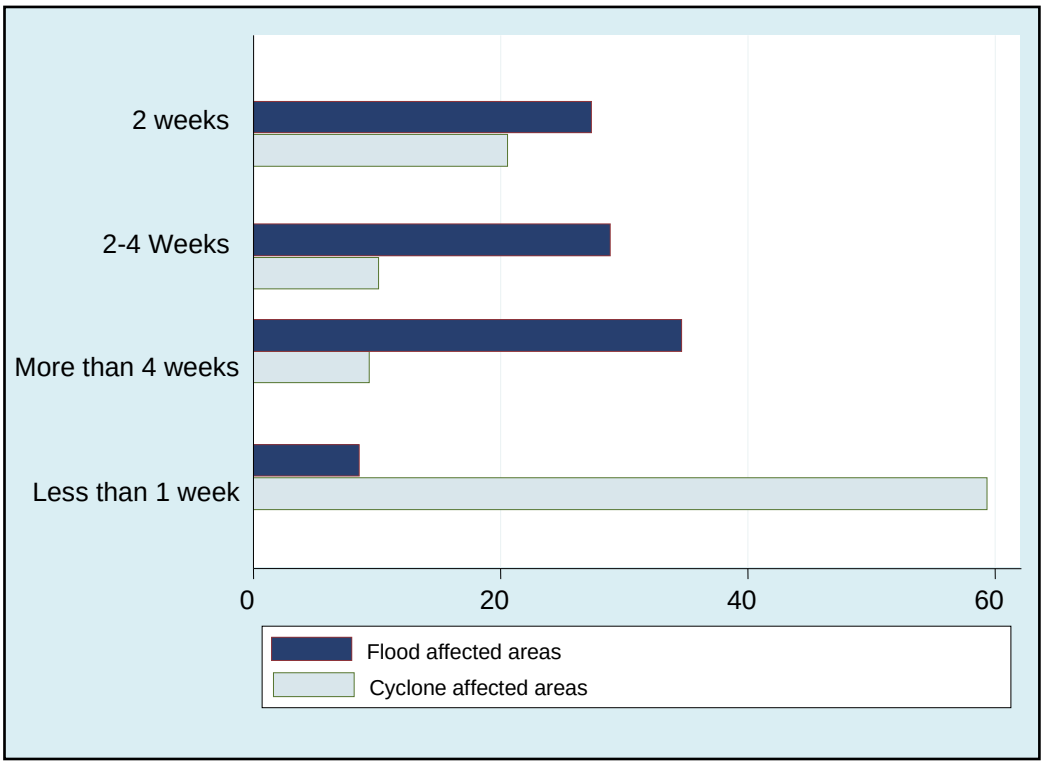
3.3.B. ACCESS ROAD

Limited attendance immediately after a disaster is most likely to be caused by poor access roads. Road condition remains very bad and unsafe even after the water started to recede and muddy conditions were left behind. Students and teachers mentioned additional expenses borne by the community people (e.g. pay boat fare) in flood time, which poor families could not afford. The bad access road was also mentioned by girls as one of their major barriers in attending school. Bad access roads are found to be a bigger problem for students and teachers during flood time, though it is not a particular additional problem in cyclone areas unless there is inundation like in cyclone Aila.

3.3.C. SCHOOL CLOSURE

School closure translates into reduction in contact between student and teachers, as well as reduction in study hour of the students. Disasters play a significant role in unscheduled school closures. At least 19% schools in both flood and cyclone areas combined experienced more than 4 weeks of school closure in 2007. But there is a variation by disaster type. For example, closure was significantly higher in flood area than the cyclone affected area (35% and 9.5%).

Figure 3.2 Duration of school closure as a result of disaster by location



The following table presents the reasons for school closure during a disaster:

Table 3.3: Reason for school closure

Reason for school closure	Number of response	Percentage
No plan for continuation	12	1.9%
Student and teachers affected	112	18.1%
School not affected but students were affected	15	2.4%
Road communication disrupted	137	22.2%
Others	30	4.9%
Used as shelter	136	22.0%
Inundated/damaged	176	28.5%
Total responses	**618**	**100.0%**

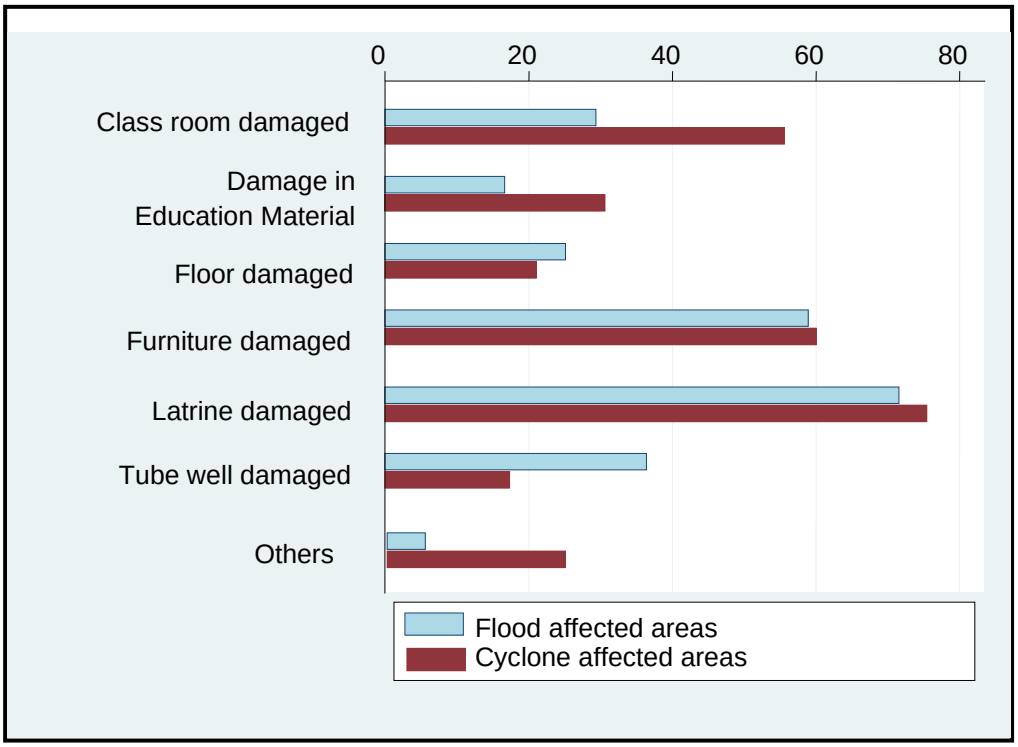
There was no straight forward rule followed, as understood by the study team, in deciding closure of school. For example, only 35% of schools were officially declared as closed after the disasters in 2007 but 42% schools were closed when they were not officially declared as such. But there were many reasons resulting in school closure. Other than direct inundation and/or direct impact to school, the major causes include disruption in the road network (43%), teachers and students affected (35%) and school being used as shelter (43%). The impact is a result of combination of several factors.

"During the flood, most teachers come to school late and leave early, as most of them live in mainland. There is also problem with accountability". UNO Nageshawari, Kurigram.

The use of school as disaster shelter caused significant amount of school days losses as well as varying degrees of impact on school infrastructure and learning environment. While 17.9% schools that were used as disaster shelter during 2007 disasters resulted in around 2,200 days of school day loss, which is additional looses for schools being used as shelter. On average, 8 days were used per school in flood areas compared to 6 days in cyclone area.

The result of a school being used as a shelter is significant on school infrastructure, learning environment and wellbeing facilities such as water and sanitation for students, as presented in the table below.

Figure 3.3: Impact of school being used as disaster shelter by location



Only 15% of the surveyed schools in flood area were built as flood shelter, where the figure is 23% in cyclone areas. Schools that are not constructed or upgraded as disaster shelter are likely to get more damaged when used as shelter. At least 40% schools that were used in 2007 as a disaster shelter were not constructed for these purposes.

"When heavy flood come, first priority for the administration is to make sure shelter for people. It was difficult for us to think about education at that point of time. Often people just enter to whatever highland they get". ADC, Kurigram.

Again, there is no straightforward official procedure for use of schools as disaster shelters. The duration for such uses depends on the condition of the affected population for example the time taken for water to recede water from disaster areas. Union Disaster Management Committees (UDMC) and/or Upazila Administration are responsible for deciding on time for use as a disaster shelter, however very often roles and responsibilities are not properly defined about the management of school as shelter. Study also identifies schools being 'returned' to SMC with significant damage in learning environment. Often NGOs and government organize relief distribution within school grounds which causes negative impacts on the function of school.

3.3.D. EDUCATION MATERIALS

Teaching materials of school as input to quality education have been subject to severe damage by disasters in 2007 and 2009. Altogether, the schools in the study area sustained damage to their teaching materials: learning materials (full 17% and partial 54%), furniture (total 7.4% and partial 63.5%), co-curricular materials (full 11% and partial 28%) and extra-curricular (full 10.6% and partial 32%). Loss in education materials was significantly higher in cyclone affected areas (31% in cyclone areas and 17% in flood areas).

Education materials are lost or damaged in disasters. Roughly, 50-60% materials are destroyed but more so in cyclone-affected areas. There are no funds allocated to deal with this type of loss. The current early warning messages do not include protection of teaching and learning materials, especially in cyclone areas. The PTA recognizes the need for training to minimize losses like these. In fact, there is no suitable training on what has to be done during a disaster.

3.3.E. DROPOUT AND IRREGULAR ATTENDANCE

While Bangladesh achieved significant progress in enrollment in primary education with gender parity, dropout remains the major challenge with figures being cited as high as 47%. Reasons for dropout are well documented in number of studies but attention was not paid on direct contribution of disaster on dropout rates amongst boys and girls.

The continuation of education is not only about infrastructural damage but is also dependent on the livelihood state of the child's family and of the teacher. When all forms of livelihood are destroyed, the children go out with their parents to catch fish at night. Those of the students that come regularly are the ones that are easily convinced to come after a flood period. Even several weeks after a disaster, schools run with barely 50% attendees. The indirect impacts of disasters (poverty, livelihood security) are more pronounced in flood-prone areas.

Calculation of dropout is a complex task simply because students may maintain registration and/or school authorities keep the record such a way that make the calculation difficult. In chronic disaster-prone areas it is difficult to separate out flood-related dropouts from normal dropouts. This can be more easily investigated in cyclone-affected areas.

The data from this study shows at least 3% of students dropped out of school as a direct impact of flood and cyclone combined. Negligible gender difference is evident with combination of flood and cyclone data but this difference is evident by type of disasters. For example, dropout in girls is significantly higher in flood area (4.6%). The long duration of school closure in flood areas and chronic nature of the problem can explain the reason behind the higher number of dropouts. In cyclone areas the relief comes through faster than in flood-prone areas, in twenty to thirty days.

Involvement in family income is the major reason for disaster related dropout as mentioned by 87% FGDs with students, followed by relocation (29%). Other major reasons for dropout are shown in the following table.

Table 3.4: Reasons for disaster related dropout

Reasons for dropout	Districts by disaster				Total (%)
	Flood 2007 affected districts		Cyclone SIDR and AILA affected districts		
	# of FGD	% of FGD	# of FGD	% of FGD	
Temporary displacement/relocation	40	60.6%	28	17.1%	29.6%
Engaged in family income	54	81.8%	146	89.0%	87.0%
Moved to other school	4	6.1%	43	26.2%	20.4%
Early marriage	19	28.8%	21	12.8%	17.4%
Others	4	6.1%	4	2.4%	3.5%

Box 3.1: Livelihood insecurity resulted in dropout

Masud (13 years) is the second son of a family lives on fishing. He has two more brothers and a sister. Before the Cyclone Sidr, he was the student of class four. His father browed money and bought a new boat and a set of nets before the cyclone, which were destroyed by the cyclone.

Their house was located on the bank of the river, outside of the embankment. When cyclone was approaching Masud and his family members rushed to their grandmother's house, which they thought was safer. Although their lives were saved, they lost their house, utensils, goats, ducks and boat-nets.

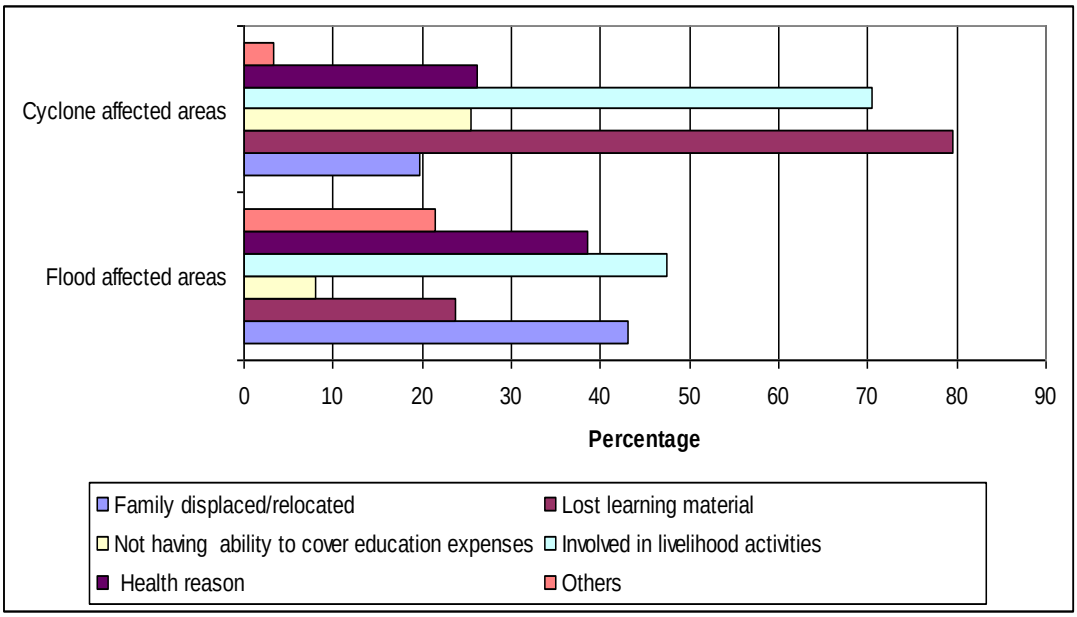
His father borrowed more again. They repaired their house and bought a boat. Now Masud is the master (driver) of that boat. He said, "Now, we are bound to refund a big amount of loan-money to the usury per month. If I refuse to pull the boat my father will not able to re-pay the installment. So, there is no way to return to the school for me."

Village/ Union:- Nilganj, Upazila:-Kalapara, Zila:-Patuakhali.

Irregular attendance has been reported as a problem in all schools in both flood and cyclone area. But, as in dropouts attendance is not recorded accurately, making the calculation for irregular attendance equally complex. On paper, the students are marked as 'present' but this is not the case in reality. Only on-spot verification can yield true attendance rates.

Children from poor families cannot attend regularly even after several weeks of disaster making the problem significant in flood prone areas. The major reasons for limited attendance in schools include displacement of family members (70%), whereas loss of learning materials (75%) in cyclone area is the following.

Figure 3.4 : Reasons for irregular attendance



Teachers are vulnerable themselves and they should be protected along with the community. How the teachers are actually affected has not been recorded or studied. There are times when teachers ignore their own affected households and are still expected to come into school. There can be a means of providing them with rations to ensure that they are taken care of as well during a disaster period. This can add to their motivation and long-term development.

3.4 IMPACT ON QUALITY

3.4.A. LEARNING ENVIRONMENT

Learning environment is necessary for students to concentrate on learning and for teachers to provide lessons. This may include a range of issues that affect mental and physical wellbeing of the students and teachers. Some of issues are covered elsewhere in this report but this sub-section focuses on issues related to cleanliness of the overall environment, mental wellbeing of the teachers and students, condition of classroom and relationship between teachers and students in the school setting.

"It took at least six to seven months to find a place to re-establish the school when the original was destroyed by river erosion. First we started the school in the fish market during their off time. Then we moved here, but yet we do not have adequate number of class room. Students of two classes sit in same room but in opposite direction. Lots of noises affect the environment". Head Teachers, Char Haldia Governmnet Primary school. Gaibandha.

First, many children cannot concentrate on their study at home as overall condition gets affected by disaster. Like any disaster in Bangladesh, many families move to disaster shelters or safer ground. Often they stay in such places for a long period of time, especially in the condition of prolonged inundation (flood and Aila affected area). The children not only cannot access school but also cannot pay attention to their study. Parents often involve children in household related work.

Many children participated in the study complain about lack of food as major barrier for them to think about study.

Box 3.2: Lack of nutrition affect growth of children-case of 1998 flood

On a regular basis, 55% of the children in disaster prone areas can afford to have three meals a day[1], which gets worst during disaster. After Bangladesh flood 1998, a study compared children less than five years who had been exposed to the flood to those in the neighbours who had not. Data were collected at 2, 8, and 15 months after the end of flood. The data indicates that linear growth of the flood exposed children was interrupted and did not fully recover, at least not in the study period. Households had been unable, over time, to compensate for shortage of food and the general deterioration of the health environment during a flood. Consequences are far reaching on the children. Infants and young children grow rapidly from birth up to age of three or four. Nutrition during this stage largely determines the proportion of genetic growth potential that will be achieved by age three. Stature achieved by age three is in turn associated with important human capital outcomes, including physical and mental development, school performance, and labor productivity.

Source: i). Del, Ninno, Carol and Matthias Lundberg (2005). The long term impact of the 1998 flood on nutrition in Bangladesh. Economic and human biology 3(1), 67-96. (Although, children returned to normal growth rates by the end of the study period, they did not experience the catch-up growth that is common after a shock, and they remained shorter than unexposed children.); ii). [1] Martorell, 1995, 1999; Martorell & Ho, 1984, quoted in ibid.
iii). Alderman, Hoddinott, & Kinsey, 2002; Behrman, 1996; Grantham-McGregor, Fernald, & Sethurman, 1999; Grantham-McGregor, Walker, Chang, & Powell, 1997, quoted in ibid

Teachers participated in the study reports that many children become traumatized. "There is a fear that is instilled in the child; even during a slight storm or light rain the children want to have the day off school." In Sirajganj in 2007, "20 children, 8 elderly persons, and 8 women have died", as said by a school teacher there. Similar situations were also reported by the teachers in cyclone area.

