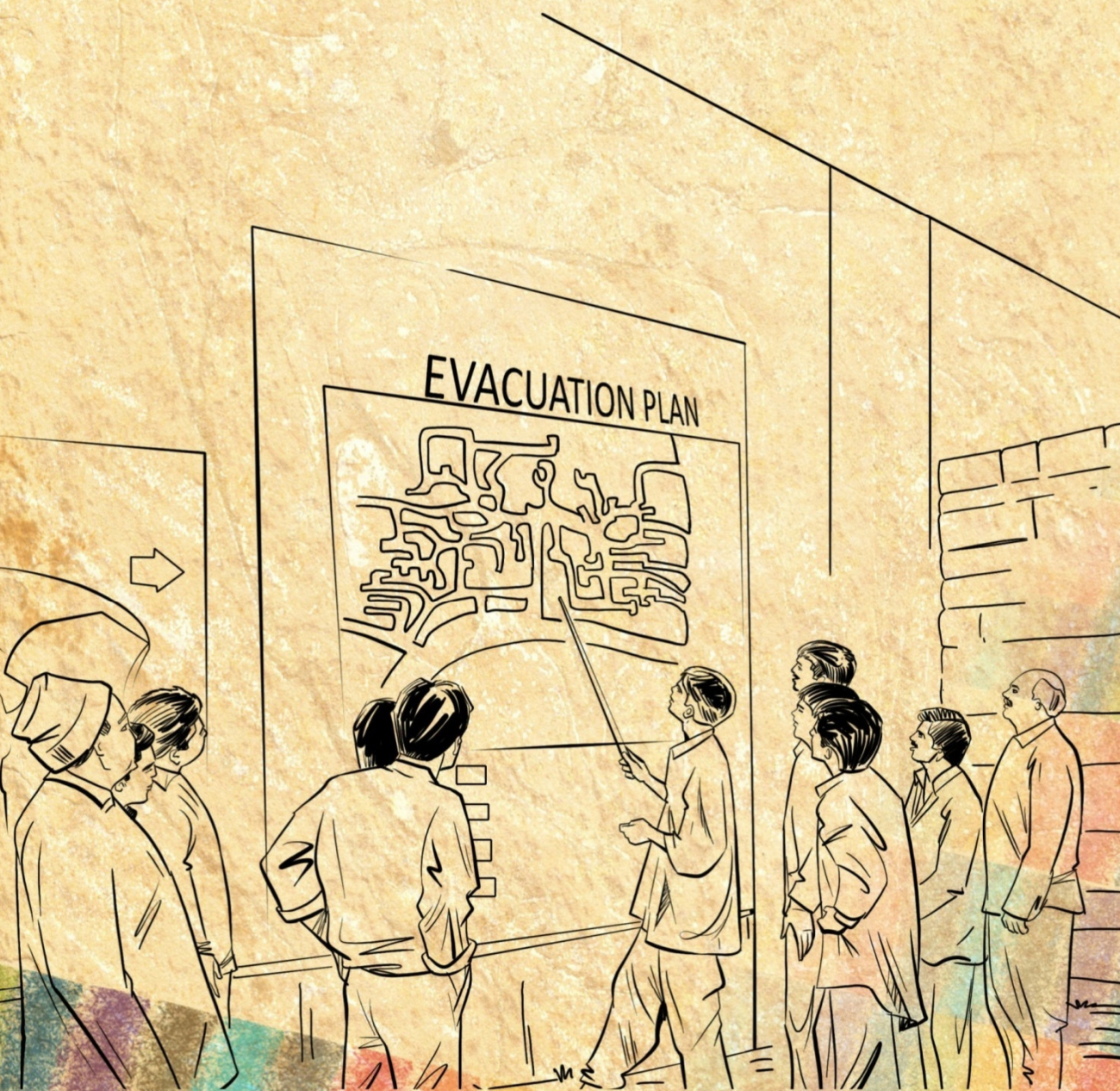


DRAFT



TRAINING MODULE FOR MASTER TRAINERS ON SCHOOL SAFETY (National School Safety Programme)





TRAINING MODULE FOR MASTER TRAINERS ON SCHOOL SAFETY (National School Safety Programme)

Author

Dr. Ritu Raj

(National Institute of Disaster Management)



National Disaster Management Authority

NDMA Bhawan, A-1,
Safdarjung Enclave.
New Delhi



National Institute of Disaster Management

Ministry of Home Affairs, GOI
5-B, I.P. Estate, M.G. Road,
New Delhi-110002



CONTENTS

ACKNOWLEDGEMENTS	4
INTRODUCTION	5
Objectives of Training Pack	5
Facilitation	6
Target Audience	7
Taking time to reflect	7
OUTLINE OF THE FIVE DAY TRAINING PROGRAMME.....	9
Day 1: Understanding School Safety in the overall Disaster Management Planning and Practice	13
Session 1.1 Introduction.....	13
Session 1.2 Concepts	21
Session 1.3 Right to Education (RTE).....	28
Session 1.4 Hazards, Vulnerability, Capacity and Risk (HVCR)	31
Day2: Mitigation and preparedness for school safety	41
Session 2.1 Structural and Non-Structural Safety	41
Session 2.2 School Disaster Management Plan (SDMP).....	77
Session 2.3 Task Force	81
Session 2.4 Fire Safety/ Search and Rescue Techniques/First Aid	86
Session 2.5 Mock Drill Framework	113
Day 3: Planning for School Safety	118
Session 3.1 SDMP Planning	118
Session 3.2 Mock Drill in a nearby School	119
Day 4: Planning for School Safety and addressing special needs	120
Session 4.1 Mock Drill lessons learnt	120
Session 4.2 Inclusive Approaches.....	121
Session 4.3 Psycho-Social Care.....	125
Session 4.4 Revisiting SDMP.....	130
Day 5: Reflection and Planning Way Forward	131
Session 5.1 Training Session	131
Session 5.2 Open House Discussion	139
Session 5.3 Action Plan.....	140
Session 5.4 Post-Training Evaluation.....	141
Session 5.5 Valediction.....	144
ANNEX 1	145
List of Energizers	145
ANNEX 2.....	147



ACKNOWLEDGEMENTS

The Module has been developed based on the consultation with many experts on the subject at national level and relevant officials in relevant organizations. Comments of the CBT group members on the draft of the module have been useful in improving the design and content of the present module. Suggestions from following expert during different stages of its writing and reviewing have been very significant:

Smt. Sujata Saunik, Joint Secretary (Policy & Plan), NDMA, New Delhi.

Dr. Satendra, Executive Director, NIDM, New Delhi.

Shri Rajesh Kumar Singh, Director (Policy & Plan), NDMA, New Delhi.

Shri S.K. Prasad, Under Secretary, (Policy & Plan), NDMA, New Delhi.

Smt. Tanushree Verma, Project Support Associate, NDMA, New Delhi.

Mr. Manu Gupta, Director, Seeds, New Delhi.

Mr. Sarbjit Singh Sahota, Emergency Specialist, UNICEF, New Delhi.

Mr. Murali Kunduru, Plan India, New Delhi.

Ms. Abha Mishra, Project Officer, UNDP India.

Dr. Sushma Sagar, Associate Professor, AIIMS, New Delhi.

Ms Hardeep Kaur, Nurse Co-coordinator, AIIMS.

Mr. P.K. Das, Consultant UN Habitat, New Delhi.

Mr. E. Arvind Raj, Faculty, Dept of Psychiatry, KMC, Manipal.

Ms. Prantai Panda, NEUPA

Media Team, Seeds India

Mr. Mahboob Anjani, Focus India



INTRODUCTION

Education, public awareness and proper training for enhancing the capacity is the cornerstone of approaches aimed at reducing vulnerabilities to natural hazards. The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, adopted at the World Conference on Disaster Reduction, highlights knowledge and education as one of the five main priorities of action. Attention should be accorded and support given to efforts targeting school children and youth with the aim of making people more aware of the threat of hazards and of the need and possibility to become better prepared before disasters strike.

Government of India has approved a National School Safety Programme - a Demonstration Project to be implemented by National Disaster Management Authority to:

- Promote a culture of disaster preparedness in the school.
- Initiate policy level changes for ensuring safe school environment.
- Sensitize children and the school community on disaster preparedness and safety measures.
- Motivate direct participation of key stakeholders in activities that would help building towards a disaster resilient community.
- Promote capacity building of officials, teachers and students.
- Carry out Information, Education and Communication (IEC) activities in schools and associated environment.
- Implement non-structural mitigation measures in select schools.
- Carry out demonstrative structural retrofitting in select schools.

This trainer's pack is part of the National School Safety Programme (NSSP) to advance its goal of providing training to master trainers who are expected to further provide training to teachers and other stake holder of the school safety.

Objectives of Training Pack:

- To enhance conceptual understanding on various aspects of Disaster Risk Reduction and School Safety from an inclusive perspective.
- To develop competencies of the participants to undertake Disaster Risk Reduction measures in schools (Training of the students, components of SDMP, undertake Hazard, Risk, Vulnerability and Capacity Analysis, etc).
- To enable the participants to develop the School Safety Plan.
- To enhance the communication capacity of the participants by using the school safety toolkit for school safety.



Facilitation

Aim of the Facilitator: The main aim of the facilitator is to help the group to work together, to analyse problems, to develop solutions, and to take decisions.

As the facilitator, you control the **process** (how the group works together) but you do not control the **content** or the substance of the discussions.

Task of the Facilitator: There are five essential stages in the facilitating process:

1. Introduce (aim, methods, timings)
2. Stimulate a debate
3. Summarize the discussions
4. Focus the group
5. Lead to a conclusion

During meetings and discussions, s/he needs to be able to:

- Balance task (content) and relationship (process) i.e. achieve the task while maintaining good personal relations (see below)
- Clarify issues
- Summarize the discussions
- Persuade participants to get actively involved
- Get conflict out into the open and then resolve it
- Focus the group on the key issues
- Lead the group to a conclusion
- Finally, resist the temptation to dominate the discussions!

Characteristics of an Effective Facilitator: In general, the facilitator should always aim to be:

- Self-confident (but not overconfident)
- Enthusiastic and flexible
- Good humoured and friendly
- Attentive to feelings

Active Listening: One vitally important skill for the facilitator is **active listening**.

We are often passive listeners. We listen with only half our attention. We make very little attempt to understand what the speaker is really getting at and we rarely try to help the speaker to give us the relevant information in a clear fashion.

The purpose of active listening is threefold:

- To encourage the speaker to talk freely and openly
- To show interest in what is being said
- To help him/her to focus on the main points and to say precisely and clearly what he/she is thinking.

N.B. Active listening implies that the listener should avoid intruding his/her own interests or interpretations. Above all, the listener should avoid judgements until the end.



How to use this Training package

This training package has number of Modules. All Modules are made up of number of sessions, each tackling a specific key issue. Most sessions consists of following:

- Session Objectives
- Outline of the content
- Expected outcome of the session
- Detailed session Plan including facilitators notes
- Session Resources
- References/Further reading

Session outline of 5 days training program has also been provided here for ready reference.

The pack encourages discussions on the issue with participants' through a participatory process. It stimulates dialogue and encourages response, taking action, problem solving and negotiating skills. It focuses on experiential learning. It is structured in a manner that guides the participants through a process of experience and activities, reflection and discussion. The participants are encouraged to look for ideas for action and application to similar situation in their lives and surroundings. Situations and problems are presented, discussed and analyzed.

Target Audience

The manual, though put together to address Master Trainers, can be adapted and used with groups as well.

It is intended for:

- Teachers
- Trainers from DIET (District Institute for education and Training) under Department of Education
- Faculty Members from State ATI (Administrative Training Institute)

Taking time to reflect

It would help the facilitator to ask herself/himself the following questions before using the manual:

- What do I know about School safety/disaster management/disaster risk reduction?
- Why is it important for me to talk about the issue?
- What do I know about the disasters and related vulnerabilities?
- How would I handle the situation if there were a victim of disaster in the participating group?
- Am I aware of the government initiatives on school safety?
- What do I know about National School Safety Programme?

Room Setting and Equipment

It is recommended that this program be run with a group size no bigger than 25 and the tables should be arranged in Horse Shoe or U shape style/ Cabaret style/ Class Room style allowing participants to work in small groups. Equipment necessary for the program includes:

- 
- DVD projection
 - Whiteboard
 - Flip Chart paper and stand
 - Markers

Evaluation and Validation

On the final day of the training Course team will hand out the Post-Course Evaluation forms for completion and collect these before participants depart.

OUTLINE OF THE FIVE DAY TRAINING PROGRAMME

Day 1: Understanding School Safety in the overall Disaster Management Planning and Practice

Session 1.1	INTRODUCTION	Time	90 Min
Session Objectives	- Inauguration and Introduction of the Programme - Introduction to the concept of School safety - Impact of Disasters on School Children of various age groups, at different levels/phases (preparedness, response, mitigation, etc.) and need of DRR for safe schools - Experience Sharing, Expectation & Out come		
Session Outcome	- Participants are able list the objects of the NSSP - identify essential elements of school safety practice - Participants are able to enumerate the risks faced by children due to hazards - Participants are able to relate to school safety practice within their context		
Session 1.2	CONCEPTS	Time	90 Min
Session Objectives	- Basic Concepts of Disaster Management & Institutional Mechanism - Hazard and Vulnerability profile of State/District		
Session Outcome	- Identify and relate to various components of Disaster Management - List the various kinds of hazard and ways to mitigate in the local context		
Session 1.3	RIGHT TO EDUCATION (RTE)	Time	90 Min
Session Objectives	- Linking School Safety with whole school concept - Linkage to RTE, SSA and UNCRC		
Session Outcome	- Participants are able to identify linkage between the practice of school safety planning and objectives of RTE - The participants are able to list the 10 components of RTE		
Session 1.4	HAZARD, VULNERABILITY, CAPACITY AND RISKS (HVCR)	Time	90 Min
Session Objectives	HVCR Analysis in schools-Tools and Techniques		
Session Outcome	- Participants are able to use the tools (Risk, Facility, hazard and Capacity) for conducting HRVA - Evacuation Map		

Day 2: Mitigation and Preparedness for School safety

Session 2.1	STRUCTURAL AND NON STRUCTURAL SAFETY	Time	120 Min
Session Objectives	Structural and Non Structural Safety issues in Schools		
Session Outcome	- Sensitized to structural risks and to know where to look for solutions - Equipped to identify the non structural risks and to know how to address them		
Session 2.2	SCHOOL DISASTER MANAGEMENT PLAN (SDMP)	Time	60 Min
Session Objectives	- Introduction of School DM plan-Model template - Why school Disaster Management Plan and its linkage to School Development Plan - Identification of role and responsibilities of various stake holders (<i>Identify role of school management, teachers, students, parents and outside agencies in disaster risk reduction</i>) - Importance of HVCR in School Disaster management plan - Management of Schools as Relief Centre - Education in emergency		
Session Outcome	- Participants will be able to Identify the key stakeholders and their role to be involved in SDMP preparation - Develop skills to prepare the SDMPs		
Session 2.3	TASK FORCES	Time	60 Min
Session Objectives	Importance of Task Forces, their roles and responsibilities (Fire safety in schools, First Aid Skills, Search and Rescue Techniques in Disasters, Early Warning etc.), Guideline and SOPs for the task forces		
Session Outcome	Participants are able to identify the need for task forces, criteria for selection and their roles and responsibilities		
Session 2.4	FIRE SAFETY/ SEARCH AND RESCUE TECHNIQUES/FIRST AID	Time	60 Min
Session Objectives	Fire Safety/ Search and Rescue Techniques/First Aid		
Session Outcome	- Participants are familiar with the AIIMS Module for First Responders - Participants are able to identify fire safety and search and rescue techniques and methodologies		
Session 2.5	MOCK DRILL FRAMEWORK	Time	60 Min
Session Objectives	Introduce participants to the mock drill framework.		
Session Outcome	Participants will be able to identify components for conducting a mock drill in school.		

Day 3: Planning for School Safety

Session 3.1	SDMP PLANNING	Time	120 Min
Session Objectives	Preparation of a typical School DM Plan by participants		
Session Outcome	Participants are able to prepare a SDMP		
Session 3.2	MOCK DRILL	Time	180 Min
Session Objectives	To give practical training of mock drill in school		
Session Outcome	Participants have actual experience of conducting a mock drill in school		

Day 4: Planning for School Safety and addressing special needs

Session 4.1	MOCK DRILL – LESSONS LEARNT	Time	60 Min
Session Objectives	Discussion and feedback on Mock drill observed		
Session Outcome	- The participants will have a practical knowledge on mock drill and its linkage with SDMP - To avail clarity on any component of drill - Importance of feedback sessions or evaluation session after a drill to improvise on SDMP		
Session 4.2	INCLUSIVE APPROACHES	Time	60 Min
Session Objectives	Inclusive approach (Gender, children with disability, HIV under RTE mandate) and Disaster Safety in Schools		
Session Outcome	- Participants are able to identify and prepare an inclusive SDMP - Participants are able to perform Hazards, Risks, Vulnerability Assessment		
Session 4.3	PSYCHO-SOCIAL CARE	Time	90 Min
Session Objectives	Psycho-social care and support for children of various age groups.		
Session Outcome	Participants are able to recognize the need for Psycho-social care and able to facilitate support		
Session 4.4	REVISITING SDMP	Time	90 Min
Session Objectives	Revisiting SDMP finalization and sharing		
Session Outcome	The participants have been able to prepare an inclusive SDMP		

Day 5: Reflection and Planning Way Forward

Session 5.1	TRAINING SESSION	Time	90 Min
Session Objectives	Enhance the knowledge and skill of delivering training in most effective manner		
Session Outcome	- The session will provide participants with the skill to conduct and modulate training in most effective manner with their participation. - The trainer will learn the skill of converting training session in more interesting way, thereby the knowledge is conveyed well to them.		
Session 5.2	OPEN HOUSE DISCUSSION	Time	60 Min
Session Objectives	Discussion with the participants on the contextual issues and specific challenges related to school safety.		
Session Outcome	Participants are able to resolve issues raised regarding school safety and related topics to their local context.		
Session 5.3	ACTION PLAN	Time	30 Min
Session Objectives	Preparation of Action Plan		
Session Outcome	Participants have prepared their action a plan for the next steps		
Session 5.4	POST-TRAINING EVALUATION	Time	90 Min
	Feedback & Suggestions		
Session 5.5	VALEDICTION	Time	60 Min



Day 1: Understanding School Safety in the overall Disaster Management Planning and Practice

Session 1.1 Introduction

1.1.1 Session Objectives

- Inauguration and Introduction of the Programme
- Introduction to the concept of School safety
- Impact of Disasters on School Children of various age groups and need of DRR for safe schools
- Experience Sharing, Expectation & Outcome

1.1.2 Outline of Content

This session essentially prepares ground for the five day training by introducing the subject of Disaster and School Safety children are the most vulnerable and highly affected sections of the society. Disasters generally have huge impact on everyone but we are particularly looking at the impact on schools and school children. Sessions explains-what is disaster and talks about the present disaster scenario in India. It introduces the concept of-school safety, the National School Safety Programme and why is there need for Disaster Risk Reduction (DRR) at school?

