



Draft DRR Guidelines for Education Sector ERWG

1. Schools, colleges and university buildings are often used as emergency or evacuation centers during disasters. This is because these buildings are available almost everywhere and are generally better constructed. However it also places additional responsibility on all the stake holders to prevent the interruption of education or ensure its swift resumption following any disaster.
2. **Tools and Approaches for Mainstreaming DRR into the Education Sector**
 - Raising awareness about the hazards, related risks and responses possible in the area.
 - Mainstreaming DRR into the national education system, in primary and secondary schools as well as within universities, in order to help raise awareness and understanding about different hazards (this can also be passed on by students and teachers to family members, and therefore has an additional secondary impact).
 - Providing the necessary teacher training, curricula and teaching materials for teachers in all education institutions to raise awareness about DRR in the Education Sector.
 - Developing school preparedness/response plans and conducting drill.
 - Training teachers on what to do in a disaster and post-disaster situation.
 - Promoting hazard resilient construction of new schools.
3. **Suggested Measures for Safer School Construction**
 - Set up a committee for the school building at the community level (school director, community leaders) to monitor maintenance.
 - Capacity building of the committee members so that the committee members can explain to the architect the design that will suit the local conditions.
 - Build all structures above the high flood level
 - Ensure early warning of storms for the community

- Roads should be flood proof for continued access even after flood
- Train architects, private contractors, masons, etc.
- Master plan is essential. Should include the size and location of school and how much area needed for play ground and class rooms.
- Must have professional architect for school building. Also need to study the level of water and volume of flood before initiating construction.
- Knowledge should be imparted to community on what they should and should not do to ensure storm resilience in the construction. This can be done through capacity building campaign.
- Clear evacuation routes during floods or during emergency should be developed for the community.
- Need to manage and utilize funds appropriately and effectively. Community and concerned government officials should form a committee to monitor school building construction.

4. Using Schools as Emergency Shelters. Following additions should be made to the school building design to use it as emergency shelter:

- High land for site selection
- There should be enough land for school activities (play ground, foot ball field, assembly point, etc.)
- Water storage facilities should be available. Should have clean water supply system and sanitation (if possible could set up electricity run water purifier)
- Need to have enough class rooms with sufficient toilets
- Clear evacuation route for every school
- Separate toilet for men and women with hygienic management and clean water system.
- There should be 2 to 3 floors for a school building. Then during floods students can be evacuated to the 3rd floor.
- School building design should have shelter for animal and have cooking facilities.
- Trees and plants should be in the compound.

- Should have gate in all schools. While preparing for budget, school gate expense should be included.

Possible Shortfalls, their Impact and Mitigation Measures for Education Sector

S#	Shortfalls in the Facilities/Activities	Potential Negative DRR Impact	Proposed Mitigation Measures
1	Absence of land use plans leading to siting of Governance facilities at land vulnerable to natural hazards	<ul style="list-style-type: none"> • Siting of these facilities at slopes/ land sliding areas can result in damage to these facilities and render them unusable in case of earthquake or heavy rains/ floods. • Siting in low laying areas / depressions can render the facilities vulnerable to flooding and unusable following heavy rains / floods. • Routes to the governance buildings / facilities are blocked by the flood / rains / traffic / natural hazards. 	<ul style="list-style-type: none"> • The Location should not be at the edge of a slope, near the foot of a mountain vulnerable to landslides, near creeks, rivers or bodies of water that could erode its foundation, on top of or in proximity to active fault lines (less than 10 meters away), near the river banks and areas prone to storm surges. The building should have appropriate provisions for addressing hazards related to location such as rainwater drainage and dikes • Relocate the facilities away from land sliding areas. • Adopt slop stabilization measures including bio engineering. • Site these facilities on higher grounds or make flood protection bunds around these facilities.
2	Lack of building codes and standards for the	<ul style="list-style-type: none"> • Unsafe buildings codes can endanger both the teachers and the students. 	<ul style="list-style-type: none"> • Develop and enforce safe building codes for multiple hazards like floods, earthquake