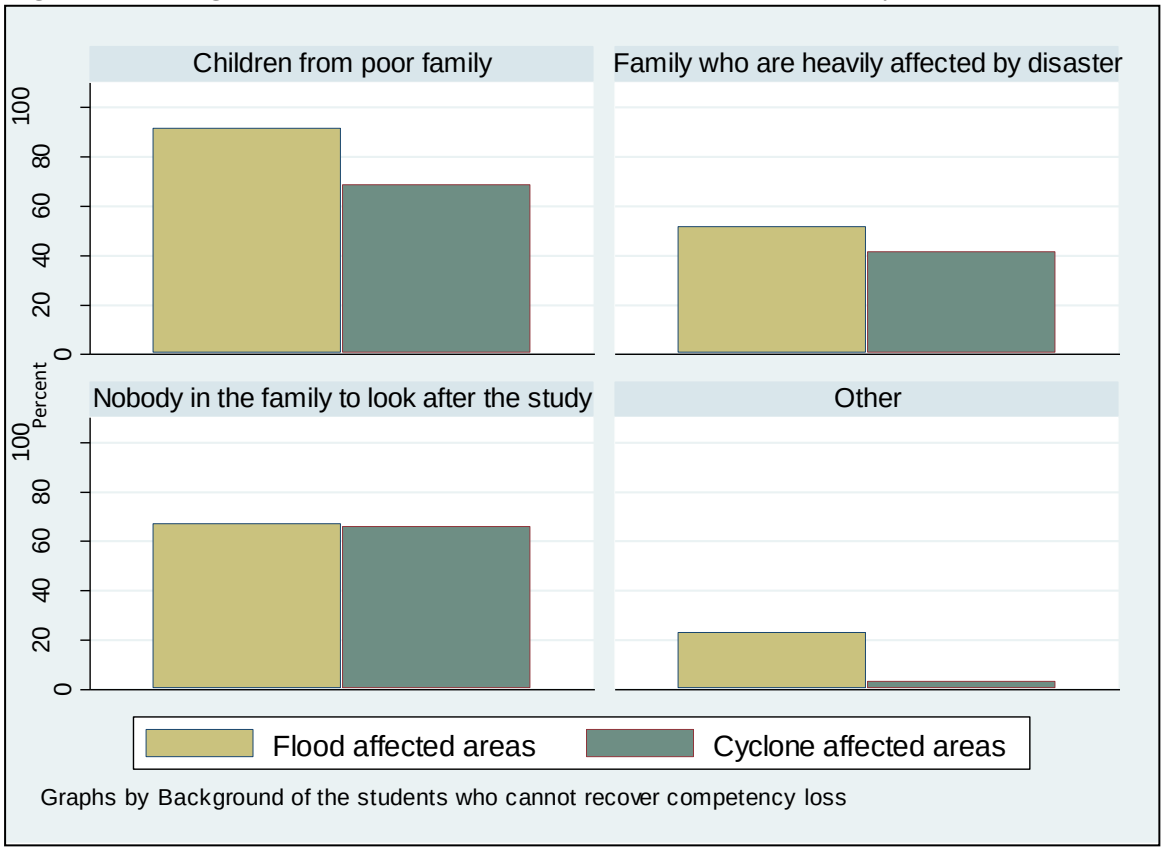
Overall cleanliness of the school most often gets affected the disaster, especially for those schools used as disaster shelter. Many schools run with a limited number of classrooms and in filthy conditions with great consequences on overall learning environment. In order to finish the lesson plan, teachers most often take additional classes after a disaster. This puts tremendous pressure on students as reported by most of the schools engaged in the study.

3.4.B. COMPETENCIES

Careful discussion with school teachers and students established subject-wise loss in competency as a result of 2007 disasters. Competency analysis is a complex task where several methodologies exist. The study approaches the issue based on the perception of student and teachers/SMC on the impact of disaster on study subject such as Bangla, English, Mathematics, etc. More than three quarter (84% in flood and 87% in cyclone) of FGDs pointed out Mathematics and English being the subjects that suffered most in 2007 disasters which were difficult for teachers and students to recover.

Socio economic condition of household can explain why some students can recover from losses and while others cannot. The following graph explains the background of the students who cannot recover losses in competencies as a result of disaster.

Figure 3.5: Background of the students who cannot recover competency losses due to disaster



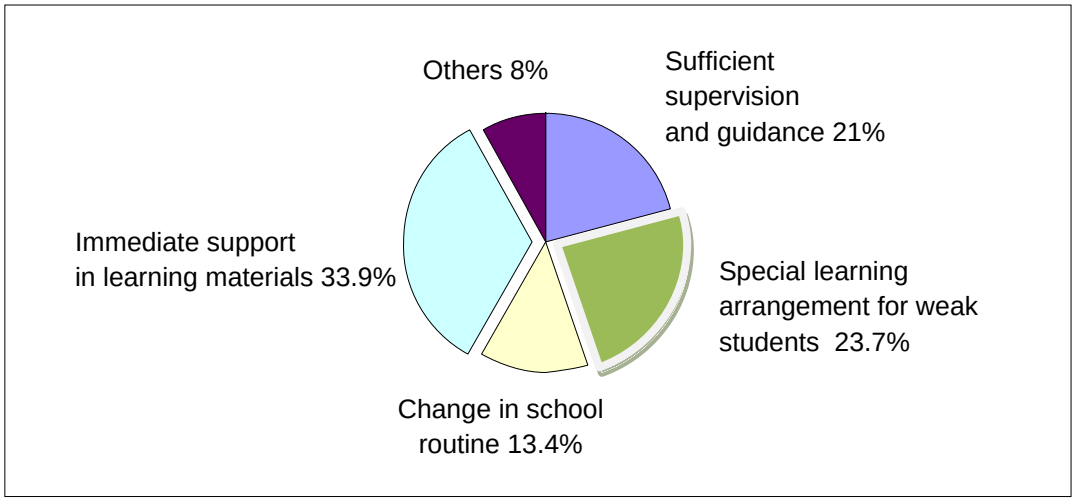
The schools face various manageable and unmanageable challenges to support the students in recovering loss in competencies. Most frequently mentioned challenges are presented in the following table.

Table 3.5: Main challenges for school to recover competency losses by school type

		Responses (%)					Total
		Poverty at HH level	Inadequate teachers	Not have ability to employ additional teachers	Insufficient help/assistance provided for affected people to recover	Other	
Flood 2007 affected districts	1 GPS	29.0	25.5	7.0	15.5	9.8	**39.2%**
	2 RNGPS	21.3	16.0	9.6	20.2	2.4	**34.4%**
	3 NGPS	0.5	1.9	0	0.5	0	**1.3%**
	4 Ebtadia Madrasa	3.3	1.9	0	2.1	0	**3.9%**
	5 Attached Ebtedia Madrasa	2.7	2.8	3.5	1.0	0	**4.5%**
	6 NGO School	0.5	0.9	0.9	0	0	**1.0%**
	7 Kindergarten	0.5	0	0	0.5	0	**0.6%**
	8 Attached high School	0.5	0	0	0.5	0	**0.6%**
	9 Community School	3.8	5.7	0	1.0	0	**4.8%**
	Total	**62.3%**	**54.7%**	**21.1%**	**41.5%**	**12.2%**	**90.4%**
Cyclone SIDR and AILA affected districts	1 GPS	16.9	19.8	27.2	23.3	14.6	**43.1%**
	2 RNGPS	13.1	12.3	28.1	21.8	41.5	**41.2%**
	3 NGPS	0.5	0	3.5	3.1	4.9	**4.2%**
	4 Ebtadia Madrasa	1.1	1.9	1.8	0.5	2.4	**2.6%**
	5 Attached Ebtedia Madrasa	1.1	0.9	4.4	4.7	17.1	**7.7%**
	6 NGO School	1.6	7.5	7.0	0.5	0	**6.4%**
	7 Kindergarten	1.1	1.9	2.6	1.0	2.4	**3.2%**
	8 Community School	2.2	0.9	4.4	3.6	4.9	**6.1%**
	Total	**37.7%**	**45.3%**	**78.9%**	**58.5%**	**87.8%**	**114.5%**

The schools also mentioned the proactive actions that can reduce impact on quality of primary education. Those recommendations include the following:

Figure 3.6: Recommendation of action to recover losses in lessons



There is presently no accurate way of measuring a child's progress apart from grades achieved in exams. The importance of extracurricular activities is overlooked in this matter. Extra classes are taken post-disaster are so the entire syllabus is covered, not for the purpose of recovery. These classes are more

stressed upon the Class 5 students because competency is measured at the end of that school year, rather than the younger students.

"Part of the school lessons plan is affected by flood. Often, teachers in some school take extra class to recover loss. But it is not done in all schools. There is no binding on teachers to take extra class". Assistant Monitoring Officer, Gaibandha.

Communication and movement slows down during disaster so the education monitoring/assessment does not take place properly. The responsible education officers face difficulties in monitoring during the disaster period due to communication and logistical problems. He or she is responsible for one cluster consisting of 20 government schools. He has to go to each school once every month and is paid 200 taka total for conveyance.

"We do not have adequate staff capacity to monitor the schools in normal time. This is much difficult during flood time. Often weather remains bad and difficult get boat when road communication is cut". The Education Monitoring Officer, Gaibandha.

3.6 FINANCIAL COST AND RECOVERY OF AFFECTED EDUCATION

There is no well-established and uniform disaster assessment procedure for education in Bangladesh. The Ministry of Education conducts assessments after a disaster but they only focus on infrastructure related aspects. The DMB has minimum information collected and for the purpose of documenting relief. Usually, the SOD's D Form is done which is a Rapid Assessment right after a disaster. The Education Department carries out another separate assessment and then sends it to the LGED which then does further classification.

The study identified several problems with assessments process that includes i). no training for the SMC or teachers on the assessment, ii). limited time given to the school for the assessment, and iii). As a result, there is limited or no participation from students, parents and member of the SMC in the process.

Within this limitation, this study establishes cost of 2007 disaster on the school in selected areas. In financial terms, the costs stood at BDT 84,000 on an average per school, with significantly high in flood area (BDT 87,138) than cyclone (BDT 83,369). Upper limit in flood area is BDT 250,000 and cyclone is BDT 600,000.

Rehabilitation of affected school is regularly done by government but no recovery framework yet established for education. This resulted in a number of challenges as documented by the study: i). delay in recovery, ii). gap between loss and damage resulted in inadequate recovery, iii). non-physical/infrastructural damages are overlooked and finally iv). inequity in providing rehabilitation support.

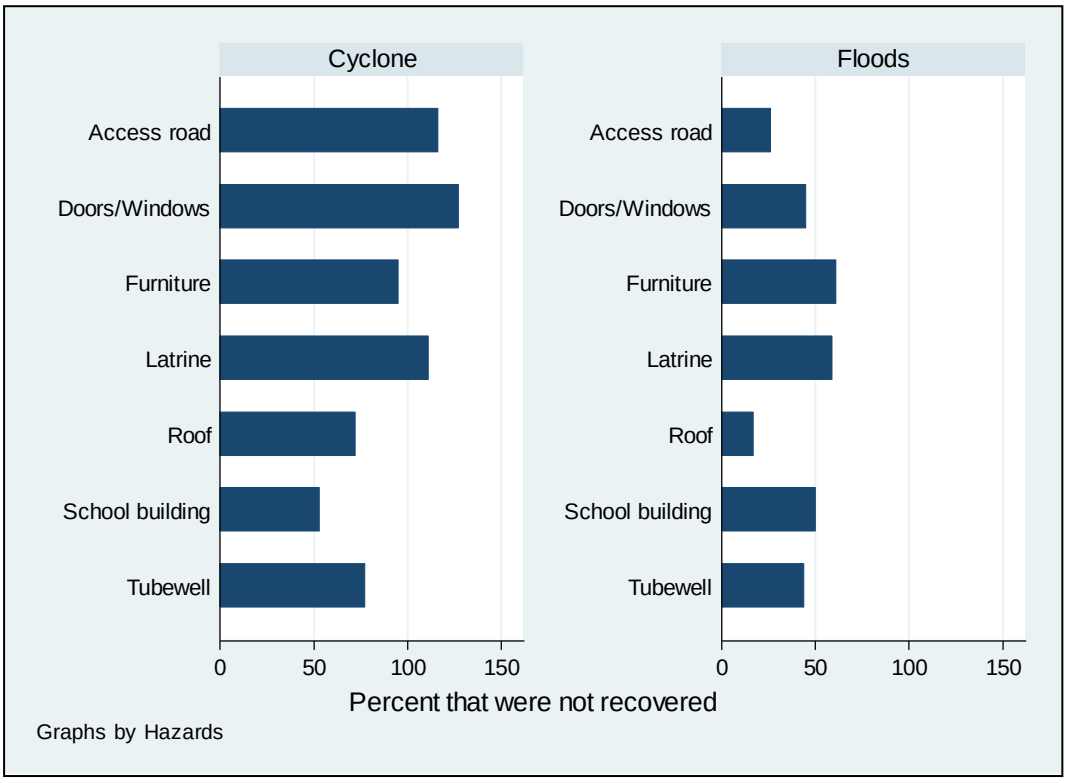
"Education in emergency is a very good but ambitious idea to achieve in flood areas of Bangladesh. It is very difficult to start repairing work of school due of bad road condition and large scale inundation. The government needs to release money quickly and SMC or project implementation committee (proposed) should do the repair work. This is quicker." Engineer, LGED. Madaripur.

High level of gaps is observed between total damage and recovery support received by the school in both flood and cyclone area. Even after two years of flood and cyclone, gap between damage and support stood 50% on an average in flood area, with reasonably lower in cyclone area. Profile of a disaster may explain the difference. Cyclone Sidr received more media attention nationally and internationally that have generated more resources for Sidr than flood.

"Government considered Sidr as disaster so they provided money to school in 20 to 30 days time. They do not consider flood as disaster so did not support us at all". PTA Member, Shariatpur.

The recovery support is often significantly delayed. Many schools are found to be running at the end of 2009 with significant damages to their facilities. For example, 33% school in flood area and 49% in cyclone area reported no recovery at all in physical infrastructure. Wellbeing facilities such as tube well and latrine are identified as most neglected in recovery effort is also identified as a factor of limited attendance by students. For example, 30% school in flood area and 45% in cyclone area reported no recovery in water and sanitation facilities. Similar pattern observed in access road in both cyclone and flood area. Only 29% student FGDs mentioned receiving recovery support for school materials.

Figure 3.7: Damage that are not recovered (in percentage)



The information also highlights a pattern of inequity between schools in receiving recovery support from the government. The government's priority is to fix the affected government-run schools first and then other types. Resources are most often allocated not based on damage to school. Madrasas get no support at all after a disaster.

Section 4 risk to and vulnerabilities of primary education in Bangladesh

Building on impact analysis of previous section, this section provides key analysis of the major factors that construct risks and vulnerabilities to primary education in Bangladesh.

4.1 THE FRAMEWORK USED

Sectoral risk assessment is a comprehensive task and overly complex process as it may involve more than one conceptual framework. Understanding disaster vulnerability and risks of the education sector in a country of higher frequency and magnitude of disaster is even more complex due to an array factors associated with economy, society, institutions, policies as well as human cognation.

A number of frameworks were in use even before the adaptation of HFA. The crunch model or pressure-release[27] and Vulnerability and Capacity Assessment (VCA) frameworks are two models still widely used in disaster researches.

VCA framework examines types of vulnerability and capacity in a given context. It defines vulnerability and capacity into four separate categories: physical, social, institutional and motivational. Despite being very useful it is too broad to be used at local level. Again, this assumes vulnerability and capacity to be structural and non-dynamic, does not sufficiently examine their causes in a changing context. This problem is however addressed in Crunch model, where vulnerability is examined in three layers of causes: unsafe condition (immediate condition or exposures of an individual, household or community to disaster), dynamic pressure (factors constructing unsafe condition. For example, people living close to sea or river is an unsafe condition and poverty pushing people to live there) and root causes (factors associated with society, policy, governance).

The model also defines disaster as function of hazard and vulnerability. This view of vulnerability as absence of capacity does not place specific emphasis on capacity. The framework is often criticized for its linear progression.

Level is very important in risk assessment. Therefore the analysis here has included risks and vulnerability located at and originated from different levels that is micro, meso and macro.

The following table presents the framework used in the study; and a complete analysis is presented in pressure-release model at the end of this section.

Table 4.1: Framework used in vulnerability assessment

Levels

	Progression of vulnerabilities		
	Unsafe condition	***Dynamic Pressure***	***Root cause***
Household	Factors exist at various levels creating unsafe condition for school and education of students	The factors, dynamic in nature, at various levels, making schools and student vulnerable	Main factors, influence, both dynamic pressure and unsafe conditions
Community			
Union			
Zilla and Upzilla			
National level			

[27] The model was originally presented in the book 'At Risk: Natural Hazards, People's Vulnerability and Disasters' written by Ben Wisner Piers M. Blaikie and Terry Cannon

4.2 MAJOR RISKS TO PRIMARY EDUCATION

Almost all primary schools and the settlement in which they are located in Bangladesh are at risk of one or many disasters with varying scales of impact on children. It is clear from the previous chapter that Bangladesh's primary education is in a fragile condition even at the current nature and pattern of disasters, and further study should be considered to understand the likelihood of a scenario in climate change condition.

In summary, variation is evident in terms of nature and degree of the factors constituting risk to primary education. In flood areas, the major causes of vulnerability include: school being located outside embankment (86%), river erosion (82%) and location of the school in low-land areas (56%). On the other hand, schools located close to weak embankments (83%), poor construction (80%) and bad access roads (74%) are the factors reported in cyclone areas. The most important common factor identified in both is the inadequate recovery of school that increases vulnerability to future disaster. For example, 79% schools report that they are now more vulnerable to future cyclone due to limited recovery of 2007 damage, compared to 20% in flood area.

Table 4.2: Main physical reasons likely to stop schooling by type of disaster area

Major risk factors for schools	Cases reported by school (%)	
	Flood 2007 affected districts	Cyclone SIDR and AILA affected districts
Located on low land	56.6	43.4
Possible disruption in communication	48	52.0
Bad access road	25.8	74.2
Close to river/sea	31.7	68.3
May face river erosion	82.1	17.9
Located outside the embankment	85.7	14.3
Close to weak embankment	16.7	83.3
Inadequate maintenance of school building	23.9	76.1
Poor construction of school building	19.5	80.5
Damaged in 2007 not recovered/repaired	20.3	79.7
Other	6.3	93.8

4.3 UNSAFE CONDITION

Physical location, fragile construction, lack of preparedness for and in education and poverty are the four major factors constructing unsafe condition for primary education in Bangladesh.

4.3.A. PHYSICAL VULNERABILITIES

As one of the most vulnerable countries, the return period for a high impact hazard was ten years only few decades back. Now disasters continue to grow in frequency and magnitude. At least five high magnitude disasters occurred in the first decade of 21st century. The localized disasters such as annual flooding in flood plains, tidal surges, high tides in coastal belts, permanent water logging and flash flood in north eastern part of the country continue to increase in intensity. The risk of an earthquake at a scale of above a magnitude of eight on the Ricter Scale is also historically evident though no major earthquake occurred since last 112 years in the country. Almost all primary schools in Bangladesh are located in areas with exposure to one or more hazards.

Using secondary data, APIT [28] estimated that at least 11,912 GPS schools are located in 19 districts highly prone to cyclone. According the school observation report of 2007, 55,375 primary schools and 25,617

[28] *Minimizing Education Infrastructure Losses Due to Disaster.* Advancing Public Interest Trust. Dhaka. 2009.