1.1.3 Expected Outcome of the Session

By the end of the session, the participant should be able to:

- List the objectives of the NSSP
- Identify essential elements of school safety practice
- Enumerate the risks and stresses faced by children due to hazards
- Relate to school safety practice within their context

1.1.4 Detailed Session Plan

Materials required for the day: Flip chart/White board, Chart papers and Markers

1.1.4.1 Introduction (5 minutes)

- Introduce yourself as a facilitator of this course and write your name on the blackboard or flipchart. If you have invited some guests for inauguration session also introduce them to the participants. Welcome all the guests and participants.
- There may be some administrative tasks or announcements that you should address. For example, you may need to explain the arrangements that have been made for lunches, the daily transportation of participants from their lodging to the course, or T.A, D.A payment as per rules.
- **EXPLANATION OF YOUR ROLE AS FACILITATOR:** Explain to participants that, as facilitator (and along with your co-facilitator, if you have one), your role throughout this course will be to:
 - Guide them through the course activities
 - Answer questions as they arise or find the answer if you do not know
 - Clarify information they find confusing
 - Give individual feedback on exercises where indicated
 - Lead group discussions, drills, video exercises and role plays
 - Prepare them for each Skill enhancement session (explain what they will do and what to take)

- Observe and help them as needed during their preparation in school Disaster Management plan and mock drill and other activities

1.1.4.2 Introduction of the participants with ice breaker (20 minutes)

It is important that all the participants know each other's name and feel comfortable in the group. Participants can be introduced through a participatory game which will also help in breaking the ice.

- Divide participants in pairs.
- Ask them to find out each other's name, what they do and one thing they like. (for example – Her name is Manjul, she is a teacher and she likes travelling)
- Give them 5' for discussion and encourage them to use the room and not sit on their seats.
- After discussion ask each participant to introduce her/his partner to the larger group.

After this ice breaker exercise participants will know each other's name and will be comfortable in talking to each other more openly.

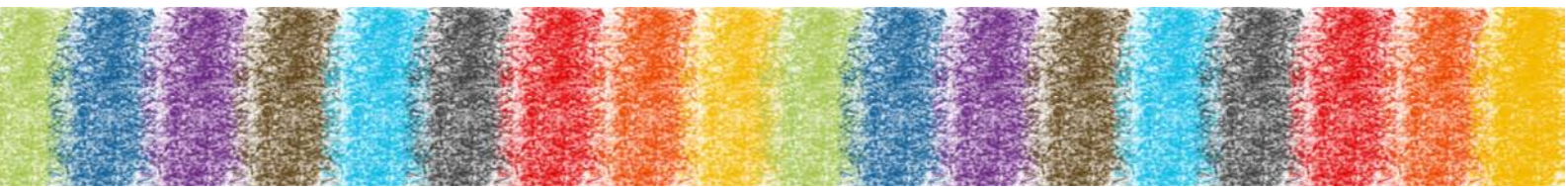
1.1.4.3 Expectation from the training (10 minutes)

- Divide participants into 3-4 groups depending of the number of participants. Different methods can be used for making groups.
- Give them 3-4 minutes for discussion.
- Ask each group to write their expectations from training to on the chart paper.
- Put all three charts by the groups on a wall.
- Facilitator should write the common/relevant expectations on white board/flip chart.
- Facilitator should read out or write or show PPT of the training objectives as mentioned in the beginning of the manual.
- Facilitator should clarify that expectation outside the scope of training will be addressed where and when possible.

1.1.4.4 Q&A with discussion (35 minutes)

Ask participants the following questions:

- List out 10 day to day problems/issues of a child (in school, in community and the places where children go e.g. play grounds).
- Facilitator should bring in all the issues under few headings and then ask the participants whether he/she had missed out any issue under these headings.
- Facilitator with participatory approach should pick up common issue and prioritize them. May be 3-4 issues.
- Ask participants how these issues would be affected or aggravated during any emergencies. (most of these issues are actually vulnerabilities of the school, hence convey the importance of addressing these issues to minimize the disaster impact on children).
- Ask participants what do you understand by word "SCHOOL" and "SAFETY"?
- Write words/phrases mentioned by the participants on the board or flip chart. People have different perception of safety.
- Ask participants - have you heard about National School Safety Programme (NSSP)?
- Encourage all the participants to share their view/perception of school safety.
- Vote of Thanks.



1.1.4.5 Note for the facilitator (20 minutes)

Facilitator should explain no task is as important as creating safe learning environment for our children. Recent events of children deaths due to building collapse, fire accidents and stampede bring to the light the need to be continually vigilant to ensure the safety of students and staff in schools. The event that unfolded in the Kumbakonam fire tragedy which took the lives of 93 children reiterate the need to have school building level emergency preparedness and response plans, schedule time in the busy school day to practice drills to respond efficiently and effectively to occurrences that might be encountered, and to check plans to be sure that the information is complete and up to date. As a whole school should develop the culture of safety rather doing it on calendar dates. For example:

- Does the staff or the children know the chain of command in case of an incident?
- Does everyone know who is responsible for what in an emergency?
- Do all teachers know what they would do if confronted with a situation of fire in a classroom?
- Have the entrances and exit been checked to ensure clear access to open spaces?
- Does the school have trained manpower on life saving skill?
- These are a few of the questions to be revisited periodically.¹
- Culture of safety – if a school has an evacuation plan, it is not necessary to practice on certain date or day but children when they come to school or go out of school or during break; all the classes should follow their evacuation path.

In developing countries like India, schools are often located in vulnerable areas and unprepared to respond to emergencies.

Brief about the National School Safety Programme (NSSP):

Government of India has approved a National School Safety Programme (NSSP)- A Demonstration Project to be Implemented by National Disaster Management Authority (NDMA) in partnership with Ministry of Human Resource Development (MHRD), State/UT Governments, National and International Agencies in 43 districts of 22 States /UTs of the country falling in seismic zone IV & V.

The vision of the NSSP is to promote a culture of disaster preparedness in the school with following objectives.

- To initiate policy level changes for ensuring safe school environment.
- To sensitize children and the school community on disaster preparedness and safety measures.
- To motivate direct participation of key stakeholders in activities that would help building towards a disaster resilient community.
- To promote capacity building of officials, teachers and students.
- To carry out Information, Education and Communication (IEC) activities in schools and associated environment.
- To implement non-structural mitigation measures in select schools.
- To carryout demonstrative structural retrofitting in select schools.

The programme will develop a draft National School Safety Policy, build capacity of 200 schools in two districts each in 22 States/UTs, produce relevant Information Education and Communication materials, introduce non-structural measures, and demonstrate retrofitting of one school each in 22 States/UTs by June 2013 under the leadership of Joint Secretary (Policy and Plan), NDMA. The programme is a 100% centrally Sponsored Scheme with a total outlay of Rs.48.47 Crore.

¹Gol, MoH, National Disaster Management Division, School Safety



What is school safety?

Screen PPT1 and discuss the concept of school safety which mainly comprises of three components:

- (1) Approach
- (2) Methodology
- (3) Components of schools

What is disaster?

A disaster “refers to a catastrophe, mishap, calamity or grave occurrence from natural or man-made causes, which is beyond the coping capacity of the affected community.

Disaster Risks scenario in India (Handout 1)

The scenario in India is no different from the global context. The super cyclone of Orissa (1999), the Gujarat earthquake (2001) and the recent Tsunami (2004) affected millions across the country leaving behind a trail of heavy loss of life, property and livelihood.

Screen PPT2 (Figure 1.1) which shows a list of some of the major disasters that have caused enormous impact on the community.

In the context of human vulnerability to disasters, the economically and socially weaker segments of the population are the ones that are most seriously affected. Within the vulnerable groups, elderly persons, women, children—especially women rendered destitute, children orphaned on account of disasters and children with disability (CWD) are exposed to higher risks.

Effects of Disaster on Schools²

Disasters can have several negative impacts on schools. Not all disasters strike the schools directly and immediately. Sometimes schools are affected indirectly through students, staff and their families. Schools can be affected also in short or long term phases. An example of direct effect of disaster event on a school is an earthquake that damages the school building. Damages to the school infrastructure are directly related to reduction in school hours, and consequently, to a decrease in the quality of education.

If a school is unusable, the children will have to go to other schools, often in shifts, and their education suffers. School hours may also be cancelled because teachers are busy helping their communities meet recovery needs. If students have been left anxious, uprooted, out of classrooms for long periods or relocated to other facilities, this disrupts their education and increases their stress.

An indirect effect of disasters on schools can be seen in increased dropout rates of students in the wake of earthquakes, droughts or communal riots. It is a common for students to leave school after a disaster event, either because their parents need them to work for their livelihood, or because they are afraid of sending their children back to an unsafe school environment. Additionally, children may feel unable to attend classes or have problems concentrating because they are suffering from psychosocial impacts of disasters.

In Ahmadabad, municipal schools were closed for several months following the earthquake in 2001. After the communal riots of 2002 some schools were used as refugee camps. During the riots students missed classes, as their parents were afraid to send their children to school in affected areas. Thus, vulnerability of school facilities must not be seen only in terms of the need to prevent catastrophic damage that may destroy the

² AIDMI, School Safety Training Module 2



buildings and cause injuries. It is also necessary to prevent situations that may affect the continuity of the services that schools provide.

Direct Effects:

- Damaged school buildings and other infrastructure
- Injured students, teachers, school staff

Indirect Effects:

- Increased Dropout rates
- Loss of trust in education institution
- Decrease in education quality
- Increased stress
- Psycho Social Impacts

Facilitator to discuss impacts of disaster on different age group of children with Impacts needs and care for each age group.

Need for Disaster Risk Reduction (DRR):

Numerous examples across the globe show that children are more vulnerable to disasters. But at the same time they can be influential and effective communicators about disasters. Often, lessons learnt at school are later transmitted to the home.

Unsafe schools are a reality in India. With the spread of education, more and more children go to schools that are vulnerable to multiple hazards. At repeated great cost, this has been seen many times in the last decade. Nearly half of all victims of natural disasters are children under the age of 15. Despite the opportunity of using schools as safe facilities for public shelter following disasters, school buildings are an additional liability.

In India, the Central Board for Secondary Education has introduced disaster management as a separate subject in grades VIII, IX and X.³ (for details refers to handout 3)

³ RCC guidelines 6.1 : Integrating disaster risk reduction in school curriculum.

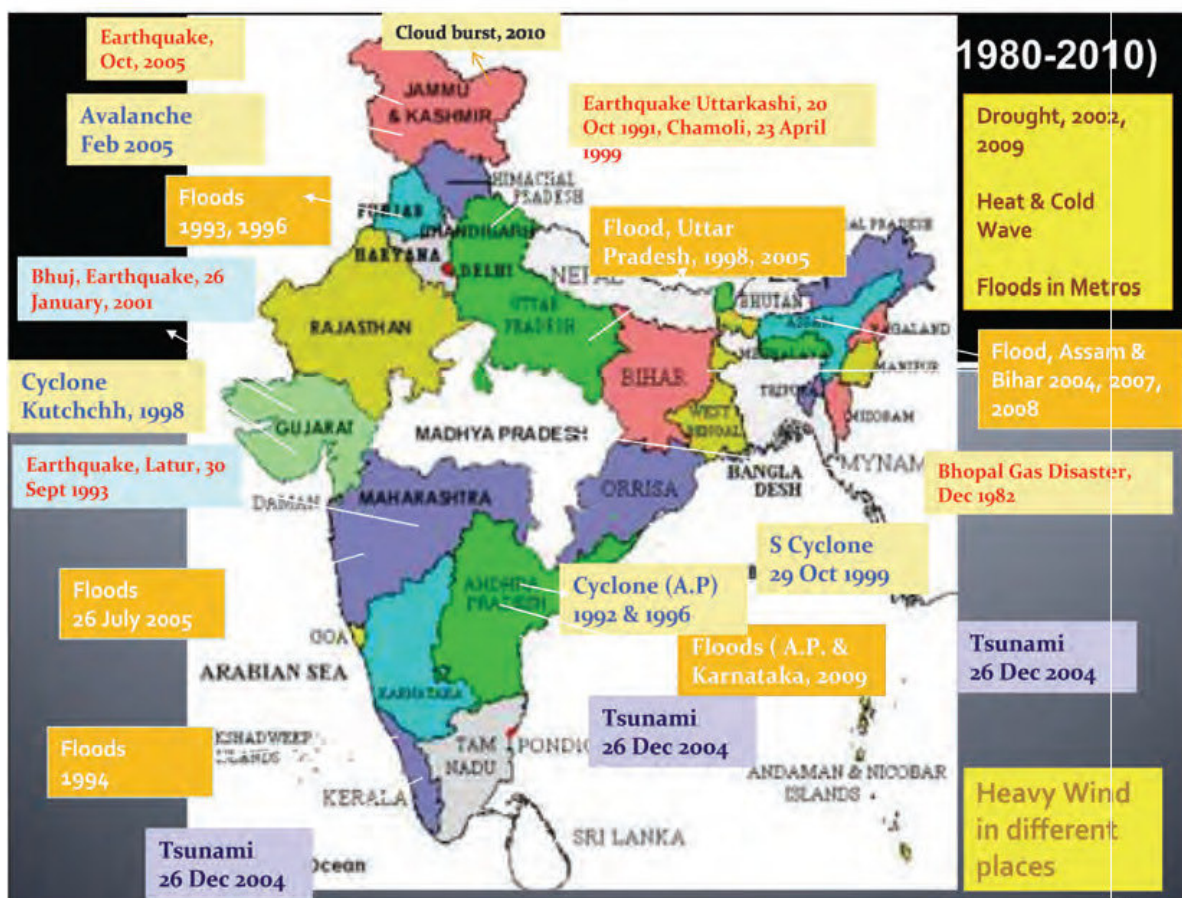
1.1.5 Session Resources

Power Point

PPT 1 – [PPTs\PPT 1 -What is School safety.pptx](#)

PPT 2 - Figure 1.1: Major Disasters in India from 1980-2010

Figure 1.1: Major Disasters in India from 1980-2010



Source: NIDM

1. Hand Out

Figure 1.2: Disaster Events (1900-2009)

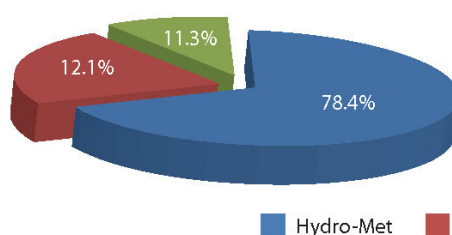
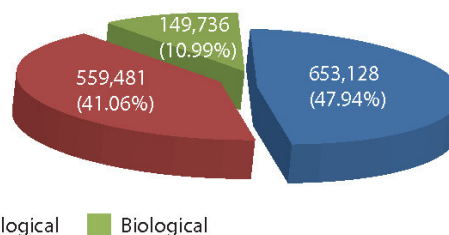


Figure 1.3: Disaster Death (1900-2009)



Source: Centre for Research on Epidemiology of Disasters (CRED)

(1) DISASTER IMPACTS ON SCHOOLS

DISASTER IMPACTS ON SCHOOLS⁴

Disasters have PHYSICAL impacts:

The ultimate exclusion occurs when students and staff are killed in unsafe schools, built in harmful way, or not built to withstand expected and recurring natural hazards. Non-structural hazards like falling objects, bursting pipes, and blocked evacuation path/exits can also cause death and serious injury.

Disasters have EDUCATIONAL impacts:

Damaged schools disrupt hard won educational rights. When instruction time is lost, quality of education drops. When there are no plans for alternative locations and students are denied continuous schooling, many will never be able to catch up and will drop out permanently. When educational records are missing, students may fail to matriculate and go on to further education.

Disasters have ECONOMIC impacts:

Schools damaged beyond repair or unsafe require a level of reinvestment many times higher than the initial small incremental cost of building safely. Loss of income, housing, and delays in matriculation make it challenging for families to support children continuing their education.