	schools	<ul style="list-style-type: none"> • The designs may not suit the local environment and culture. • The building may not be available for the service delivery during an emergency following a disaster. 	<p>and windstorms.</p> <ul style="list-style-type: none"> • Develop designs suitable to local environment and customs.
3	Construction of ramps for students with disabilities.	<ul style="list-style-type: none"> • Non-availability of ramps for students and other persons with disabilities can result in them getting trapped following a disaster. 	<ul style="list-style-type: none"> • Ramps should be constructed at appropriate places for use by the persons with disabilities.
4	Construction of multiple exits for emergency and doors opening outwards.	<ul style="list-style-type: none"> • In case of single entry and exit it is likely to be choked during an emergency and result in casualties. • Similarly the doors opening inwards are likely to be choked in an emergency specially following an earthquake. 	<ul style="list-style-type: none"> • Construct multiple emergency exits and create DRR awareness among all stakeholders. • Ensure that doors open outwards. • Lay down and rehearse SOPs for evacuation in an emergency.

5	Firefighting arrangements	<ul style="list-style-type: none"> • Non installation of fire alarm system. • Substandard or non functioning fire alarm system. • Substandard or nonfunctional firefighting equipment. 	<ul style="list-style-type: none"> • New structures should be built with fire-resistant and nontoxic materials. • Fire Suppression System with alarm, detection and extinguishing systems should be provided. • Training of HR for proper maintenance and use of fire alarm and firefighting equipment.
6	Additional engineering works for improving the safety of the buildings	<ul style="list-style-type: none"> • A building needing retrofitting can be unsafe both the staff and the students. • A building located in low lying area may be vulnerable 	<ul style="list-style-type: none"> • There should be no major structural cracks on structural members. Minor or hairline cracks should be investigated by a qualified civil or structural

		<p>to flooding unless an embankment is constructed around it.</p> <ul style="list-style-type: none"> • A building located at slop will be vulnerable without the support of a retaining wall. 	<p>engineer and determined to be localized and repairable.</p> <ul style="list-style-type: none"> • Carry out proper retrofitting and ensure quality control through regular monitoring. • Construct an appropriate bund / embankment to make the building safe for use during an emergency. • Construct an appropriate retaining wall to provide required protection to the building.
7	Lack of awareness and Capacity building of the teachers, community and students.	<ul style="list-style-type: none"> • Lack of capacity / awareness about possible disasters and capacity to respond appropriately can result in a paralysis during a disaster situation. • The teachers other staff may not be trained to function efficiently during a natural disaster. 	<ul style="list-style-type: none"> • Educate the both the staff and the students about possible hazards and required risk reduction measures. • Build response capacity of the staff and the students through training workshops and short courses. • Involve the parents teachers committees in DRR awareness and capacity building. • CBDRM.

Other Recommendations for Mainstreaming DRR in Education Sector

- Regular trainings for teachers need to be carried out along with orientation workshops and advocacy campaigns for the education community as a whole. It is also essential to review the existing teaching aids (teaching manual, instructors guide, text books, work books, student activities, etc.) and make necessary changes so that the aids facilitate the teachers in delivering the curriculum.

- The increase in the level of knowledge about DRR amongst the children could be monitored through questionnaires at various intervals. In addition a school safety week could be conducted at the end of the teaching activities for the final evaluation of transfer of knowledge.
- It is suggested that the technical working group works closely with the curriculum developer and the National curriculum review committee, so that in the next curriculum revision cycle the new DRR subject/module could be taken up for integration.
- Adding features, such as facilities for water, sanitation and cooking in schools in hazard prone areas for use as emergency shelters.
- Development of guidelines for emergency planning in the schools.
- Carry out safety audit of all existing school buildings with respect to their location, design and quality of construction and prioritizing them for demolition, retrofit or repair.
- Develop, implement and enforce codes with the performance objective of making all new school buildings ready for immediate occupancy following disasters to serve as shelters or safe havens for the community as well as to restore educational functions in the shortest possible time.
- Demolish unsafe school buildings and replace them.
- Implement non-structural risk mitigation (for example, fastening down building contents and non-structural building elements so that they cannot injure and kill occupants during earthquake shaking) in schools where necessary.
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- Conducting mock drill and a debriefing meeting held to evaluate the mock drill and the school program.
- Create a task force from members of school staff. Ask them to do mapping and develop plans and techniques of evacuation.