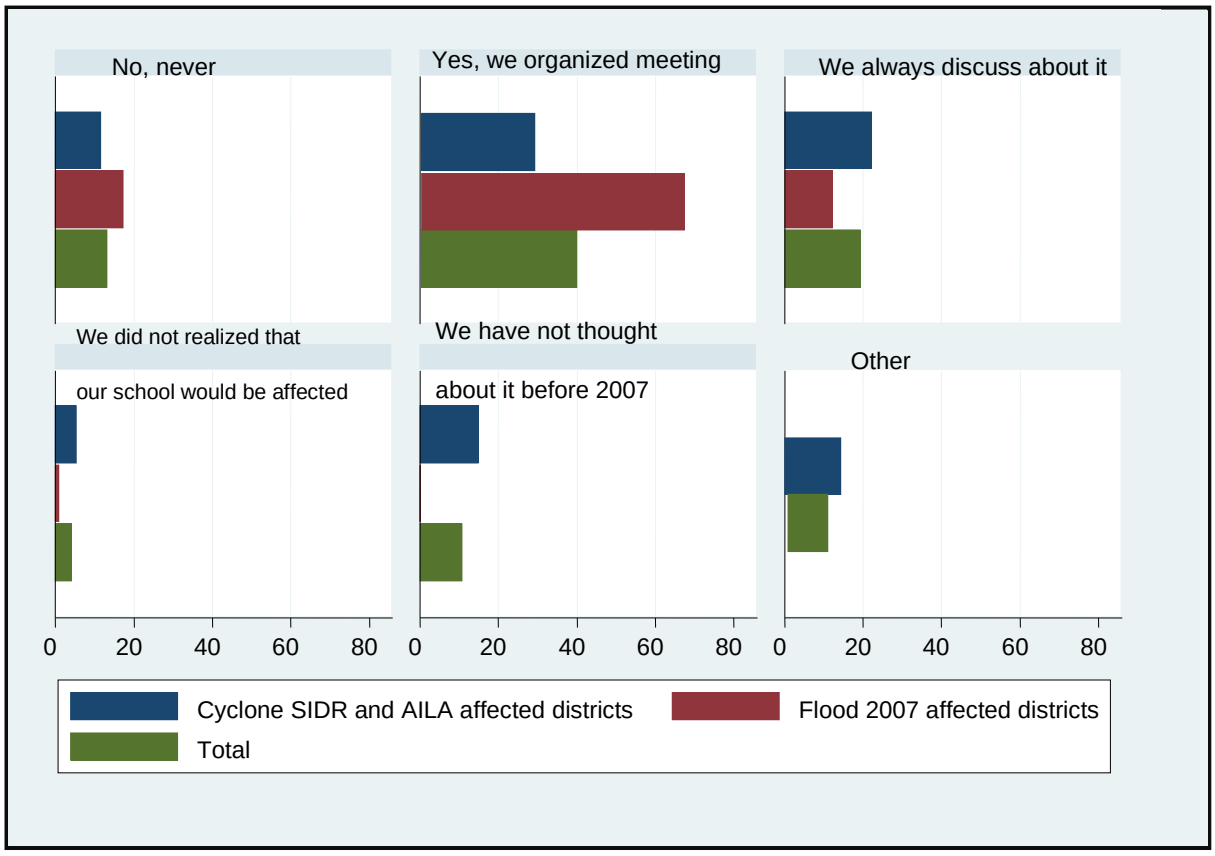
GPS are located in the flood prone areas. Around 16,000 primary schools and 7,000 GPS are located in zones there with high risks to earthquake. Many of the schools are also located on area closure to river bank with high risk to river erosion.

4.3.B. LIMITED PREPAREDNESS IN AND FOR PRIMARY EDUCATION

The study identified a significant lack of orientation and prioritization of preparedness at household, school, and administrative level to continue education during emergency.

Only 40% schools have organized some kind of meeting in the past (before 2007) to discuss about vulnerability of their school. Around 6% schools in Sidr affected area did not realize that their school may be affected by disaster.

Figure 4.1 Level of preparedness at school



It is also evident that awareness about the importance of the preparedness at the institutional level is high. But initiatives are limited to translate that awareness into concrete actions.

At the household level, both in flood and cyclone areas, protection of school materials which are regularly damaged by disasters are yet to be part of their own preparedness and coping mechanism. For example, while people moved their valuable assets to the flood or cyclone shelters, these do not include protection of educational materials. The national discourse and early warning messages also do not include protection of educational materials as part of preparedness activities. Preparedness planning exercise in the form of vulnerability and community risk assessment are regularly conducted by CBOs, NGOs and government departments, yet education is not included in those plans.

Box 4.1: School safety approach in Nepal

A comprehensive school safety approach in Nepal should focus on safety of the students, teachers and school staff which should have three primary purposes: a). reduction of injury and death by improving infrastructure and school readiness and awareness, b). building future leadership and c). resume and/or continuation of education during (except earthquake) and after a disaster.

Four elements of comprehensive school safety approach:

- ***Building leadership in school safety.*** Information dissemination and awareness raising about potential effects of earthquake risk (and other hazards) on population, children and schools and their reduction. Provide training on critical areas like first aid, leadership, swimming lessons, etc.
- ***Making school structure resistant to earthquake and floods***.
- ***Enhancing school preparedness plan.*** Putting in place school disaster preparedness plan and regular evacuation drills which is linked to the community contingency plan. School activities should not be a stand alone activity as it very much interlinked with the community before, during and after a disaster.
- ***Planning for arrangement to run school during and quickly after a disaster.***

But there are challenges to achieve school safety in Nepal. Inexistence of knowledge sharing mechanism and limited cooperation between developmental sectors and actors are the major challenge. Funding for school safety programs are significantly limited and for short duration. As a result, NGOs face difficulties in following up school safety program after project phases out. Finally, school safety as an approach and practice is yet to be developed as pedagogy. Therefore, a number of critical areas have not been well researched. These knowledge gaps include sustainable frequency of disaster simulation exercise, ratio between first aid providers and number of students and disaster preparedness information by various age group of students.

Clearly, the sustainability of school safety programs is more likely where existing mechanism, institutions and neighbouring communities are engaged in the planning and implementation of such programs. School community, particularly students and teachers, is willing to learn and adopt school safety measures.

Source: Alam, K. et al. Comprehensive school safety approach and outline for up scaling strategy for Nepal. ActionAid. Nepal. 2007.

Education offices at district and upazila level in all study areas do not have any preparedness to continue education during an emergency. Disaster risk reduction is yet to be conceptualized, promoted and practiced with some exception to the physical infrastructural design by LGED. The pace of infrastructure development for resilient schools is far from adequate. Both the ministry of disaster management and Education do not have a preparedness plan (specific to education or integrated in general) for EiE.

4.3.C. POVERTY FACTORS

It is evident from the study that students from poor households are more likely to be affected by disasters, and are less likely to recover from the loss they experience in terms of competency, and access, during disasters.

The already insecure livelihood of the poor households cannot invest in education of their children when and when disasters affect their livelihood, their capability goes further down causing serious impact on the education of the children at home and at school. For example this is clear from the discussion with various stakeholders that loss in competencies in general, and specifically in Mathematics and English as subjects, is a concern in all disaster prone areas. Well off households can afford to employ private tutors to recover the lesson loss during the disasters.

"Around 20% students spend 3 hours in study at home with the help of private tutors. At least 30% who come from poor families do not do any study at home as they need to help their parents. After the cyclone Sidr, school was closed for a week. Most of children become busy with their parents to collect relief items, and they also do not have environment at home to study. Many lost their books so did not come to school. We collected some old books so that they can come. But we could not give everyone so many parents were not happy with us. Finally, at least 30% students did not appear in examination. Many did not do well in the exam as they could not afford to pay Tk. 20 to participate especial class organized by our teachers". Head teacher of school in Patuakhali.

Discussion with children and parents suggests that the children are often engaged in household income/livelihood related activities instead of focusing on schooling. This is particularly for the girl child, while they are most often engaged in household activities while mothers are engaged in collection of relief support during disasters. This is particularly evident for first few months from the onset of the disaster. The girl child is also prone to insecurity related problems, conditioned limited accessibility to school, for example, in flood prone area, many children do not go to school until the road networks are completely dry and secure. Early marriage of girls also increased in both cyclone and flood prone areas during and post disaster period.

4.4 DYNAMIC PRESSURE

4.4.A. CAPACITY AND RESOURCE

The National Academy for Education Management has conducted a high quality research on the integration of disaster in the national curriculum; disaster is already included in the text books of secondary education. However, the country is yet to develop a risk assessment methodology for education. Section six discusses details about the skills and knowledge gaps of various stakeholders for DRM in education. The key conclusion is that a comprehensive approach on capacity building for DRM has not been initiated in the country without which EiE is not achievable.

The Ministry of Education (MoE) implements school rehabilitation projects on a regular basis. The local government funds have also been used in both cyclone and flood areas for small scale mitigation of the schools. However, the vulnerable schools do not have either their own fund or other resources to implement risk reduction at the school level.

4.4.B. INFORMATION MANAGEMENT

Information management is a challenge in education even in normal time. There is no single channel at the zila and upazila level to maintain and provide information related to school and students.

No compiled information on primary education and institution is available at the Union Parishad, Upazila and Zila level. Upazila and Zila Primary Education Office keeps government registered and community

school related information of respective Upazila and Zilas. Primary Education Office does not know about Ebtedia Madrasha , NGO schools or kindergarten schools that are operating in respective Upazilas.

Upazila and Zila Secondary Education Office keeps high attached Ebtedia and individual Ebtedia Madrasha related information of respective Upazila and Zila. There are no recognizable offices to find information about NGO and kindergarten school related information. Because of newly started Primary School Final Examination, the Upazila Education Office has come to know about the number of running NGO and kindergarten schools.

To understand the overall scenario of primary education it is necessary to introduce a mechanism by an authority to compile all primary school related information.

Upazila Education does not know about the number of school cum flood shelter. This information is kept at the LGED office. If anybody wants to know the number of primary schools used as flood shelter at the time of a previous flood, then the PIO office can help him, on occasion. The PIO office preserves whole flood shelter information but not anything specifically on the primary schools. If we want to know about information on the last five years then it is difficult for any PIO office. An Upazila PIO office staffs two officials (PIO and Assistant PIO). In Madaripur Sadar, PIO office has a computer, but none at this office can operate it. Simply put, very poor information management and documentation system exists in Upazila level. Zila level scenario is not far better than Upazila. Recently, all of the 64 districts administrations opened their web-site. It should be developed by incorporating all kinds of information and access facilities.

4.4.C. INSTITUTIONAL/STAKEHOLDER ROLE CLARITY IS NOT GIVEN

The study identified two specific problems related to roles and responsibilities to EiE. The first is the specific actions that are necessary to make primary education safer are not officially defined as roles and responsibilities of the stakeholders. Second is the problem associated with the lack of role clarity between the stakeholders for EiE. The detailed discussion about stakeholders' roles and responsibility is presented in section 6.

4.4.D. LIMITED COORDINATION

As an important precondition for EiE, existing coordination mechanism at zila and upazila level should be engineered. Four important factors shaping limited coordination required for EiE: i). the various education committees are not active in all the places and they do not have any official link with the disaster management committees, ii). the person representing education in the DMCs lack leadership skills and knowledge to contribute from an education perspective, iii). they do not work together during a disaster, iv). and finally, no initiatives have been taken to strengthen a proper coordination for EiE at local level.

4.4.E. DAMAGE ASSESSMENT

A systematic damage assessment process is yet to be established and in use for the education sector. The key problem associated with damage assessment include: i). existing damage assessment processes are format-based, introduced without proper training to the stakeholders, ii). the assessment forms are limited to infrastructural damage rather than focusing on the overall aspects of primary education such as impact in teachers, students, early recovery needs, well-being, etc., iii). because of the limited time given for assessment, they are done in short-cut fashion without proper participation of the primary stakeholder of education, iv). and finally, the assessment is approached as a one-off event rather an ongoing process to understand gaps in recovery in various phases of emergencies.

There is no plan exist to conduct assessment during a flood. It is always done in a very short time, often over phone. There is clear assessment format. The format has never been crossed checked. District Education Officer of a flood prone district.

4.5 ROOT CAUSES

4.5.A. INSTITUTIONS, ROLES AND RESPONSIBILITIES

Bangladesh has established institutional structure both in education and emergencies at national to union level (see more analysis in stakeholder analysis section) with a varying degree of defined roles and responsibilities. While it has created a good foundation, many of those institutions remain inactive or limited in function due to human and financial resource and capacity related challenges. In relation to EiE, following are the specific challenges observed:

A. First, institutions both in education and emergencies tend to work in parallel with a potential sign of convergence
B. Second, the disaster management committees often do not see risk to education as their responsibility because those are not formally defined in the guiding documents
C. Third, various committees formed for education, for example, compulsory primary education ward committee, compulsory primary education implementation, monitoring and coordination committee, etc. also do not see their role in disaster management.

"We discussed about survey and relief in the school-cum shelter but education is not discussed". DRRO Gaibandha.

At the national level, disaster management committee (NDMC) responsible for formulation of regulation of disaster management and issuing guidelines, do not have representation from the Ministry of Education. But, the inter-ministerial committee has representation from the Ministry of Education which has only an implementation role. The study team suggests that further discussion should be initiated at a higher level to identify a more proactive role of Ministry of Education in EiE. The role of the Ministry is defined in SOD did not incorporate a robust mechanism within the Ministry to identify and address disaster risk factors in education.

4.5.B. NATIONAL POLICIES/STRATEGIES

This study conducted a disaster and education screening of a number of policies, standing orders, guidelines and administrative circulars related to education and disaster management. From the disaster risk point of view, the national policies are aligned with sectoral line, which limits horizontal linkages between disaster and education. The actions that are needed to reduce the risk of disaster to education are not defined in policy term. As a result, gaps in roles and responsibilities are evident at various levels.

Following are some of the examples of how policies are designed in disaster risk in education:

- **National Plan of Action (NPA2 2003 – 2015):** the document sets out goals and objectives of primary education in Bangladesh with a thorough contextual analysis on the issues and challenges to achieve the goal for Education for All. Three sets of components are focused in the document, which are early childhood care and education, universal primary education and non-formal primary education. The document provides very high level of contextual analysis that includes demographic, social and economical context. But the challenges and implications of disasters are overlooked in the document. The implementation strategy and principles as set out in the document may have included the issues of disaster risks in primary education.

- **SMC formation and operational policy:** adopted in 2009, the notification set out SMC formation and Operation policy for GPS, RNGPS and community schools. The document outlines objective and responsibility of the SMC. But disaster risk reduction and continuation of emergencies are not included. The similar issues can also be raged for the PTA formation and Operation Policy.

- **School Building and Furniture Repair and Collection Policy-2010:** According to the latest repair related policy of primary school opportunity, damaged schools are classified by three types. These are: a). more or total damaged, b). moderate damaged and c). minimum damaged. This assessment is only infrastructure related. Damaged information of students and their family, teachers is not recognized by this assessment process.

4.5.C. NATIONAL FRAMEWORK

For practical reasons, survival of the population is the key focus of written and/or unwritten national framework[29] on disaster management. This framework is articulated in DM discourse, policy, programs and guidelines. DM is also yet to be fully incorporated in the national sectoral policies, such as education. While government has adopted the infrastructure safety as a school building policy, the non-infrastructural aspects of disaster risks to education are largely overlooked.

Putting aside debate about process and content of Poverty Reduction Strategy Paper (PRSP) development, the document widely referred by all stakeholders and development partners in Bangladesh, also overlooked the importance of disaster risk reduction in education.

Post HFA regime in Bangladesh has reinforced some of the historical approaches of risk reduction yet education is seen only as a means of risk reduction rather acknowledging that education itself is not resilient to disaster. The national civil societies are also influenced by the discourse of survival not protecting the softer side of development like education. For example education watch report released by CAMPE, the largest education network in Bangladesh, inadequately considered disaster as important problem for overall education in general and primary education in specific.

The local stakeholders including the parents, students, teachers, DMCs, are not outside the influence of such national framework. There might be reasonable justification at HH and local government level to prioritize survival issues such as food, health, livelihood, etc. over education at the early stage of emergencies but the study finds univocal statements about the importance of continuation of education during a disaster.

"After the cyclone, we were thinking more about food, shelter, water, cloth etc; not education". Chairman of UP. Patuakhali.

"We did not think about learning environment in the school during a flood". Member Union Parishad. Gaibandha.

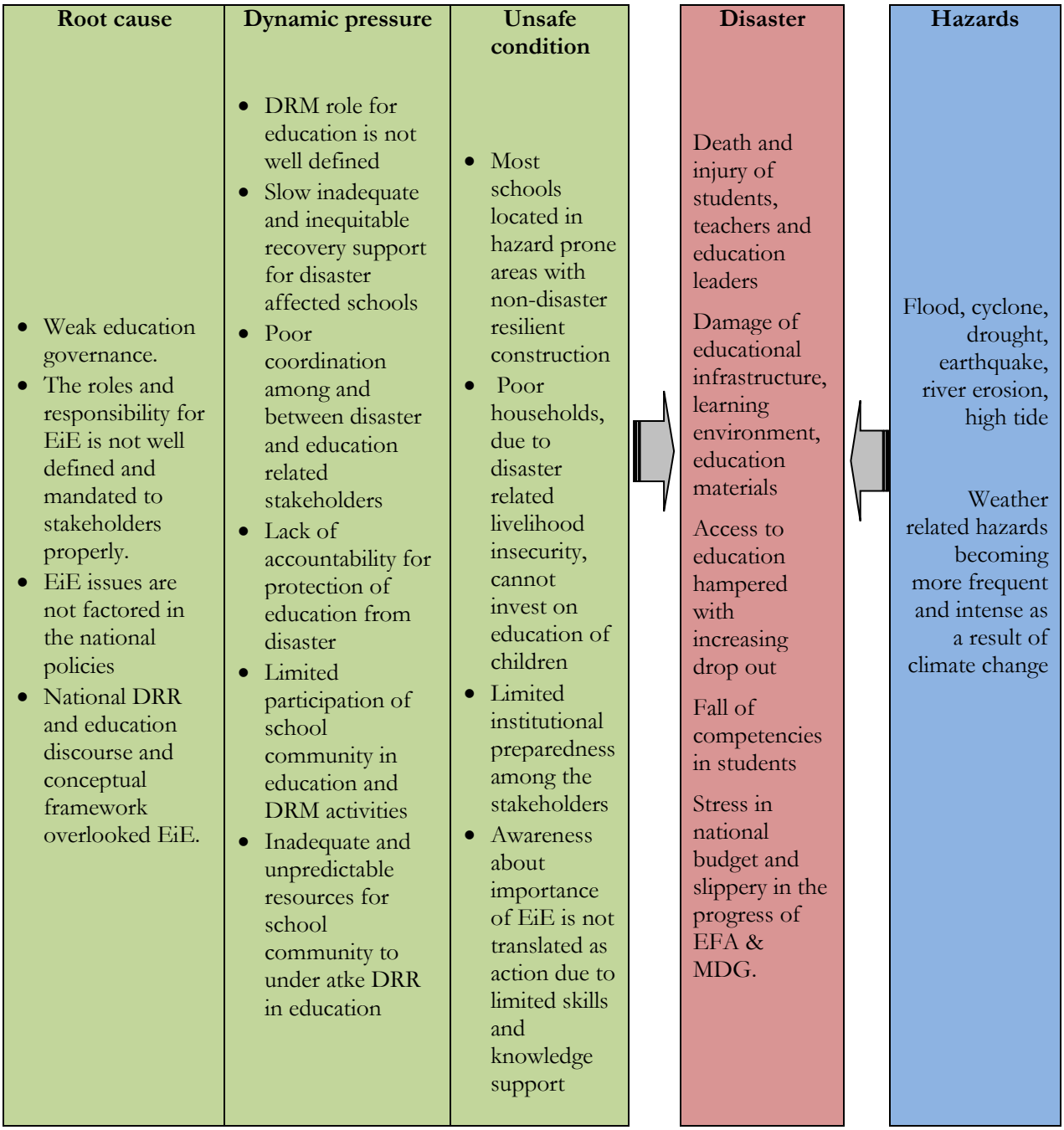
Disaster means that closure and discontinuation of education for a certain period is often accepted by the students and school community.