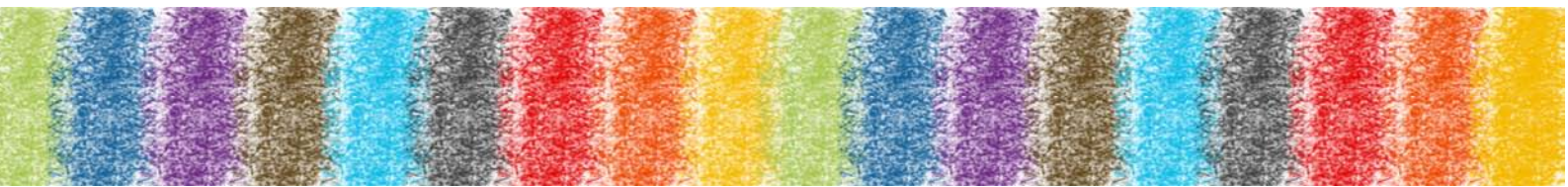
Disaster have PSYCHOLOGICAL impacts:

Lack of resiliency development and prior empowerment leaves school communities ill-prepared to deliver psychological first aid and to recover rapidly. Students lose a sense of continuity and their hopes and plans for the future are destroyed.

(2) DRR IN SCHOOL CURRICULUM

Successful integration of DRR into school curriculum: experience of India Disaster Management into School Curriculum of Central Board for Secondary Education, India (<http://www.cbse.nic.in>)

⁴Marla Petal, UNISDR, Disaster Prevention for Schools: Guidance for Education Sector Decision-Makers, Consultation version, November 2008



The Central Board for Secondary Education in India has introduced Disaster Management as a separate curriculum for standard VIII from the academic year 2003-2004, IX from 2004 – 2005 and standard X from 2005-2006. The various activities taken up by the Board for achieving the target included:

1. Module Development
2. Circular on school safety
3. Awareness generation in form of painting competitions, exhibitions, debates and essay competitions
4. Development of Standard VIII, IX and X textbooks

The course content focuses on:

1. For Standard VIII – Preparedness measures to be taken by students and teachers for various hazards
2. For Standard IX – On Mitigation measures
3. For Standard X –Focus is on-
 - Role of Government and other agencies in DM
 - Role of Science and Technology in DM
 - Initiating the concept of volunteerism among children

For the Primary classes DM has been integrated in form of extracurricular activities like Plays, Painting Competitions. Training of teachers on DM course curriculum has also been carried out. The Ministry of Home Affairs has also directed the States to introduce DM in their school curriculum.

1.1.6 References/Further Reading:

<http://ndma.gov.in/ndma/nssp.html>



Session 1.2 Concepts

1.2.1 Session Objectives

- Basic Concepts of Disaster Management & Institutional Mechanism
- Hazard and Vulnerability profile of State/District

1.2.2 Outline of Content

This sessions details out various components of the disaster management. To understand disaster management first we need to understand what it includes – hazards, vulnerabilities, risk and capacity.

1.2.3 Expected Outcome of the Session

By end of the session, participants will be able to:

- Identify and relate to various components of Disaster Management
- List the various kinds of hazard and ways to mitigate in the local context

1.2.4 Detailed Session Plan

1.2.4.1 Q&A with discussion (20 minutes)

Ask participants the following question:

- What do you understand by “Disaster Management”?

Write words/phrases mentioned by the participants on the board or flip chart.

Sum up with brief comment:

Disaster Management (DM) involves a continuous and integrated process of planning, organising, coordinating and implementing measures which are necessary for⁵:

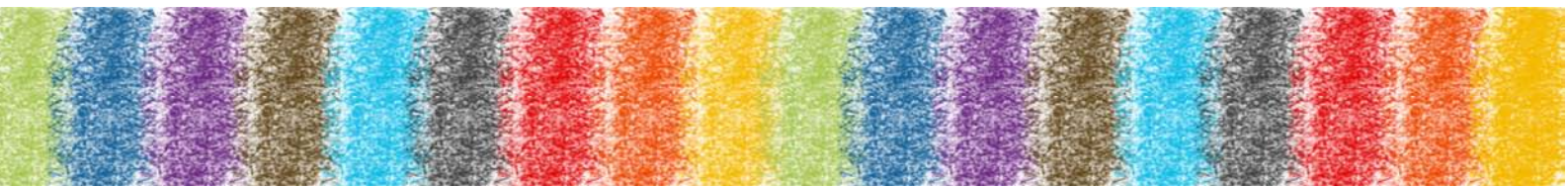
- Prevention of danger or threat of any disaster.
- Mitigation or reduction of risk of any disaster or its severity or consequences.
- Capacity building including research and knowledge management.
- Preparedness to deal with any disaster.
- Prompt response to any threatening disaster situation or disaster.
- Assessing the severity or magnitude of effects of any disaster.
- Evacuation, rescue and relief.
- Rehabilitation and reconstruction.

1.2.4.2 Note for the facilitator (45 minutes)

Facilitator should explain

Disasters: A catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area (Reference: Disaster Management Act, 2005). Before understanding disaster management, we need to understand the following:

⁵ National Policy On Disaster Management 2009



What is a Hazard?

Hazard may be defined as “a dangerous condition or event, that threat or have the potential for causing injury to life or damage to property or the environment.” (PPT 1)

Hazards can be grouped into two broad categories namely natural and human induced.

1. Natural hazards are hazards which are caused because of natural phenomena (hazards with meteorological, geological or even biological origin). Examples of natural hazards are cyclones, tsunamis, earthquake and volcanic eruption which are exclusively of natural origin. Landslides, floods, drought, fires are socio-natural hazards since their causes are both natural and manmade. For example flooding may be caused because of heavy rains, landslide or blocking of drains with human waste.

2. Manmade hazards are hazards which are due to human negligence and intentional. Manmade hazards are associated with industries or energy generation facilities and include explosions, leakage of toxic waste, pollution, dam failure, wars or civil strife, terrorist attack and fire etc.

The list of hazards is very long. Many occur frequently while others take place occasionally.

3. School specific hazard: these kinds of hazards are prevalent in the school campus or close and pose a threat to the students. Like a transformer at the entry of school or a high tension electrical wire running through the school campus or an open well, chemical explosion in the chemistry lab or burns in the home science class or fire due to short circuit, unfortunate incident during picnic etc. These specific hazards are definite threat to school but may not be direct threat to the community in the area.

What is vulnerability?

Vulnerability may be defined as “The extent to which a community, structure, services or geographic area is likely to be damaged or disrupted by the impact of particular hazard, on account of their nature, construction and proximity to hazardous terrains or a disaster prone area.” Vulnerabilities can be categorized into physical and socio-economic vulnerability. (PPT 2)

School specific vulnerability is also to be discussed. Like a low space or no play ground or no fencing. These are the weaknesses of the school, which aggravates the emergency situation or aggravates during emergency situation. A school which has no fencing tends to provide opportunity of kidnapping and may lead to trafficking as well.

What is capacity?

Capacity can be defined as “resources, means and strengths which exist in households and communities and which enable them to cope with, withstand, prepare for, prevent, mitigate or quickly recover from a disaster”. People’s capacity can also be taken into account. Capacities could be: (PPT3)

Hazards are always prevalent, but the hazard becomes a disaster only when there is greater vulnerability and less of capacity to cope with it. In other words the frequency or likelihood of a hazard and the vulnerability of the community increases the risk of being severely affected.

School specific capacity is also to be discussed. Like trained manpower within school, fire extinguisher in school or a first aid box.

What is risk?

Risk is a “measure of the expected losses due to a hazard event occurring in a given area over a specific time period. Risk is a function of the probability of particular hazardous event and the losses each would cause.” (Reference: <http://www.preventionweb.net>) The level of risk depends upon:

- Nature of the hazard
- Vulnerability of the elements which are affected
- Economic value of those elements

A community/locality is said to be at 'risk' when it is exposed to hazards and is likely to be adversely affected by its impact. Whenever we discuss 'disaster management' it is basically 'disaster risk management'. Disaster risk management includes all measures which reduce disaster related losses of life, property or assets by either reducing the hazard or vulnerability of the elements at risk.

It is now important to brief an idea of how vulnerability and risk increases to one of the major factors, which is age group. The smaller the age, more the dependency.

Screen PPT 4

Risk triangle (risk=hazard+vulnerability+exposure) or (risk=hazard x vulnerability/capacity)

It is to be discussed as it provides easiest way to make the participants understand the focus and importance on reducing vulnerability to reduce the risk factor.

What is disaster? How it is different from accident? When a disaster is declared?

L0, L1, L2 and L3 of disaster is to be discussed with the participants as it draws a clear line between a family or very localized mishap and a disaster at district/state/national level.

What is disaster management?

'Disaster management can be defined as the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters.' (PPT 5)

What is the difference between Hazard and Disaster?

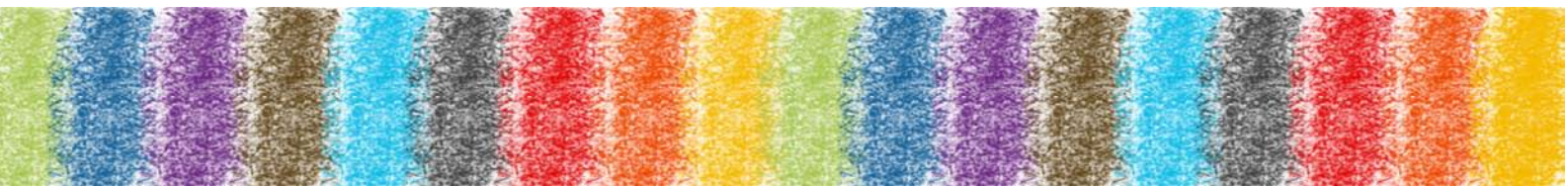
While a hazard is a potentially damaging condition, physical event, phenomenon or human activity; a disaster is an actual event that disrupts the functioning of a community. For example, clogged drains and badly built houses on the banks of a river are a hazard. A flood is a disaster that results in part because of these hazards.

What is the institutional mechanism for DM?

On 23 December 2005, the Government of India (GoI) took a defining step by enacting the Disaster Management Act, 2005, which envisaged the creation of the National Disaster Management Authority (NDMA), headed by the Prime Minister, State Disaster Management Authorities (SDMAs) headed by the Chief Ministers, and District Disaster Management Authorities (DDMAs) headed by the District Collector or District Magistrate or Deputy Commissioner as the case may be, to spearhead and adopt a holistic and integrated approach to DM. (Handout 1 - National Disaster Management Authority)

Facilitator should mention DM mechanism at local level. It is also important to mention how school would get or send information to district office, what is the hierarchy and linkage between school and district disaster management authority.

The present mechanism or system of flow of information to and fro of the school may be asked from the participants.



1.2.4.3 Group Activity (25 minutes)

- Divide participants state wise or in groups with common interests.
- Ask participants to discuss within the groups and answer the following questions. Keep school as focal point and include areas around it.
 1. Hazards in their area and school
 2. What are the vulnerabilities in their area and of school
 3. What are the skills available with the community and school
 4. Action plan to reduce the vulnerability or risk in the school
- Give 10' for discussion.
- Ask each group to present in front of the large group.
- Add if any point has been left out and thank participants for the good work!

1.2.5 Session Resources

Power Point

(PPT 1 – Types of Disasters)

Various types of Disasters (based on HPC, 2001)

I. Water and Climate related disasters

1. Floods and Drainage Management
2. Cyclones
3. Tornadoes and Hurricanes
4. Hailstorm
5. Cloud Burst
6. Heat Wave and Cold Wave
7. Snow Avalanches
8. Droughts
9. Sea Erosion
10. Thunder and Lightning

II. Geologically related disasters

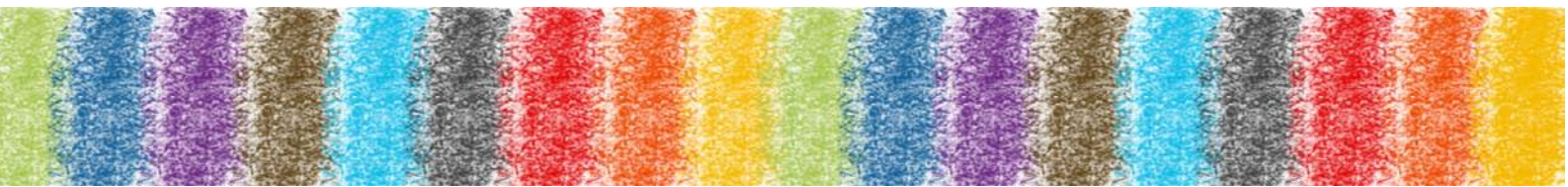
1. Landslides and Mudflows
2. Earthquakes
3. Dam Failures/ Dam Bursts
4. Mine Fires

III. Chemical, Industrial and Nuclear related disasters

1. Chemical and Industrial Disasters
2. Nuclear Disasters

IV. Accident related disasters

1. Forest Fires
2. Urban Fires
3. Mine Flooding
4. Oil Spill
5. Major Building Collapse
6. Serial Bomb Blasts
7. Festival related disasters
8. Electrical Disasters and Fires

- 
9. Air, Road and Rail Accidents
 10. Boat Capsizing
 11. Village Fire

V. Biologically related disasters

1. Biological Disasters and Epidemics
2. Pest Attacks
3. Cattle Epidemics
4. Food Poisoning

(Reference: Disaster Management in India, Ministry of Home Affairs, Government of India)

(PPT 2- Type of vulnerabilities)

- **Physical Vulnerability:** Land-use planning, engineering and architecture density levels, remoteness of a settlement, design and materials used for critical infrastructure and for housing.
- **Socio Vulnerability:** Literacy, education, peace and security, access to basic human rights, systems of good governance, social equity, positive traditional values, knowledge structures, customs and ideological beliefs and overall collective organizational.
- **Economic Vulnerability:** Poverty ratio, national economic reserves, socio-economic infrastructure, communication network, utilities, supplies, transportation, water, sewage and healthcare etc.
- **Environmental Vulnerability:** Extent of natural resource depletion, state of resource degradation, loss of resilience of ecological system, loss of biodiversity, exposure to toxic and hazardous pollutants.
- **Systemic Vulnerability:** Degree of Networking, Linkage and Coordination among different agencies / departments / ministries; Mechanisms for identifying gaps in the existing system and strengthening the weak areas.

(PPT 3 - Capacity)

- **Physical Capacity:** People whose houses have been destroyed by the cyclone or crops have been destroyed by the flood can salvage things from their homes and from their farms. Some family members have skills, which enable them to find employment if they migrate, either temporarily or permanently.
- **Socio-economic Capacity:** In most of the disasters, people suffer their greatest losses in the physical and material realm. People with resources/skills and support (from family or friends) have the capacity to recover soon because of their support systems. Even when everything is destroyed they have the capacity to cope up with it better compared to people with less or no resources/skills and support systems.

What is Disaster Management?

“Disaster management” means a continuous and integrated process of planning, organizing, coordination and implementation measures which are necessary or expedient for:

- Prevention of danger or threat of any disaster.
- Mitigation or reduction of risk of any disaster or its severity or consequences.
- Capacity building including research and knowledge management.
- Preparedness to deal with any disaster.
- Prompt response to any threatening disaster situation or disaster.
- Assessing the severity or magnitude of effects of any disaster.
- Evacuation, rescue and relief.

Source: Disaster Management Act, 2005

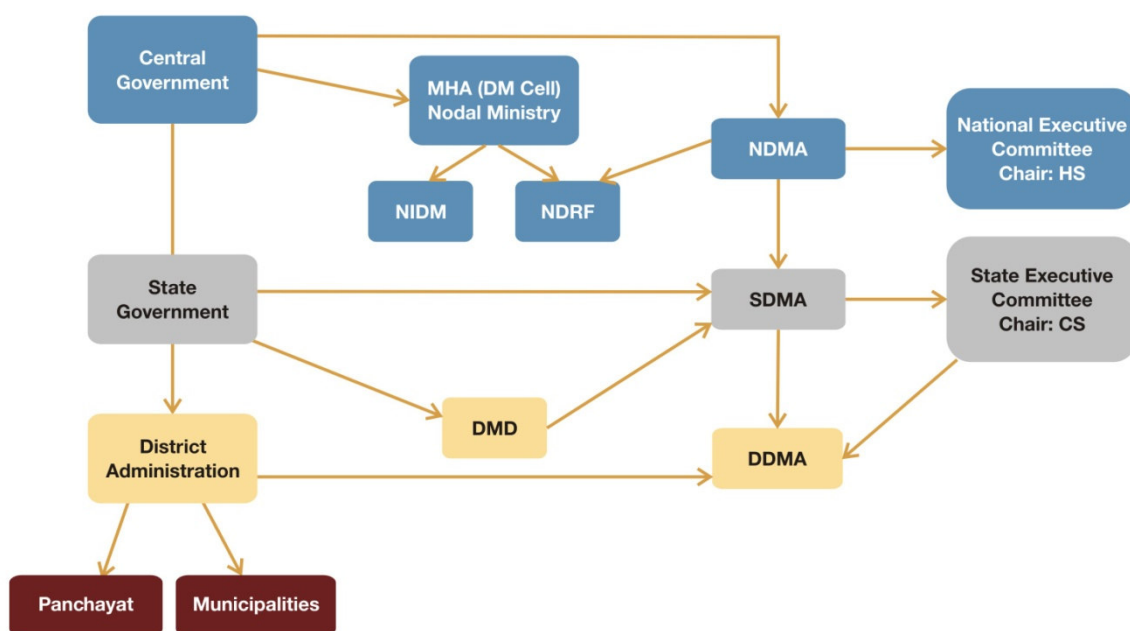
Hand Outs

(Hand Out 1: National Disaster Management Authority⁶)

Institutional Framework

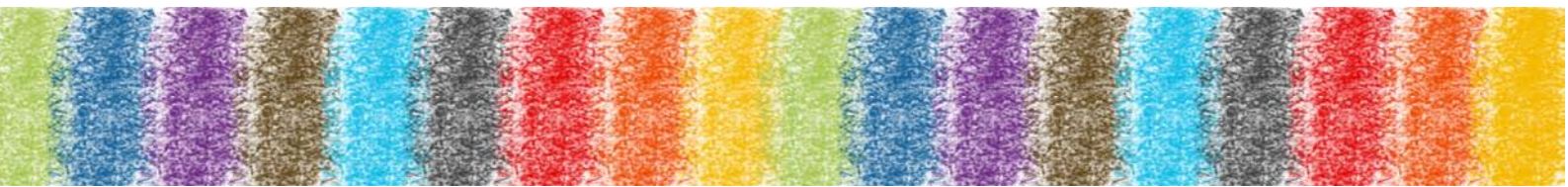
The Disaster Management Act 2005 puts in place legal, policy, planning, institutional, training and capacity building, financial and coordination mechanisms with a multi-disciplinary, multi-sector and multi-stakeholder participatory and inclusive approach. Under the Aegis of the Act, the policy guidelines have been prescribed by the NDMA and NIDM has been vested with functions related to training and capacity building. The National Disaster Response Force [NDRF] has been set up for prompt and effective response and its role has been further extended to generate awareness, conduct mock drills and impart training at a community level to a limited extent. The legal and institutional framework has been developed based on the horizontal and vertical hierarchies in India's federal setup.

