

COMPREHENSIVE SCHOOL SAFETY MINIMUM PACKAGE

November 2018



GOVERNMENT OF NEPAL
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
EDUCATION & HUMAN RESOURCE DEVELOPMENT CENTER

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ABBREVIATIONS

CCDRR	Child Centred Disaster Risk Reduction Consortium
CDC	Curriculum Development Centre
CLPIU	Central Level Project Implementation Unit (MoE)
CSEB	compressed stabilized earth block
CSS	comprehensive school safety
CSS-TWG	Comprehensive School Safety Technical Working Group
CSSF	Comprehensive School Safety Framework
DoE	Department of Education
DRM	disaster risk management
DRR	disaster risk reduction
DUDBC	Department of Urban Development and Building Construction
ECD	Early Childhood Development
EHRDC	Education and Human Resource Development Center
EMIS	Education Management Information System
GESI	gender equality and social inclusion
GPS	geographical positioning system
H	height (of walls)
INGO	international non-government organization
JICA	Japanese International Cooperation Association
LB	load bearing
MoE	Ministry of Education
no.	number
NRCS	Nepal Red Cross Society
PTA	parent teacher association
RC	reinforced concrete
SIDA	Structural Integrity Damage Assessment
SIP	school improvement plan
SMC	school management committee
SSDP	School Sector Development Plan
SZOP	schools as zones of peace
t	thickness (of walls)
TWG	Technical Working Group
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nation Funds for Population Activities
UNICEF	United Nations Children Fund

1. Introduction

The 2015 earthquakes created the mandate to develop the Comprehensive School Safety Master Plan. The earthquakes left more than one million children without safe permanent places to learn and highlighted the need to ensure that all school buildings are safe and earthquake resistant and that school management bodies and local communities are equipped to reduce the vulnerability of schools and students (DoE 2017a).

Importantly the current overarching strategy document for Nepal's schools, the School Sector Development Plan (2016–2023), identifies school safety and resilience education as one of five dimensions for strengthening school education in Nepal:

"... mainstream comprehensive school safety and disaster risk reduction in the education sector by strengthening school-level disaster management and resilience amongst schools, students and communities and [...] ensure that schools are protected from conflict" (MoE 2016).

Against this background, the Ministry of Education has developed the Comprehensive School Safety Master Plan based on the three pillars of the global Comprehensive School Safety Framework (UNISDR and GADRRRES 2017). The latter framework highlights the three overlapping pillars for school safety of (1) safe learning facilities, (2) school disaster management, and (3) risk reduction and resilience education.

The Master Plan provides a roadmap for ensuring that all students in Nepal can be educated in safe schools. A key part of the Master Plan is a minimum package of measures that need to be implemented for schools to be classified as safe learning environments. To achieve this classification schools need to achieve a measurable set of standards on safe learning facilities and disaster risk management and resilience. The government plans the phased roll out of the implementation of these safety measures towards all schools meeting the minimum school safety criteria for Nepal to achieve nationwide school safety by 2030.

In addition to the development of the minimum package for school safety, the Government has developed Comprehensive school safety (CSS) implementation guidelines that include a communication strategy to support the local governments (LGs) and schools to ensure access to safe learning environments across the country.

2. Rationale, Objectives and Purpose of the Minimum School Safety Package

PURPOSE

The Comprehensive School Safety Master Plan aims to bring about safe learning environments in Nepal's schools and resilience in education to face any kind of disaster or emergency.

The Minimum Package is described as follows (DoE 2017a):

“While envisioning a sector where all schools have a high level of compliance with the three school safety pillars, it is a necessary to ensure that the minimum standards of school safety are established, formalized and that these requirements can be objectively verified and monitored. Furthermore, the establishment of the elements and indicators that would define the package of requirements that need to be present for a school to be officially declared as in compliance with the Comprehensive School Safety concept will allow for costing based on which the phasing of establishing nationwide school safety can be undertaken against the available and potential resources.”

“Furthermore, Comprehensive School Safety and Disaster Risk Reduction implementation guidelines are being developed to ensure awareness and inform stakeholders, duty bearers and officials at the different levels on the implementation of the CSS-DRR concept and on achieving and monitoring the Minimum Package at school and local government levels.”

The plan envisages the phase-wise implementation of the Comprehensive School Safety Framework in all Nepal's schools. A key initial activity of the Master Plan is the implementation of a minimum school safety package without delay in all schools irrespective of their location and vulnerability status in order to guarantee a minimum level of safety for the students and staff of all Nepal's schools.

The Comprehensive School Safety Minimum Package is presented in Chapter 6 of this document. It comprises critical structural, infrastructural and non-structural measures that have been identified based on their relevance, soundness, feasible, scalability and ability to be contextualized to the situation of all Nepal's schools.

OBJECTIVES

The Minimum Package is a guide for creating the minimum level of acceptable safety in all Nepal's schools, including in public and private schools from pre-school through to higher secondary level in public and private schools. The recommended activities are simple and implementable proactive measures that schools can take on their own and critical activities that need to be taken with or without outside support (mainly from local governments) by schools, irrespective of their status and location.

The Minimum Package has the following aims:

- To enable Government at Federal, Provincial and Municipal level and schools to ensure minimum safety standards in schools in line with the comprehensive school safety masterplan;
- To provide a package that includes measurable activities and elements to allow for planning, budgeting and monitoring of school safety across the comprehensive school safety pillars.
- To ensure that school preparedness and response plans are in place for disaster management and the continuity of education in the aftermath of disasters, and
- To develop a minimum level of safety and a sense of security and confidence among school teachers, students and school management committees to cope with potential disasters and emergencies before, during and after they happen.

OUTCOMES

The Minimum Package has the following expected outcomes:

- a) **To establish the foundations for overall school safety:** The package helps establish the foundation for gender equality and social inclusion (GESI)-friendly school safety in all Nepal's schools as the basis for scaling up towards comprehensive school safety in all Nepal's schools.
- b) **Cost-effective interventions:** The package is simple and affordable and is implemented by schools with or without technical support and irrespective of their current status.
- c) **Better quality education:** The implementation of the package builds the confidence of teachers and parents to improve enrolment and attendance by improving schools' physical and social environment under school improvements plans (SIPs).
- d) **Improved social protection environment:** The addressing of child protection issues enhances the sense of social security of parents and their children (especially girls, children from underprivileged families and children with different abilities), thus promoting more equal access to education.
- e) **Enhancing students' and parents' contributions to resilient education:** The engagement of SMCs and parents in the package's informal and non-formal activities raises their awareness, knowledge and skills on managing disaster risks.
- f) **Parents' confidence:** The package builds the confidence and engagement of parents to enrol their children in school and support them in their studies and other school-related activities.
- g) **Institutional accountability:** The package helps identify and emphasise the accountability of education sector stakeholders to promote minimum school safety in their areas of responsibility.

- h) **Government involvement:** The implementation of the package enables the different levels of government to implement and monitor minimum school safety in an objective and comparable way. This also helps identify needs and gaps that need filling to fulfil government commitments for nationwide school safety.
- i) **The SDGs:** The implementation of the package contributes to Nepal's achievement of the Sustainable Development Goals.

3. Target Group

This Minimum Package is intended as a guide for school management committees, principals and teachers and local governments to implement minimum school safety measures as an integral component of school improvement plans under the framework of the Comprehensive School Safety Master Plan. It applies to public and private schools and early childhood development centres.

4. The Minimum Package

The Comprehensive School Safety Minimum Package is divided into three components following the Comprehensive School Safety Master Plan, Nepal:

Pillar 1: Safe learning facilities

Pillar 2: School disaster management

Pillar 3: Risk reduction and resilience education.

The following package can only be achieved with the support and active participation of SMCs and other stakeholders. Certain activities like the formation of SMCs and orientating them on their roles is very important and is discussed in Annex A.

CSS Minimum Package activities	School level indicators	Local government level indicators	Means of verification	References and notes
Pillar 1: Safe Learning Facilities				
Expected outputs:				
1. SMCs, teachers, staff, students and PTAs are aware of the different structural hazards and the risks to different types of infrastructure.				
2. School safety plans are developed with required periodic and non-periodic activities.				
3. Activities to reduce structure-related risks are implemented by schools with their own resources and with support from local governments.				
4. A system is developed for safe school construction including maintenance and retrofitting.				
Note: The term structure(s) covers all the physical structures that are fixed and relatively permanent in position including buildings, walls and drinking water systems. Civil engineering technicians are trained engineers or overseers who can assess and supervise building and other school civil infrastructures.				
1. Assess structural safety	<ul style="list-style-type: none"> Different school structures and their exposure to hazards are identified. The level of risk to and from various structures in schools is identified. 	<ul style="list-style-type: none"> Number of school assessment reports recorded. Summaries of the vulnerability of schools prepared by local governments List of prioritized schools for different kinds of support. 	<ul style="list-style-type: none"> Latest versions of assessment reports are available at schools. School vulnerability summary reports are prepared by local governments Intervention prioritization lists are prepared by local governments. Yearly updates of assessments and summaries at schools and local governments. 	See Annex A1 for assessment guidelines References: DUDBC (2011), UNISDR (2013), DoE (2014), World Bank (2015), DoE (2016b), DoE (2017c, DoE (2018)
	<ul style="list-style-type: none"> Minimum school structure safety activity list is developed and in place. Action plans for executing these school structure safety activities are prepared. 	<ul style="list-style-type: none"> Budget allocated to needy schools by local governments to support implementation of school structure safety activities. Support which is beyond the capacity of local government is requested from concerned provincial ministry. 	<ul style="list-style-type: none"> School safety activity list is available (as parts of SIPs) at schools. Local government budget commitment documents and school structure safety action plan documents at schools. Documents requesting support to higher authorities (provincial and central level) and documentation of receipt of support. Annual update of above documents by schools and local governments. 	Use Annex A2 to guide the identification and listing of activities for school structural safety. References: DUDBC (1994), DoE (2014), DUDBC (2015), DUDBC (2016), DUDBC (2017), RRP (n.d.)
2. Identify activities to achieve minimum structural safety				