[29] Bangladesh does not have a written humanitarian or DRR framework. The analysis provided here is the reflection of DRR professional engaged in the study.

4.5 CONCLUSION

Summary of the disaster problem in education is presented below using the pressure and release model.

Figure 4.2: Risk and vulnerability of Primary Education in Bangladesh



Section 5 Bangladesh Standards for Education in Emergencies – a provisional outline

5.1 INTRODUCTION TO EVOLUTION OF THE CONCEPT

This section presents a set of provisional standards to achieve a disaster resilient primary education in Bangladesh.

All the standards exist in broad DRM practices have their origin in standard and principle of human rights. But Rights Based Approach (RBA) in DRM is an emerging idea, developed over the last one decade. In order to articulate those standards in DRM, a few documents such as Humanitarian Charter and Code of Conduct[30], SPHERE standards, 'people in Aid', HAP etc. are developed through numerous initiatives. However, until today, pedagogy of practice is yet to emerge. Education in emergency is not an exception.

In 2004, Inter Agency Standing Committee (IASC) put together Minimum Standards for Education in Emergencies (MSSE), a document that sets out standards for education in emergency. The document is developed to guide stakeholders on 'what to do' and 'what standards' to follow for continuation of education in emergency. However, careful analysis suggests that the document adopted a recovery framework in setting out those standards. This means, the document focuses on resumption of education in various circumstances of emergency. However, lessons from the practice later identified that DRR issues are not included in the MSEE.

MSEE was translated into Bangla. But it is not yet popularized outside child rights and few education agencies in Bangladesh. One of the reasons for such limited use of the document is its inherent international character where agencies perceived it as difficult to implement in Bangladesh context. On the other hand, two important developments i.e. school safety approach following Gujarat and South Asia earthquake and risk reduction through school increases importance of school in post HFA placed school as an important part of DRR.

As discussed in earlier sections, the main problem with Bangladesh's primary education is its limited resilience to get back quickly to offer quality education to the student. It is not always necessary to set-up new schools, but often an alternative is necessary in prolonged flood. But in any case, they do not replace existing governance and management system. Practices on continuation of education in emergency in the form of alternative schooling, providing or waving of school fees, supporting with education material, were traditionally existed in Bangladesh. Some of them were in practice during the flood 1998, 2004, 2007 and cyclone Sidr 2007 & Aila 2009.

Therefore, a scope is very clear to combine MSEE standards with already existed practices in Bangladesh to develop Bangladesh Standard on disaster resilient primary education (referred as Bangladesh Standards on Education in Emergencies-BSEE). In order to create a foundation, this study discussed with stakeholders at different levels to conceptualize the BSEE. It also examined usefulness, practicality and ways to promote BSEE. The standards are also used in this study as framework to conduct stakeholder analysis and TNA.

30 The **Code** of Conduct for The International **Red Cross** and Red Crescent Movement and NGOs in Disaster Relief was developed and agreed upon by eight of the world's largest disaster response agencies in the summer of 1994 and represents a huge leap forward in setting standards for disaster response. It is being used by the International Federation to monitor its own standards of relief delivery and to encourage other agencies to set similar standards.

A few assumptions are considered in the process of building BSEE: i). schools are shut or functioning inadequately due to limited DRM in education; ii). Population has got HH level disaster related priorities, so demand for education is less, iii). Humanitarian response does not contribute to education objective (quite often). It was also assumed that BSEE can only perform if broader education governance is working for the poor children.

5.2 PURPOSE OF BSEE

The standards are proposed here to guide the stakeholders for further investment in developing a comprehensive set of standards on resilient primary education.

Ultimate purpose of this BSEE should be to guide all stakeholders on 'what to do' and 'what standard to follow' for building resilient primary education in Bangladesh. Once they are agreed upon, like any standards, they will help reducing gap between qualities of implementation of EiE related activities by the stakeholders.

5.3 STRUCTURE OF BSEE

Outline of BSEE is structured into four sub-sections. First it presents what is the factors condition success of the implementation of BSEE. Second, it proposes actions at various phases of emergencies. Third, it provides components of BSEE. And finally, the standards:

5.3.A. PRECONDITIONS

BSEE should not be isolated from overall policy and practices of both education and emergency response/disaster management.

A number of important factors are identified as precondition for successful implementation of BSEE. First, good education governance at all level with active participation of students, parents, teachers and SMCs. Secondly, increase in investment on education and DM that improve school infrastructure, basic training, and enhance equity between different kind of schools. Third, disaster affected household and communities have access to adequate and timely disaster recovery support to release pressure that prevents them to sending back their children in schools after an emergency. Fourth, local development processes identify and reduce physical access related problems of the school community. Fifth, all vulnerable communities have separate shelter facilities or access to safer locations other than schools. Finally, objective of the humanitarian response includes concern of education and school community in emergency.

5.3.B. ACTIONS IN DIFFERENT PHASES OF EMERGENCY

In order to protect rights of the children to access to quality education in emergency, action should be undertaken at different phases of disaster cycle. BSEE considers different actions in those phases.

- Pre-disaster. Systematic DRR actions in education before disaster occur, as well as inclusion of DRR in humanitarian response and recovery in education. High level of readiness to continue Education in disaster.
- During disaster. All out measures and actions to support students and school community to continuation quality and equitable education during disasters.

- Rehabilitation. Timely, adequate and equitable rehabilitation measures for education.

5.3.C. FOCUS AND COMPONENT OF BSEE

Key focus of BSEE is on equal access, quality and inclusion.

5.4 OUTLINE OF THE BSEE

BSEE is structured into five clusters. First four clusters are taken from existing MSEE (cluster 1-4). An additional DRM cluster is proposed. Participation cluster of MSEE is integrated in all the clusters.

CLUSTER 1: ACCESS AND LEARNING ENVIRONMENT

EQUAL ACCESS

- **Standard 1:** School buildings and facilities continue to be available for education purpose to students and teachers immediate after an emergency.

- **Standard 2:** Humanitarian response identifies and addresses constraints of the children to have equal access to quality and relevant education.

- **Standard 3:** Alternative schooling facilities are equally accessible for all students.

MENTAL & PHYSICAL WELLBEING OF STUDENTS

- **Standard 4:** Access road and means of communications are safe, secured and affordable for children and teachers during an emergency.

- **Standard 5:** Students continue to access water and sanitation in the school in all circumstances with specific privacy provisions for the girls.

- **Standard 6:** All schools have first aid facilities with trained teachers.

- **Standard 7:** At least two teachers (one male and one female) in every school have adequate training to identify and address disaster related trauma among children.

LEARNING ENVIRONMENT

- **Standard 8:** Learning environment during and after a disaster is secure, safe and joyful for both boys and girls.

- **Standard 9:** Alternative schooling provision in emergency is included in policy with adequate preparedness for implementation.

CLUSTER 2: TEACHING AND LEARNING

MATERIALS

- **Standard 1:** Early warning messages disseminated to vulnerable population mention the need for protecting education materials from disaster.

- **Standard 2:** All schools have adequate facilities and preparedness to protect their education materials from disaster.

CURRICULA

- **Standard 3:** All children have access to knowledge and skills about DRR through child friendly means.

COMPETENCIES/LEARNING ACHIEVEMENTS

- **Standard 4:** A system is in place to identify competency losses due to disaster: adequate preparedness is in place to support students to recover the losses.

CLUSTER 3: TEACHERS & EDUATION PERSONNEL

- **Standard 1:** Humanitarian needs of the teachers are acknowledged, identified and addressed on time to boost-up their motivation for continuation of educational activities.

- **Standard 2:** DRM in education is included and administered in teachers' training program at all levels.

CLUSTER 4: COORDINATION & INFORMATION MANAGEMENT

- **Standard 1:** Ministry of Education prioritizes access to school for all, waiver of examination fees and enact flexible policies to promote inclusion and education quality given the emergency context

- **Standard 2**: Coordination mechanism for education in emergency is in place at all levels with participation of all stakeholders for effective information sharing.

- **Standard 3:** Reliable, accessible, transparent and regularly updated information of all schools in one place.

- **Standard 4:** Recovery framework is in use by GoB to assess status of the recovery of the schools with the participation of all relevant stakeholders.

CLUSTER 5: DISASTER RISK MANAGEMENT

- **Standard 1:** All GoB policies, plans, circulars, guidelines in disaster and education addresses disaster risk in education.

- **Standard 2:** Disaster risk in education is adequately identified and addressed by the DMCs at various levels.

- **Standard 3:** Contingency plans are formulated and regularly updated, monitored and implemented at all levels to protect education from disaster.

- **Standard 4:** All schools have regularly updated and shared contingency plans and adequate capacity to implement the plans.

- **Standard 5:** Comprehensive education emergency assessment conducted on time with participation of all relevant stakeholders.

- **Standard 6:** All students, teachers and schools have access to adequate and timely assistance to continue educational activities.

- **Standard 7:** All future risk including climate change is adequately addresses in educational recovery plans and their implementation.

- **Standard 8:** Risk management of all hazards in included in the curriculum of all types of schools supported by adequate training for the teachers.

- **Standard 9:** All primary school buildings and facilities are built and maintained to be disaster resilient.

- **Standard 10:** Physical planning and development in normal time should ensure protection of education facilities and infrastructure from disasters.

5.5 WAY FORWARD

More discussion is needed on the standards with stakeholders-for buying in, further development, identification gaps and set out indicators for each of the standards.

Section 6 stakeholder analysis - transforming roles for disaster resilient primary education in Bangladesh

6.1 FRAMEWORK OF ANALYSIS

An array of methodologies exists for stakeholder analysis to suit the purpose of research objectives. Theoretically, the stakeholder analysis aims to understand and evaluate stakeholders from the perspective of an organization, or to determine their relevance to a project or policy. Stakeholder analysis is carried out to understand position, interest, influence, interrelations, network and other characteristics of stakeholders, with reference to theory and past, present and future potential. This study uses similar definition in its stakeholder analysis.

This study adopted a framework of analysis to identify stakeholders who are directly and/or indirectly related to education or emergency sectors ranges from informal to formal and at community to district level. In addition, this also included stakeholders who might be relevant in successful implementation of BSEE discussed in next section.

Taking on each of the aspects of the above framework the study develops a simple analogy to address the research problem.

A. *Type and characteristics of stakeholders*: Who are the individual and formal and informal institutions from community, schools, local government, government departments and civil society currently having some degree of engagement with and influence to primary education as a whole
B. *Current Roles and responsibilities*: What is their current role in protecting primary education from disasters
C. *Perspective and Position on EiE*: What is their current position, interest, influence, interrelations, network in relation to EiE
D. *Potential Role of the stakeholders in EiE*: What additional role should they adopt in order to perform additional responsibilities sot protect education from emergencies

This section divided in to three sub-sections:

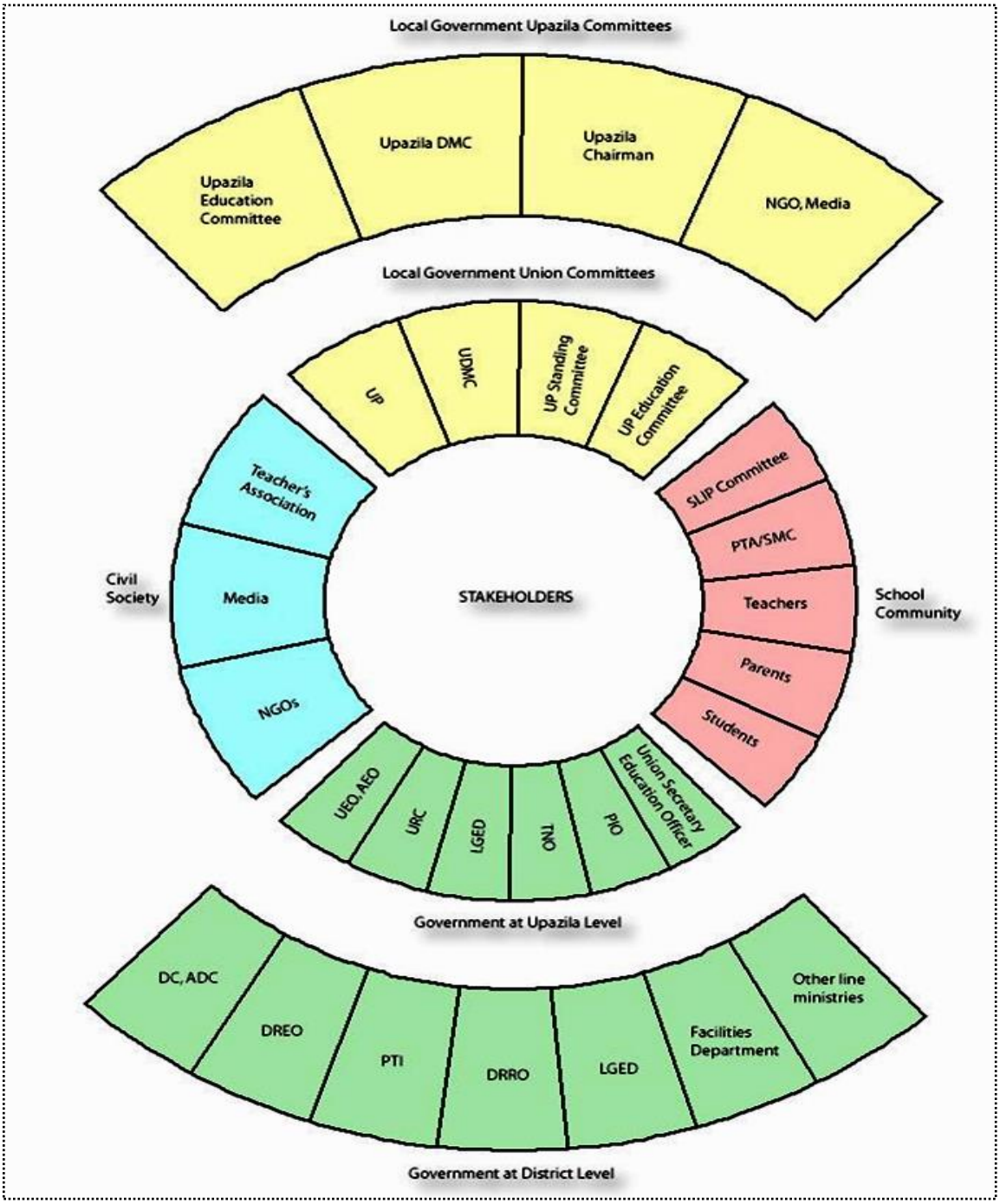
- First, is a brief description of stakeholders mapped out by the exercise
- Second, is an analysis of the above analogy by stakeholders at different level
- Third, is an analysis of linkages and networking among the stakeholders relevant for EiE

6.2 STAKEHOLDER MAPPING

Anything that happens to the overall development of society can affect education thus all stakeholders can influence primary education. To address those characteristics, the study set a boundary up to immediate and second layer stakeholders of both education and disaster management origin to present a manageable and purposive analysis. That purpose is defined to analyze and propose potential stakeholder engagement for EiE. Four major types of stakeholders are identified relevant for EiE. From community to district level they are broadly categorized as follows:

A. Household includes children (boys and girls) and parents
B. School community that is comprised with teachers, PTA & SMC, SLIP committee and other community based organizations
C. Civil society organizations includes NGOs, media, teachers' associations and political parties
D. Local government stakeholders that include union and upazila parishad, union, Upazila and district disaster management committees, union and upazila standing committees on primary education
E. Government stakeholders at the upazila level includes: Upazila education office, Upazila Resource Centre, Local government Engineering Department (LGED), Project Implementation Officer, secondary education officer and Upazila Nirbahi Officer (UNO). At the district level, key stakeholders includes: deputy commissioner, additional deputy commissioner, district primary education office, primary teachers' training institute, district relief and rehabilitation officer, district secondary education officer, Local government Engineering Department, and facilities department

Figure 6.1 Mapping of relevant education and disaster management stakeholders



6.3 HOUSEHOLD

The household is comprised with children and parents. They are also key part of the schools as well.

Children (Boys and Girls)

With a duration of five years, from class one to class five, children aged from 6-10 are the targeted population for the primary education. The country has a population of 16.32 million that fall in this age group[31] as quoted in education watch report 2008. A total number of 9.4 million children are in government schools while non-government schools have 7.9 million in 2007[32]. While the education of the primary school student is affected by disaster on a regular basis, real risk reduction initiatives with and for the children are very minimal. While there are good pilot initiatives by government and NGOs on DRR with children, the approaches are yet to be nationally scaled up. As a result, many students undertake whatever measure they can adopt to protect their education. All the children participated in the study wanted to see their education continuing during a disaster. They too have little knowledge about the concrete action for continuation. The concept of disaster is only introduced in the primary education from class five, which is a poem on cyclone[33].

Discussion with children identified a number of potential roles. First, protection of students materials and second, participate in the school DRM process. The major challenge for the children to gain such skills and motivation with external facilitation is evident in all type of schools engaged in the study. Often a section of the children especially coming from poorer section of the community accepts the fact that the school may close during a flood, which can be addressed by a campaign. Organizational culture and policy framework in both education and disaster management is such that they do not demand for participation of children in various school based activities, especially in the need and damage assessment process.

Parents

Despite the poverty, most of the parents in the vulnerable areas are keen to send their children to primary schools. Awareness programmes of the non-government organizations and GOB and the national education policies played a key role to enhance the level of awareness for primary education enrollment. However, most of the parents of primary school going children are poor or just above the poverty line. And most of the cases they do not have the basic education and/or mostly illiterate. Their children are the first generation school goers. The poor parents are not aware about the education systems and their role beyond only 'parents'. They do not get chance to share their concerns and also get feedback from the teachers about their children's educational status. The parents feel that the schools should not be used as shelter as it hampers the education of their children. During the FGDs, the study team has realized that the parents feel no real motivation to remain involved in school and in most cases are not aware about their roles and responsibilities to schools as well. During and post disaster incidences, poor parents lost the ability to overcome the loss of education materials and send back their children to school. They prefer survival strategy than investing in long term risk reduction. Usually, if any child in a family is taken out of school, it is the girl first and then the boy. If this group were convinced that the time taken to attend school were useful, it would be more attractive to them. The parents can also play an important role to support the SMC and restore learning environment in the schools immediately after the disasters. They can be motivated about the competency and its importance so that they can realize the need of the education for their children and its link to disaster risk management.

[31] (Ahmed, *et al*, 2005, UNFPA and CPD, 2003)
[32] *Ibid*
[33] Advancing Public Interest Trust (APIT) study

6.4 SCHOOL COMMUNITY

The school community consists of PTA, SMC, teachers, and SLIP committees (where it exists). These primary stakeholders are the key for defining, formulating and implementing initiatives for EiE.