Legal Institutional Framework Disaster Management Act 2005



- The apex body for Disaster Management in India set up after the Indian Ocean Tsunami
- Set up as a part of the Government of India's decision to put in place necessary institutional mechanisms for drawing up and monitoring the implementation of disaster management plans, ensuring measures for prevention and mitigation of disasters and for undertaking a holistic, coordinated and prompt response to any disaster situation.
- NDMA shall have the responsibility for laying down the plans and policies for disaster management.

⁶ Institutional Arrangements for Disaster Management in India



The NDMA may:

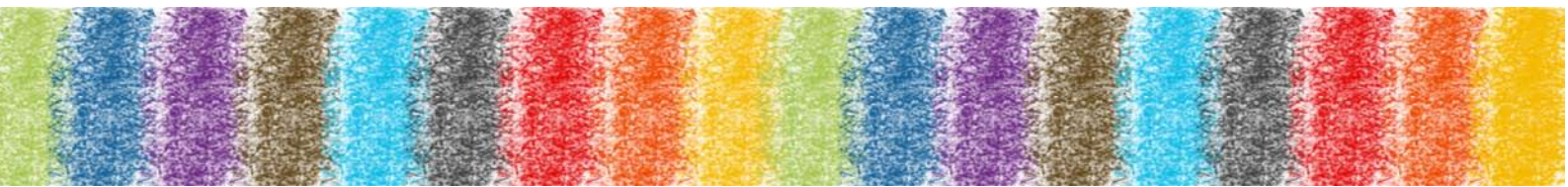
- Lay down policies on disaster management;
- Approve the National Disaster Management Plan;
- Approve plans prepared by the Ministries and Departments of the Government in accordance with the National Disaster Management Plan;
- Lay down guidelines to be followed by a State Authority in drawing up the State Plan;

Mandate of the NDMA

- Lay down guidelines to be followed by different Ministries and Departments of the Government of India for the purpose of integrating the measures for prevention of disaster or the mitigation of its effects in their development plans and projects;
- Coordinate the enforcement and implementation of the policies and plans for disaster management;
- Arrange for, and oversee, the provision of funds for mitigation measures, preparedness and response;
- Provide such support to other countries affected by a major disaster as may be determined by the Central Government; Mandate of the NDMA
- Lay down guidelines for the minimum standards of relief to be provided to persons affected by disaster;
- Give directions regarding relief in loan repayment or for grant of fresh loans on such concessional terms as may be appropriate in the judgement of the Authority;
- Take such other measures for the prevention of disaster, of the mitigation of its effects, or for preparedness and capacity building for dealing with the threatening disaster situation or disaster as it may consider necessary.

1.2.6 References/Further Reading:

Disaster Management Act, 2005



Session 1.3 Right to Education (RTE)

1.3.1 Session Objectives

- Linking School Safety with whole school concept
- Linkage to RTE, SSA, INEE and UNCRC

1.3.2 Outline of Content

This session talks about the “whole school concept” and how it is integrated in the Sarva Shiksha Abhiyaan (SSA). It also explains how RTE has given a right based approach to education in India and explains the salient features of the RTE Act.

1.3.3 Expected Outcome of the Session

By the end of the sessions participants are able to:

- Identify linkage between the practice of school safety planning and objectives of RTE
- List the 10 components of RTE

1.3.4 Detailed Session Plan

1.3.4.1 Q&A with discussion (30 minutes)

- Begin with asking following question:
 - Have you heard about whole school concept?
- Ask participants to raise hands and see how many of them have heard about it. After the response pose another question:
 - What do you understand by “whole school concept”?
- Ask all the participants to share their view/perception.
- Encourage the quiet participants to talk. Tell them there is no right or wrong question and answers because everyone can have a different way of looking at things.
- Write words/phrases mentioned by the participants on the board or flip chart.

1.3.4.2 Energizer (15 minutes)

Please refer Annex 1 for the list of energisers. Choose one depending on the availability of time and number of participants.

1.3.4.3 Note for the facilitator (45 minutes)

What is the Whole School Concept

Screen PPT1 – keep it on while explaining the concept.

Explain that the concept of Whole school is based on the following principles:

(i) **Holistic view of education**, as interpreted in the National Curriculum Framework 2005, with implications for a systemic revamp of the entire content and process of education with significant implications for curriculum, teacher education, educational planning and management.

(ii) **Equity**, to mean not only equal opportunity, but also creation of conditions in which the disadvantaged sections of the society – children of SC, ST, Muslim minority, landless agricultural workers and children with special needs, etc. – can avail of the opportunity.

(iii) **Access**, not to be confined to ensuring that a school becomes accessible to all children within specified distance but implies an understanding of the educational needs and predicament of the traditionally excluded



categories – the SC, ST and others sections of the most disadvantaged groups, the Muslim minority, girls in general, and children with special needs.

(iv) **Gender concern**, implying not only an effort to enable girls to keep pace with boys but to view education in the perspective spelt out in the National Policy on Education 1986 /92; i.e. a decisive intervention to bring about a basic change in the status of women.

(v) **Centrality of teacher**, to motivate them to innovate and create a culture in the classroom, and beyond the classroom, that might produce an inclusive environment for children, especially for girls from oppressed and marginalised backgrounds.

(vi) **Moral compulsion** is imposed through the RTE Act on parents, teachers, educational administrators and other stakeholders, rather than shifting emphasis on punitive processes.

(vii) **Convergent and integrated system of educational management** is pre-requisite for implementation of the RTE law. All states must move in that direction as speedily as feasible.

Currently, *Sarva Shiksha Abhiyan* (SSA) is implemented as India's main programme for universalising elementary education. Its overall goals include universal access and retention, bridging of gender and social category gaps in education and enhancement of learning levels of children. SSA provides for a variety of interventions, including *inter alia*, opening of new schools and alternate schooling facilities, construction of schools and additional classrooms, toilets and drinking water, provisioning for teachers, periodic teacher training and academic resource support, textbooks and support for learning achievement. These provisions need to be aligned with the legally mandated norms and standards and free entitlements mandated by the RTE Act.

In the present phase of SSA, it is mandatory to ensure that the approach and strategies for universalising elementary education are in conformity with the rights perspective mandated under the RTE Act. The RTE Act provides that *'Every child of the age of 6-14 years shall have a right to free and compulsory education in a neighbourhood school till completion of elementary education.'*

Free education is defined as *'removal of any financial barrier by the state that prevents a child from completing eight years of schooling'*. *'Compulsory education'* means *obligation of the appropriate government to provide free elementary education and ensure compulsory admission, attendance and completion of elementary education to every child in the six to fourteen age group.* In addition to the SSA provisions, most States are addressing the issue of financial barriers by providing incentives in the form of uniforms, notebooks, stationary, school bags, scholarships and transportation facilities, as required. However, the incentive based approach would need to shift to an entitlements perspective. This paradigm shift needs to be reflected not only in SSA, but in all interventions, programmes and schemes for elementary education of the State Governments, as also in the mind set of all the agencies involved in the implementation of the SSA.

The Rights perspective under the RTE Act has also brought in new monitoring mechanisms to ensure that child rights under the Act are protected. The RTE Act provides for constitutionally created independent bodies like the National and State Commissions for Protection of Child Rights to perform this role. These bodies, with quasi-judicial powers bring in an element of monitoring new to the implementation of SSA, requiring that internal monitoring mechanisms under the SSA engage purposefully with these independent bodies.



The new law provides a justiciable legal framework that entitles all children between the ages of 6-14 years free and compulsory admission, attendance and completion of elementary education. It provides for children's right to an education of equitable quality, based on principles of equity and non-discrimination. Most importantly, it provides for children's right to an education that is free from fear, stress and anxiety. *(for details refer to PPT2)*

1.3.5 Session Resources

Power Point

PPT1 - [PPTs\Sessions 1.3 - PPT1 - Whole school concept.pptx](#)

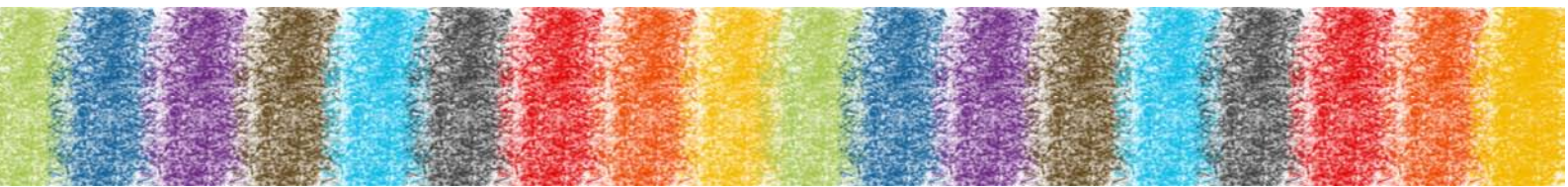
PP2 - Salient Features of the RTE Act, 2009

The RTE Act, 2009 provides for:

- (i) The right of children to free and compulsory education till *completion* of elementary education in a neighbourhood school.
- (ii) It clarifies that 'compulsory education' means obligation of the appropriate government to provide free elementary education and ensure compulsory admission, attendance and completion of elementary education to every child in the six to fourteen age group. 'Free' means that no child shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing elementary education.
- (iii) It makes provisions for a non-admitted child to be admitted to an age appropriate class.
- (iv) It specifies the duties and responsibilities of appropriate Governments, local authority and parents in providing free and compulsory education, and sharing of financial and other responsibilities between the Central and State Governments.
- (v) It lays down the norms and standards relating *inter alia* to Pupil Teacher Ratios (PTRs), buildings and infrastructure, school-working days, teacher-working hours.
- (vi) It provides for rational deployment of teachers by ensuring that the specified pupil teacher ratio is maintained for each school, rather than just as an average for the State or District or Block, thus ensuring that there is no urban-rural imbalance in teacher postings. It also provides for prohibition of deployment of teachers for non-educational work, other than decennial census, elections to local authority, state legislatures and parliament, and disaster relief.
- (vii) It provides for appointment of appropriately trained teachers, i.e. teachers with the requisite entry and academic qualifications.
- (viii) It prohibits (a) physical punishment and mental harassment; (b) screening procedures for admission of children; (c) capitation fee; (d) private tuition by teachers and (e) running of schools without recognition,
- (ix) It provides for development of curriculum in consonance with the values enshrined in the Constitution, and which would ensure the all-round development of the child, building on the child's knowledge, potentiality and talent and making the child free of fear, trauma and anxiety through a system of child friendly and child centred learning.

1.3.6 Reference/Further Reading:

1. Sarva Shiksha Abhiyan : Framework for implementation
2. Right To Education Act 2010
3. Model Child Protection Policy Statement Procedures and Guidelines Developed on behalf of, and for, the Children and Young People's Voluntary and Community Sector Organisations within the Bradford District By Debbie Cordingley VCS Safeguarding Children's Development Worker



Session 1.4 Hazards, Vulnerability, Capacity and Risk (HVCR)

1.4.1 Session Objectives

- HVCR Analysis in schools-Tools and Techniques
- Evacuation map

1.4.2 Outline of Content

This session talks about identifying and analysing hazards, vulnerabilities, capacity and risks specifically in the context of a school. Identification and assessment of HVCR is the first step towards school safety and disaster risk reduction. This exercise should be conducted in every school on a regular basis to keep the children safe and studies uninterrupted.

1.4.3 Expected Outcome of the Session

By the end of the sessions participants are able to use the tools (Risk, Facility, Hazard and Capacity) for conducting HVCR Assessment

1.4.4 Detailed Session Plan

1.4.4.1 Q&A with discussion (30 minutes)

- Begin with asking the following questions:
 1. Have you heard about HVCR tools & Techniques?
 2. Have you done any of kind of HVCR in your respective schools?
- Encourage the participants to share their views/experience about HVCR tools & techniques.
- If participants are not aware of HVCR, elaborate – Hazards, Vulnerability, Capacity and Risk.
- Write down comments on the white board/flip chart.
- The identification and analysis should be done with participation from students.

1.4.4.2 Note for the facilitator (40 minutes)

After Q&A session facilitator should explain the following:

Hazard Assessment:

The purpose of a hazard assessment is to specify the nature and behaviour of the potential hazard and threats that the people in school face. Hazard assessment helps to identify threats and to understand their nature and behaviour. To understand the nature and behaviour of the hazard we need to identify the following:

- Force
- Warning sign and signals
- Forewarning
- Speed of onset
- Frequency
- When
- Duration

It is important to know that some hazards also cause secondary hazards. For example cyclones can cause landslides, drought might cause epidemics and pest infestation and earthquakes can cause fires.



A hazard assessment should first identify which hazards are prone in the school or area. There are several tools that can help in hazard assessment. The most commonly used tools are the hazards assessment forms (*Share handout 1 & 2*)

Vulnerability assessment:

Vulnerability assessment is the process of estimating the weakness of “elements at risk” (people, school faculties) to various hazards and analysing root causes which place these elements at risk. The unsafe conditions where people and school properties and buildings are vulnerable to risk of disaster make the school vulnerable to a particular hazard.

Useful tools in vulnerability assessment include :

- Hazard hunt – to see hazards on ground in the school.
- Role play – to show what happens during disaster and why.
- Seasonal calendar – for period of stress, diseases etc.
- Problem tree and ranking – to linkage of vulnerabilities and enables the school to express important vulnerabilities to address.

Capacity assessment:

It involves the following:

- Understanding people’s previous experiences with hazards and the coping mechanisms/skills they have developed.
- Analysing which resources are available and use by the school to reduce disaster risk, and who has access to and control over these resources.

Useful participatory rapid assessment (PRA) tools in capacity building are:

- Institutional capacity
- Technical and training resources
- Community preparedness
- Public education and awareness
- Coordination and NGO-GO cooperation
- Risk review of development initiative
- Learning from experience

Risk assessment:

The first step is to identify and understand the problem. This can include the updating of hazard maps, community vulnerability and capacity analysis, risk modelling, understanding direct, indirect and secondary effects of disasters.

Evacuation plan is an important tool for reducing risk. Explain how plan is prepared, what are the norms and criteria, INEE, etc. Use an example to explain. (*Refer to PPT1*)

The facilitator can use example of facility/resource map and risk map.

The facilitator should not get into very technical method or scientific method of identifying/assessing hazard. Vulnerability, risk. Rather, should focus on simplest method like of save the children handbook or SEEDS methodology.

1.4.4.3 Group Activity (20 minutes)

- Divide participants in 3-4 focussed groups with common interest or state wise.
- Ask groups to discuss within the groups and identify the following:

- 
1. Day to day problems/issues of children
 2. the underlying cause of vulnerability
 3. Risks
 4. Capacities
- Ask each group to present in front of the larger groups.
 - Add if any important point is missing.
 - Thank participants.

1.4.5 Session Resources

Power Point

PPT 1 - [PPTs\Sessions 1.4 - PPT1 - resource maps.pptx](#)

Hand Out 1

Classroom Hazard Hunt

Checklist

Instructions

- Identify and take appropriate steps for each of the tasks mentioned in the list.
- As you complete each of the tasks, put a tick mark against it.
- Check your classroom safety score at the end.

- ☐ 1. We have discussed disaster management plan with our teacher and classmates.
- ☐ 2. We have identified possible disasters that can affect our school and its surroundings:

Disasters	Probability of Occurrence		
	High	Medium	Low
Earthquake			
Flood			
Cyclone			
Landslide			
Industrial Disaster			
Fire accident			
Road accident			
Others			

- ☐ 3. We have learnt about dos and don'ts to be followed before, during and after any disaster.
- ☐ 4. We have identified hazards around our school. (Put a tick mark against the applicable category.)