CSS Minimum Package activities	School level indicators	Local government level indicators	Means of verification	References and notes
		<ul style="list-style-type: none"> ▪ No. of schools supported by local governments. ▪ Amount of budget allocated for school-planned activities and spent on reducing structural vulnerability. ▪ No. monitoring visits per school by civil engineer technicians to oversee risk reduction activities. 	<ul style="list-style-type: none"> ▪ School reports of vulnerability reduction activities with photos (available at schools). ▪ Annual activity reports against annual local government plans. ▪ Approved drawings and cost estimates of school vulnerability reduction works at local government. ▪ Monitoring reports by local government civil engineer technicians at schools and local government offices. 	<p>Use Annex A3 to guide the scheduling and documentation of activities. References: DoE (2017c), NSET (2016a), NSET (2016b), DUDBC (2016), DUDBC BCD (2018), RRP (n.d.), MoE (2017a)</p>
				<p>Note: Construction and rehabilitation activities include all kinds of civil works such as demolition, retrofitting and maintenance. Note that in normal use this may not refer to all these activities, and so a better term may be used. use Annex A4 as a reference for preparing construction quality assurance plans. References: NSET (2016a); NSET (2016b); DoE (2016b); DoE (2016c)</p>

CSS Minimum Package activities	School level indicators	Local government level indicators	Means of verification	References and notes
Pillar 2: School Disaster Management				
Expected outputs: 1. SMCs, teachers and students have enhanced knowledge on all the hazards and potential risks to their schools' infrastructure and the safety of occupants and users. 2. The identification of hazards and risks that can have adverse impacts on schools building, premises and the protection of children. 3. Schools have developed and implemented school safety and risk reduction plans to minimize all types of risks including child protection, schools as zones of peace (SZOP) and GESI issues. 4. Schools develop and implement preparedness plans to ensure students have continuous access to education in safe environments even during disasters.				
5. Defining the roles and responsibility of SMCs	<ul style="list-style-type: none"> ▪ The roles and responsibilities of SMC members concerning the comprehensive school safety minimum package are defined in TOR ▪ SMC school safety focal member are assigned. ▪ At least SMC school safety focal persons are trained on their school safety roles and responsibilities 	<ul style="list-style-type: none"> ▪ SMCs' roles for school safety are included in local government education regulation 	<ul style="list-style-type: none"> ▪ Education regulations define the school safety roles and responsibilities of SMCs ▪ Minutes of SMC meetings ▪ Names of SMC school safety focal persons ▪ SMC training orientation reports (see Activity 8 below) 	
6. The selection of disaster risk reduction (DRR)/ school safety and GESI focal teachers	<ul style="list-style-type: none"> ▪ Each school has: ▪ a DRR/school safety focal teacher ▪ a GESI focal teacher. 		<ul style="list-style-type: none"> ▪ Names of focal teachers ▪ Their names and roles and responsibilities are approved by SMCs. 	

CSS Minimum Package activities	School level indicators	Local government level indicators	Means of verification	References and notes
<p>1. Training of school head teachers, SMC DRR/ school safety focal persons and DRR focal teachers on school DRR and planning the implementation of the Minimum Package</p>	<p>Trained:</p> <ul style="list-style-type: none"> ▪ head teachers ▪ DRR/school safety focal teachers ▪ GESI focal teachers ▪ SMC school safety focal persons. 	<ul style="list-style-type: none"> ▪ Developed capacity building plans for principals, teachers, SMCs on DRR ▪ No. of schools covered ▪ Follow up action plans produced by each school to initiate Minimum Package. 	<ul style="list-style-type: none"> ▪ Training reports ▪ Training schedules ▪ Follow up school-wise Minimum Package action plans ▪ Roster with names of trained teachers with dates of training. 	<p>Note: Financial and technical support will be provided by local governments</p> <p>Training package based on the existing DRR module developed by NCED will be revised including orientation on IRA format. This will enable participants to understand the Minimum Package and carry out its activities</p> <p>Refer to Annex B1 for framework for orientating school representatives.</p>
<p>2. DRR trained head teachers, teachers and SMCs organize school level orientations to conduct multi hazard risk assessments including child protection and schools as zones of peace</p>	<ul style="list-style-type: none"> ▪ No. teachers, SMC and PTA members and students oriented ▪ No. of risks (structural, non-structural, infrastructural, child protection) identified. 		<p>Evidence of schools having produced:</p> <ul style="list-style-type: none"> ▪ risk maps ▪ hazard calendars ▪ lists of hazards and risks and child protection issues. 	<p>Orientation programmes will enable participants to carry out their activities as outlined in the Minimum Package. See Annexes B2 and B3 on carrying out risk assessments.</p>

CSS Minimum Package activities	School level indicators	Local government level indicators	Means of verification	References and notes
<p>1. Develop action plans on (i) risk reduction activities, (ii) preparedness activities for response, (iii) child protection activities, and (iv) school continuity activities, and incorporate in SIPs</p>	<ul style="list-style-type: none"> ▪ Activities i, ii, iii and iv are in SIPs ▪ Code of conduct for SZOP and referral mechanism for child protection is in place. 	<ul style="list-style-type: none"> ▪ No. of SIPs including DRR activities ▪ The allocation of budget by local governments as per SIPs to implement school safety and risk reduction and preparedness activities. 	<ul style="list-style-type: none"> ▪ SIPs have (i) minimum school safety risk reduction and mitigation and child protection activities, (ii) preparedness activities for school continuity, and (iii) code of conduct for SZOP and child protection activities. ▪ SZOP code of conduct at schools ▪ Referral mechanism (complaint/suggestion boxes) established in schools ▪ DRR sensitive school annual operational calendars. 	<p>See Annexes B4, B5 and B6</p>
<p>2. Implementation of non-structural/small-scale mitigation activities as reflected in SIPs</p>	<ul style="list-style-type: none"> ▪ Number of non-structural mitigation/Small-scale measures implemented (see Annex B4). 	<ul style="list-style-type: none"> ▪ No. technical monitoring and support visits by local government personnel (to support schools to implement safety and continuity activities as part of their SIPs). 	<ul style="list-style-type: none"> ▪ Activity completion reports by schools ▪ Local government monitoring visit reports. 	<p>See Annex B4</p>
<p>3. Implementation of school disaster preparedness for response activities that are included in SIPs</p>	<ul style="list-style-type: none"> ▪ Minimum no. of school disaster preparedness activities implemented (See Annex B5) ▪ No. of drills conducted by schools (minimum 4 per year – 2 for earthquakes and 2 for prioritized local hazards). 	<ul style="list-style-type: none"> ▪ No. of supplies prepositioned for emergency education ▪ No. visits by local governments at school drills. 	<ul style="list-style-type: none"> ▪ Lists of supplies pre-positioned by local governments for education in emergencies. ▪ Comments provided by local government in visitors/suggestion book. 	<p>See Annex B5</p>

CSS Minimum Package activities	School level indicators	Local government level indicators	Means of verification	References and notes
<p>1. Coordination with local stakeholders and authorities</p>	<ul style="list-style-type: none"> Coordination mechanism established with local partners – health facilities, Red Cross, Nepal Police, NGOs and INGOs for school safety, disaster response and school continuity activities 	<ul style="list-style-type: none"> Coordination mechanism established with district disaster management committee (DDMC), search and rescue team, early warning, Red Cross, Nepal Police, I/NGOs, and other schools for disaster response 	<ul style="list-style-type: none"> Addresses, contact numbers and type of support of support agencies and focal persons is maintained by schools. 	<p>Refer to coordination mechanism 1 pagers developed by CCDRR consortium (**)</p>
<p>Pillar 3: Risk Reduction and Resilience Education</p>				
<p>Expected outputs:</p> <ol style="list-style-type: none"> School students have increased knowledge about disaster risks and child protection and are able to assess risks in their environments, and identify mitigation activities and safety and child protection measures. School students, teachers, staff, administrators and SMCs have enhanced knowledge on what to do before, during and after disaster events. 				
<p>2. Schools conduct sessions on school safety and DRR and child protection as specified in the curriculum</p>	<ul style="list-style-type: none"> No. school safety and DRR instructional and resource materials for teachers and students. Number of credit hours spent on school safety and DRR. 	<ul style="list-style-type: none"> No. of DRR and school safety-related local curricula developed. 	<ul style="list-style-type: none"> Local curricula on school safety Lesson plan on school DRR sessions. Instructional materials for DRR available at schools. 	<p>See Annex C1</p>
<p>3. School safety related extra-curricular activities and informal promotional events conducted</p>	<ul style="list-style-type: none"> At least 3 non-formal or informal DRR sessions or events organized per year 	<ul style="list-style-type: none"> No. DRR related activities organized No. local representatives who participated in schools' DRR related events. 	<ul style="list-style-type: none"> Photos News coverage 	<p>Select one from each of the three categories in Annex C2</p>

CSS Minimum Package activities	School level indicators	Local government level indicators	Means of verification	References and notes
<p>1. Raising awareness on child protection and SZOP in schools</p>	<ul style="list-style-type: none"> ▪ No. of child protection and SZOP activities conducted 	<ul style="list-style-type: none"> ▪ Written commitment by local governments on SZOP. 	<ul style="list-style-type: none"> ▪ Number of suggestions or complaints on child protection registered and resolved. 	<p>See Annexes B3 and B6. The CCDRR consortium 1 pager on Child Protection in Emergencies</p>
<p>2. Interaction sessions between SMCs and parents to raise awareness on DRR in schools and communities</p>	<ul style="list-style-type: none"> ▪ No. interaction sessions conducted ▪ No. parents participated. 	<ul style="list-style-type: none"> ▪ Participation of DRR focal persons in interaction sessions. 	<ul style="list-style-type: none"> ▪ Attendance of participants and issues discussed. 	