Teachers

Teachers have universal primary role to provide education to the children in the primary schools. They play the main role to ensure a learning environment, transfer knowledge and information and develop competency of the children. However, in Bangladesh, teachers of the primary schools are over burdened with many other non-educational activities such as collecting census data, voter listing etc. Teachers at the primary schools are not aware of where their resources lie; they usually bypass the Union level and go straight to the Upazila offices with problems. They have not had any previous training on this matter. Generally they are disheartened due to the non-educational duties and cannot take any initiatives to continue education during the emergency. In most cases, they are not armed with any knowledge of what to do during the disaster periods.

PTA

The PTA consists of members from both inside and outside the school community. They work jointly with the SMC. However, many schools have no PTA. While having negligible role in school management in normal time, PTAs are found to be playing a very critical role in maintaining learning environment after a disaster. According to the current SOD, UDMCs are taking over schools for use as disaster shelters but most often schools are returned to SMCs with damaged learning environments. PTAs are found in raising money to clean the school premises. The parents of children whose families are affected by disasters do not usually get involved in this activity. The PTAs can play a very important role in managing disaster shelters, mobilizing and supporting parents and students to continue education during disaster. They can also play an important role as accountability driver on SMCs for EiE and school disaster risk reduction.

SMC

In normal context School Management Committee (SMC) play important role in managing school affairs. The size of the SMC may vary from 11-12 members depending on the type of schools. They are comprised of two teachers from the schools including the Head teachers, two local persons interested in education, land owners, a teacher form nearest high schools and five parents.

Ministry of Primary and Mass Education issued a notification on SMC formulation operational Policy for GPS, RNGPS and community schools.

Analysis on that circulation suggests that roles and responsibility of SMC for EiE is not included. They also do not have authority and power to decide use and non-use of their school as disaster shelter. They do not have any institutional relationship with the upazila disaster management committees. The field observation also suggest that SMC generally have no or limited role in need and damage assessment on primary education. The study found a high level of awareness about the importance of EiE but the SMC trainings conducted by URC does not include DRM aspects. However, examples are also evident in high magnitude and chronic disaster prone areas that SMCs played leadership role in mobilizing local resources and organize various activities to continue education as well as disaster risk reduction.

"*Participation of the community people is the key to continue education in emergencies. It will only work if UP and people understand the importance. Once demand is created, the government education office will perform their duty*". Upzila Educaction Officer, Shariatpur.

6.5 CIVIL SOCIETY

The members of civil society at the union level are media, primary teachers' association and NGOs. Overall, the groups at this level are not much organized. The civil society is mainly driven by the advocacy actions and political issues are apparently more important for them than any developmental issues.

Media

Union level media is not organized nor do all national media have presence at the union level. The journalists participated in this study are more concerned with sensitive issues such as corruption in education and disaster relief rather being concerned with broader developmental issues such as EiE. Clearly there is a lack of orientation and awareness about the importance of the EiE issues. The news items are generally determined by the editorial policy at the national level which is often not outside the national framework on disaster management and education that over looked important issues of EiE. The reporters also face tremendous challenges that are generic in nature related to their pay-role, logistics and technology. But, they all have shown interest to work on the issue. Media at both upazila and union level can play two important roles. First help increasing awareness about the issue of EiE. Second, play role of accountability drivers on the performance of education system in managing disaster situation. In order to achieve that advocacy campaign can be initiated to influence the editorial policies through national press institutes as well as Editors' Forum of the national media. Alternative option can be to organize the journalist reporting on disaster and education with training and orientation input on and the issue of EiE.

NGOs

An array of national and local NGOs are working in disaster management and education at various levels in all research districts. The awareness about EiE varies by type of NGOs and who the research team contacted with. But by and large, there is a significant lack of understanding about EiE and INEE. As a result the NGOs that are working on education and or DRM overlooked the aspect of education during an emergency. For example, education watch committee supported by UDAYAN in Gaibandha promoted reasonably good governance in primary education. They too have overlooked how education should be continuing during a flood. NGOs running non-formal education also do not have specific programme to reduce the risks of learning centres they run. NGOs in those ten districts can play mainly roles in promoting EiE as implementer as well as pressure group to demand responsiveness from the key stakeholders. But high level of awareness raising and training should be initiated to perform that role. Coordination among the NGOs are fragile though there are some coordination exist at thematic level. But, no specific coordination mechanism observed on education or disaster management. However, there is NGO coordination forum at district and upazila level chaired by UNO and DCs. This coordination bodies can be used to promote the idea of EiE.

The CPP, though not based in Khulna, has done disaster drill with children but this was for general awareness and not in any school-based sessions. The BDPC (under the RCS) has 86 shelters where they work with children, since 2007. The RDRS in Nageshwari work with the standing committees, in order to revive them. In Patuakhali some NGOs (Neramoti) are working with semi-pakka school rehabilitation.

Primary Teachers' Association

This is the large national body with presence up to upazila level. The association is divided in to two. First one represents the government teachers only. The second one represents non-government teachers. As a professional association, their major role is to protect interest of the teachers.

The body as a whole has a high level of influence over national policy on education, which is an important scope of engagement for any local level campaign to promote the idea of EiE. The mandate of the association does not include over all performance and quality of the education. But there is scope of convergence. Previous sections highlighted how teacher and their well beings are affected by disaster with serious consequences on the performance of education. The analysis also highlighted that he need of the teachers in emergencies is not acknowledged and addressed in the humanitarian response. Encouraging teacher association to adopt such an issue will not only protect the interest of their member but also helped to achieve EiE.

Box 6.1 SMC and Local community supported continuation of Education

Model Primary School of Koyera was affected severely by the cyclonic storm Aila in April 2009. The education activities restarted immediately with the active role and support of SMC. The school was cleaned up and saline water removed from the premises for 500 students of that school with the support of the local community. At the same time, SMC took decision to accommodate students of another two kindergartens and two BRAC schools. The students' number rose up to 700 in total. Sensing the need of overloaded teachers, the SMC generated fund with the support of the existing teachers to hire two extra teachers. Upazila education office came forward to support this noble effort of the SMC and teachers of the school to continue education and recover learning environment. With all these supports, 200 students were able to participate in the 'primary school completion exam' in 2009 successfully and hoping to be enrolled in the six grade of high schools in 2010.

6.6 LOCAL GOVERNMENT

Union Parishad (UP)

UPs are consisted of several committees, which are directly and indirectly education related. These are Compulsory Primary Education Ward Committee, Compulsory Primary Education Implementation, Monitoring and Coordination Committee, Education and Mass Education Standing Committee, Union Disaster Management Committee (UDMC) and Cyclone Preparedness Plan Committee (for cyclone porn areas). Practically Compulsory Primary Education Ward Committee; Compulsory Primary Education Implementation, Monitoring and Coordination Committee and Education and Mass Education Standing Committee are not functioning in union level. The participated Union Parishad official in the study shown has many examples in which they have taken initiatives to reduce infrastructure risks to education. Most of the Union Parishad chairmen and members do have high level of understanding about the disaster risk re-education in union though they do not have concrete understanding how to address that. Union Parishad hosts two important bodies that is standing committee on primary education and Upazila Disaster Management Committee with a potential of convergence and coordination for EiE. However, no sign of such convergence was evident in the research districts. The roles and responsibilities of UPs do not specifically include reduction of risks to education. But this is not a constraint for promotion of EiE. Most of the Union Parishad members/officials are influenced by the sectoral mind set comes from national policy framework. As a result, various risk reduction initiatives are often under taken without considering education vis-à-vis many of the school level risk factors identified in previous sections can be implemented from the resources available at UP. For example, allocation of 35% of all resources for education and another 20% for sports and cultural activities, fund for LGSP, KABIKHA and TR..

Disaster Management Committees

DMC is one of the 11 standing committees of UP. This committee has presents all over the country with a varying degree of performance and activation. But they are also not outside the influence of national policy and framework. As a result, they often identify educational institutions as a means to reduce risk of

the communities rather consider risks of those institutions itself. This is clearly evident in number of community risk assessment report reviewed by the study team.

The roles of DMCs are defined in the Standing Order on Disaster (SOD) which is currently being reviewed by Disaster Management Bureau (DMB). The section four provided a policy analysis on important gaps in the roles and responsibilities in DMCs in order to protect primary education from disasters. The structure of the DMC and its organizational culture also lack an overall orientation on education. The member teacher of UDMC often cannot provide leadership to include the education concerns in the DMCs' activities. According to the SOD, DMCs are responsible for management of disaster shelters but often they cannot prevent the damage to learning environment due to lack of awareness about EiE.

"*There is no policy guideline for UDMC to work on education during disaster".* UNO, Bagerhat Sadar.

Upazila level analysis of DMC

As per SOD of the government of Bangladesh, the Upazila Disaster Management Committee (UzDMC) is formed with the participation of relevant agencies such as Upazila Nirbahi Officer'(UNO) office, UP Chairmen, representatives of several departments of GoB at Upazila level, CPP, BDRCS, NGOs, Women leaders etc. where UNO holds the Chair and PIO is the member-secretary of the UzDMC. This committee is set to conduct regular by-monthly meetings in order to monitor the activities of the committee as well as to performances of the roles and responsibilities entrusted to them. The Committee makes plans through assessment and sends those to the ministry through proper channel (District DMC). This committee maintains regular communication with the DDMC and UDMC at both the District and Union level respectively by seeking necessary instruction as and when deemed necessary. They often identify educational institutions as a means to reduce risk of the communities rather consider risks of those institutions itself. This is clearly evident in number of community risk assessment report reviewed by the study team.

As mentioned above under UDMC, the member teacher of UzDMC too cannot provide leadership to include the education concerns in the DMCs' activities. UzDMCs cannot prevent the damage to learning environment due to lack of awareness about EiE and role clarity. The Upazila Nirbahi officer of Kalapara said: 'The UzDMC performs the overall responsibility of disaster management. They do not have any specific focus on education'.

6.7 GOVERNMENT DEPARTMENTS

6.7.A. UPAZILA LEVEL

UNO

UNO is the administrative head at the upazila level as per GOB's structure of bureaucracy. This post is involved in almost every committee and concerns at upazila level due to the assigned role. As per SOD, UNO is the chair of UzDMC as well as most of the standing committees at upazila level.

PIO

The PIO is involved in every committee and works closely with the DRRO. He has information on which schools have been used as a cyclone shelter during a disaster, however he has no properly managed database, and an office with only one assistant. The PIO's office is equipped with a computer but requires a digital computer operator; there has been no real use of the equipment in the last 1-2 years.

TEO

The TEO has a defined role but suffers from inadequate manpower. The TEO has ever-increasing responsibilities and the offices have many things to deal with but are very understaffed. There are two in every upazila and each office has a computer and internet facility and a growth facility centre. They have a lack of resources and a monthly travel allowance of 200 taka. To fulfil their responsibilities in a time of disaster is next to impossible.

During disaster period, the schools have to allow people to come and stay for as long as needed. This gives rise for a need for a space for the school to hold classes. There is the option of using the roof of the school, but an environment with so many people present is not ideal for classes. In this time, the teachers do not come regularly. Usually, the SMC is not powerful enough to deal with this. An exception is in Mollar Char which has three schools: primary school, a high school and another one. The schools have a strong management there; the people at the flood shelter do not enter the school boundary.

School infrastructures are insufficient and inadequate. To continue the use of schools as shelter centres will result in the disruption of education. It is necessary to hire someone specifically to manage the shelters. If a person can be given the entire of the responsibility to manage the infrastructure as a school and a shelter, it will yield better results.

LGED

The responsibility for building type C schools fall to the LGED. Usually when a school is rebuilt after the previous pukka structure is destroyed, that new three-room structure has less space inside it than the original. There is need for latrines and storage areas inside the school-cum-shelter. There is a MOU between the LGED and the Department of Education that all government primary school structures will be built by the LGED; 30,000 taka by the PEDP II. In Madaripur and Shoriadpur, 25 and 27 schools respectively have been rebuilt as type C. All schools destroyed in the last 5-7 years will be reconstructed. There is also a plan of building 239 school-cum-cyclone shelters in the coast.

The LGED has no vulnerability map of schools, but have list of damages done. They do not do this with their own initiative, rather when the UDMC tells them to.

Madhomik Officer

This officer is responsible for intermediate institutions and intermediate-level madrasas. There are more upper-level madrasas than primary-level madrasas. They do not have a good monitoring system; rather they look only at exam results to determine the quality of schools. It is doubtful whether the Madhomik officer has much training on this matter. They visit schools only to fill out certain forms, but have no relation to disaster management.

URC

The URC office has a link with teachers and SMC. It began from 2005 as a separate office and has around 30 staff members, but with an average of 4 vacancies in each. They hold teachers' trainings, SLIP committee trainings and trainings for a few SMC members. Monthly they have 4 regular subject-based trainings, with 25 people in each class. This office runs with a staff salary of 325 taka a day. Some training is conducted by the TEO as well, but the URC venue is used.

6.7.B. DISTRICT LEVEL

DC and ADC

The DC's office is not very concerned about education. The DC's office has an Assistant DC (ADC)for magistrate, revenue and general; the general ADC is responsible for education issues. There is need for a unified stream. An ADC was not even aware about the PEDP.

Generally, it is at the upazila level that all the work regarding disaster and education is happening. Nothing is done at the district level. In some places the upazila Chairman is active, but that is because of his personality and not depending on the institution he represents. The district education officer is supposed to sit at monthly meetings with the upazila education officer but that does not take place. It should be included in his roles and responsibility that disaster planning or preparedness has to be done; their responses should be discussed too.

The DEO has more of a passive role in disaster management. After the period of a disaster, he assesses the damages and acquires funds for that but not for preparedness. He keeps in touch with the upazila education officer during a disaster period, but is not responsible for risk reduction. They discuss issues, but the context is not defined. The DEO needs to be given training on keeping a compiled report of schools, education and assessments, and of how to do it.

PTI

The PTI develops the academic side and training. There are no courses on what to do during a disaster. There is a need for course content with more area-specific concentration, with focus on the local disasters. In Koyera, the PTI training is held for 8 teachers for 1,000 taka. The teachers do not get any money for the training, rather 13,000 taka salary and a benefit package. With this training, the teachers can be promoted.

Training for the teachers should do six months of classes and six months practical training. Children's psychosocial care should be added onto all parts of the training curriculum instead of leaving it as a totally separate section, or they should complete their practical training in schools in disaster-prone locations. This training should be given to every member of the SMC instead of just three. The SMC changes every 2-3 years; one year training is given to some members, but the next year, the entire SMC changes. Generally, the SMC has 3-4 members that are active, and the rest have no level of literacy. The three that are trained feel no need to share what they have learned with the rest of the committee.

6.8 CONCLUSION FROM THE SECTION

Following are the seven key conclusions emerged from stakeholder analysis:

1 Strong institutional foundation sufficient to promote risk reduction in primary education already exists at various administrative levels in Bangladesh. Separate institutions therefore may not be required to promote the idea of EiE.

2 However, existing institutions run with various constraints and challenges, which may equally be the limiting factors unless they are not addressed to even perform their regular duties. Within the institutional arrangement a voice responsiveness framework should be adopted to promote and sustain EiE.

3 For responsiveness the education offices upazila and district level should be the leader in promoting EiE. But, their current roles and responsibilities should include such provision supported with human resource, logistic, IT, knowledge and skill input. At the school level, SMCs should continue the leadership role in school level risk mitigation measures. Again the role and responsibility of SMC do not include required component for EiE.

4 Various risk assessment exercises conducted under the leadership of UDMC currently do not include risk reduction aspect of education. The existing SOD does not provide such direction and set out responsibility to do so.

5 PTA and local civil society groups have important role in demanding risk reduction measures for education. The education committees at various levels largely inactive in both cyclone and flood

prone research district which may also play an important bridge between education and DRM. Participation of the key stakeholders, that is, parents and students is not evident in the key processes of education management and rehabilitation of schools in disaster. Participatory environment is the key precondition to promote and sustain the EiE which may require revision of certain provisions both in SOD and various circulars related education discussed in earlier chapters.

6 Coordination among the stakeholders both in education and disaster management varying degree of performance in the research districts but are taking place in parallel in all the research districts. This is clearly evident that the coordination performed well in the area where quality of leadership is better. External facilitation from agencies, training and the political culture are the three key factors explain differential performance in coordination. There is a need for revision in the specific section of both education and disaster management guidelines in order to have more convergence in the coordination mechanism to promote EiE.

7 There is no existing institutional linkage between the SMCs and UDMC.

Section 7 training needs

7.1 FRAMEWORK FOR TNA

For the purpose of this study, training is defined as leadership, knowledge and skill input that various stakeholders may require in buildings relevant capabilities to protect primary education from disaster at a scale of 2007 flood and cyclone.

Theoretically, TNA may involve an assessment of current job responsibilities and implementation challenges but in the case of this current study, most often the job responsibilities are not defined to achieve DRR in education. In order to address that problem, the training needs are identified by adding required additional roles and responsibilities in the existing roles and responsibilities of the stakeholders. Those additional role and responsibilities are articulated in the BSEE. Thus, the section should be read in conjunction with section five and six.

This section first discusses the training needs of each of the stakeholders located at various levels. An overall summary is then presented at the end of the section. A detailed training matrix is attached in annex D.

7.2 TRAINING FACILITIES FOR PRIMARY EDUCATION AND IN DISASTER MANAGEMENT IN BANGLADESH

There are 54 primary training institutes and 12 teachers' training colleges located all over the country that are the major pre-service and in-service training for primary school teachers. Recently established Upazila Resource Centers (URC) enhances training facilities further for education sector though they are not located across all upazilas.

Primary school teachers must undergo a Certificate in Education course which prepare them in pedagogical discipline that also involves a six months' intensive practice class. Open University in Bangladesh also provides long distance education for teachers. In disaster management, though there is no training institutions established yet, a good number of training activities are regularly conducted by the DMB and various non-government organizations. Those disaster management training are primarily targeted to population groups and various disaster management committees.

Generally, DM is not taught in the education training institutions.

Baseline survey of PEDP II, conducted in 2005, suggest that 27% of all teachers in GPS and 30% of all teachers in RNGPs have received subject-based trainings. Survey also revealed that 72% teachers received C-in-Ed training with a significant gender disparity. When it comes to schools management, which is perhaps the most important aspect for inclusion of DRM in education, less than half of the head teachers of GPS and 38% of RNGPS received such training. Only 41% GPS and 26% RNGPS has at least one member had received training on school management. All the government run training institutions, colleges, and resource centers have adequate training facilities but the residential training facilities are only available at PTI and PTCs. They all have residential training structures to run various courses throughout the year.

7.3 TNA BY LEVELS AND BY STAKEHOLDERS

7.3.A. HOUSEHOLD LEVEL

STUDENT

There are examples in disaster prone countries where students demonstrated their ability to protect their educational materials from disasters. Previous studies in Bangladesh suggest that there is a reasonable level of understanding about some aspects of disaster among the children.

But only a few initiatives are undertaken to enhance those knowledge and skills. Studies suggest that children lack such understanding more in the area with low frequencies of disaster. For example, only forty percent of the children knew about cyclone early warning before cyclone Sidr, a Red Cross study[34] revealed. But later studies also suggest an increase in understanding after several mega cyclones in the second half of the current decade. However, since the government has introduced a revised early warning system there is a need for wider scale dissemination of that system among children. There is a clear knowledge gap among the children, especially who are in the advance grade of primary education, to protect their life and education material from Sidr. There is a scope to increase the awareness for continuation of education during and post disaster period among the children.