Hazards	Very Close to our school (less than 1 km away)	Close to our school (1-2 km away)	Far from our school (more than 2 km away)
Hazardous Factory			
Busy Road			
High-rise Building			
Shop selling and/or selling inflammable material			
Open/Blocked/Unclean Drains			
Others			

5. We have complete details about the following:

	Name & Address	Distance from School	Telephone Numbers
Emergency Control Room (State/District/Taluka)			
Helpline (Public utility lines)			
Local Hospital			
Nearest Chemist Store			
Fire Station			
Police Station			
Others			

- ☐ 6. We will follow road safety rules.
- ☐ 7. We know where to assemble in our school in case of an emergency.
- ☐ 8. In case of an emergency we know that we have to evacuate the school building by walking fast and covering our heads with our hands instead of running to avoid stampede.
- ☐ 9. We know the location of safest staircase in our school which can be used in case of emergency.
- ☐ 9. While using the staircase we should move in a queue and to an open ground.
- ☐ 11. We have identified safe escape routes from our classroom.
- ☐ 12. We have identified the safest places in the class (Away from windows, large & heavy objects that can fall).
13. We have a first aid kit ready with the following materials for our classroom. (We check the expiry date of the medicines and change them from time to time).
- ☐ Dettol & Cotton
- ☐ Bandage
- ☐ Emergency medicines like painkillers
- ☐ Burnol
14. We have an emergency kit ready with the following materials for our classroom. (We check the expiry dates of the objects for effective usage).
- ☐ Torch with batteries
- ☐ Medicines& bandages



☐ Dry food material like Biscuits

15. We have completed Hazard Hunt and mitigated hazards from our schools:

☐ We have removed heavy objects from high walls.

☐ We have placed objects (like cupboards & almirahs) away from the doors so that they don't fall and create obstruction in the exit.

☐ We have secured material in our laboratory to prevent breakage or leak of chemicals.

☐ We have secured books and cupboards in our library to prevent them from falling and causing damage or injuries in case of a disaster.

☐ We have fastened all loose movable objects properly.

☐ 16. We know how to turn off electricity of our classroom.

☐ 17. We have learnt to practice "Duck, Cover, Hold" in case of an earthquake.

☐ 18. We have learnt how to practice "Stop, Drop and Roll" in case of fire.

☐ 19. We spread awareness on disaster management wherever we go.

Name _____

Class _____

School _____

Address _____

Date _____

Safety Score of My Classroom:

Count the total number of tick marks and check how safe your class is:

15 & above	10-15	Below 10
Our class is well equipped to face any disaster. We are a safe class!	We are learning about safety. We need to work hard to make ourselves, our classroom and school safe!	Our class has a long way to go. We need to work much harder to make ourselves and our school safe!



Handout 2

Family Disaster Preparedness Plan

Checklist

Instructions

- Family disaster plan consists of the following tasks. Discuss each of the points given below with your family members.
- Identify and take appropriate steps for each of the tasks mentioned in the list.
- As you complete each of the tasks, put a tick mark against it.
- Check your family safety score at the end.

- ☐ 1. I have discussed our family disaster management plan with all my family members.
- ☐ 2. I and my family members have identified possible disasters that can affect our City/Town/ Village

Disasters	Probability of Occurrence		
	High	Medium	Low
Earthquake			
Flood			
Cyclone			
Chemical Disaster			
Fire accident			
Tsunami			
Others			
Earthquake			

- ☐ 3. We have learnt about dos and don'ts to be followed before, during and after any disaster.
- ☐ 4. We have identified hazards around our school. (Put a tick mark against the applicable category.)



Hazards	Very Close to our house (less than 1 km away)	Close to our house (1-2 km away)	Far from our house (more than 2 km away)
Hazardous Factory			
Busy Road			
High-rise Building			
Shop selling and/or selling inflammable material			
Open/Blocked/Unclean Drains			
Huge/Bushy Tree with over grown branches			
Others			

5. We have complete details about the following resources in case of any emergency:

	Name & Address	Distance from House	Telephone Numbers
Emergency Control Room (State/District/Taluka)			
Helpline (Public utility lines)			
Local Hospital			
Nearest Chemist Store			
Fire Station			
Police Station			
Neighbour 1			
Neighbour 2			
Relative			
Others			

- ☐ 6. All members of our family use helmets / seat belts while riding / driving a vehicle.
- ☐ 7. We have decided to purchase a fire extinguisher and learn how to operate it.
- ☐ 8. We follow road safety rules.
- ☐ 9. We have ensured structural validation of our house / building against any disaster by a qualified structural engineer.
- ☐ 10. My father / guardian has taken the responsibility to identify safe places in and around our house.
- ☐ 11. We have identified the safest places in the house, and in each room (Away from windows large & heavy objects that can fall, and objects like heaters that can cause fire).



- ☐ 12. We have identified safe escape routes from our house / building.
- ☐ 13. We have made sure that doors open towards outside so that exit becomes safer.
- ☐ 14. We keep our water tanks clean.
- ☐ 15. We store fresh water in containers every day.
- 16. We have a first aid kit ready with the following materials for our classroom. (We check the expiry dates of the objects for effective usage).
 - ☐ Dettol & cotton
 - ☐ Bandage
 - ☐ Emergency medicines like painkillers
 - ☐ Burnol
 - ☐ Prescribed medicines used by any family member / members
- 17. We have an emergency kit ready with the following materials for our classroom. (We check the expiry dates of the objects for effective usage).
 - ☐ Water bottle filled with fresh water
 - ☐ Important documents
 - ☐ Money
 - ☐ Torch with batteries
 - ☐ Clothes
 - ☐ Dry food material like biscuits
 - ☐ Blankets
 - ☐ Matchbox and candle
- 18. We have completed Hazard Hunt and reduced hazards from our home:
 - ☐ We have removed heavy objects from high walls.
 - ☐ We have placed objects (like cupboards & almirahs)
 - ☐ We have placed object (like cupboards & almirahs) away from the doors so that they don't fall and block exits.
- ☐ 19. We know how to turn off the main power supply of our house.



- ☐ 20. We know how to turn off gas cylinders after use.
- ☐ 21. We practice “Duck, Cover, Hold” in our homes.
- ☐ 22. We keep shoes and torches near our beds.
- ☐ 23. We spread awareness about disaster management wherever we go.

Name _____

Class _____

School _____

Address _____

Date _____

Safety Score of My Family:

Count the total number of tick marks and check how safe your family is:

15 & above	10-15	Below 10
Our family is well equipped to face any disaster. We are a safe family!	We are learning about safety. We need to work hard to make ourselves and our home safe!	Our family has a long way to go. We need to work much harder to make our homes safe!

1.4.6 References/Further Reading:

Child-led disaster risk reduction: a practical guide, Save the Children
<http://preventionweb.net/go/3820>



Day2: Mitigation and preparedness for school safety

Session 2.1 Structural and Non-Structural Safety

2.1.1 Session Objectives

Structural and Non Structural Safety issues in Schools

2.1.2 Outline of Content

This session talks about structure and non-structural risk and vulnerabilities. These go beyond school premises. Structural safety is mainly related with the building and its construction and non-structural safety is related with all things present in and outside the school.

2.1.3 Expected Outcome of the Session

By the end of session participants will be:

- Sensitized to structural risks and to know where to look for solutions
- Equipped to identify the non structural hazard and the know how to address them

2.1.4 Detailed Session Plan

Materials required for the day: Flip chart/White board, Chart papers, Markers, meta cards

2.1.4.1 Recap from previous day (10 minutes)

- Ask participants to tell one new thing they learnt yesterday.
- Encourage each participant to talk.
- Briefly mention all the topics covered during previous day.

2.1.4.2 Q&A with discussion (15 minutes)

- Begin with asking the following questions:
 1. What do you understand by “structural and non-structure safety”?
 2. Have participated in any such assessment?
- Write down questions on the board.
- Give one meta card to each participant and ask them to write their answer on it.
- Give them 5 minutes to complete the job.
- After that ask each of them to read out their answer to the group.
- If necessary facilitator should ask participants to elaborate on their answers for benefit of the group.

2.1.4.3 Note for the facilitator (50 minutes)

Explain that Schools are vulnerable to structural and non-structural hazards.

What is structural hazard?

The “structural elements” of a building carry the weight of the building itself, the people and the things inside, and the forces of nature. These “load-bearing” elements include the frame (columns, beams) and in masonry or construction also the “shear walls”.

School needs to check for structural validity to withstand hazard like earthquake, flood, cyclone, tsunami or other hazards they are prone to. It should be certified by the relevant government authorities/engineers on the safety standards.



A basic awareness on typology, load travel path, construction material, damages to building, similar basic information.

Refer handout 1 to 5

What is non-structural hazard?

The “non-structural elements” of a building do not carry the weight of the building, and include windows, doors, stairs, partition walls, pipes and ducts. They include “building contents” that users bring with them such as furniture, appliances, coolers, water tanks, etc. (*PPT1*)

In other words non-structural elements are those which are either attached to building or kept in building.

The school is prone to non-structural hazards ‘on site’ and ‘off site’.

There are other elements which are not actually part of building – attached to it or placed in it - but within the school campus and not part of load travel or bearing. Such as open well, no fencing, no grab bar. These elements are of course does not directly form of seismic hazard but increases threat to students and staff or in other words form and add certain degree of vulnerability. These threats are also to be dealt appropriately. Removal of these elements does not solve purpose but it is important to learn, that what safety measures can be adopted so that it becomes a fully fledged resource and no way a threat.

Within the school buildings:

- For ensuring mass evacuation dimensions of halls or stairways
- Smoke in the hallway
- Doors and windows opening inward
- Glass panes
- Electrical wires
- Tall bookcases or cabinets not properly secured to the wall
- Areas where flammable liquids are stored - science labs
- Fire extinguishers
- Other movable, falling and blocking hazards

Hazard outside the school buildings:

- Power lines
- Trees
- Parapets, roof tiles, chimneys, glass etc.
- Routes past concrete walls
- Rivers, sea coast, main roads, market place, inflammable goods storehouse, a bus stand, railway tracks etc.
- Open well
- Fencing
- Ramp, grab bars, etc

There are five important ways of reducing risk from non-structural hazards around you:

- Relocate furnishing and contents
- Secure non-structural building elements and furnishing
- Actions for offsite non structural hazard
- Ask for consultation from engineers and maintenance personnel together for solution
- Behavioural changes among users: it is very vital and indispensable that the users develop the culture of safety. Like use of dustbin to avoid water blocking/logging or discipline when moving in a mass.



Though there is very less or scope for the teachers and senior students to work directly on structural issues but has a major stake in dealing with non-structural elements.

2.1.4.4 Group exercise (45 minutes)

A group exercise for the participants (*refer to handout 1 to 6*).

- Divide participants in 6 groups depending on the number of participants.
- Group should not be very large.
- Give one form to each group.
- Ask them to discuss the form.
- Give different locations for each group. It can be within the venue campus
- Give them 20 minutes for filling the form.
- Ask for feedback.

2.1.5 Session Resources

Power Point

PPT1 – [PPTs\Sessions 1.5 - PPT1 - non-structural hazards.pptx](#)

Hand Outs

Handout1 (Courtesy: Mr. P.K. Das, Consultant, UN Habitat)

Retrofitting of Existing School: Multi-Hazard Safety Assessment					Form Number #	
Organisation Identification Details				Mailing Address		
School Code No.			(Unique Code used in Organisation)	Plot No		
Name of School:				Street Name		
Head of School				Town / City:		
				State/District		
				Postal code:		
Communication Details						
Telephone (Main):	()					
Tel. (Toll free):	()			Reading 1	Reading 2	
Fax:	()		GPS (S):			
Email Address:			GPS (E):			
Website (URL):						

Personal Contact Details of School Representative				Preferred Method of Contact:			
				Tel	Cell	Fax	Email
Title	First Name	Last Name	Designation (Job Title)				
()			()				
Telephone Number			Cell Number	Best time to contact you			
Email Address							
Surveyor:			Date completed by:		Signed:		

Infrastructure Details (Services available)								
<u>General Information</u>								
Parking:	Yes	No						
Access Road:	Yes	No	Type:	Blacktop	Concrete	Gravel	Kutcha	any other
	Yes	No						
No of storeys of the building								
Total building height from ground level			meters					
Electricity status:	Connected		Metered Supply		Solar		Generator	no supply
No of basements, if any	Yes	No						
Structural system			load bearing wall	RCC frame	Steel	Shearwall system or any other		
Water supply available:	Yes	No						
Number of buildings:								
Total floor area in sqm								
Total no of occupants in the building								

PREPARE A SITE PLAN: PROPORTIONATE SKETCH: SCAN IT

This will be done once and should be preserved.

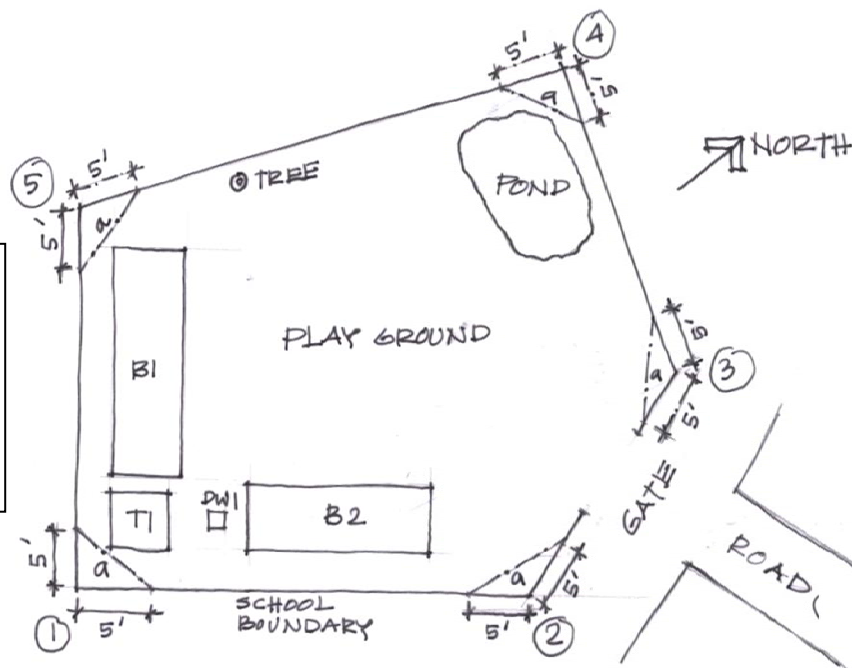
Subsequent additions and alterations done to the campus and/or buildings will be recorded by mentioning the date.

This part may need assistance of a local level engineer/surveyor.

- ❖ Draw the campus boundary first
- ❖ Draw the open spaces and write on the paper such as play field, water body etc.
- ❖ Draw the buildings and mark them as B1, B2 etc.
- ❖ Draw the toilets T1, T2 , Drinking Water facilities DW1, DW2 and the disposal system ,
- ❖ Write the evacuation road width
- ❖ Draw the big trees/ transmission tower, if any, inside and near the compound
- ❖ For each building use the format in the following pages and carryout the defect identification and recording.
- ❖ Mark the highest observed flood water level on the wall of one of the existing buildings, if applicable

Write the plinth height
from ground level - also

Write the high flood level
with respect to the plinth
level



EXAMPLE OF SITE PLAN

- At corner 1, 2, 3, 4 and 5 mark at 5' as shown in the above figure and the measure the distance "a1, a2, a3, a4" at all five corners.
- Measure 1-2, 2-3, 3-4, 4-5 and 5-1 in meters and write on the above drawing
- First measure the plinth height of B1 or B2 and mark on the drawing as shown. Take a level pipe and mark the high flood level of the plinth level. For example, if the high flood level is 600mm below the plinth, then write HFL (-600). In case the high flood level is 900mm above the plinth level then write HFL (+900)
- Write about existing use pattern of the adjacent plots



ASSET REGISTER: Record of the school facilities and their physical conditions: Use separate pages if necessary												
Facilities mark as/ site plan	No of storey	Function of the facility and no of rooms	Who constructed it	Year of construction/ age	Cost of initial construction (USD)	History of building maintenance	Type of construction methods adopted in the building				Maintenance requirements of the building **	MULTI HAZARD INDEX
							Foundation	Wall	Roof	Floor finish		
B1												
B2												
...												