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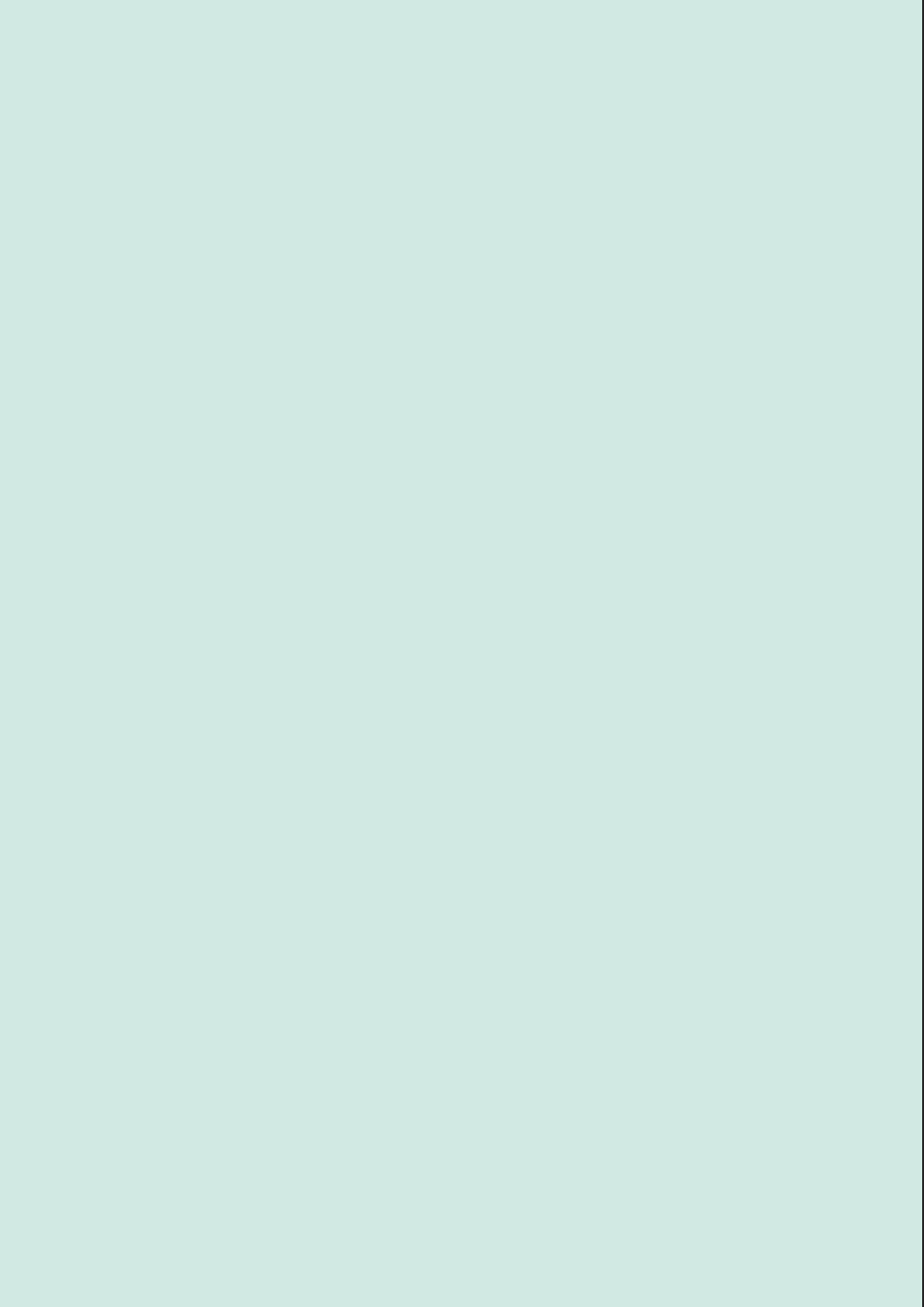
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ANNEXES



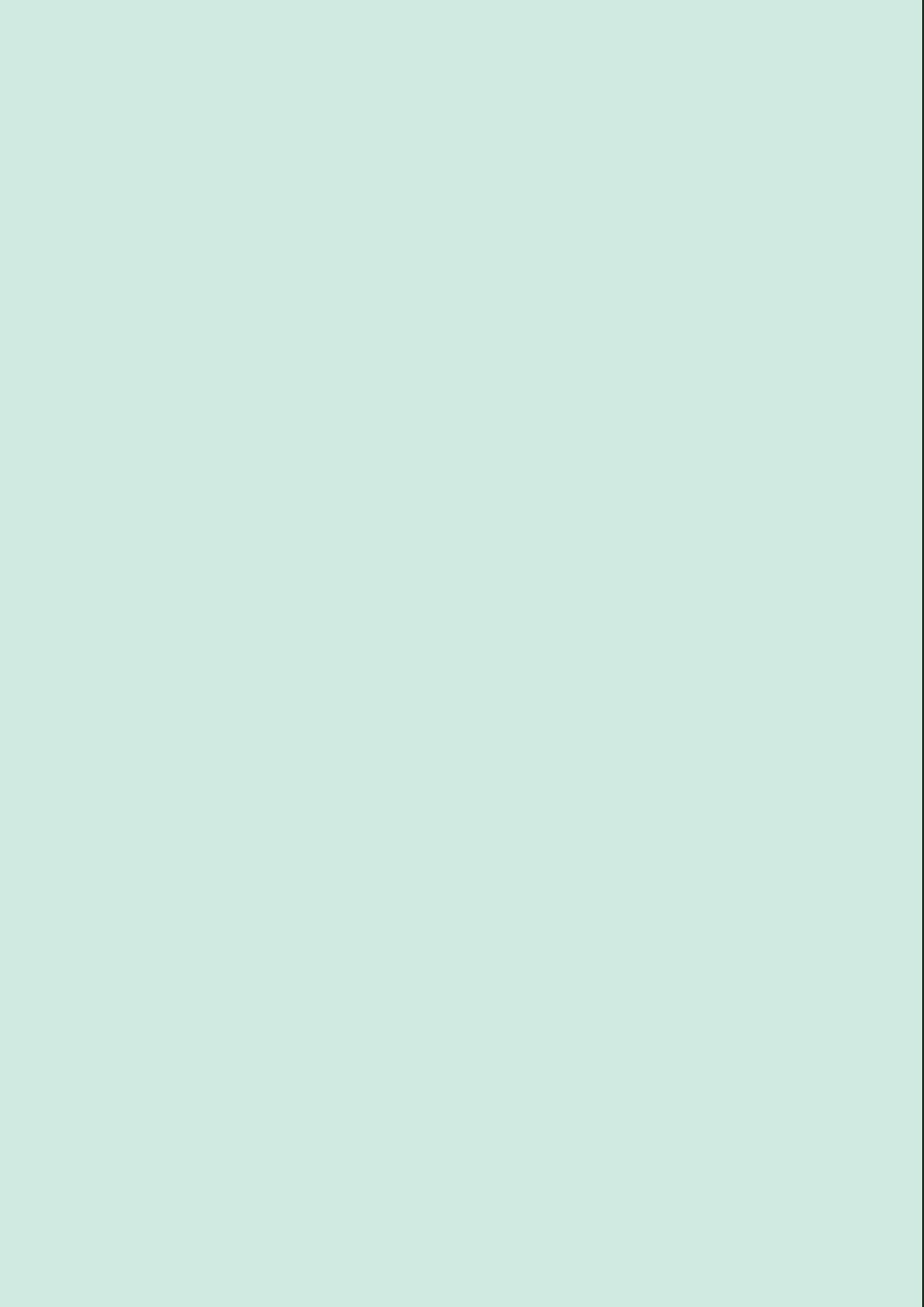
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2. BACKGROUND

This annex provides guidelines and tools to carry out the activities outlined in the Comprehensive School Safety Minimum Package. The use of the forms and checklists is the minimum requirement to implement the Minimum Package; but the information can be presented in other forms or merged with other activities during implementation as per need.

A set of implementation guidelines are being prepared for the full Master Plan.



ANNEX A: PILLAR 1 – SAFE LEARNING FACILITIES

ANNEX A1: ASSESS STRUCTURAL SAFETY

The assessment of the safety of schools' infrastructure or vulnerability assessments can be done at different levels. The major activities include:

- a. Identification of hazards
- b. Identification of structures
- c. Assessment of exposure of structures to particular hazards
- d. Assessment of sensitivity of structures to hazards
- e. Assessment of capacity of structures
- f. Determination of the vulnerability of structures.