PARENTS

Despite the poverty related stresses that prevent parents from sending their children back to education during and immediately after a disaster, certain knowledge and awareness about the importance of education during emergency is evident in the study area.

However, there is no short cut and simple solution on how parents can create a demand on school to continue education in emergencies. Any training initiatives at household level aiming to protect education may face the challenges associated with livelihood insecurity. Only training approach may not help to achieve the EiE objectives at HH level unless livelihood insecurity is addressed during and immediately after the disaster. However, a specific training such a HH preparedness considering education for mothers may help to transfer necessary skills to children.

7.3.B. SCHOOL COMMUNITY LEVEL

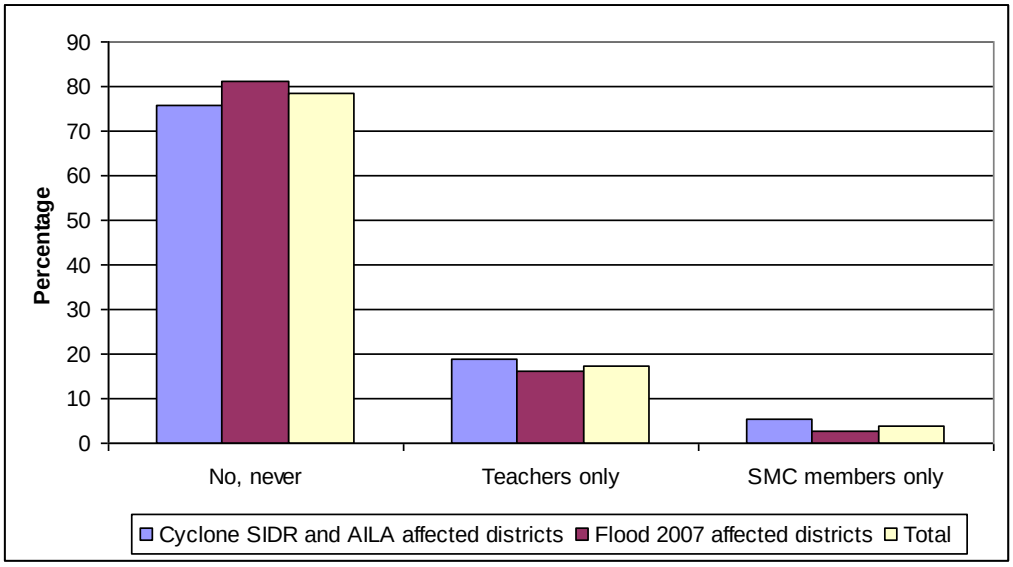
TEACHERS

Both head teacher and other teachers should have range of training to protect the schools, learning environment and facilities, continuation of education in emergencies as well as transferring skills and knowledge to students on DM.

While many teachers are aware about the risks and vulnerabilities of their schools but specific skill inputs can help them to transform that knowledge into concrete plan and actions. Around 80% of schools mentioned that they never received any training on disaster management, with no significant variation in flood and cyclone area.

[34] KA

Figure 7.1: Disaster related training for school



Around 61% of schools reported not planning and implementing any preparedness measures before flood and cyclone 2007. However, the preparedness measures were taken by school before 2007 disasters is 33% and flood is 43%. The major type of DM measures include: preservation of old books (60%) followed by earth filling (11%) and cleaning drainage (1.4%).

Only 3% schools have some kind of disaster contingency plan. 25% schools in both flood and cyclone area do not have any first aid box. At least half of the schools never replenish the items in first aid box after receiving this. But, chances of replenishment are higher in flood area than cyclone.

How risk management can be a part of school management process is identified in the BSEE that clearly created a knowledge and skill gap for teachers. Since disaster is not part of current teachers' training system, many teachers are involved in post disaster damage assessment without a systematic understanding participatory assessment. The impact section of this report highlighted psycho-social impact of disaster on children but very few teachers were able to acknowledge the problem as well as able to identify and address such conditions among children. Many of these trainings can be well integrated in the teachers' training system. The teachers outside of GPS and RNGPS are not entitled for such trainings. So special training can be organized for those teachers. Though the study did not look into the earthquake risks, there is a high level of relevance to introduce school safety approach for all schools of the country. In addition, first aid and light search rescue training should be introduced in the flood prone areas.

SMC & PTA

As a key and most important stakeholder in primary education, most of the SMC members never receive any training on disaster management in the study locations. Although high level of awareness about importance of EiE is evident among the SMCs, external facilitation with knowledge and skill support may help them to transform the awareness into concrete actions. However, in order to implement some of the BSEE standards, specific training should be organized for SMCs. Such specific training should include leadership in school risk management, local resource mobilization, and local level advocacy to and coordinating with other local level stakeholders to secure support for quicker recovery and reconstruction. The role of the SMC should include a monitoring and evaluation function to monitor continuation of education, recovery support for the students falling behind performance, and also organize alternative schooling and finally shelter management. SMCs are generally trained by the URCs. Specific training programs can be piloted in both flood and cyclone prone area.

7.3.C. UNION LEVEL

Two important stakeholders which are UDMC and Union Education Standing Committee can play a significant role in protection of education from disaster.

UDMC

Most of the UDMCs have received training on DRM in the past; but they lack awareness about prioritization of education as part of their work.

The important challenge for sustaining skills and knowledge transfer to UDMCs is the absence of institutionalized training facilities for UDMCs. They are often involved in various risk assessment exercises but those exercises rarely reflect disaster risk to education. UDMCs are responsible for managing disaster shelters located in public places. Specific knowledge input is required to minimize damage to learning environment of this school s when they are used as shelter. They most often get involved in education damage and needs assessment after any emergency without any systematic training. The composition of UDMC has representation from a teacher who most often cannot represent all schools as a whole. Specific training investment on the teachers sitting in UDMC should be a priority to implement BSEE.

EDUCATION STANDING COMMITTEE

Study finds that the standing committees are not active in most places. But they can play a vital role in implementing BSEE. Training input should be provided to these committees so that they can play an advisory role to UDMC with a specific responsibility for continuation of education in emergency. Such training can include preparedness for alternative schooling, identification and mobilization of volunteer teachers/para-teachers, support schools in implementation of school contingency plan.

COMMUNITY BASED ORGANIZATION

Community based organizations can play important facilitation role as well as a driver for accountability in the implementation of BSEE. But currently, they do not have such perspective, knowledge and skill on DRM in education.

7.3.D. UPAZILA LEVEL

TNA is conducted with relevant line ministries, civil society and local government bodies.

7.3.D1. RELEVENT LINE MINISTRIES

UPAZILA NIRBAHI OFFICER (UNO)

As chief officer, the UNOs are the main coordinator of DRM at upazila level. UNOs' offices should play leadership role in implementation of BSEE at the upazila level. But while there is a high level of awareness about the significance of the disaster risks to education they do not have sufficient capability to provide such leadership. Training input is necessary, however, is not sufficient to achieve the desired objectives. A robust coordination mechanism should be designed as first priority. Then such mechanism should be rolled out as part of training programs.

UPAZILA EDUCATION OFFICE (UEO)

Upazila education officers with support from assistant education officers perform overall education management at upazila level. But their current role does not include the disaster risk reduction in

education. Again like UNO, they too have many financial, human resource and logistical challenges even to perform the role in normal time. Therefore, training may only offer part of the solution. The education officer does not have systematic and comprehensive information management system which should be regarded as most urgent priority, supported with system, technology and training for capacity building. Another vital gap in current role is the monitoring and supervision of continuation of quality education in emergencies. Lack of orientation, role clarity, and skills are partly responsible for the absence of an overall risk assessment of education in the upazila level.

PROJECT IMPLEMENTATION OFFICER (PIO)

As a vital official for planning coordination, PIO can play similar role in the implementation of BSEE at the upazila and below. PIOs are trained by Ministry of Food and Disaster Management (MoFDM) where further scope should be explored to integrate BSEE. The key challenges that limit their performance include constraints with lack of human resource, use of IT and information management. Key focus of the training should be the planning coordination and information management for implementation of BSEE.

UPAZILA RESOURCE CENTER

URCs regularly run training programs for primary school teachers and SMCs on teaching subjects and school management. Currently DRM is not included in their programs while all URC officials acknowledged importance such inclusion. Most URCs visited by the study team have good training arrangements with logic facilities.

Two important training areas are identified for URC to offer SMCs and head teachers. First is the inclusion of DRM in school management and second is the management of competency recovery. The training curriculum should incorporate the issues of continuation of education during emergencies and specific training is needed to ensure that. But they require either especial curriculum or inclusion of DRM in the existing curriculum in order to offer those training. Specific training for the URC instructors and master trainers (teachers) should also be undertaken.

7.3.D2. LOCAL GOVERNMENT

UPAZILA CHAIRPERSON

While all the chairpersons are new to the office, they have varying degree of awareness about the significance of the problem. Some chairpersons have shown very specific interest on the issue of education and emergency while others may require specific orientation on the issue. The Chairpersons lead both Upazila Primary Education Committee and UzDMC that clearly provide the opportunity to integrate DRM in education and vice versa. All chairpersons should receive orientation on BSEE to generate political commitment and resource mobilization for ensuring continuation of quality education during emergencies.

"We do not have a plan to continue education during disaster. We do not have fund". Member, Upzila education committee.

UPAZILA DISASTER MANAGEMENT COMMITTEES (UZDMC)

UzDMCs are trained by MoFDM. But they too lack proper orientation on disaster risks to education. As a starting point, they should be properly trained on planning and coordination of implementation of BSEE at the upazila level. Like the UDMC, they should also be trained on resource mobilization, local level advocacy on the implementation of BSEE education person in the committee should undergo with leadership and representation skill development process so that the concerns are properly addressed in the various activities of UDMCs.

7.3.D3. CIVIL SOCIETY

NGOs, media and teachers' associations are the three key stakeholders at the upazila level.

NGOs: The analysis is combined with the district level analysis; because most of the upazila NGOs are part of the district level NGOs or sub-offices of district level NGOs.

Media: The analysis is combined with the district level analysis, because most of the upazila media personnel are part of the district/ regional/ national level media.

Teachers' Association: The analysis is combined with the district level analysis, because most of the upazila teachers' association is part of the district level associations.

7.3.E. DISTRICT LEVEL

Again like upazila, two key stakeholders are relevant line ministries and civil society.

7.3.E1. LINE MINISTRIES

DEPUTY COMMISSIONER (DC), DISTRICT RELIEF AND REHABILITATION OFFICER (DRRO) & ADDITIONAL DEPUTY COMMISSIONER (ADC)

The office of the deputy commissioner plays the most important coordination and administrative role for planning and implementation of development programs. There are monthly general coordination meetings with the NGOs that work more regularly and frequently during an emergency.

But gaps are evident in the inclusion of education in the main disaster coordinating forums. DCs play a vital role in the distribution of recovery and rehabilitation fund allocated for education. Because of the centralized system, both for NGOs and government, DCs most often cannot influence resource allocation program activities but geographical and population targets to some extent. The most important aspect of district level coordination is the identification of gaps between response and need in different sectors and prioritize those. Therefore, effectiveness of the coordination at this level is conditioned on the overall decentralization in the DRM process and culture. The contingency fund that exists at the district level is significantly inadequate even to feed 500 people for a day. Therefore, this analysis does not propose any specific training because they will not translate into concrete action until those policy environments at the national level is changed. Once a comprehensive BSEE is agreed and adopted by the government, the trainings and orientation would be relevant for the DCs, DRROs and ADCs.

DISTRICT PRIMARY EDUCATION OFFICE

They play a vital role in coordinating disaster assessment in education and formulating recovery and rehabilitation plan at the district level. Currently this office runs with significant logistic and human resource constraints. As a result, most of the offices engaged in this research are skeptical about inclusion of DRM ideas in education while they all have very high level of awareness about the importance of the subject. Additional role on DRM for the department should be clarified in the policy documents such as SoD, various skills and knowledge would be prerequisite for their implementation. Such knowledge input may include conceptual understanding on disaster risks and its implication on education. They need clear facilitation, advisory and coordination skills, to plan and implement risk reduction plan in district primary education.

DISTRICT SECONDARY EDUCATION OFFICE

They oversee madrasas, should also go through similar training like the district primary education office.

LOCAL GOVERNMENT ENGINEERING DEPARTMENT (LGED)

LGED is headed by an executive engineer at the district level with offices at upazila level, who also has a vital role to perform all duties related to infrastructure development, maintenance and monitoring of primary school buildings. The office has already mapped out physical risks of all schools located in the vulnerable areas of the district. It has also been implementing school cum flood and cyclone shelter with a provision of alternative schooling on rooftop. They also undertake post disaster damage assessment but like other offices they too face challenges with logistical and human resource constraints. Lack of participation of school community in the infrastructure design is often a barrier for disaster resilient infrastructure, which may be an important area for their training or orientation.

PTI and PTC

Other than education subject wise knowledge, PTIs do not have much orientation on DRM. Similarly DRM is not included in the training on schools management they provide for the head teachers and assistant education officers. However, PTI can be the center of research, planning and implementation of all type of DRM training for education.

"There is no scope to discuss about disaster or disaster management in the CND course run by PTI as it is not included. There is only a chapter included in the text book of class five. We had to grant leave for almost all teachers after the Sidr, as many of them were affected. Training was suspended for a week". PTI Instructor, Barisal.

Three strategies should be adopted to bring out a comprehensive training program on DRM in education:

- Strategy 1: Adopt a pedagogical approach to develop and pilot and evaluation of DRM training for education. Very specific focus of such pedagogy should include creation of a generation with high level of knowledge on DRR.
- Strategy 2: Investment on development of training materials, instructors, and master trainers.
- Strategy 3: Implementation of specific DRM training by including DRM in existing training calendar as well as specific training on DRM.

National Academy for Education Management (NAEM), the main body of training for the heads of education institutions and functionaries, can adopt DRM as part of their training program. The Mymenshingh based national teachers' training institute should develop initial training programs on DRM for roll out by the PTI and PTCs. A medium term approach should, be adopted for rolling out, evaluate and scale up national training program for school teachers. Bangladesh Madrasa teachers' training institute should also be supported to include DRM in their curriculum.

7.4 SUMMARY ANALYSIS

Summary analysis of this section presented in annex D.

Section 8 conclusions

The overall conclusions from this study are set out below:

1. Being a disaster prone country, the impact of disaster on education is unavoidable. The study identifies important gaps in current policy and practices which can be retrofitted to promote and sustain a systematic approach in order to minimize the damage to primary education.

2. The findings also show the fragility of Bangladesh's primary education in current nature and pattern of disaster. The primary education is regularly affected by various localized disasters such as flood, tidal surges, water logging on a regular basis. High impact and national scale disasters cause significant implications on primary education. Yet, unwritten national framework, discourse and discussions are yet to identify disaster risks to education as an important issue. This is primarily due to lack of systematic information collection and the knowledge gap in this area.

3. Most of the schools in the country are located in one or more kind of disaster prone areas. Physical infrastructure of schools is regularly affected by disasters because historically school construction did not factor in disaster risks. Up to 90% of schools can be affected badly by any disaster in the impact zone.

4. Disaster has a serious implication on access, quality of education and inclusion. Disasters pose additional threat to lack of accessibility, dropout, absenteeism, repetition. High magnitude disaster can cause at least 3% dropout putting additional stress to an already frightening rate of dropout. Additional effect of disaster on competency reinforced by the structural causes of poverty is something identified as a significant issue by this study. But this is more of a problem for the students coming from poor households as they are unable to invest on the recovery of competency loss.

5. The seven risk factors are identified by the study:

    i. First, the physical location of the schools, and their fragile construction that is inadequate to withstand disasters.
    ii. Second, use of schools as disaster shelter, especially in flood prone areas, makes those schools to incur additional day loss of schooling. Even if schools are open, children from pocket areas cannot access schools because of approach roads are inundated or damaged. This problem is heightened for the girl child and the students of class one to three.
    iii. Third, when household and local economy is affected, children are also engaged in household income related activities instead of continuing their education.
    iv. Fourth, there is a serious lack in institutional preparedness from school to national level in protecting education from disaster.
    v. Fifth, while there is a high level of awareness about the importance of EiE, skills and knowledge gaps are evident to transform that skills and knowledge. Very limited initiatives are undertaken to support that transformation. Various disaster preparedness activities approach schools as means for risk reduction rather acknowledging and addressing risk to education.
    vi. Sixth, DRM in education is yet to be developed in policy and practice term in Bangladesh. Education and disaster management are vertically aligned without a meaningful horizontal linkage. This is clearly evident both in existing disaster and education related policy and guidelines.
    vii. Seventh, this study identified important DRM actions which are yet to be defined as roles and responsibilities of both education and disaster management related strategic and operational documents. As a result, there is a problem with role clarity at both school and union level.

6. The current frequency and magnitude of disaster has serious implications in achieving and sustaining current progress in education. Climate change is predicted to increase both frequency and magnitude of disasters. Such scenario is most likely to have significant implication on primary education. For

example, a student in a disaster prone area currently face two to three large scale disaster in his/her entire school life with a significant implication on his or her right to quality education. Upward frequency thus shall have far more consequences on his or her life. The risk and vulnerability factors identified by the study should be addressed today for building a resilient primary education in Bangladesh. Current approach in disaster and education will not be sufficient to achieve both EFA and MDG goal in Bangladesh.

Annex A: Terms of Reference

Consultancy firm to support "Education in Emergencies Project"

Plan Bangladesh & Save the Children Alliance

Background

- Natural disasters deny generations the knowledge and opportunities that an education can provide. Education in emergencies and early reconstruction must be seen in a broad context; it is education that protects the well being, fosters learning opportunities, and nurtures the overall development (social, emotional, cognitive, and physical) of people affected by disasters.
- Education in emergencies is a necessity that can be both life-sustaining and life-saving, providing physical, psychosocial and cognitive protection. It sustains life by offering structure, stability and hope for the future during a time of crisis, particularly for children and adolescents, and provides essential building blocks for future economic stability. It also helps to heal bad experiences by building skills.
- Education is prioritized by communities. Communities often start up some kind of education/school themselves during an emergency. Maintaining this during a crisis can be difficult, however, due to diminished local capacities and fewer resources. Emergencies offer opportunities to improve the quality of and access to education.
- Education response in emergencies is focused on meeting the actual needs of the affected population, as well as on formal schooling. The needs depend on the phases and the situation:
  - The acute/flight/displacement phase: Crucial information/messages, such as health and environment risks etc, and emphasis on psychosocial and recreational elements
  - The chronic or coping phase: organized learning; formal and non-formal, including messages and topics to prepare for return (if displaced), for the future, risk elements and also peace building and human rights education
  - The return, reintegration and rehabilitation phase: facing the future, rebuilding and upgrading the whole school system. Without disregarding the devastation that may have been caused to the education system, this phase should make use of the positive opportunities that may follow in the aftermath of an emergency.