Type 1 if the building/ facility is in good condition - no need for maintenance,

Type 2 if the building/ facility is in OK condition, need for routine maintenance,

Type 3 if the building/ facility needs minor repair, e.g., hairline cracks

Type 4 if the building/ facility needs major repairs, roof league, floor/wall cracks

Type 5 if the building/ facility is unsafe – to be replaced- foundation unsafe

SPECIAL NOTE: FOR EVERY BUILDING SHOWN IN THE ASSET REGISTER, CARRY OUT SAFETY COMPLAINT

ASSESSMENT FOLLOWING THE "USER INSTRUCTION" AND TABULATE THE MULTI HAZARD INDEX IN COLUMN "M"

Handout 2

SEISMIC

Checklist to assess retrofitting need of Existing school against seismic forces

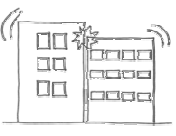
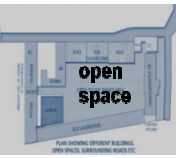
What is the seismic zone of the site

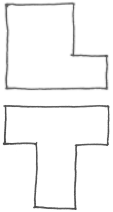
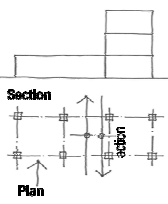
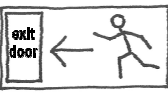
Best, Good, Ok, Poor, V Poor

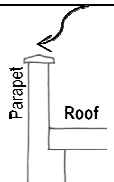
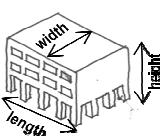
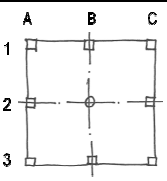


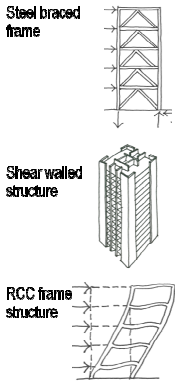
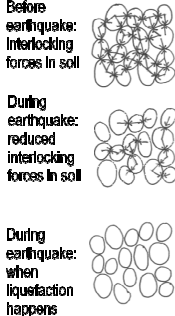
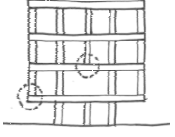
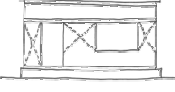
READ THIS BEFORE ANSWERING THE KEY QUESTIONS				
	User will read the following key questions in this column	Against each Key Question, the User will choose the appropriate answer from the given options shown in this column	<u>User's Input 1</u>	<u>User's input 2</u> : Follow the instructions in column C and type in the necessary information in this column
A	B	C	D	J
EXPLANATIONS/ SKETCHES	KEY QUESTIONS ON SEISMIC-SAFETY OF EXISTING SCHOOL	GUIDANCE NOTES + OPTIONS FOR ANSWERS TO KEY QUESTIONS	Answer As per Guidance	REFERENCES/ REMARKS
PLANNING				
building distance earth's surface active major fault	Are you aware of geological investigation report to know if there is an active major fault on or adjacent to the existing school site?	If you are aware of geological investigations write the source in column "REFERENCES/REMARKS" and then choose one from the following options Type "NA" if you geological investigation has been referred to , which shows that the issue of fault line is not applicable in your case Type 0, if you are not aware of geological investigations for your site Type 1, if the fault line is < 500m away from the site Type 2, if the fault line is between 500m - 1000m from the site Type 3, if the fault line is >1000m away from the site		REFERENCES/ REMARKS
	Special note: Consult local building department, State geologist, local university, or local geotechnical expert.			
access road access road Site plan showing access roads	An important aspect of safety of an existing school building is the type of access road from main road to the site of the new school	Depending upon the type of access road to your site choose one from the following options; Type 1, if two or more roads from main street to the school, wide enough to allow one fire engine to reach, reverse and return to the main road Type 2, if there is one access road suitable for fire engine access & movement Type 3, if access road is for cars and not fire engine		REFERENCES/ REMARKS

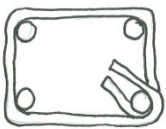
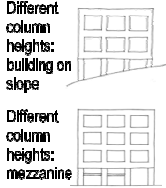
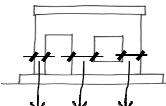


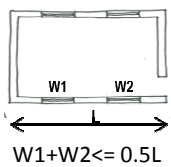
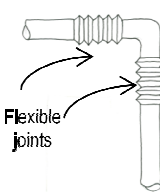
		Type 4, If the access road is suitable for motorbike only and not for cars	POOR	
		Type 5, if it is for pedestrian access only	V POOR	
Collapse of buildings had blocked many access roads in the old town of Bhuj, India (earthquake, 2001). It had made rescue and relief extremely difficult	During earthquake, buildings along the access road to your site may collapse and block it, thus affecting post earthquake evacuation and entrance for service	Visit the site and visually assess the severity of impact on safe evacuation and access of services to the site immediately after an earthquake → Choose one from the following options		REFERENCES/REMARKS
		Type 1, No effect → i.e., if the existing road is wide enough and the surrounding buildings are unlikely to fall during earthquake or there is/are alternative routes to the school, unlikely to be blocked by falling buildings, power lines, etc.	BEST	
		Type 2, Minimum effect → i.e., if some of the neighbouring buildings may collapse, however, it will have minimum impact on evacuation	GOOD	
		Type 3, Medium effect → i.e., if part collapse may take place, however, it will have medium impact on evacuation	OK	
		Type 4, Maximum effective., if possible collapse of neighbouring buildings are likely to completely block the road from evacuation	V POOR	
Providing onsite backup for water, power gas, etc. is not adequate. They need housekeeping and periodic maintenance as well	Municipal supply of water is often disrupted in strong shaking. Therefore, there should be alternative source such as hand pump in the school, which could be used even by the community as well, if needed	Alternative water source in a school increases the probability of it remaining functional immediately after disaster. Choose one from the following options		REFERENCES/REMARKS
		Type 1, If in-house backup sources of water has been provided in the school	BEST	
		Type 0, If in-house backup sources of water has not been provided in the school	V POOR	
 Buildings too close may lead to pounding	If your building is in Seismic Zone V, IV or III, then have you provided adequate distance from adjacent buildings or other structures from the project building to avoid pounding effect?	Write the distance (in meters) of the nearest building/structure from the school under consideration in column "REFERENCES/REMARKS"		REFERENCES/REMARKS
		Type 1, if adequate gap has been provided to avoid pounding effect	BEST	
		Type 0, if adequate gap not provided to avoid pounding effect	V POOR	
 Site plan showing open space	Whether open space is available in the school for children to assemble during/immediately after earthquake?	In the column "REFERENCES/REMARKS, write the approximate length and width of such open space and the number of students who will need it → Choose one from the following options		REFERENCES/REMARKS
		Type 1, if there is adequate open space for gathering	BEST	
		Type 2, if there is open space, but not adequate for gathering	OK	
		Type 3, if there is no open space for available for gathering	V POOR	
ARCHITECTURAL ISSUES				

 Plan forms such as T, L etc are irregular	Is the architectural/structural configuration irregular in plan?	Move in and around the building & assess the level of symmetry of the building plan and then choose one from the following that is appropriate		REFERENCES/ REMARKS
		Type 1, if the shapes is regular, structure has uniform plan, and there are no elements that would cause twisting of building	BEST	
		Type 2, if Shape is irregular but structure is uniform	OK	
		Type 3, if Shapes are irregular and structure is not uniform	POOR	
 Two portions of the same building have different masses: vertical irregularity	Is there vertical irregularity in architectural/structural configuration?	Move in and around the building & assess the level of symmetry of the building massing and then choose one from the following that is appropriate		REFERENCES/ REMARKS
		Type 1, if storey heights are of very similar (i.e., they differ by < 5%); there are no discontinuous or irregular elements.	GOOD	
		Type 2, if storey heights are similar (they differ by > 5% but <20%) and there are few discontinuous or irregular elements;	OK	
		Type 3, if storey heights differs by >20% and there are significant discontinuous or irregular elements	POOR	
 Ramps to be provided for people to be wheeled out quickly	Are there provisions for physically challenged-friendly access to the buildings and functional areas?	Examine the existing access routes against codes/standards, mention it in the column "REFERENCES/REMARKS" → Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if the design has provision for easy evacuation of physically challenged people	BEST	
		Type 2, if the existing provision for evacuation of physically challenged people is average	OK	
		Type 3, if the design is poor for evacuation of physically challenged people	V POOR	
 Wide corridor with signage for easy evacuation in emergency	Is there a provision for emergency exit in the school building plan?	Move in and out of the building to assess if exits have been provided for easy evacuation of the occupants. Choose one option from the following		REFERENCES/ REMARKS
		Type 1, if one or more exit corridors of at least 2.4 meters width exists, which are well lit, easy to identify and use in emergency	BEST	
		Type 2, if one or more exit corridors of width less than 2.4 m but greater than 1.2m exists, which are well lit, easy to identify and use in emergency	GOOD	
		Type 3, if only one corridor of less than 1.2m width exists for emergency exit	OK	
		Type 4, there is no emergency exist in design	V POOR	
Glass must be installed in the openings with adequate space/cushioning between glass and the lintel, jambs and sill to accommodate drift	Are glass and other panels fixed in openings in a way so that they will not be affected due to drift of the main structural frame during earthquake?	Inspect the glass & other panels to know if they have safe detailing. Choose one from the following options		REFERENCES/ REMARKS
		Type NA, this is not applicable	NA	
		Type 1, if the existing detail of glass in openings is safe for drift of the structure	BEST	
		Type 0, if the existing detail of glass in openings is not safe for drift of the structure	POOR	

of the structural system				
If not fixed adequately, such tiles may come off during earthquake, making exit of the occupants unsafe or impossible	Are there tiles fixed on the walls -particularly those surrounding exit staircases? If yes, then are those adequately fitted with bolts (or equivalent glue) for seismic safety?	Choose one from the following options		REFERENCES/REMARKS
		Type NA, if this is not applicable	NA	
		Type 1, If the tiles are fixed to the walls with bolts or equivalent glue or other methods	BEST	
		Type 0, If the tiles are not fixed to the walls with bolts or equivalent glue or other methods	POOR	
 Parapet Roof Wall Section RCC band or equivalent as top arrester	Are parapets securely attached to the building structure to stop it from falling during earthquake?	Unreinforced masonry parapets are especially vulnerable if the wall top is not secured		REFERENCES/REMARKS
		Type NA if there is no parapet in your building	NA	
		Type 1, if the parapet wall has a RCC band on top with vertical reinforcements anchored to the slabs at regular intervals	BEST	
		Type 2, if similar arrangement as RCC band exists to stop the parapet wall from falling	BEST	
		Type 3, if parapets are not restrained at all	V POOR	
	Length/breadth ratio and Height/width ratio of the existing building within permissible limit as per code?	Mention the code name in the column "REFERENCES/ REMARKS"		REFERENCES/REMARKS
		Type 1, if the length/ breadth/ height ratios are within safe limit	BEST	
		Type 2, if the length/ breadth/ height ratios are marginally out of safe limit	GOOD	
		Type 3, if Medium level of variation of length/ breadth/ height ratio from safe limit	OK	
		Type 4, if major variation from safe limit of length/ breadth/ height	V POOR	
 Good example: Building plan shows that the columns are in grid lines in both directions	Are the walls and/or columns provided in grid lines in each direction of the plan?	Choose one from the following options		REFERENCES/REMARKS
		Type 1, if all walls and/or columns are in grid in both directions	BEST	
		Type 2, if all walls &/or columns are in grid in one direction & some (<15%) not in grid in other direction	OK	
		Type 3, if some walls &/or columns are in grid >15% but <25%	POOR	
		Type 4, if >25% of walls and/or columns are not in grid	V POOR	
STRUCTURAL ISSUES				
In many places micro zoning maps may not be available. However, if it exists, the engineer must follow the micro zoning	Is the existing building safe according to the seismic micro zoning factors?	If Micro-zonation map is available then mention the source in the column "REFERENCES/ REMARKS". If you feel that a rapid structural assessment by a specialist is needed mention in column "REFERENCES/ REMARKS".		REFERENCES/REMARKS
		Type "NA" If Micro-zonation map is not available and also write "not available" in the column "REFERENCES/ REMARKS"	NA	
		Type 1, if the existing building is safe as per the micro zonation recommendations	BEST	

recommendations in design		Type 0, if the existing building is not safe as per the micro zonation recommendations	V POOR	
	Are you aware of Geotechnical set up of the areas (soil condition) & have you chosen structural system based on soil type & seismic zone	If you have information on geological setup in which your site is located, please mention the source in the column "REFERENCES/ REMARKS";		REFERENCES/ REMARKS
	If your site has soft/poor soil →	Type 1, If the building has a light weight rigid structural system, e.g., steel braced frame, steel tube frames, etc. on pile or similar deep foundations	BEST	
		Type 2 If the building is not based on structural system according to soil condition	POOR	
	If your site has medium soil →	Type 3, If the building has a rigid structural system with short period, e.g., shear walled, steel braced, confined masonry, etc	BEST	
		Type 4, If the building is not based on structural system according to soil condition	POOR	
	If your site has hard soil →	Type 5 If the building has a flexible system with long period, e.g., RCC frame structure, base isolation, etc	BEST	
		Type 6 If the building is not based on structural system according to soil condition	POOR	
	Was liquefaction effect considered in the existing building design- if applicable for your site?	Mention the source of information on this issue regarding your site in column "REFERENCES/ REMARKS" and choose one from the following options.		REFERENCES/ REMARKS
	Soft soil that can lead to force amplification or liquefaction Look at the past record, drawings of the building	Type NA, liquefaction issue was found not applicable	NA	
		Type 1, if liquefaction is applicable and it was considered in design	BEST	
		Type 2, if liquefaction is applicable and it was not considered in design	V POOR	
		Type 3, if neither any source of information was referred to nor the effect of liquefaction effect in design was considered	POOR	
 Section shows that the load path of the building is discontinuous- this is not desirable	Is there a continuous load path from all structural components of the existing building to the foundation?	Move in and around the building and check. If you feel that a specialist's input is needed mention in column "REFERENCES/REMARKS"		REFERENCES/ REMARKS
	A continuous load path enables a structure to act together as a whole when shaken. Connections from walls to floors and roofs should also form part of this load path.	Type 1, if the load path is continuous	BEST	
		Type 2, if there is a minor deviation from the load path	OK	
		Type 3, if there is a major deviation from load path	V POOR	
 For seismic safety, a masonry building should have; 1. RCC bands at plinth & lintel level	If the school is a Masonry Structure, were vertical reinforcements & horizontal bands provided in walls according to code?	This is difficult to assess in an existing building. One has to refer to historical data, if available. Mention in column "REFERENCES/ REMARKS" if you could not do this bit of inspection		REFERENCES/ REMARKS
	Unreinforced masonry has proven very vulnerable in strong shaking. To improve seismic performance of masonry	Type "NA", if it is not a masonry structure or if the inspection could not be done	NA	
		Type 1, if reinforcement at all wall corners and horizontal RCC bands at plinth and lintel	BEST	

2. vertical reinforcements at wall junctions & on two sides of each door/ window,	buildings one needs to provide, reinforcements at all wall corners and RCC bands at plinth, window sill and lintel level	levels have been provided		
		Type 2, if only the RCC bands have been provided	OK	
		Type 3, if only corner reinforcements have been provided	OK	
 Ductile detail enables a structure to undergo large deformation before failure. It gives adequate warning to the occupants before failure	Was the reinforcement detailing done as per code to ensure ductility of the structure?	This is difficult to assess in an existing building. One has to refer to historical data, if available. Mention in column "REFERENCES/ REMARKS" if you could not do this bit of inspection		REFERENCES/ REMARKS
		Type "NA", if not applicable or the inspection could not be done	NA	
		Type 1, of ductile detailing has been adopted as per codes	BEST	
		Type 2, if ductile detailing is partially done	OK	
		Type 3, if ductile detailing has not been done as per code	POOR	
It is mandatory to consider seismic force on a building if it is in earthquake prone area. There are codes on seismic safety, e.g., IS 1893,2002 (Indian Code)	Was seismic load considered in the building design?	This is difficult to assess in an existing building. One has to refer to historical data, if available. Mention in column "REFERENCES/ REMARKS" if you could not do this bit of inspection		REFERENCES/ REMARKS
		Type NA if you could not ascertain this	NA	
		Type 1, If seismic load has been considered in design	BEST	
		Type 0, If seismic load has not been considered in design	POOR	
 Different column heights: building on slope Different column heights: mezzanine	Was Short column effect been considered in structural analysis and design?	This is difficult to assess in an existing building. One has to refer to historical data, if available. Mention in column "REFERENCES/ REMARKS" if you could not do this bit of inspection		REFERENCES/ REMARKS
	Special note: short columns attract more seismic load than tall columns. In framed structure, short column effect may be highly detrimental and hence, such effect must be considered in design	Type "NA", if not applicable or the inspection could not be done	NA	
		Type 1, if short column effect considered in the structure?	BEST	
		Type 0, if short column effect not considered in the structure?	POOR	
 In masonry buildings, these should be at least 600mm	For Masonry buildings, the locations of doors & windows are very important. Check if they are as per safety	Each door or window should be at least 600mm away from wall corners. The space between two openings should also be at least 600mm. Choose one from the following options		REFERENCES/ REMARKS
	If not followed, there could be severe damage to the building	Type "NA", if not a masonry building	NA	
		Type 1, if doors, windows are at least 600mm away from wall corner and there is at least 600mm wide wall between two openings	BEST	
		Type 0, if doors, windows are not 600mm away from wall corner and/or there is < 600mm wide wall between two openings	POOR	