A qualified engineer may need to carry out the detailed evaluations of vulnerable buildings and other structures based on the seismic vulnerability assessment guidelines (DUDBC 2011) and other relevant standards.

Guiding forms are presented as follows based on various references reflected in the different annexes; these are expected to be incorporated in CSS implementation guidelines.

Most of the assessments can be conducted by the five-member school improvement plan development workgroups, which are to be formed in each school as per the SIP implementation guidelines. SMC focal persons for school safety and school safety focal teachers (DRR focal persons) must be highly involved and fully aware of these activities.

Form A1 (i): Structural and Infrastructural Inventory

List all the infrastructures in the school.

[To be filled in by schools with one copy submitted to the local government]

This form is an extended form of Table 6 of the 'School Improvement Plan Development Guidelines, 2074 BS' (DoE 2017b). The pipeline project in the Education Management Information System (EMIS) and other assessments like the Structural Integrity Damage Assessment (SIDA) shall be developed to enable the interchange of data with these minimum safety assessments.

Template of Form to list infrastructures:

No. of separate sites: _____ sites.

Location ID	Name and details of site	Remarks

Infrastructure inventory (category-wise) (Give unique name to each structure)

Name of infrastructure	Details of infrastructure	Location ID	Notes
Gates and compound walls			
Buildings			
Toilet and washroom blocks			
Temples, statues and other structures			
Retaining structures (retaining walls)			
Electricity poles, towers and other vulnerable structures			
Open areas and pathways			
Nearby potentially hazardous structures and natural features			

Master-plan of the school area showing all infrastructures

Draw sketch

A large, empty rounded rectangular box with a light blue border, intended for drawing a sketch of the school area. The box occupies most of the page below the header.

Form A1 (ii): Exposure Assessment of Structures to Different Hazards

List all types of hazards and the exposure of school structures to them [To be filled in by schools with a copy submitted to local government].

Below are the same hazards as are included in the 'Supplementary Training Manual on Annual SIP Updating and Reference Materials for Disaster Preparedness' (DOE 2016) linked with different infrastructures in schools. It should align with hazard calendars.

	Hazards	Probability ¹ of hazard occurring	Low level of exposure ² structures	Highly exposed ³ structures	Notes and history
1	Earthquakes				
2	Floods				
3	Landslides				
4	Fires including forest fires				
5	Strong winds				
6	Cold waves or extreme cold				
7	Snowfall				
8	Extreme heat				
9	Hail storms				
10	Animal attacks (tigers, snow leopards, leopards, elephants, rhinos)				Relates to fencing or compound walls to keep out wild animals.
11	Other				

Notes: ¹ Probability (put Nil, Low, Medium or High) is the chance of occurrence of the hazard, based on judgement.

² Low exposure = the structure is only exposed to small risk of at most moderate damage (structure not expected to collapse, not life threatening)

³ High exposure = the structure will be directly impacted by the hazard to a high degree (will threaten stability of the structure and hence lives)

3. Form A1 (iii): Safety Assessment of Structures Other than Buildings

[To be filled in by a trained person from the school with a copy submitted to the local government]

These assessments focus on safety issues related to different structures in schools other than buildings. These various categories are based on Tools for the Assessment of Schools and Hospital Safety for Multi-Hazards in South Asia (Toolkit Book 2) (UNISDR 2013), vulnerability assessment guidelines (DoE 2017, DUDBC 2011) and various school assessment questionnaires (World Bank 2015, DoE 2017c, DoE 2018).

A score system may be implemented in the implementation guidelines; but the following minimum criteria (*in bold-italics*) are targeted for achievement by all schools.

(Tick the most suitable options for each issues)

	Issues	Details
1	Building location and pounding	Are school buildings spaced sufficiently apart to avoid pounding ¹ between buildings? All/some/none/None, but an engineering assessment has been carried out and corrective measures taken.
2	Any falling hazards in school area	No/yes/yes but properly anchored. E.g. Unconfined parapets and inadequately secured flower pots, railings, overhead tiles, cladding, light fittings, antenna and roof coverings.
3	Foundation soil classification and water-table	Type of soil: Loose clay/loose silt/sand/clay and gravel/specify: Test pit method: Hard/medium/soft/weak Indentation method: Hard/medium/soft/weak Minimum water-table depth below ground (rainy season): >2m, <2m, <2m but potential adverse effects have been mitigated
4	Fixing of outdoor equipment	Generators/water-tanks/ _____ (list any other) are: (a) securely fixed against sliding in earthquakes: Properly fixed/somehow fixed/not fixed or anchored/not applicable and (b) elevated to protect against flooding: Properly fixed/somehow fixed/not fixed or anchored/not applicable
5	Fixing of rooftop structures	Antennas/water-tanks/solar panels and water heaters/ _____ (list) Are they: Properly fixed/somehow fixed/not fixed or anchored/not applicable
6	Compound walls (Assess individual walls separately)	Type of walls: Brick/rubble stone/dressed stone/timber/other Mortar: Dry/mud-mortar/cement-mortar/surki-lime (powdered brick) mortar Thickness of walls (t) (metres): _____ Height of walls (H) (metres): _____ Continuous band on Top? Yes/No/No but H/t<5. Vertical reinforcement provided? Steel rebar/timber/bamboo/steel posts/ _____ Vertical reinforcement size? _____ (diameter or size) Vertical reinforcement horizontal spacing: _____ metres Obstruction to exits/imposed vulnerability in case of damage (judgemental): Low/medium/high Vulnerability of walls (to be filled in by local government technician): Low/medium/high

Table A1.1: Summary of infrastructure safety assessment-1 (facilities other than buildings)
(These can be discussed with local government engineers for preparing safety plans)

	Structure or its components	Identified issues (or vulnerabilities)	Notes
1			
2			
3			
4			
5			

4. Form A1 (iv): Safety Assessment of Building Structures

[To be filled in by a trained person from the school with one form completed for each building. A copy of all completed forms should be submitted to the local government]

These assessments focus on the safety of school buildings. These data are based on Tools for the Assessment of Schools and Hospital Safety for Multi-Hazards in South Asia (Toolkit Book 2) (UNISDR 2013), the SIDA questionnaires (The World Bank 2015), SSDP Model school questionnaires (DoE 2018), ADB model school questionnaires (DoE 2017c), the assessment procedures of the *Seismic Vulnerability Evaluation Guideline for Private and Public Buildings in Nepal* (DUDBC 2011) and other sources of information. The precise format for data collection and evaluation will be presented in the master plan implementation guidelines. The minimum level of information to be recorded to evaluate school buildings is mentioned in the following sections.

Table A1.2: Vulnerability Class Definition (for earthquakes)				
Structural typology	Construction class	Expected damage at VII shaking intensity	Expected damage at IX shaking intensity	Vulnerability class
Adobe Or Field stone masonry	Weak Average Good	DG5 DG4 DG3	DG5 DG5 DG4	Very high Very high High
Brick in mud (general)	Weak Average Good	DG4 DG3 DG2	DG5 DG5 DG4	Very high High High
Brick in mud (well built) or Brick in cement (ordinary)	Weak Average Good	DG3 DG2 DG1	DG5 DG4 DG3	High High Medium
Non-engineered reinforced concrete Frame buildings (>=4 storey)	Weak Average Good	DG2 DG1 DG1	DG5 DG4 DG3	High Medium Medium
Non-engineered reinforced concrete frame buildings (<=3 storey) or Engineered reinforced concrete buildings, or Reinforced masonry buildings	Weak Average Good	DG2 DG1 -	DG4 DG3 DG2	High Medium Low
Note 1: Other typologies shall be evaluated by comparing with the above equivalent system.				
Note 2: Non-engineered reinforced concrete frame buildings are those with reinforced concrete frames and unreinforced brick masonry infill in cement mortar. The thickness of infill walls is 230mm (9") or 115mm (4 1/2") and column size is predominantly 9"x 9". The prevalent practice in most urban area of Nepal for the construction of residential and commercial complexes generally falls under this category. These buildings are not structurally designed and supervised by engineers during construction.				
Note 3: Damage Grades (DG) are as per the DUDBC (2011) guidelines. The vulnerability classes have been defined based on expected level of damage grade at two intensities of earthquake as follows: <ul style="list-style-type: none"> ▪ Very high: Life threatening at VII intensity of earthquake shaking ▪ High: Life threatening at IX intensity earthquake shaking ▪ Medium: Partial collapse of reduced life safety threat at IX intensity earthquake shaking ▪ Low: Life safety threat is not expected up to IX intensity earthquake shaking 				
Reference: <i>Seismic Vulnerability Evaluation Guidelines for Private and Public Buildings in Nepal</i> (DUDBC 2011)				

Level 1 Assessment (To be carried out by schools for each building structure)

A		SCHOOL EMIS AND NAME:	
1.	Building no.:	GPS (N/E):	
2.	Block name and identifying characteristics (consistent with school-site-plan):		
3.	Surveyor's name, position and phone no.:		
	Date, time and weather conditions:		