Gaps in Education in Emergencies

- There are many gaps in the provision of education in emergencies. These range from a lack of access, quality and response coordination in general to the exclusion of specific groups within the populations, such as girls or adolescents.
- Uneducated children and adults are vulnerable to a future of poverty and violence and lack the more complex skills needed to contribute to their society's peaceful reintegration, reconstruction and sustainable development. In particular, without the stability and structure that education provides in emergency situations, children and adolescents are more vulnerable to exploitation and harm, including abduction, child soldiering and sexual and gender-based violence. Educational learning environments (whether formal or non-formal) are one of the most significant social structures in young people's lives. In the midst of loss and change, absence of learning and schooling intensifies the impact of conflict. [35]

Project Focus & Objectives

[35] Above information is taken from "Understanding and Using the INEE Minimum Standards for Education in Emergencies, Chronic Crises and Early Reconstruction" Workbook.

Plan Bangladesh is providing technical support to Save the Children Alliance for a project titled "**Education in Emergencies: Strengthening Preparedness and Response Capacity in Flood and Cyclone prone areas in Bangladesh".**

The project will be implemented in 10 disaster prone districts below:

Flood prone districts:

1. Northwest : Kurigram Gaibandha, Sirajgonj
2. Central: Shariatpur, Madaripur

Cyclone prone districts:

1. Southwest: Khulna, Bagherhat, Satkhira
2. South central: Barishal, Patuakhali

(5 Upazila's in each district will be covered)

The three objectives of this 18 month project are as follows;

Specific Objective 1: Ensure effective and coherent education needs assessment, information management and coordination

Expected Results

- An information system is in place in target districts, for the collection, compilation, and dissemination of child friendly early warning and relevant knowledge and information on a full range of hazards, vulnerabilities, and capacities in the education sector
- A well-functioning emergency education coordination mechanism is in place in target districts with clear policies and procedures and in which all entities are clear about their roles and responsibilities

Specific Objective 2: Increase capacity of stakeholders on sustainable preparedness measures to reduce disaster risks in education

Expected Results

- A multi stakeholder, education preparedness capacity building needs assessment and analysis has been completed
- All relevant stakeholders are equipped and trained for effective disaster preparedness and response

Specific Objective 3: Ensure adequate contingency planning and preparedness to provide continuous access to education for children in disaster affected areas

Expected Results

- District, and school level contingency plans that include an in-depth analysis of hazard risk, vulnerability, and capacities are developed
- Resources are identified and allocated to support effective preparedness, response and early recovery as required and resource management policy and system is in place

Objectives of the Consultancy

The consultancy fir, will support Plan Bangladesh to design, pilot and implement the below mentioned activities, including the data compilation, analysis and reporting of the following in 10 district (5 upazila per district) and 1000 primary schools (200 per district);

a. Stakeholder mapping

Stakeholder mapping will include, but not be limited to existing government departments, (Education and Disaster Management) at district, upazila and union parishad level, non-government organizations/community based organizations working in education and emergencies, school management committees, teachers, communities and children (children's/ youth groups).

b. Baseline survey

A baseline survey will be developed, piloted and carried out against the project indicators in order to measure the effectiveness of the project activities.

Included in the baseline a comprehensive assessment of disaster risks to the education sector will be undertaken in each of the target districts. This assessment will help in the identification of high risk areas within a district, which will support identification of geographical clusters within the districts for more focused interventions.

c. Capacity assessment of stakeholders

The assessment will also focus on stakeholder capacity and vulnerability mapping, in order to identify local capacity, capacity building needs, existing resources and strategies for emergency preparedness in education.

A detailed assessment of current needs and capacities of relevant stakeholders, including individuals such as teachers, children's groups, SMCs and local institutions/ organizations, including local government departments, NGOs/CBOs, will be undertaken in order to develop relevant training programs.

d. School Survey

To support contingency planning and to ensure that pre-crisis baseline data is readily available, this initial assessment will also cover infrastructure vulnerability mapping of schools in targeted high risk areas, by type of disasters, identifying potential risks, and the impact that disasters may have on these schools.

e. Information management system for education in emergencies (EiEMIS)

Develop a specialized information management system for education in emergencies (EiEMIS) for selected districts. Information gathered from the stakeholder mapping, baseline, capacity assessment and survey will be incorporated into the EiEMIS. These district based MIS will be updated periodically to reflect changes in the situation.

Deliverables:

The consultancy firm will provide, but not be limited to, the following deliverables;

a) Stakeholder mapping analys(is report

b) Baseline Survey report
c) Capacity assessment of stakeholders and training needs assessment report
d) School Survey report
e) EiEMIS

(*The above deliverable must all be completed by the end of November 2009***)**

Position: Short term national consultancy firm

Competency and Expertise of the consultancy firm:

- Specialization in Education in Emergencies
- Demonstrated experience in qualitative and quantitative assessments and surveys
- MIS system development

Duration: 3 months (negotiable based on detailed implementation strategy)

Scope of Work

- Prepare a schedule for short term consultancy in consultation with Plan Bangladesh & Save the Children
- Review relevant INEE & MSEE documents to avoid duplication and build on best practices from around the world
- Design and conduct baseline survey on current primary education provisions and structures for EiE, its vulnerabilities to disasters and analysis of stakeholders in the selected districts
- Design and conduct district, upazila, union and school level training need assessment (TNA)
- Identify risk factors to education during emergencies of all the schools in the implementing districts through school survey
- Carry out school survey focusing on base line information, school-based vulnerability analysis, information of catchment area and students' communication (road network) status with school.
- Prepare report on baseline survey, stakeholder analysis, school survey and training need assessment & EiEMIS system

Human resources facilities available to the consultancy firm:

The consultant will have access to Plan Bangladesh project staff (2 training coordinators & 1 M&E coordinator) as well as the Save UK partner organization staff who are based at the 10 districts.

Reporting to:

The consultant will report directly to Plan's Disaster Management Coordinator with support from Save the Children's Project Manager.

Reporting requirements;

- Monthly progress reports on each deliverable
- Draft reports/EiEMIS (for discussion) on each deliverable within 2.5 months of consultancy
- Final reports & EiEMIS

Financial term

- A budget will be prepared by the consultancy firm based on cost estimates of logistics and consultancy services.
- All payments that will be directly executed by consultancy firm will be made by consultancy firm as per activity plan. The consultancy service charges will be paid based on agreed term of the contract.
- VAT and Tax: Consultancy firm will deduct Income Tax and VAT as per government rules.

Bindings

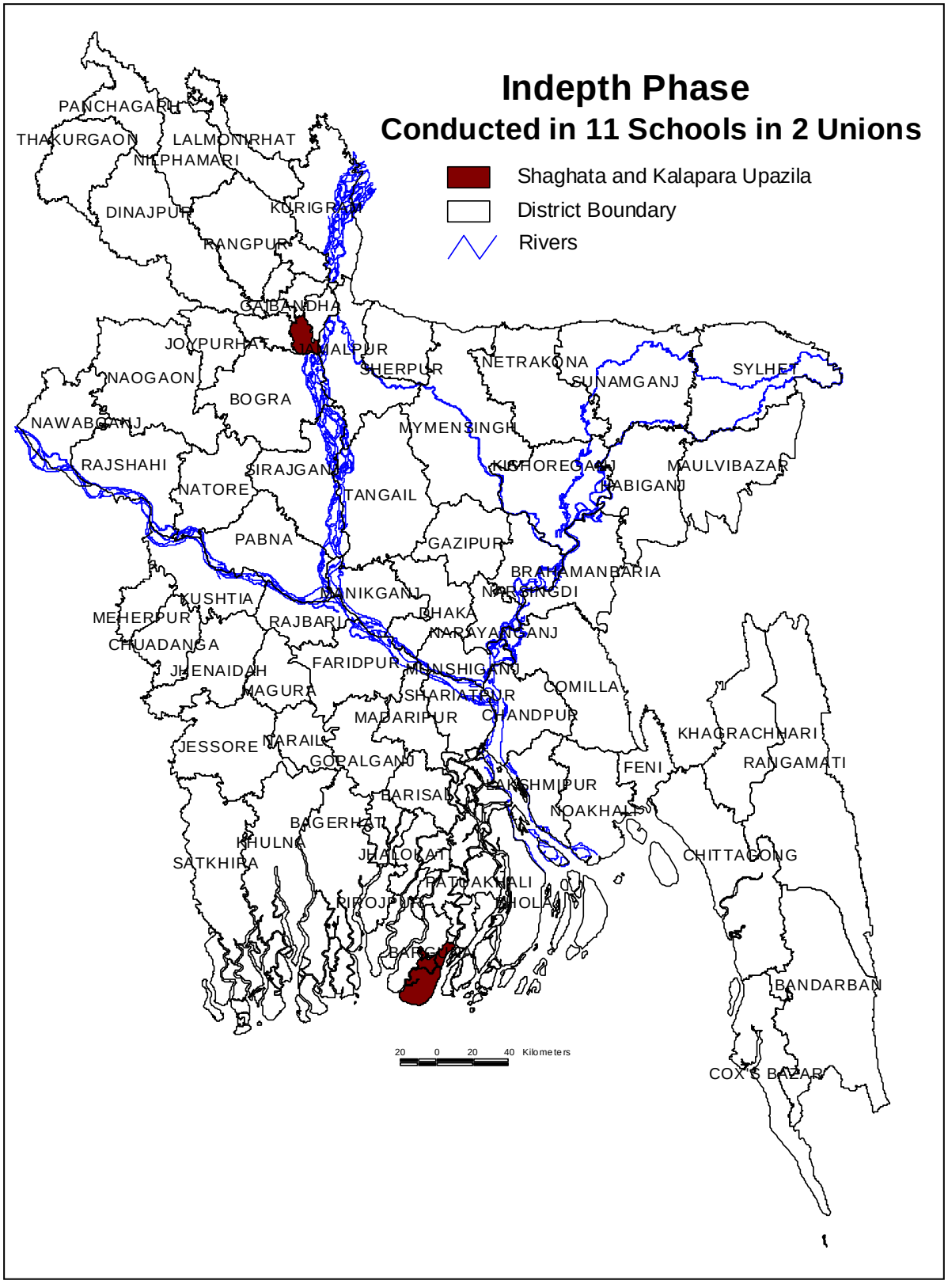
All reports, documents, papers, data etc produced during the assessment are to be treated as Plan and Save the Children's property and restricted for public use.

Arbitration

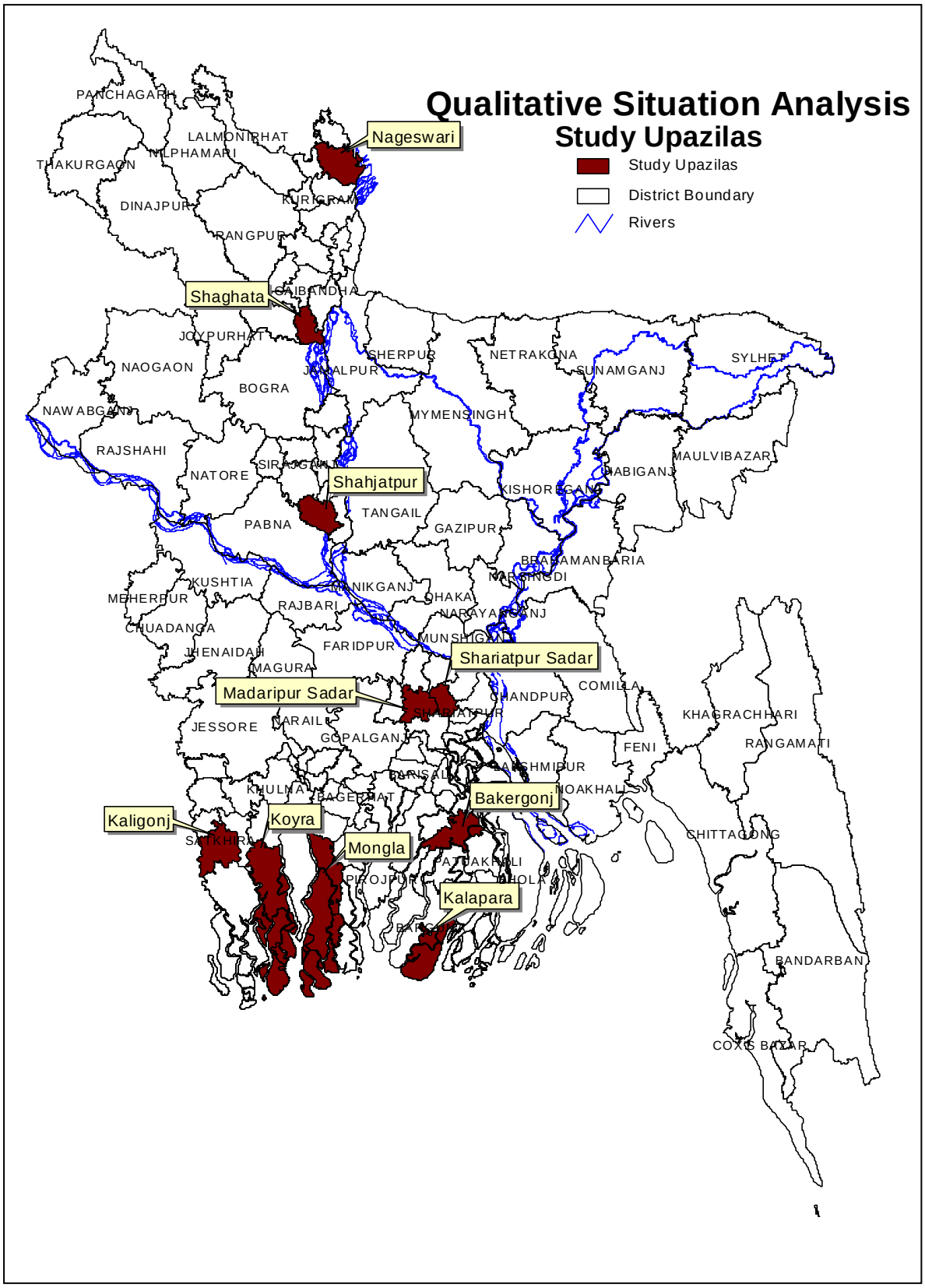
Will be specified in agreement contract

Annex B Map of the study locations

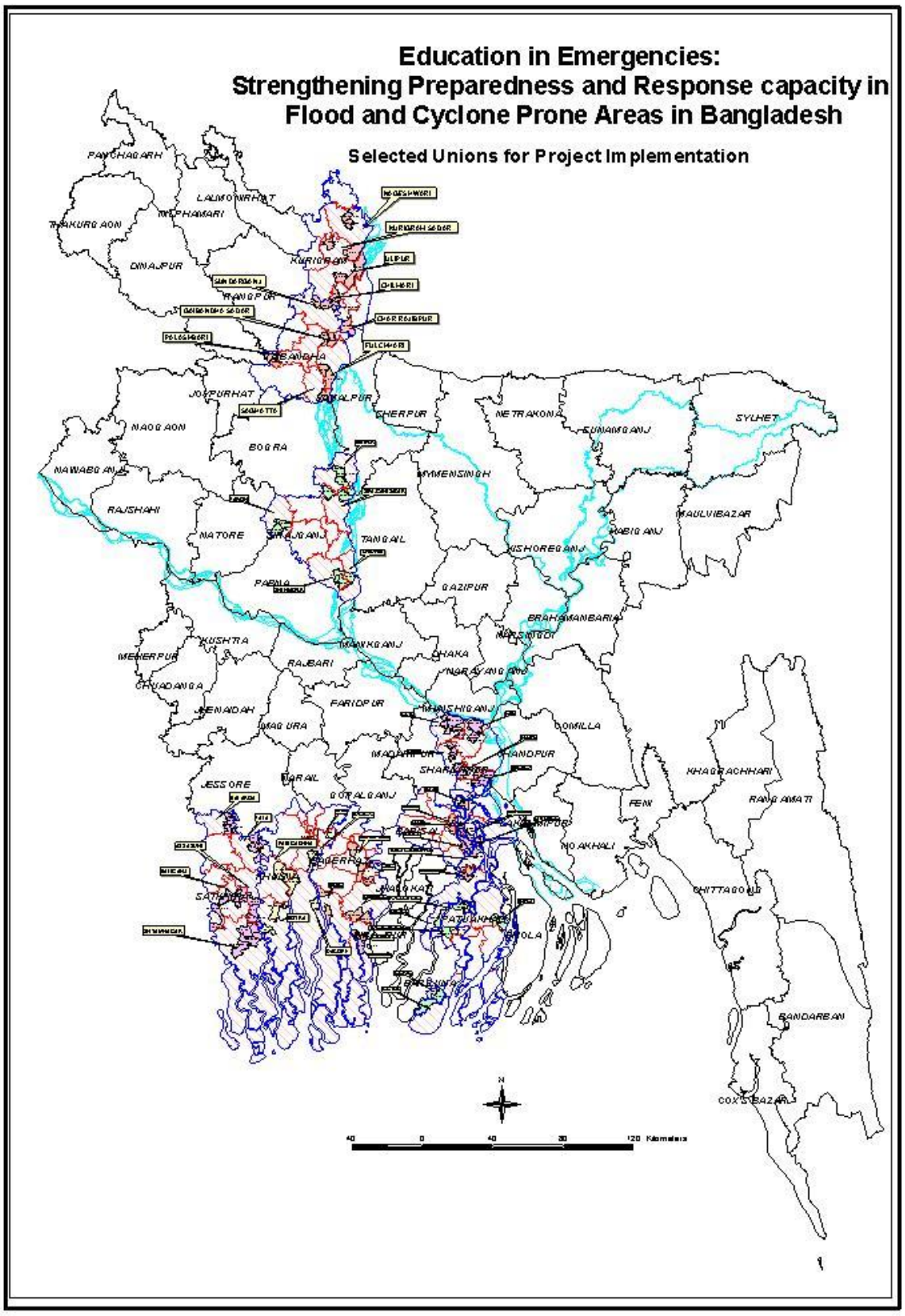
Map I: Location for In-depth phase



Map II: Location for situation analysis



Map III: Location for school survey/baseline assessment



Annex C: Sampling procedure

A sampling exercise has been done for baseline survey to identify the number of schools that is statistically significant. In order to undertake the exercise few assumptions has been accepted; these are, how large a sample would be necessary to estimate the true outcomes; within ±5%, with 90% confidence, from a population of 1000 schools. The sampling calculations mentioned below is carried out based this assumption.

Formula

N = 1000
For 90% confidence, use z = 1.644
1.644 s = 0.05
s = 0.030414

$$\text{Maximum sample size (n)} = \frac{N*P(1-P)}{(N-1)\,s^2 + P(1-P)}$$

Where P = 0.2
Then n = 148
Given the presence of clusters, we will require to use a design effect of 1.5 and thus our sample size will increase to 148*1.5 = 222 schools.
For P = 0.5
n = 212 with cluster = 319
The geographical areas i.e. union, upzila and zila; and the number of schools are distributed purposively to cover vulnerability and hazard characteristics of the project's working area.