	Check if the total width of doors and windows in a wall is > = half the total wall length	Add the door and window widths on a wall and check if it is > the wall length. Choose one from the following		REFERENCES/ REMARKS
	If this is not followed, there will be possibility of sliding of the portion of the wall above window sill	Type "NA", if not a masonry building	NA	
		Type 1, If total door+window width in a wall is < 50% its wall length & this is true for all walls of the building	BEST	
		Type 0, If total door+window width in a wall is > 50% its wall length	POOR	
NON STRUCTURAL ISSUES				
During earthquake plumbing lines may break and roof top water tanks may topple leaving no water for drinking	Are plumbing lines, rooftop/overhead water tank safely placed and anchored adequately	If there is no water supply then mention it in column "REFERENCES/REMARKS"		REFERENCES/ REMARKS
		Type 1, if plumbing lines & rooftop/overhead water tank are adequately supported & secured or there is a hand pump	BEST	
		Type 0, if plumbing lines & rooftop/overhead water tank are not supported & secured or there is no water supply	POOR	
During earthquake fire protection lines may break leaving no water for fire fighting	Is fire protection piping correctly installed and braced?	If fire protection piping does not exist, mention this in the column "REFERENCES/REMARKS". Choose one from the following options		REFERENCES/ REMARKS
		Type "NA", if fire protection piping does not exist	NA	
		Type 1, if fire protection piping correctly installed and braced	BEST	
		Type 0, if fire protection piping not correctly installed and braced	POOR	
	Are gas lines to laboratories provided with flexible connection? Otherwise they can cause dangerous leaks & may cause fire	If there is no lab in the school, mention this in the column "REFERENCES/REMARKS" →Choose one from the following options		REFERENCES/ REMARKS
		Type "NA", if there is no lab.	NA	
		Type 1, if you have provided flexible joints and the lines are clamped at suitable points	BEST	
		Type 0, if you have not provided flexible joints and the lines clamped at suitable points	POOR	
This could be a falling hazard	Are suspended lighting fixtures securely attached, braced, or designed to stop sideways movement?	Choose one from the following options. If suspended lighting fixtures do not exist, mention this in the column "REFERENCES/REMARKS"		REFERENCES/ REMARKS
		Type "NA", if suspended lighting fixtures do not exist	NA	
		Type 1, if suspended lighting fixtures are securely attached and braced	BEST	
		Type 0, if suspended lighting fixtures are not securely attached and braced	POOR	
The generator, batteries, and other electrical equipment may slide. Topple during earthquake, if not designed	Is generator and associated equipment secured against movement during earthquake?	Have these been secured against movement? If emergency generator does not exist, mention this in the column "REFERENCES/REMARKS"		REFERENCES/ REMARKS
		Type "NA", if emergency generator does not exist	NA	
		Type 1, if emergency generator etc. are secured against movement	BEST	



adequately		Type 0, if emergency generator etc. are not secured against movement	POOR	
Make sure that the anchorage, bracing and connections are adequate against horizontal force	Is fire alarm equipment secured against movement? Equipment can slide or topple, breaking connections.	if there is no fire alarm equipment in the school, mention this in the column "REFERENCES/REMARKS" → Choose one from the following options		REFERENCES/ REMARKS
		Type "NA", if there is no fire alarm equipment	NA	
		Type 1, if fire alarm equipment is secured against movement	BEST	
		Type 0, if fire alarm equipment not secured against movement	POOR	
 Communication antenna: make sure that the anchorage, bracing and connections are adequate against horizontal force	Are communications components, including antennas, adequately secured for seismic forces?	if there is no such equipment in the school, mention this in the column "REFERENCES/REMARKS" → Choose one from the following options		REFERENCES/ REMARKS
		Type "NA", if there is no such equipment	NA	
		Type 1, if communications components, including antennas are adequately connected and supported	BEST	
		Type 0, if communications components, including antennas are not connected and supported	POOR	

Handout 3

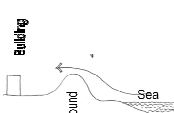
WIND

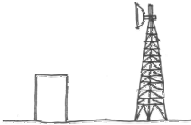
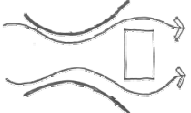
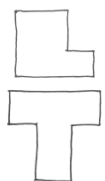
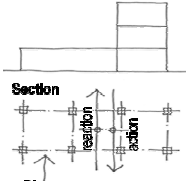
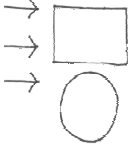
Checklist to assess retrofitting need of Existing school against wind

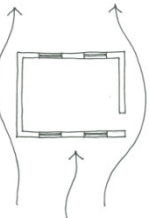
What is the maximum wind speed in kmph

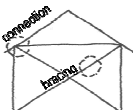
Best, Good, Ok, Poor, V Poor

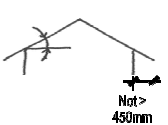
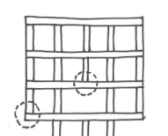


R E A D T H I S B E F O R E A N S W E R I N G T H E K E Y Q U E S T I O N S				
	User will read the following key questions in this column	Against each Key Question, the User will choose the appropriate answer from the given options shown in this column	User's Input 1	User's input 2: Follow the instructions in column C and type in the necessary information in this column
A	B	C	D	J
EXPLANATIONS/ SKETCHES	KEY QUESTIONS ON SEISMIC-SAFETY OF EXISTING SCHOOL	GUIDANCE NOTES + OPTIONS FOR ANSWERS TO KEY QUESTIONS	Answer As per Guidance	REFERENCES/ REMARKS
PLANNING				
 Site plan showing access roads	An important aspect of safety of a building is the type of access road from the main road to the site of the new school	Depending upon the type of access road to your site, choose one from the following options;		
		Type 1, if two or more roads from main street to building, wide enough to allow one fire engine to reach, reverse and return to the main road	BEST	
		Type 2, if there is one access road of the above type	GOOD	
		Type 3, if access road is for cars and not fire engine	OK	
		Type 4, If the access road is suitable for motorbike only and not for cars	POOR	
		Type 5, if it is for pedestrian access only	V POOR	
 The mound reduces wind load on the building from the sea side	Will the surrounding landscape and topography reduce wind speed on your building?	Based on historical data and community experience judge this issue. Mention the source of information in column "REFERENCES/REMARKS", if referred to		REFERENCES/ REMARKS
		Type 1 , if the probable level of wind speed reduction is > 50%	BEST	
		Type 2 , if the probable level of wind speed reduction is > 25% but <50%	GOOD	
		Type 3 , if the probable level of wind speed reduction is > 10% but <25%	OK	
		Type 4 , if the probable level of wind speed reduction is < 10%	OK	

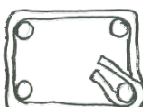
 Tower too close to the building	Are there trees and/or towers too close to the building that may fall on it during high wind/cyclone?	Depending upon the type of falling hazards at your site, choose one from the following options	REFERENCES/ REMARKS	
		Type 1, if falling hazards can stop the school from functioning	V POOR	
		Type 2, if falling hazards can cause damage to the school, but will not hamper its functioning	POOR	
		Type 3, if there is no threat of falling of trees/towers, etc	BEST	
 Plan showing wind tunnel effect on building	Is there a potential wind tunnelling effect at site due to the surrounding topography and/or adjacent buildings and structures	Choose one from the following options	REFERENCES/ REMARKS	
		Type NA, if wind tunnelling effect does not exist	NA	
		Type 1, if wind tunnelling effect exists and you have considered it in design	BEST	
		Type 0, if wind tunnelling effect exists but you did/ could not consider it in design	V POOR	
ARCHITECTURAL ISSUES				
 Plan forms such as T,L etc are irregular	Is the architectural/structural configuration irregular in plan?	Move in and around the building & assess the level of symmetry of the building plan and then choose one from the following that is appropriate	REFERENCES/ REMARKS	
		Type 1, if Shapes are regular, structure has uniform plan, and there are no elements that would cause torsion	BEST	
		Type 2, if Shapes are irregular but structure is uniform;	OK	
		Type 3, if Shapes are irregular and structure is not uniform	POOR	
 Two portions of the same building have different masses: vertical irregularity	Is there vertical irregularity in architectural/structural configuration?	Move in and around the building & assess the level of symmetry of the building massing and then choose one from the following that is appropriate	REFERENCES/ REMARKS	
		Type 1, if storey heights are of very similar (i.e., they differ by < 5%); there are no discontinuous or irregular elements.	GOOD	
		Type 2, if storey heights are similar (they differ by > 5% but <20%) and there are few discontinuous or irregular elements;	OK	
		Type 3, if storey heights differs by >20% and there are significant discontinuous or irregular elements	POOR	
 Uniform shapes	Does the building have a uniform shape presenting minimum obstruction to the wind	How does your building feature in this context? Choose one from the following options	REFERENCES/ REMARKS	
		Type 1, if regular in plan and masing	V POOR	
		Type 2, if regular in plan and irregular in massing	POOR	

presenting minimum obstruction to the wind		Type 3, if both plan and massing are irregular	V POOR	
If you know the geo-climatic conditions of the site based on historical data, it is best to orient the building to face the least wind force.	Is the building suitably oriented considering the prevailing wind direction	In terms of orientation of the building what is your assessment on probable performance against wind forces		REFERENCES/ REMARKS
		Type 1, if good (building suitably oriented considering the prevailing wind direction)	BEST	
		Type 2, if medium (building more or less suitably oriented considering the prevailing wind direction)	OK	
		Type 3, if low (building not really oriented considering the prevailing wind direction)	POOR	
		Type 4, if very low (building not oriented considering the prevailing wind direction)	V POOR	
It is important to have latches located for easy manoeuvring during high wind	Do the door and windows have a good and accessible latch?	Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if both doors and windows have accessible and good latches	BEST	
		Type 2, if some of the doors & windows have accessible and good latches	OK	
		Type 3 if neither doors or windows have accessible and good latches	POOR	
 Plan showing balanced opening on opposite walls	Is there a balance of the size of openings on opposite walls	Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if good balance of the size of openings on opposite walls	BEST	
		Type 2, if medium balance of the size of openings on opposite walls	OK	
		Type 3, if low balance of the size of openings on opposite walls	POOR	
		Type 4, if very low balance of the size of openings on opposite walls	V POOR	
 Hip roof- the best  Pitch roof (slope 30-45)  Safe slope 30-45deg	Have you used a pitch or hip roof?	Hip roofs have the best record of resistance, the next best is gable roof with a pitch of 30-45°, low gable roof and flat roof have the worst record		REFERENCES/ REMARKS
		Type NA, if not applicable	NA	
	Roof pitch between 30-45 deg to minimize suction caused by negative pressure	Type 1, if you have used a hip roof of slope > 20deg	GOOD	
		Type 2, if you have used a pitch roof and the slope is 30-45°	BEST	
		Type 3, if you have used a pitch roof and the slope is 20-29°	GOOD	
		Type 4, if you have used a pitch roof and the slope is <19°	POOR	

Ideally the entire building should be safe from missiles/debris. If not, then a few enclosures should be designed as shelter for the occupants during cyclone/high wind	In places where missile/debris is highly likely to pound on a building, then have you built an enclosure to provide debris protection?	This is difficult to asses. The surveyor has to go by visual judgement in this regard and also, if possible, refer to historical data		REFERENCES/ REMARKS
		Type "NA" if missile/debris are not likely to pound on the building	NA	
		Type 1, if missile/debris are highly likely to pound on a building, and there is an enclosure to provide debris protection?	BEST	
		Type 0, if missile/debris is highly likely to pound on a building, and there is no enclosure to provide debris protection?	POOR	
Suitable detail should be made to make sure that the storm shutter does not hamper easy handling of the glass shutters in normal circumstances	In case there is a possibility of occurrence of missile, have you provided storm shutters to protect the glass panes of the windows and openings?	Choose one from the following options		REFERENCES/ REMARKS
		Type "NA" if not applicable in your case	NA	
		Type 1, if building is in missile prone area and you have provided storm shutters	BEST	
		Type 0, if building is in missile prone area and you have not provided storm shutters	POOR	
STRUCTURAL ISSUES				
The engineer should take account of the local conditions such as wind tunnelling effect, obstructions reducing wind speed, etc.	Was the design wind speed considered at the site along with a) building height, b)width, c) height and d) topographic features? (e.g., IS 875 Part 3, 1987: $V_z \rightarrow$ <u>design wind speed</u> , $k_1 \rightarrow$ <u>risk co-efficient</u> , $k_2 \rightarrow$ <u>terrain, height & size factor</u> & <u>k3 topography factor</u>)	If there is no information on design, mention in column "REFERENCES/REMARKS". If in high wind zone (e.g., coastal area) recommend specialists' assessment in column "REFERENCES/REMARKS".		REFERENCES/ REMARKS
		Type 1, if design wind speed was considered along with a)building height, b)width, and c)risk, terrain and topographic features	BEST	
		Type 0, if design wind speed was not considered along with a)building height, b)width, and c)risk, terrain and topographic features	POOR	
Engineers should be careful about the presence of such walls since one might overlook this important issue in the complex process of analysis of the main structural system	Are there interior non-load-bearing walls? Unreinforced brick, concrete, and other types of masonry walls are vulnerable in wind load	If there is no information on design, mention in column "REFERENCES/REMARKS". If in high wind zone (e.g., coastal area) recommend specialists' assessment in column "REFERENCES/REMARKS".		REFERENCES/ REMARKS
		Type "NA" if not applicable in your case	NA	
		Type 1, if interior non-load-bearing walls have been designed for wind	BEST	
		Type 0, if interior non-load-bearing walls have not been designed for wind	POOR	
	Have you considered A, B & C (anchorage, bracing, connection) of safety in your design?	If there is no information on design, mention in column "REFERENCES/REMARKS". If in high wind zone (e.g., coastal area) recommend specialists' assessment in column "REFERENCES/REMARKS".		REFERENCES/ REMARKS

ABC (anchorage, bracing and connection)- three prerequisites for wind safety	Make sure of strong fixings and joints between all elements: foundations- walls-cladding walls- roof frame-coverings. Cross bracing, anchor, connections. reinforce vertical and horizontal diagonal bracing (triangulation)	Type 1, if all A,B,C were considered in design detailing	BEST	
		Type 2, if two out of A,B,C were considered in design detailing	OK	
		Type 3, if only one out of A,B,C has been considered in design detailing	POOR	
		Type 4, if none of A, B, C were considered in design detailing	V POOR	
Wind-borne debris can cause injury to the people during high wind.	Is there a covered walkway for building to building connection? Wind-borne debris can cause injury to the people during high wind.	Choose one from the following options based on visual inspection		REFERENCES/ REMARKS
		Type 1, if there is a covered walkway which is designed for debris		
		Type 2, if there is a covered walkway which has not been designed for debris	BEST	
		Type 3, if there is no covered walkway	POOR	
For large span structures such as gymnasium, auditorium, etc., one should consider the wind uplift forces in design and detailing	Do portions of the existing facility have long-span roof structures (e.g., a gymnasium)?	If there is no information on design, mention in column "REFERENCES/REMARKS". If in high wind zone (e.g., coastal area) recommend specialists' assessment in column "REFERENCES/REMARKS".		REFERENCES/ REMARKS
		Type "NA" if not applicable in your case	NA	
		Type 1, if large span exists and designed for structural strength for wind uplift resistance	BEST	
		Type 0, if large span exists and not designed for structural strength for wind uplift resistance	POOR	
 If the overhang is >450mm one needs to design for wind uplift	Are there existing roof overhangs that cantilever > 450mm?	Overhangs on buildings often have inadequate uplift resistance.		REFERENCES/ REMARKS
		Type NA, If not applicable	NA	
		Type 1, If it is applicable in your case and if safe in wind uplift	BEST	
		Type 0, If it is applicable in your case and if not safe in wind uplift	POOR	
 Section shows that load path of the building is discontinuous- this is not desirable	Is there a continuous load path from all components of the building to the foundation?	Go in & around the building & check & choose one from the following options. If in high wind zone (e.g., coastal area) may recommend specialist's intervention (mention in column "REFERENCES/REMARKS")		REFERENCES/ REMARKS
		Type 1, if the load path is continuous	BEST	
		Type 2, if there is a minor deviation from the load path	GOOD	
		Type 3, if there is a major deviation from the load path	POOR	
The critical areas are the J bolt	Is it made sure that the roof covering elements such as tiles,	Choose one from the following options		REFERENCES/ REMARKS



connections at the ridge line, hip lines, etc	corrugated galvanized iron sheets, etc., cannot be lifted off by wind	If not applicable type in "NA"		NA	
		Type 1, designed & detailed roof covering is safe against wind uplift		BEST	
		Type 0, not designed & detailed roof covering is safe against wind uplift		POOR	
Choice of materials and detailing are crucial	Are existing exterior walls resistant to wind-borne debris?	If the building is in a cyclone/high wind-prone region, consider enhancing debris resistance, particularly in detailing. Carryout a visual inspection			REFERENCES/ REMARKS
		If not applicable type in "NA"		NA	
		Type 1, if designed and detailed to make the existing exterior walls resistant to wind-borne debris		BEST	
		Type 0, if not designed and detailed to make the existing exterior walls resistant to wind-borne debris		POOR	
 Ductile detail enables a structure to undergo large deformation before failure. It gives adequate warning to the occupants before failure	Was the reinforcement detailing as per code to ensure ductility the structure?	Assessment in this regard is not possible unless there is available design and drawing. Whether available or not mention this in the column "REFERENCES/ REMARKS"			REFERENCES/ REMARKS
		Type 1, of all reinforcements are designed & detailed for ductility as per codes		BEST	
		Type 2, reinforcements are not designed & detailed for ductility as per codes		POOR	
		Type 3, no information is available in this regard		POOR	
NON STRUCTURAL ISSUES					
Material specification and detailing are crucial	Are the hinges, wind stays, latches, handles and bolts designed to ensure easy and low maintenance intensive openings that can be closed quickly	Choose one from the following options			REFERENCES/ REMARKS
		Type 1, if the design and detailing of hinges, wind stays, latches, handles and bolts of openings suitable for high wind		BEST	
		Type 0, if the design and detailing of hinges, wind stays, latches, handles and bolts of openings not suitable for high wind		POOR	
Material specification and detailing are crucial	Were the exterior doors, windows, and skylights designed and detailed for high wind?	Are the selected materials and systems, and detailing suitable to resist wind and wind-driven rain			REFERENCES/ REMARKS
		Type NA if not applicable		NA	
		Type 1, if selected materials and systems, and detailing suitable to resist wind and wind-driven rain		BEST	