B		TYPOLOGY AND SIZE		
1.	Structural Typology (Tick the major system and make short note)		Notes	
		a) Reinforced concrete (RC):		
		b) Load bearing:		
		c) Steel frame:		
		d) RC+ Load Bearing (LB):		
		e) Steel post + LB:		
		f) Timber posts + LB:		
		g) Timber frame:		
		h) Other:		
		Load bearing wall: Masonry unit: Brick/rubble stone/dressed stone/compressed stabilized earth blocks (CSEB)/concrete block/Other: Mortar: Dry/mud/lime/lime-surki/cement/other: Non-load bearing wall (including infill and partition): Masonry unit: Brick/rubble stone/dressed stone/CSEB/concrete block/other: Mortar: Dry/mud/lime/lime-surki/cement/other:		
2.	Storeys	No. of storeys above ground:	Storey heights of ground floor (m) and other stories (m):	
		No of basements:		
		If attic, description: Area (m ²) =	height(m) =	
3.	Building size	Length (m) =	Breadth (B) =	Height (m) =
4.	Floor type (for multi-storey)	Rigid (RCC slab, RBC slab, steel plate with concrete topping) Semi-rigid (timber joists with brace, steel plate with braces) Flexible (timber without brace, steel without braces)		
5.	Roof type	Rigid (RCC slab, RBC slab, steel plate with concrete topping) Semi-rigid (timber joists with brace, steel plate with braces) Flexible (timber without brace, steel without braces)		
6.	Construction class	Weak: No seismic enhancements Average: Few seismic enhancements like lintels, continuous roof-bands Good: Many seismic enhancements like through stones, lock on timber joists, continuous lintel bands, limited opening (<50% for 1 storey, <40% for two storey, <30% for 3 storey),		
7.	Past intervention	None/repairs/rehabilitation/retrofitting/other:		
8.	Summary (based on vulnerability class definition table)	Vulnerability class: Very High/High/Medium/Low Immediate interventions are needed for buildings under vulnerability class 'Very High' and not retrofitted (retrofit or demolish as appropriate) for safety with detailed evaluation. For other classes, at least local (component-level) vulnerability should be reduced through appropriate vulnerability reduction activities.		

C. PHOTOS AND DIAGRAMS

Attach photos of each of the four sides of the building, of the roof and a photo showing the ground profile.

Draw a double line diagram of the ground floor plan, the front elevation and the side elevation. Use multiple sheets if necessary.

Level 2 Assessment (To be done by engineer assigned by local government)

(At least the buildings categorised as vulnerability category 'Very high' or 'High' in the safety assessment (Form A1 iv) should be revisited by an engineer. This level 2 assessment is supplementary to the level 1 assessments done by schools.)

D. SITE FOR FOUNDATION (Tick applicable type)			
1.	Terrain	<input type="checkbox"/> Flat (<5 degree slope)	<input type="checkbox"/> Mild slope (up to 20 degree)
		<input type="checkbox"/> Steep slope: (>20 degree)	<input type="checkbox"/> Depressed area
Explain measures taken against the sloped terrain:			
2.	Foundation soil [as per visual soil classification]	<input type="checkbox"/> Weak/fill	<input type="checkbox"/> Soft
		<input type="checkbox"/> Medium	<input type="checkbox"/> Hard
3. Notes:			

E. MATERIALS AND WORKMANSHIP				
1.	Construction	Started: B.S.	Completed: B.S.	
		Funded by:	Supervised by:	
2.	Construction funded by	<input type="checkbox"/> None, <input type="checkbox"/> school, <input type="checkbox"/> DoE. <input type="checkbox"/> project. <input type="checkbox"/> NRA, <input type="checkbox"/> NGO. Specify any other:		
	Supervision frequency (by engineer/overseer)	<input type="checkbox"/> Continuous, intermittent (up to 20 visits per storey) <input type="checkbox"/> Few visits (up to 10 visits per storey) <input type="checkbox"/> Rare visits (less than 3 visits per storey)		
	Who supervised construction	<input type="checkbox"/> None, <input type="checkbox"/> school, <input type="checkbox"/> DoE. <input type="checkbox"/> project. <input type="checkbox"/> NRA, <input type="checkbox"/> NGO. Specify any other:		
3.	Quality of construction materials [Scale between 1 to 5] with 1=poor to 5=best; U=unknown, N=unused] Give scale and add details (brands, observations, issues, etc.)		<i>Scale</i>	<i>Detail</i>
		Cement:		
		Sand:		
		Rebar:		
		Aggregate:		
		Steel:		
		Brick:		
		Stone:		
		Water:		
4.	Material handling	Masons:	Untrained/experienced/trained	
		Mortar proportion (for walls):		
		Plastering done?	None/mud/cement/lime/lime-surki/	
		Vibrator used:	Footing/pedestal/tie-beam/column/beam/slab	
		Mixer used:	Footing/pedestal/tie-beam/column/beam/slab	
	Any defect observations	Out of plumb construction: Honeycombed concrete: Insufficient mortar:		
5.	Other observations:			
6. Notes:				

F.		Structural Details	
1.	Structure (Tick the major system and make short note)		<i>Notes</i>
		a) Reinforced concrete (RC):	
		b) Load bearing:	
		c) Steel frame:	
		d) RC+ load bearing (LB):	
		e) Steel posts + LB:	
		f) Timber posts + LB:	
		g) Timber frame:	
		h) Other:	
2.	Storeys	Load bearing walls: Masonry unit: Brick/rubble stone/dressed stone/CSEB/concrete blocks/ other: Mortar: Dry/mud/lime/lime-surki/cement/other: Non-Bearing wall (including infill and partition): Masonry unit: Brick/rubble stone/dressed stone/CSEB/concrete blocks/ other: Mortar: Dry/mud/lime/lime-surki/cement/other:	
		No. of storeys above ground: No of basements:	Storey heights of GF (m) and other stories (m):
3.	Building size	If attic, description: Area (m ²) = height(m) =	
4.	Typical wall detail: (infill or load bearing walls)		
	Exterior wall thickness (mm):		Interior wall thickness (mm):
	Buttress/piers:	Size (width x thickness) mm: Spacing (m):	
	Bands:	None/sill/lintel/mid/discontinuous lintel All/ some/ few	
	Band details:	None/bamboo/timber/RCC/other:	
	Vertical reinforcements:	Rebar/timber/steel/RCC	Location: Corner/junction/ jamb/
	Masonry unit	Adobe/brick/rubble stone/semi-dressed stone/RCC/cement block/ compressed earth bricks (CEB)/ Other:	
	Mortar	Dry/mud/lime/mud + cement/cement	Good/average/ poor/v. poor
	Plaster	All/few/none	Material: Mud/cement Good/average/ poor/v. poor
	Mud/small stone packing between wythes (single thicknesses of bricks)		None/slight/significant/very high
	Cavity construction		Solid/slight/significant/high
	Openings %	=< 25%/26%–33%/34%–42%/43%–50%/>50%	
	Cross wall connections	Exterior walls: long corner stone/dowels (timber/RC)/toothing/poor Interior Walls: long corner stone/dowels (timber/RC)/toothing/poor	
	Through stones	None/stone/timber/concrete/ Vertical interval: <=0.6m; >0.6m; How much? ____ (m) Horizontal Interval: <=1.2m; >1.2m ; How much? ____ (m)	
	Wall plumbness	Straight/bulging slightly/bulging heavily/out of plumb	One/few/ many
	Gable?	None/lightweight gable/up to 30 deg./> 30 deg./	
	Gable bands	Not required/proper/partial/none	RC/timber/other:
	Floor beams	RC/timber/none	Size (mm): x

5. Notes:			
G. OTHER VULNERABILITIES AND PAST INTERVENTION			
	Frequency of repairs	Not required/frequent (as required)/occasional/rare	
	Quality of repairs	Good/insufficient/very insufficient	
	Additions	None/light additions on roof/heavy additions on roof/plan extension	
	Painting of exteriors and steel sections	Not required/frequent/occasional/rare	
	Past evaluations	None/rapid/detailed Results: safe/vulnerable/very vulnerable	Done by: Done on (date):
	Retrofitting	None/partial/complete/not required; Who did?	
	What retrofitting?	Jacketing of beams or columns/steel caging of beams or columns/addition of footing size, raft, shear wall, steel brace/ separation of blocks/other:	
	Shape	Rectangular. short, long; L; I; T; C; other:	
			Notes
	Plan irregularity	None/slight/moderate/severe	?
	Soft storey	None/slight/moderate/severe	?
	Vertical irregularity	None/slight/moderate/severe	?
	Floor mass variation	None/slight/moderate/severe	?
	Wall not below wall	None/slight/moderate/severe	?
	Floating columns	None/slight/moderate/severe	?
	Discontinuous diaphragm	None/slight/moderate/severe	?
	Mezzanine floors	None/slight/moderate/severe	?
	Beam-bar splicing	None/slight/moderate/severe	?
	Column-bar splicing	None/slight/moderate/severe	?
	Pounding effect	None/slight/moderate/severe	Minimum gap (mm):
	Risk to adjacent structure	High/medium/low/none	? adjoining structure:
	Other functional requirement of building	Normal educational/post-disaster function/post-disaster service	

H. Summary of Assessment and Vulnerability (Based on above observations)

Structural Typology:

Construction Class of Building:

Vulnerability Class as per Table: Vulnerability levels (Update the vulnerability-class from school level assessment if necessary): **Very High/High/Medium/Low**

Notes for further assessment and countermeasures:

Annex A2: Identification of Activities for Minimum Structural Safety

[To be filled in by schools]

Using the template at Table A2-(a), schools should first list all possible activities to reduce the structural vulnerabilities of their school buildings and components. Each school will then make an action plan for implementing all needed activities and for subsequently recording implemented activities.

Table A2-(a) will help schools identify potential activities, although schools can include additional activities critical for school safety.