A. Selected unions and number of school for Baseline and Cluster Survey

A1. Unions from flood affected areas

Spatial Clusters	District	Upazila	Unions from Different Flood Vulnerable Areas			GPS	RNGPS	Comm.	Sub-Total
			Very close to river	Located within 10 km	Typical Floodplain				
Lower Floodplain	Shariatpur	Zanjeera	Palerchar			5	4	0	9
				Barakandi		4	4	1	9
		Palong			Domshar	6	0	0	6
					Shoulpara	6	1	0	7
		Goshairhat	Kodalpur			4	4	3	11
			Alua Nagar (Goriber char)			3	2	5	10
Mid Floodplain	Sirajgonj	Chouhali	Kash Kawlia			5	9	0	14
			Ghorjan			7	5	0	12
		Tarash			Tarash Sadar	6	7	1	14
					Magura Binod	6	10	0	16
Upper Floodplain	Kurigram	Char Rajibpur	Kodaltali			4	7	0	11
		Nageswari		Verubari		8	5	0	13
				Bamondanga		6	7	0	13
Total	**03**	**07**	**06**	**03**	**04**	**70**	**65**	**10**	**145**

A2. Unions from cyclone affected areas

Spatial Clusters	Districts	Upazilla	Unions from Cyclone Vulnerable Areas			GPS	RNGPS	Comm.	Sub-Total
			Frontiers	Inland coast	Adjacent to Sunderbans				
River bank erosion (lower Meghna estuary) plus cyclone affected area.	Patuakhali	Kalapara	Nilgonj			5	3	2	10
			Tiakhali			5	5	0	10
		Baufal	Daspara			5	5	0	10
			Kalaiya			5	5	0	10
Active tidal floodplain	Bagerhat	Mongla		Chila		5	5	0	10
				Burirdanga		7	3	0	10
		Sharonkhola	South Khali			3	7	0	10
			Rayenda			9	1	0	10
					Koyra Sadar	8	5	5	18
	Satkhira	Shyamnagar			Padmapukur	8	2	0	10
Total	**03**	**05**	**06**	**02**	**02**	**60**	**41**	**07**	**108**

Notes:

1. Total (GPS + RNGPS + Community) schools 145 + 108 = 253
2. At least 12 upazilas from all 6 districts were covered.

Annex D: TNA Matrix

Key problems and Training needs	**Training Contents**	**Target of the training**	**Implementation Strategy**
1. Disaster risks are not considered in education management esp. in lesson planning, schooling management, school construction and site selection for school construction. 2. SMC and teachers lack motivation and skills; and are burdened with workload to planning DRR. 3. Government run PTIs and URCs do not have DRM included yet in their training plan for primary school teachers and SMCs.	1. **Mainstreaming DRM into primary education management.** I)**.** Inclusion of DRM in URC and PTI activities esp. in: a) school lesson planning; b). school management; ii). Education risk assessment.	School teachers and SMCs through PTI and URC.	1. Advocacy with PEDP II and Directorate of Primary Education to include DRM in PTI and URC activities. 2. SCF and Plan to adopt a phase-wise approach. Pilot phase, in which two sets of URC and PTI can be selected from two flood and cyclone prone districts. A draft module should be developed. Second is a scaling up phase where the modules should be updated and used widely.
4. Many schools are located in vulnerable locations but disasters are not factored into school activity planning. 5. Lack of skills persists in planning and implementing contingency plan and resources.	2. **School disaster risk management.** a) school risk assessment, b) planning and implementing a school contingency plan; and local resource mobilization.	SMC, teachers and students	1. Plan and SCF to develop two modules: a). school risk assessment process-a simple guidelines; and b). guideline to develop, implement and review contingency plan, with focus on local resource mobilization. 2. The training should be supported with motivational effort.
6. Children experience disaster related trauma, especially after cyclone, which is continually being ignored, but having consequence on children'	3. **Psychosocial Care for children affected by disaster.** Assessment and handling of emotional well being of students by their	School teachers & SMC by URC/PTI	1. More pedagogical intervention is required. 2. A further scientific study needed to establish nature and magnitude of the problem. 3. A module to be developed (or included into

attendance and attention to education. 7. Existing skills of teachers are insufficient to identify and address those disaster related traumas.	teachers.		current child psychology module of PTI) for teachers, and should be used in a small number of school. *STRATEGY* Plan and SCF should design a long term research project involving three sets of methodological approach social science, clinical and social psychology. It should focus on learning from cyclone sidr response of SCF. A comparative study can be design to understand impact and of disaster on child psychology and process of its recovery. It should carefully examine role of external intervention. Finally, assess the factors contributing success and failure of those interventions in the recovery process. End of the project, they can suggest a basis for a training module).
8. Absence of a systematic and comprehensive post disaster assessment in education. Current Assessment Format used by GoB is infrastructure focused, should include impact of disaster on student and education. 9. Process of assessment is non-participatory, and done in very limited time once after a	4. **Disaster Response and coordination in Education.** Assessment, communication, MSEE, information management, and coordination.	Teachers, SMCs; education officers at all levels; education committees and task forces at local level; and Disaster Management Committees (DMCs) and national humanitarian	*OVERALL STRATEGY* Both voice and responsive models to be applied in making disaster resilient primary education. *VOICE* 1. Public awareness IEC materials on MSEE to be developed for motivating students,

disaster. 10. The DMCs focus on survival issues during and after disasters. Education is often overlooked due to lack of role clarity among line ministry, local government, education committees and DMCs. Recovery and early recovery needs are not part of the process. 11. Absence of systematic information management on loss in education due to disasters.		level actors.	parents and community on continuing education in emergencies. <u>*RESPONSIVENESS*</u> 2. Broad base acknowledgement is required. Plan and SCF to organize a workshop with Education Cluster to develop a comprehensive but 'easy to use' assessment process. 3. Encourage GoB to include this in the draft SoD. 4. Training module on disaster response in education (assessment, response/MSEE and coordination) to be developed.
12. School infrastructure, learning materials and learning environment are impacted due to the use of school as disaster shelters.	5. Management of shelter in schools.	Teachers & SMC; and UDMCs	1. Should focus on shelter management with education continuation objective. 2. Should be part of disaster response in education module.
13. Some resources are locally available, which have been used in the past in some schools for quicker recovery and risk reduction. But facilitation and local level advocacy is not always present to take full advantage of the use of such opportunities.	**6. Advocacy module for project partners.**	Staff of Plan and SCF project partners and other CSOs.	A module should be developed to support local and national level advocacy.
14. Alternative schooling is often a difficult arrangement. In large scale disasters when teachers are also affected, lack of teachers resulted in limited functioning of school.	**7. management of alternative schooling and volunteer teachers**	SMC, UDMC and PTA	1. Plan and SCF to develop a module/flip chart

Annex E: List of Research questions

1. General information on primary education and disaster in the district and upzila

This section should provide overall scenario of primary education and disaster in the district and upazila. You should use both qualitative and quantitative information to develop and present the analysis.

Checklist

1.1 Number and type of primary school; net and gross enrollment rate; general drop-out rate/trend (if possible grade/gender-wise), number of teachers (male/female). [education office records]
1.2 General problems/scenario in primary education such as inadequate schools, physical infrastructure (type of infrastructure-katcha/pucca; ratio of students and class rooms; condition of water sanitation), physical inaccessibility e.g. condition of access roads etc. [records, KI at upzila and district and school survey]
1.3 Number and type of NGO schools and name of the NGOs working on education. [KI at district and upzila]

NGOs working in education	No. and type of school they run

1.4 Education department: institutional set-up (DEO, DPEO, UEO and other offices in the district/Upazila/union) and number of staff (and vacant position). [KI at district and upzila]
1.5 How many SMC and PTA already formed and their general activities? What are their general activities? To what extent are they active such as holding regular meeting etc. [KI and school survey]
1.6 What are the disasters in the upazila and district? [KI and secondary literature]
1.7 Which are the locations within district and upazilla most vulnerable to different kind of disasters? How many schools in the upzila are being used as flood shelters? Or which schools are the schools vulnerable to disasters, how many and why and where are they located? [KI at union, Upz and District; and school survey]

2. Nature and scale of impact of disaster on overall primary education

This section should cover general and specific impact of disaster on education. Ideally you should follow general disaster phases - pre, during and after. You should analyse that with education cycle and other aspect of education. You must provide both qualitative and quantitative information.

Checklist

Impact of flood or cyclone 2007 on the district and upazila primary education (formal and non-formal). Provide a comprehensive qualitative and quantative impact analysis, focusing on the following issues (you may cover other important areas as well):

- **Community participation:**

What role do community members generally play in managing and governing the school? Was there a change in degree and nature of participation as a result of disaster? How did it affect quality and equal access to education? [FGD School and Community]

- **Access and Learning Environment:**

i). Was there an impact of disaster on equal access of children in education? What are the categories of children and teachers not able to access education? [FGD School and community]

ii). What factors caused irregular attendance and drop-out in children from school after the disaster? Check various causes such as permanent/temporary displacement, health condition, hunger, trauma, students' engagement in family income, early marriage etc. Please check for both boys and girls. What helped to bring back teachers and students early to the school? [FGD community, KI at all levels and school survey]

iii). Number and duration of school closure (how many schools were closed for how long) – [school survey and KI with SMC, ATEO]

iv). How long did it take to resume education activity after 2007 flood and cyclone? What are the short and long term implications of school being resumed late? If resumption is slow, what were the reasons for this? Was there any effort and arrangement in place of establishing temporary learning centres? Who led that? What were the challenges and what helped? [KI and school survey]

v). What are specific impact of disaster on following three areas, may affect accessibility?

a). School infrastructure [school survey, KI, LGED/Facility records and secondary literature]
b). Access road (and safety to access) to school by teachers and students – damaged approach roads, main roads, no boat available, no bamboo pool etc.) Please focus on attendance of both teacher and students. [school survey and FGD at community]

vi). Learning environment (relation to quality of education and mental/emotion wellbeing) – crowd in the classroom, damage of school field, water source/sanitation, drop out of teachers, loss of learning and teaching materials, risk on learning environment, stopped extracurricular activities, increased in teacher-student ratio etc.) [FGD with school and community, school survey]

- **Teaching and learning**

i). competencies (what competencies were affected, how did the cover them, key challenges); learning time (reduction of time to learn); whether there is a mechanism to assess the level of competencies. [FGD with school and community, school survey and KI at Upz and district]

ii). Students' learning and school materials e.g. books and other materials; school furniture such as bench; include pre-schooling and early-childhood. [school survey, FGD with school and community and KI at district and upz]

- **Teacher and education personnel**

i). what were the impacts of disaster on teachers and education personnel? How did they affect education? [school survey, FGD with school and community and KI at district and upz]

ii). How did the education offices' monitoring and performance appraisal activities of school and teacher affected by disaster? [FGD school and KI education office]

- **Education policy and coordination (only coordination standard relevant)**

How do schools cope with the impacts? What are the available resources and facility schools can access, which they can use to protect their assets? What are the resources (material, money or technical support) received by the schools (their sources) to cope with the impacts? How was local community and SMC/PTA involved in resumption of school? [KI and school survey]

3. Vulnerability and risks of education in emergency

This section covers the causes and factors making primary education vulnerable to disaster. Ideally, you should have clear idea about type and magnitude of impact on education sectors experienced during 2007 flood and cyclone. You should also consider pre, during and post disaster cycle. Now you need to examine various causes.

Checklist

3.1 Community Participation:

- Who are the member of SMC and PTA? What is there role during any disaster and post disaster situation? If yes, what helped them to perform their role; and if not what limit them?
- What role wider communities (youths, parents, community leaders etc.) did play to make school safe before disaster; and resumption of education after flood and cyclone 2007? What role community played in education damage/need assessments during and after the flood and cyclone?
- Do the communities share their resources or contribute to continue the education during and after any disaster situation? (support for learning space, class rooms, food for the children, etc.)

[FGD and KI at school and community]

3.2 Access and Learning Environment

- What are the factors contributing to the impact on specific areas of education (2), e.g. weak/or not hazard friendly infrastructure (ask why); weak access road; not having contingency fund; no additional stock of books, no separate toilet for girls, no source of drinking water. No ramp or

disability friendly connecting roads etc. [FGD school and community, school survey and all level KI]

- Why does education stop during disasters? What prevents schools from opening after a disaster? [FGD school and community, school survey and all level KI]
- What helped and/or prevent community to establish alternative school quickly, or provide alternative shelter (in case schools are used as shelter) or resume school quickly? [FGD school and community and school survey]
- What are the causes of impacts on the girl child during and after any disasters? Are they affected differently than the boys? Or for any ethnic and minority group children? If yes, why? What are the reasons? How to minimize the causes? How are they affected? [FGD school and community and school survey].
- Why were education and schools materials lost? What were the challenges for replacement? [school survey]

3.3 Teaching and Learning

- What were the challenges for school and community to maintain and resume the condition of learning environment during and after the disaster (safety, hygiene, space, materials, classrooms, staffs, etc.)? What can be done to prevent the loss? [FGD, KI and school survey]
- What plans do teachers and education offices have to assess the impact of disaster in learners' competencies? Did they use it during last disaster? What are the challenges and opportunities for implementation and revision?
- Is there a curriculum for the emergency time or cover the loss of disaster period? How has the existing disaster related curriculum helped in 2007? Is there anything that should be added to protect education from disaster?
- How to attract children and teachers to schools during and quickly after an emergency.

[FGD school and community, KI and school survey]

3.4 Teachers and other education personal

- What alternative exist to mobilize teachers from community in case of shortage of teacher after a disaster? Is there any provision for recruitment of temporary teachers from youths or community members during and after any disasters to continue the education and learning process?
- How do the education staffs monitor the learning process during any disaster?
- Is there any supervision from the authority at upazilla and district level in the normal time? What is the process of supervision and monitoring of education activities during and after any disaster?
- Is there any special condition for continuing education and learning process for the teachers and educational staffs

[FGD school and community, KI and school survey]

3.5 Education policy and coordination

- What are the major barriers and challenges for education departments, schools, SMC/PTA and other stakeholders to protect primary education from disaster?
- Why are school infrastructures not resilient to disaster and/or located in risky areas? What do you consider during planning of construction of school? [facilities and LGED]
- Do the education offices have an established information or data-base on schools?

- Major challenges for education department to function their role such as monitoring, supervision etc. during and after an emergency?
- What is the normal procedure for education department to assess damage and need in education after a disaster? How did they do it in 2007? How long did it take? Who are involved in the process? How to improve the information collection, compilation and dissemination for disaster assessment in education? Is there an established format? Where is the gap and how to improve it? [some reflection from FGD school and community]

[Literature review and KI with education offices at district and upz and other stakeholders]

4. Key stakeholders and coordination

This section should provide a comprehensive listing of stakeholders (emergency, education and others), who play an important role on education in emergency or protection of primary education from disaster. In addition, you should collect their existing project on education and/or emergencies and their potential to contribute in the Plan/SCF project on education in emergencies. Purpose of this assessment is to provide information and direction to Plan and SCF to decide on partnership and stakeholder engagement.

Checklist

4.1 Who are the key stakeholders in primary education and in emergencies in the district and upazilla? Who are the civil societies groups e.g. teachers association, journalist, NGOs etc who may play an important role? [KI at district and upzila level]
4.2 What are their current activities in general (education and/or emergencies and) in protecting education from disaster in specific? What is the relationship between these stakeholders and SMC and PTA of the schools? [KI at district and upzila level]
4.3 Which are vulnerabilities identified in section three are addressed by the stakeholder and which are not? (provide a comprehensive analysis as well as a table outlining list of stakeholders and their activities, gaps and potential for project to engage-policy, mobilization and programme). [KI at district and upzila level]
4.4 Do they consider education in emergencies a significant problem (perception & conceptual level)? If yes, which are the major challenges they see to address them and how those challenges should be addressed? Do they have any plan to support continuation of education and learning process during and after any disasters? What resources they have? [KI at district and upzila level and school survey]
4.5 What are the important decisions at district, upzila and school level that should be taken to protect education from disaster? Who takes them currently? Is there a gaps in authority to take those decisions? What authority should district, upzila and school should be have to play a meaningful role? [KI at district and upzila level; and National level]
4.6 Is there any formal and informal coordination mechanism in education (e.g. education committee, community watch group for education, etc) and emergencies? Who are involved in this committee? Is there any policy for coordination? What are their major challenges? If there is no such coordination, can a coordination mechanism be helpful? Who should be included? [KI at district and upzila level; and National level]
4.7 Do they have any contingency plan for continuing education in emergencies? [KI at district and upzila level; school survey]
4.8 How are existing roles of education department and other stakeholders defined in relation to education in emergencies? Are these adequate to address problem of education in emergencies? What role other line ministries can play in protecting education from disaster? Is there a need for revising the roles? (Self assessment and provide a recommendation on the roles existing in the

upazilla and district level to protect education from emergencies). [KI at district, upzila and national level]

5. **Capacity and training needs of the stakeholders**

Capacity and training needs assessment is the most important part of the exercise. The project will address the training and capacity building needs that you would identify. You should check adequacy of identified need. You should always ask yourself if education would be safe once those needs are addressed.

You have already identified key problems and opportunities from your earlier discussion. Now you need to identify: i). what capacity already existed, ii). Which aspect of capacity need to be strengthened and iii). What are new capacity required, iv).what are the specific training needs and finally v). What is the best way to deliver it (implementation strategy)?

Checklist

5.1 Outline for minimum standard

What are the minimum achievable standards for stakeholders to prepare for; continue education (use relevant INNE indicators as reference) during an emergency and recover quickly after an emergency? Do they aware about minimum standard in education? If yes, to what extent they can be achievable in current context?

[FGD school and community, KI at union, upzila, district and national; and school survey]

5.2 Need for capacity building.

What are the current gaps in capacity of the stakeholders such as teachers, SMC/PTA and education offices, education taskforce, to achieve those minimum standards? What are the specific capacity buildings needs to protect education from emergencies? (Please use the guidance in annex 1 for this discussion, especially focus on human resource, logistic, community participation, budgeting, decision making etc.) Who need what and what is the best strategy to cover these?

[FGD school and community, KI at union, upzila, district and national; and school survey]

5.3 Resources and contingency plan.

What are the existing local resources already available in school, union, upazilla and district that can be useful to continue education programme and learning process during and after an emergency and recover quickly after an emergency. Is there a contingency plan, money and materials? What would be the operation strategy to establish a contingency plan, fund and materials? What should be included in contingency plan?

[FGD school and community, KI at union, upzila, district and national; and school survey]

5.4 Training need.

What type of training generally is offered in education? Who gets them? Please provide a list of training, duration and topic covered? Who provide them? What are the additional training needs such as psychosocial care, contingency planning, establishing alternative schools, recruitment of volunteers for alternative schools, preparedness of students to protect to their materials, on education in emergencies? What would be the best strategy to deliver them?

[FGD school and community, KI at union, upzila, district and national; and school survey]

5.5 Policy aspects.

Which aspect of current education and disaster management policy and practices helpful or not helpful to protect education from disaster? What should be included in the national disaster and/or education policy and instruments such as SOD? What should be included in the primary education curriculum (teaching and learning) that would help protection of education from emergencies?

Are there specific policies, plans, and/or structures in place by the government for responding to education in emergencies? Are there policies in place, or flexibility to alter regulations to promote access to quality education among the crisis-affected groups?

[FGD school and community, KI at union, upzila, district and national; and school survey]

5.6 Protection issues.

What are the special challenges for most vulnerable children to continue education? Are there specific constraints for any group or girls or children with disability to continue education during and after any disaster? You should ask for special food support, stipend, cancellation of fees etc? How to overcome that constraint? Who can play a role and what role?

[FGD school and community, KI at union, upzila, district and national; and school survey]