Note that reference documents (REF-1, REF-2, etc.), including standard operating procedures, are being, or will be, prepared for each type of activity to guide technicians and schools to carry out these activities. Also, a guide on standard management procedures to carry out these activities will be included in the Master Plan’s implementation guidelines, based on which schools will be able to approach local governments, builders and other technicians to carry out the work.

Table A2: School safety plan template (schools can include additional activities that are critical for school safety)

	Activity	Responsible institutions	Applicable in infrastructure	References
Buildings				
1.	Reconstruct or retrofit the most vulnerable structures (multi-storied random rubble stone mud-mortar masonry)	Local governments		REF-1
2.	Provide buttresses along long walls	Local governments		REF-2
3.	Replace masonry gables	Schools & local governments		REF-3
4.	Corner stitch weak masonry	Schools & local governments		REF-4
5.	Regular maintenance	Schools & local governments		REF-5
6.	Bracing or anchoring of rooves (against wind and improve diaphragm)	Schools & local governments		REF-6
7.	Bracing and anchoring of floors (improve diaphragm)	Schools & local governments		REF-7
8.	Replace deteriorated steel and timber sections and connections (beams, purlins, posts, and bolts, plates, etc.)	Schools & local governments (minor*)		REF-8
9.	Remove filled gaps between buildings (if any)	Schools		REF-9
10.	Provide retaining structures for building and other facilities.	Schools & local governments		REF-10
11.	Manage ingress of water into building foundations	Schools		REF-11

	Activity	Responsible institutions	Applicable in infrastructure	References
12.	Manage non-structural hazards in building	(As per Pillar 2)		REF-12
13.	Install anchors and bands over parapets	Schools & local governments		REF-13
14.	Fix loose wall units on top of walls	Schools		REF-14
15.	Reduce wall openings	Schools & local governments (minor*)		REF-15
16.	Temporary wall braces	Schools & local governments (minor*)		REF-16
17.	Waterproofing of slabs (on leaking roof slabs)	Schools & local governments		REF-17
18.	Improve stair supports	Schools & local governments		REF-18
19.	Anchor weak infill walls with steel/ concrete frames	Schools & local governments		REF-19
20.	Improve truss/roofing structures	Schools & local governments		REF-20
Multi-hazards				
1.	Retaining structures or river training works against flooding	Local governments		REF-21
2.	Drain improvements against inundation	Schools		REF-22
3.	Separation of canteens and labs (to reduce fire vulnerability)	Schools		REF-23
4.	Install lightning rods	Local governments		REF-24
5.	Install retaining structures (protection measures) against landslides and rock falls affecting school	Local governments		REF-25
6.	Remove or reduce large trees	Schools		REF-26
7.	Relocate electric poles (or fencing)	Schools & local governments		REF-27
8.	Make school building exits well managed, unobstructed and sufficient	Schools		REF-28
9.	Mitigate threats from nearby vulnerable structures (trees, towers, etc.) by fitting ties, braces, anchors, etc.	Schools & local governments		REF-29
Other structures				
1.	Fix and stabilise outdoor equipment (generators, tanks, etc.)	Schools		REF-30
2.	Buttress compound walls	Schools & local governments		REF-31
3.	Brace sheds	Schools		REF-32
4.	Other:	Add here		REF-33
* (minor) indicates that, the support only requires small scale technical or financial support requiring only a few site visits.				

There are Nepal National Building Codes (DUDBC 1994), and Seismic Retrofitting Guidelines (DUDBC 2016), which are very technical and written in English. Some posters showing construction, repair and retrofitting best practices have been prepared by government and non-government organisations and programmes including the DUDBC's Building Code Division and housing division and the Resilience Reconstruction Program. These are however, not integrated and are insufficient. Thus, simple user friendly guidelines are needed to inform schools and local governments about how to undertake vulnerability reduction activities.

Annex A3: Implementation of Minimum Structural Safety Activities Including Maintenance

Once the activities required to achieve minimum school safety have been identified (as per Annex B2), schools will develop short-term (one-year) and long-term (three-year) action-plans (implementation schedules) for implementing the activities which will be shared with local governments to solicit the required support. It is expected that local governments will allocate financial and non-financial support to schools to implement these activities.

Table A3-(a): School safety action plan template

	Start and end date (timeline)	Activity	Targeted infrastructure	Estimated budget	Financial support needed from local government	Other arrangements necessary for the activity
1						
2						
3						

The action plans should be revised if the amount budgeted by local governments and available from other sources is less than the amount needed to implement plan activities.

The implementation of each activity will follow the guidelines laid out in the pertinent reference document in the implementation guidelines. Separate activity reports will be prepared for each activity, which should include design drawings (if applicable), supervisors, involved persons, and other activity details. Each implemented activity will be detailed in a prescribed format with reference to activity-specific reports.

Table A3-(b): Reporting template for implemented activities

	Start date	Completion date	Activity	Target infrastructure	Total budget	External support	Activity report* name
1							
2							
3							

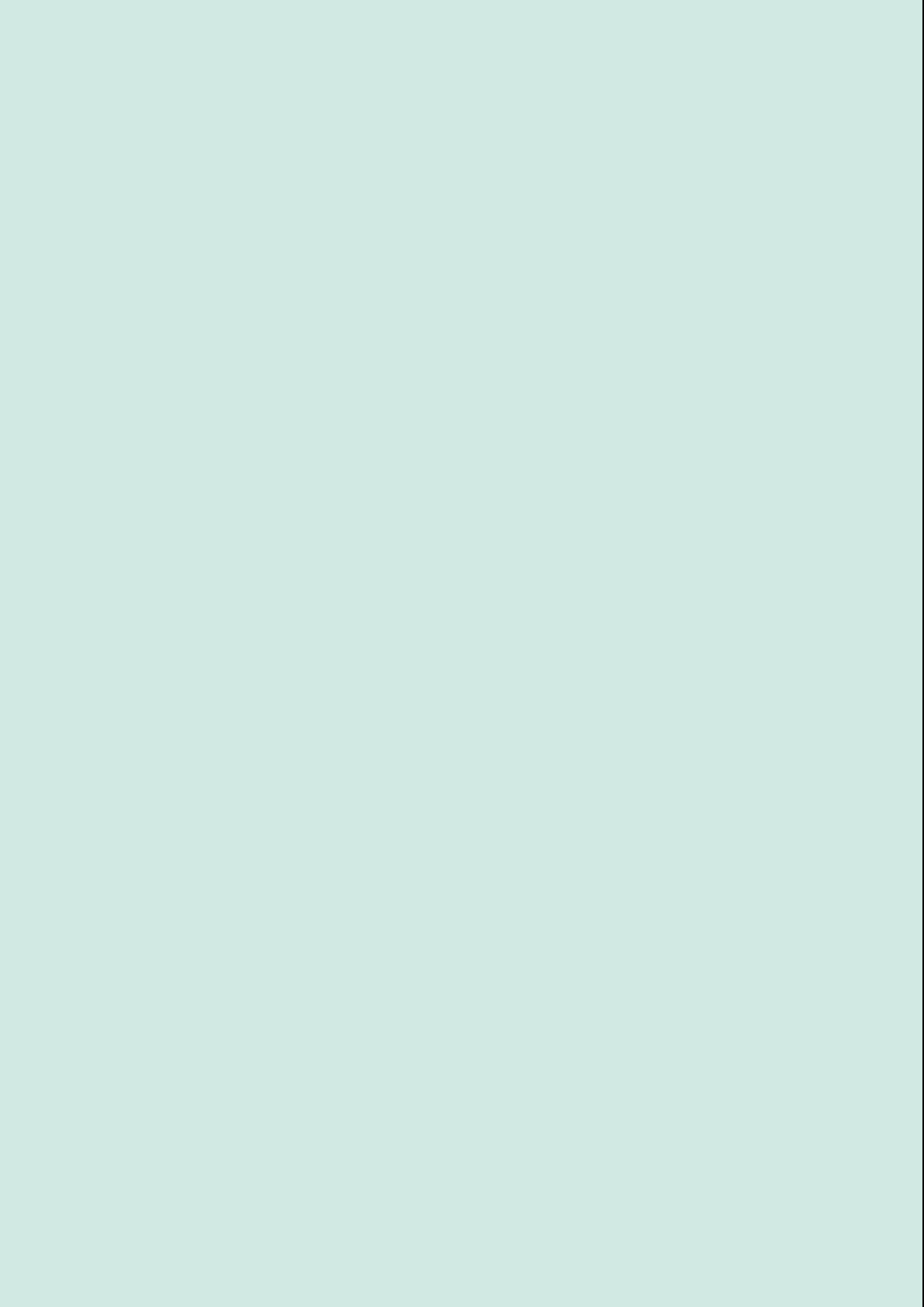
**The progress of each activity needs to be well documented in activity report forms with details of including budget, name of responsible person, timeline, any variations from original plan or guidelines, and any experiences and recommendations for the future carrying out of the same construction activity.*

Annex A4: Quality Assurance of Construction and Rehabilitation Activities

Each school will produce a quality assurance strategy to guide the repair, retrofitting and new construction of building structures. The requirements in Table A4 will be adopted as the minimum standards for all kinds of construction activities. However, some of these reference documents are specific to particular organizations or projects and will need revising to be applicable to organizations, although the core technical content is the same.

Table A4: Construction and rehabilitation quality assurance details

	Type of activities	Reference document for compliance	Responsible organisation	Required documents
1.	Site selection for new buildings	Construction Monitoring and Supervision Guidelines (NSET 2016a and 2016b).	School site selection approved by local government	Written approval of site by local governments
2.	Design of new construction and modifications (including additions) to existing structures. Must be multi-hazard resilient.	Designs comply with Construction Monitoring and Supervision Guidelines (NSET 2016a and 2016b), Guidelines for Developing Type Designs for School Buildings in Nepal (DoE 2016); and all Nepal building codes, or approved type designs	Schools (to a lesser extent) and local governments with schools request local governments for approved designs	Approval documents
3.	Supervision of all types of materials and construction or modifications	Approved design document	Schools and local government technicians	Monitoring report of schools and supervision reports of technicians
4.	Retrofitting that is multi-hazard resilience	Seismic retrofitting guidelines of buildings in Nepal (DUDBC 2016)	Designs by local government technicians that satisfy schools' requirements	Approved retrofitting design documents
5.	Maintenance, repair and vulnerability reduction	School safety assessment guidelines of Minimum School Safety Package (Table A2).	Schools	Approved activity proposals by schools
6.	School master planning	All aspects of the School Safety Minimum Package	Schools and local governments	Approved master-plans
7.	Educate students on structure safety (including involvement of students where possible)	School Safety Minimum Package	Schools	Training and education plans, which are approved by local government
8.	Mason/builder training (sufficient to work in local government)	Construction Monitoring and Supervision Guidelines (NSET 2016a) and National Building Code (DUDBC 1994); and building training documents at DUDBC BCD (2018).	Local governments	Training modules and resources at local government and mason training certificates



ANNEX B: PILLAR 2 – SCHOOL DISASTER MANAGEMENT

Annex B1: Orientation Training for School and SMCs

An orientation training course for school safety focal persons at school level will be designed (a toolkit may be prepared) and made available by local governments. Different training course can be provided for different types of focal person on DRR issues, GESI issues and protection/SZOP/psychosocial issues.

These courses will address at least the following subjects:

1. The objectives of the Minimum Package.
2. The actions to be taken by schools and local governments based on the indicators presented in the Minimum Package.
3. The classification of structures and infrastructures in schools, related multi-hazards and preparation of their inventories.
4. Simple methods of assessing the risks of hazards by preparing specific training documents to enable trainees to carry out assessments.
5. Simple school level-ways of mitigating hazards.
6. Protection and school zone of peace issues and measures to address them.

The various parts of this Annex B present a guiding framework for implementing the activities in the Minimum Package. The orientation training courses should enable SMC/school focal persons to carry out the school disaster management (Pillar 2) activities of the Minimum Package. The available related guidelines and other documents are listed in the reference list and can be referred to and improved to obtain unified guidelines to conduct different activities.

All the necessary forms and tools will be made available to schools following the training of their focal persons. Schools will need the basic tools and equipment for carrying out structural assessments, such as measuring tapes, plumb bobs and spirit levels.

Further, as per section 2.5.3 of the School Improvement Plan Development Guidelines, 2074 BS (DoE 2017b), local governments, with reference to provincial laws and national strategies and programmes, are required to produce regulatory documents and support schools to prepare and implement their school improvement plans. Section 2.8 of the guidelines says that the central, provincial and local governments can facilitate the building of capacity to prepare school improvement plans, and so local government should include such training programmes in their plans.

Annex B2: Multi Hazard Risk Assessment

[To be filled in by schools’ trained persons, with a copy submitted to the local government]

Schools should carry out in-house workshops and different activities to facilitate the carrying out of multi-hazard risk assessments.

Indicator 35 in the ‘School Improvement Plan Development Guidelines (DoE 2017b) calls for schools to conduct school site hazard and risk assessments as part of their self-assessment reviews. Session 4 of the ‘Supplementary Training Manual on Annual SIP Updating and Reference Materials for Disaster Preparedness’ (DoE 2016b) presents the methodology for assessing disaster preparedness in schools, based on which the following information can be collected and the risk of disasters be evaluated. Section 2 of the document presents school disaster preparedness reference materials, based on which school sites can be evaluated.

Some assessment processes are also included on the SIDA questionnaire forms and Tools for the Assessment of Schools and Hospital Safety for Multi-Hazards in South Asia (Toolkit Book 2) (UNISDR 2013). They should act as the guidelines for school site safety assessments.

The following risks shall be assessed for each school.

Table B1: Multi Hazard Risk Assessment

	Hazards	Types of risks	Notes
1	Earthquakes	Weak structures of old and weak school buildings, school walls, toilets and drinking water facilities collapse	
		Earthquakes destroy teaching and learning materials	
		Students and teachers injured or killed	
		Schools damaged by landslides that follow earthquakes (hills, mountains)	
		Schools damaged and students injured by falling stones after earthquakes (hills, mountains)	
		School teaching and learning activities disrupted	
		Window glass breaks injuring students in classrooms	
		Fixed desk benches hamper safe evacuation from classrooms	
2	Floods	Inundated school premises and roads make it difficult to access schools (Tarai)	
		Flood water enters classrooms and damages furniture and teaching and learning materials (Tarai)	
		School teaching and learning activities are disrupted (Tarai, hills, and mountains)	
		Floods injure and even kill students and teachers	
		Contamination of drinking water due to submergence of hand pumps (Tarai)	
		Water sources damaged and school water supplies contaminated (Chure hills, hills, mountains)	
		Water sources damaged and water contaminated in schools (Chure, Hill and mountain) leading to cholera and diarrhoea epidemics	

	Hazards	Types of risks	Notes
3	Landslides	School buildings, furniture and other materials washed away (Chure, hills, mountains)	
		Students and teachers injured or killed (Chure, hills, mountains)	
		Schools become inaccessible for students and teachers due to landslides blocking the way (Chure, hills, mountains)	
		School teaching and learning activities are disrupted (Chure, hills, mountains)	
		Water sources washed away and drinking water supplies contaminated (Chure, hills, mountains)	
		Cholera and diarrhoea epidemics (Chure, hills, mountains)	
4	Fires including forest fires (The main types of hazardous fires are from electric short circuits, gas leaks, forest burning and negligence)	School buildings, water facilities, toilets and teaching and learning materials burned and damaged	
		Students and teachers injured and even killed	
		Teaching and learning activities are disrupted	
5	Windstorms	School rooves are blown off due to weak fastenings and absence of or weak parapet walls	
		Doors and windows are damaged	
		Students and teachers are injured or killed by falling trees, roof sheets, water tanks, flower pots and other falling objects	
		School teaching and learning activities are disrupted	
6	Hailstorms	Classes are disrupted due to loud noises from rooves (hills)	
		Students and children are injured and even killed (hills)	
		School rooves are damaged (hills)	
7	Lightening	Lightening may hit schools and hit students on their way to school injuring or killing them (hills, mountains, Tarai)	
8	Cold waves, extreme cold, snowfall	Too cold for students to sit in classrooms due to open windows and cold classrooms	
		Students fall sick and may even die from pneumonia or diarrhoea (hills, mountains, Tarai)	
9	Extreme heat	Difficult to stay inside classrooms (Tarai)	
		Students and teachers get dehydrated, fall sick, faint and may even die (Tarai)	
		Schools may have to close disrupting teaching and learning	
10	Epidemics (diarrhoea, cholera)	Teachers and students fall sick	
11	Animal attack	Wild animal (elephants, rhinos, tigers, leopards and rabid dogs) attack students while going to and returning from school (Tarai, hills, mountains)	
		Snake bites in school premises and while travelling to and from school (Tarai)	
12	Road accidents	Students and teachers injured or killed	
		School buildings damaged	

Annex B3: Checklist to Identify Child Protection and Schools as Zone of Peace Issues

A. General protection issues in schools	C. Schools used for political activities
Existing practices of the corporal punishment of students	Students used in political party rallies
Bullying, abuse and exploitation of students	Schools have to close due to political strikes and conflicts between different political organizations
	Students are forced to join or support political parties
B. GESI issues	D. Children in emergencies
Security concerns due to lack of separate toilets for boys and girls	Children join or serve conflicting parties (either voluntary or forced)
Adolescents girls feel discriminated against during their monthly periods	Sexual exploitation, abuse, rape, pornography and prostitution during times of emergency
Gender, race, caste, disability and other types of discrimination against students	Child trafficking during emergencies
Lack of disability friendly structures and facilities in schools	The use of children as drug carriers and the use of drugs by children during times of emergency.

Annex B4: Checklist of Non-Structural Mitigation Measures

A. Within classrooms and school buildings

1. Fix and tighten insecure objects such as tables, cabinets, computers, ceiling fans, flower pots, water tanks and chemicals.
2. Repair classroom doors and ensure they open to the outside of rooms.
3. Have detached desks and benches, and if not detached manage them to help students move outside easily by rearranging desks and benches.
4. Keep heavy items below head level and mostly at ground floor level.
5. Properly maintain electrical wiring and keep in good condition.
6. Safely isolate flammable items such as gas, kerosene and petrol away from classrooms and other accommodation.
7. Make windows and doors strong and make rooves more secure by securing tin sheets with J hooks and other techniques.
8. Regularly repair and maintain school buildings and infrastructure.

B. School premises

9. Remove old trees, dead and fallen branches, dust and debris from school premises.
10. Level school grounds to the same level, block holes and clear bushes to reduce snake habitats.
11. Make fire lines and dig trenches between forest areas and schools.
12. Keep fire places (e.g. stoves in canteen) away from stores, inflammable materials and soft-wooden structures.
13. Install warning signs in school areas including 'Students walking with bags', 'Drive slowly – maximum 5km/hour.
14. Manage school waste.
15. Establish tree plantations around school premises.
16. Install gabion and walls to protect school premises against landslides, floods and falling rocks.
17. Install and arrange drainage to divert surface runoff away from school premises.
18. Regularly maintain school water and sanitation facilities and have handwashing basins for all students.

C. Local governments should support schools to implement the following mitigation measures

19. Fencing school premises and installing main gates
20. Constructing gabion walls to protect school premises at risk from floods or landslides
21. Construct and manage water drainage outlets
22. Build the capacity of school teachers and head teacher on DRM, and risk assessment and planning
23. Construct disability and child friendly structures such as ramps and toilets.
24. Put water supply and sanitation facilities on raised platforms in flood prone areas
25. Install railings on stairs and around roof

Annex B5: Checklist on Preparedness for Response

A. School level (note: at least the top seven points must be implemented)

1. Identify and draw a map of evacuation routes, assembly points and safe places. Fix the map in a visible place in school and make teachers and students aware of it.
2. Hold regular drills (at least 4 times per school year) on earthquake, fire and flood responses as per main potential hazards with the participation of SMCs, teachers, parents and students.
3. Prepare first aid kits and train teachers and students to use them.
4. Schools to keep a list of the parent contact phone numbers of all students.
5. Distribute or manage whistles and name tags to all students. The tags should include their parents' names and contact numbers.
6. Keep a list of useful organizations and their contact information for emergencies including the police, health facilities, the Red Cross and other relevant organizations.
7. Include DRR related activities in the school's annual calendar of activities.
- 8.
9. Develop hazard specific standard operating procedures and display them at visible places in each school
10. Keep a stock of sanitary pads for girl students and arrange a disposal system for them in toilets.
11. In flood vulnerable schools, keep a stock of old text books and teaching and learning materials at a safe location.
12. In flood vulnerable schools, keep cupboards and important documents at a raised height above potential inundation levels.
13. Keep fire safety measures such as buckets shovel, sand and other useful materials and ways of preventing fires from spreading.
14. Schools to agree with local government on norms for using the school as a shelter after emergencies or identify alternative shelters.
15. Establish disaster management funds.
16. Manage rest or counselling rooms for students for post-emergency situations.
17. Keep a contact list of psychosocial counsellors and related organizations.
18. Where classrooms have more than one door, keep both doors unlocked during class times.
19. Place the door-locks at accessible height for children.

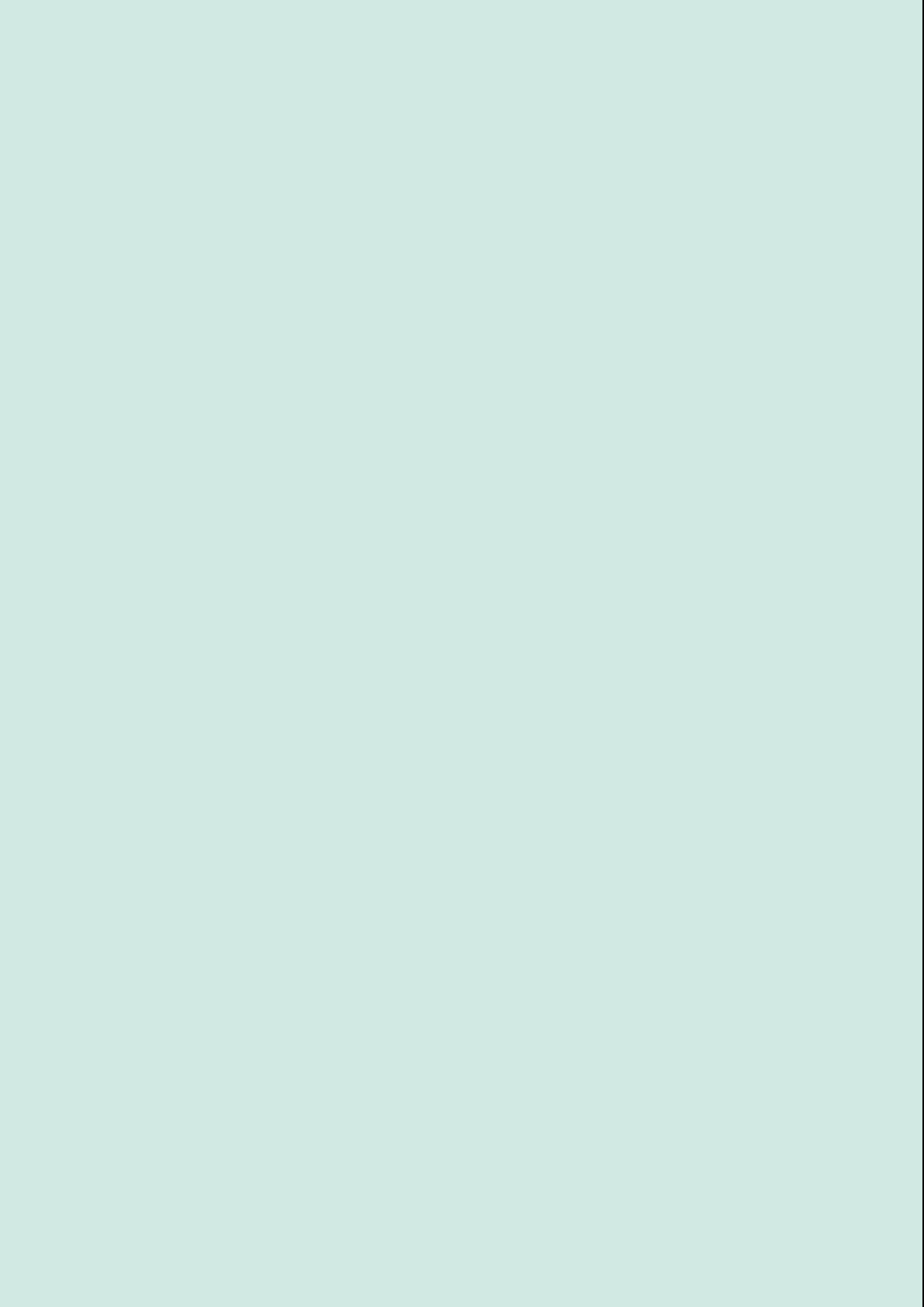
B. Local government level (note: at least the top seven points must be implemented)

20. Train teachers on DRR and emergency education and DRR and DRM planning for school safety.
21. Keep lists of contact numbers of school principals and SMC chairpersons.
22. Manage the means of communicating in emergencies such as, VSAT, mobile phones, telephone or wireless communication.
23. Form and train volunteer for search and rescue teams.
24. Health facilities support during emergency such as medicines, human resources and equipment
25. In flood vulnerable schools, local government install rainfall monitoring machines and link them to early warning system in coordination with schools
26. Establish or maintain fire brigades & fire suppression equipment with trained human resources.
- 27.
28. Stockpile education continuity materials including copies, pencils, books student and early child development (ECD) kits.
29. Stockpile teacher learning centre (TLC) construction materials such as tarpaulin sheets, ropes, nails, hammers, picks, map tock, shovels and hoes.
30. Keep and manage appropriate search and rescue materials such as ropes, boats, life jackets, stretchers and other local materials.
31. Identify alternative places for shelters after disasters to avoid schools being used as shelters.
32. The availability of psychosocial support through specialized psychosocial counsellor.

Annex B6: Child Protection and Schools as Zones of Peace Safety Measures

The following are the minimum needs for child protection and maintaining schools as zones of peace.

1. Students, teachers and staff to agree on a code of conduct on behavioural violence, discrimination and the use of physical punishment, referral system and schools as zones of peace
2. Install a suggestion box for students to lodge complaints on child protection issues.
3. Ensure that 192 days of classes are conducted each year.
4. Communicate student family reunification procedures during emergencies to parents.



ANNEX C: PILLAR 3 – RISK REDUCTION AND RESILIENCE EDUCATION

Annex C1: Risk Reduction and Resilience Education

1. Include DRR and climate change education through the school curriculum starting from pre-schooling based on scope and sequence of needed skills and competencies.
2. Run extra activities including drills and simulation exercises on DRR and climate change. At least run simulation drills in the presence of head teachers and one in the absence of head teachers.
3. Run school catchment areas observation visits to strengthen the practical knowledge of students on school hazards and disaster risk reduction linking the classroom project activities. (Examples: visit flash flood sites and river belt areas and discuss how people should respond when there is a flood.)
4. Child protection education to teachers, staff and students.
5. Make DRR instructional materials and educational resources available to all students and teachers
6. Promote local curricula for school safety and DRR at ward and local government level.

Annex C2: Checklist - Extra Curricular Activities

Extra-curricular activities		Notes
A. School DRR and DRM celebration activities		
1	Day celebrations: Earthquake Day World Environment Day	Community campaigns
B. Student-focussed activities (run one of the following events per month)		
1	Quiz competitions on DRR and school safety	Children's competitions
2	Drawing competitions	
3	Speech competitions	
4	Dance competitions	
4	Song competitions	
5	Inter-school competition on DRR and DRM	
6	Disaster related games: Ludo	
C. Promotion of school safety measures		
1	Invite a local resource person or guest speaker from other agencies to promote and present school safety measures to students	School campaign
2	Hold demonstration events to teach students about school safety measures.	



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