		Type 0, if selected materials and systems, and detailing not suitable to resist wind and wind-driven rain	POOR	
Roof sheets, tiles, coconut, flower pots, garbage bins, small stones, etc., could act as missiles	Damage to windows, doors and other openings are commonly caused by missiles (roof sheets, tiles, coconut, flower pots, garbage bins, small stones, etc). If the building is in such zone, then were this considered in design?	Have you selected materials and systems, and detailed to resist missiles/debris?		REFERENCES/ REMARKS
		If not applicable type in "NA"	NA	
		Type 1, if designed and detailed doors & windows for missile	BEST	
		Type 0, if not designed and detailed doors & windows for missile	POOR	
It is very important that you also consider the effect of thermal expansion and contraction related deterioration of the connection?	Are there tiles, veneer or stucco as exterior claddings? If applicable then are the attachments safe against wind?	Choose one from the following options		REFERENCES/ REMARKS
		If not applicable--> "NA"	NA	
		Type 1, if the effect of high wind considered while selecting materials and detailing the joint	BEST	
		Type 0, if the effect of high wind not considered while selecting materials and detailing the joint	POOR	
If not held down adequately, tiles may be blown off by high wind	Does the roof have surfacing with tiles, or insulation boards? Are the tiles safe in high wind?	If applicable, is it safe in the wind blow off effect?		REFERENCES/ REMARKS
		If not applicable -->"NA"	NA	
		Type 1, if surface tiles, or insulation boards safe in the wind blow off effect	BEST	
		Type 0, if surface tiles, or insulation boards not safe in the wind blow off effect	POOR	
 Consider wind blow off effect while designing the flashing or coping	Does the existing roof have edge flashing or coping? Is it safe in high wind?	If applicable, are the design and detailing safe in wind blow off effect?		REFERENCES/ REMARKS
		Type "NA", If not applicable	NA	
		Type 1, if safe in wind blow off effect in design and detailing of edge flashing or coping of existing roof	BEST	
		Type 0, if not safe in wind blow off effect in design and detailing of edge flashing or coping of existing roof	POOR	
	Are there antennae (communication masts) or satellite dishes anchored with structural part?	If yes, then is the design of the installations, ties, etc. safe for wind resistance?		REFERENCES/ REMARKS
		Type "NA", If not applicable	NA	



Communication antenna: make sure that the anchorage, bracing and connections are adequate against horizontal force		Type 1, if the antennae (communication masts) or satellite dishes, ties, etc. safe for wind resistance	BEST	
		Type 0, if the antennae (communication masts) or satellite dishes, ties, etc. not safe for wind resistance	POOR	
Roof sheets, tiles, coconut, flower pots, garbage bins, small stones, etc., could act as debris	Is the emergency generator(s) housed in a wind- and debris-resistant enclosure?	If applicable is it built in an enclosure to provide debris protection?		REFERENCES/ REMARKS
		Type "NA", If not applicable	NA	
		Type 1, if an enclosure exists to provide debris protection for the emergency generators	BEST	
		Type 0, if an enclosure does not exist to provide debris protection for the emergency generators	POOR	

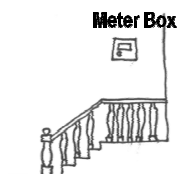
Handout 4

FIRE

Checklist to assess retrofitting need of existing school against fire



READ THIS BEFORE ANSWERING THE KEY QUESTIONS				
	User will read the following key questions in this column	Against each Key Question, the User will choose the appropriate answer from the given options shown in this column	<u>User's Input 1</u>	<u>User's input 2:</u> Follow the instructions in column C and type in the necessary information in this column
A	B	C	D	J
EXPLANATIONS/ SKETCHES	KEY QUESTIONS ON FIRE-SAFETY OF EXISTING SCHOOL	GUIDANCE NOTES + POSSIBLE ANSWERS TO KEY QUESTIONS	Answer As per Guidance	REFERENCES/ REMARKS
PLANNING				
 Site plan showing access roads	An important aspect of safety of a building is the type of access road and safe entry for the school	Depending upon the type of access road to your site choose one from the following options;		
		Type 1, if two or more roads from main street to building wide enough to allow one fire engine to reach, reverse and return to the main road	BEST	
		Type 2, if there is one access road of the above type	GOOD	
		Type 3, if access road is for cars and not fire engine	OK	
		Type 4, If the access road is suitable for motorbike only and not for cars	POOR	
		Type 5, if it is for pedestrian access only	V POOR	
Apart from site visit, the consultant should enquire about external fire hazards from local people and fire department's local office	With reference to the exterior of the school building, rate the building's exposure to external fires.	There could be various sources such as electrical substation, combustible materials store, etc. The consultant should visit the site to assess such potential fire hazards		REFERENCES/ REMARKS
		Type 1, if very high (school's exposure to external fire)	V POOR	
		Type 2, if medium (school's exposure to external fire)	POOR	
		Type 3, if low (school's exposure to external fire)	OK	

		Type 4, no exposure at all (school's exposure to external fire)	GOOD	
 Site plan showing open space	Whether open space is available in the school for students to get assembled during fire?	In the column "REFERENCES/REMARKS, write the approximate length and width of such open space and the number of people who will need it →Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if there is adequate open space for gathering	BEST	
		Type 2, if there is open space, but not adequate for gathering	OK	
		Type 3, if there is no open space for available for gathering	POOR	
ARCHITECTURAL ISSUES				
For two storey buildings the openings have to be on the corridor side	Do the existing classrooms have two exit routes (even windows can be widened to use as escape routes) in each classroom	Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if there are two escape routes in each classroom	BEST	
		Type 0, if only one escape route exists in each classroom	OK	
If yes, then relocate it	Is the main meter box located in the staircase block?	Mention in column "REFERENCES/REMARKS", if there is no electricity. Choose one from the following options		REFERENCES/ REMARKS
		Type NA if there is no electricity	NA	
		Type 1, if the main meter box located in the staircase block	POOR	
		Type 0, if the main meter box located in safe place	BEST	
 If yes, then consider relocating it	Is the main switch located in the main entrance lobby/ passage/ corridor?	Mention in column "REFERENCES/REMARKS", if there is no electricity. Choose one from the following options		REFERENCES/ REMARKS
		Type NA if there is no electricity	NA	
		Type 1, if main switch is in the entrance lobby	POOR	
		Type 0, if main switch is located in safe location	BEST	
Try to relocate possible sources of fire, e.g., kitchen, meter box, main switch, etc. from the staircase	Is the existing staircase adequately protected for safe evacuation during fire?	Choose one from the following options		REFERENCES/ REMARKS
		Type "NA" if there is no staircase	NA	
		Type 1, if the existing staircase is adequately protected for safe evacuation during fire	BEST	
		Type 0, if the existing staircase is not protected for safe evacuation during fire	POOR	
If it does not exist, build an external staircase, if	In case of a multi-storey, is there a fire escape staircase?	Suggestion: keep the fire escape stairs at maximum distance from each other		REFERENCES/ REMARKS

possible. It should be at maximum distance from the main staircase	Use signage's	Type NA, if not applicable	NA	
		Type 1, if there is a fire escape staircase at maximum distance from main stair	BEST	
		Type 0, if there is no fire escape stair	POOR	
In case it is not possible to provide a fire fighting water tank and there is no fire hydrant nearby, look for alternative sources such as a local perennial pond	Is there a fire fighting water tank of adequate size or if there is a local source for fire fighting	Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if there is a fire fighting water tank of adequate size or if there is a local source	BEST	
	Use signage's	Type 0, if there is no fire fighting water tank of adequate size nor a local source	POOR	
Design a sprinkler system for the existing building. without damaging the existing structural members	In case of a large school, has it been planned for sprinklers for the building?	Choose one from the following options		REFERENCES/ REMARKS
		Type NA if not applicable	NA	
		Type 1, if sprinklers have been planned for	BEST	
		Type 0, if sprinklers have not been planned for	POOR	
If not, then modify the existing doors and ensure that the doors opening to the corridors are safe for children's movement	Do the doors open outside?	Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if doors open outside	BEST	
		Type 0, if the doors open inside	OK	
If it is close to the classrooms, try relocating it. Else make adequate fire fighting arrangements	Is the kitchen located at a safe distance from classrooms	If there is no kitchen mention this in the column "REFERENCES/REMARKS" -Choose one from the following options		REFERENCES/ REMARKS
		Type "NA" if there is no kitchen	NA	
		Type 1, if kitchen is at a safe distance from classrooms	BEST	
		Type 0, if kitchen is not at a safe distance from classrooms	POOR	
If not fire safe, apply appropriate treatment. Retrofit the existing fixing in case there are distresses	Is the ceiling material safe from fire?	Choose one from the following options		REFERENCES/ REMARKS
		Type "NA" if not applicable	NA	
		Type 1, if ceiling materials used is not fire prone	BEST	
		Type 0, if ceiling materials used is fire prone	POOR	
STRUCTURAL ISSUES				

Take special care for steel and timber members	Did the designer use less fire prone materials? Or else has the structural members been insulated to protect it in the event of fire?	Did the designer provide insulation as per code for RCC, steel, timber, stone structure- mention the code name/source in column "REFERENCES/ REMARKS"		REFERENCES/ REMARKS
		Type 1, if structural members insulated adequately or less fire prone building materials are used	BEST	
		Type 0, if structural members not insulated and/or fire prone building materials are used	POOR	
NON STRUCTURAL				
Use only national standard's approved products and also based on past experience	Is the quality of wiring used of adequate quality	Choose one from the following options, mention in column "REFERENCES/REMARKS", if there is no electricity		REFERENCES/ REMARKS
		Type "NA" if no electricity	NA	
		Type 1, if used wires are of national standards' approved quality	BEST	
		Type 0, if used wires are not of national standards' approved quality	POOR	
Use earthing pit of 1mX1mX2.5m deep installed with Galvanized cast Iron Plate. Alternatively, one may use specifications as per the local practice	Has earthing been done in the wiring system?	Choose one from the following options		REFERENCES/ REMARKS
		Type "NA" if not applicable	NA	
		Type 1, if earthing has been done	BEST	
		Type 0, if earthing has not been done	POOR	
Your building may not need it, if there are adjacent buildings provided with lightning bars	Has Lightning arrester been fixed in the building	Choose one from the following options		REFERENCES/ REMARKS
		Type "NA" if not applicable	NA	
		Type 1, if Lightning arrester been fixed or there is a nearby tall building with lightning bar or a tower	BEST	
		Type 0, if Lightning arrester not been fixed	POOR	
If yes, then try relocating it	Are the emergency batteries such as Inverter located near the entrance to the building?	Choose one from the following options		REFERENCES/ REMARKS
		Type NA if not applicable	NA	
		Type 1, if emergency batteries such as Inverter located safely in the building	BEST	
		Type 0, if emergency batteries such as Inverter located in the entrance lobby of the building	POOR	



 Strap them adequately with the walls	Is there a fire fighting arrangements/ extinguisher kept at convenient place for fire fighting, especially in the Chemistry lab	Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if a fire extinguisher kept at convenient place for fire fighting, especially in Chemistry lab	BEST	
		Type 0, if there is not fire extinguisher in the building, especially in Chemistry lab	V POOR	
	Is there a provision for fire alarm?	Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if there is provision for fire alarm	BEST	
		Type 0, if there is no provision for fire alarm	POOR	

Handout 5

FLOOD

Checklist to assess retrofitting need of Existing school against flood

Is the plinth higher or lower than expected high flood level

Best, Good, Ok, Poor, ~~Very Poor~~



READ THIS BEFORE ANSWERING THE KEY QUESTIONS				
	User will read the following key questions in this column	Against each Key Question, the User will choose the appropriate answer from the given options shown in this column	<u>User's Input 1</u>	<u>User's input 2</u> : Follow the instructions in column C and type in the necessary information in this column
A	B	C	D	J
EXPLANATIONS/ SKETCHES	KEY QUESTIONS ON FLOOD-SAFETY OF EXISTING SCHOOL	GUIDANCE NOTES + POSSIBLE ANSWERS TO KEY QUESTIONS	Answer As per Guidance	REFERENCES/ REMARKS
PLANNING				
In coastal communities, even sites at some distance inland from the shoreline may be exposed to extreme storm surge flooding.	Is the site located in a storm surge inundation zone (or tsunami inundation area)? In coastal communities, even sites at some distance inland from the shoreline may be exposed to extreme storm surge flooding.	Storm surge maps may be available at State or local emergency management offices. Mention in the column "REFERENCES/ REMARKS" whether it is available or not available		
		Type "NA", if you have referred to the map and found your site not in such zone	NA	
	If yes, then, make an assessment on damage potential due to storm surge based on historical data-consult the meteorology departments	Type 1, if the damage potential is low	BEST	
		Type 2, if the damage potential is medium	OK	
		Type 3, if the damage potential is high	POOR	
Consult local people for historical data- also consult the state geology department	Is the site located in a zone with possible water surge from glacial lake/lake caused by land slide or due to earthquake	Mention the source in column "REFERENCES/ REMARKS" if you have referred to any document or department→ Choose one from the following options		REFERENCES/ REMARKS
		Type "NA" if not applicable	NA	
		Type 1, if the damage potential is high	POOR	
		Type 0, if the damage potential is very low	GOOD	
Refer to historical data for a safe decision	What is the expected level of inundation at the site? i.e., expected maximum flood elevations with respect to the plinth level of the building, e.g., the score will be high if the maximum flood elevation	Mention the max. flood level (+/-) in mm with respect to the plinth level in the column "REFERENCES/ REMARKS"→ Choose one from the following options		REFERENCES/ REMARKS
		Type 1, if the plinth is at least 300mm above the maximum inundation level	BEST	

	is 300mm below the plinth level.	Type 2, if the plinth is at least 150mm above the maximum inundation level	GOOD	
		Type 3, if the plinth is below expected flood depth	POOR	
Duration has bearing on the stability of earthen fills, access to a site and emergency response and durability of materials that come into contact with water. Records of actual flooding are the best indicator of duration as most floodplain analyses do not examine duration.	What is the potential damage level due to the expected duration of flooding?	Mention the duration of flooding in column "REFERENCES/REMARKS → what is the damage potential due to stagnation of flood water		REFERENCES/ REMARKS
		If not applicable -->"NA"	NA	
		Type 1, if damage potential is low in expected duration of flooding	BEST	
		Type 2, if damage potential is medium in expected duration of flooding	OK	
		Type 3, if damage potential is high in expected duration of flooding	POOR	
Although dam failure generally is considered an unlikely event, the potential threat should be evaluated due to the catastrophic consequences.	Is the site in an area predicted to be inundated if an upstream dam were to fail?	Choose one from the following options		REFERENCES/ REMARKS
		If not applicable -->"NA"	NA	
		Type 1, if potential threat of upstream dam failure is very low	GOOD	
		Type 2, if potential threat of upstream dam failure is medium	POOR	
		Type 3, if potential threat of upstream dam failure is high	V POOR	
If areas with poor local drainage and frequent flooding cannot be avoided, filling, regrading, and installation of storm drainage facilities may be required.	Does the surrounding topography contribute to flooding at the site? Is there a history of local surface drainage problems due to inadequate site drainage?	Mention in the column "REFERENCES/REMARKS" if such incidences have happened in the past also mention the severity of such flooding		REFERENCES/ REMARKS
		If not applicable -->"NA"	NA	
		Type 1, if low chance of surrounding topography contributing to flooding	GOOD	
		Type 2, if medium chance of surrounding topography contributing to flooding	OK	
		Type 3, if high chance of surrounding topography contributing to flooding	V POOR	
Access is increasingly important as the duration of flooding increases. For the safety of occupants, most critical facilities should not be occupied during flood events.	Is at least one access road to the site/building passable during flood events?	choose one from the following options		REFERENCES/ REMARKS
		Type 1, if at least one access road to the site/building is passable during flood events	BEST	
		Type 0, if no access road to the site/building is passable during flood events	V POOR	
ARCHITECTURAL ISSUES				
New critical facilities built in flood hazard areas should not have	Are any critical building functions occupying space that is below the elevation of the past record of flood	Choose one from the following options		REFERENCES/ REMARKS
		Type NA, If not applicable	NA	

any functions occupying flood-prone spaces (other than parking, building access, and limited storage)	or the Design Flood Elevation?	Type 1, if critical functions could be relocated to upper levels that are above predicted flood elevations	BEST	
		Type 2, if critical functions cannot be relocated, but flood proofing could be done	POOR	
		Type 3, if critical functions cannot be relocated, neither flood proofing could be done	V POOR	
These issues should be addressed right at the schematic design level by the architect	If critical functions must continue during a flood event, have power, supplies, and access issues been addressed?	Choose one from the following options		REFERENCES/ REMARKS
		Type NA, If not applicable	NA	
		Type 1, completely addressed (critical functions can continue during a flood event with power, supplies, and access)	BEST	
		Type 2, partly addressed (critical functions can partially continue during a flood event with power, supplies, and access)	OK	
		Type 3, not addressed at all (critical functions cannot continue during a flood event with power, supplies, and access)	V POOR	
If critical contents cannot be permanently located on higher floors, a flood response plan should take into account the time and attention needed to move such contents safely.	Have critical contents (files, computers, servers, equipment, research, and data) been located on levels of the facility above the flood elevations?	Choose one from the following options		REFERENCES/ REMARKS
		Type1, if located above flood elevation (critical contents -files, computers, servers, equipment, research, and data)	BEST	
	Suggestions: since the facility may require continued use even during flood, the potential for flooding should be recognized and steps taken to minimize loss of expensive equipment and irreplaceable data.	Type0, if not located above flood elevation (critical contents -files, computers, servers, equipment, research, and data)	POOR	
STRUCTURAL ISSUES				
If sitting in a floodplain is unavoidable, new facilities are to be designed to account for all loads and load combinations, including flood loads	Do the construction type and the foundation type have the required load bearing capacity against flood water?	If applicable, then carryout a visual inspection. If you think that a specialist's intervention is needed for assessment then mention it in the column "REFERENCES/REMARKS"		REFERENCES/ REMARKS
		If not applicable--> NA	NA	
		Type 1, if the facilities have the required load bearing capacity against flood water?	BEST	
		Type 0, if the facilities do not have the required load bearing capacity against flood water?	POOR	

Waves can exert considerable dynamic forces on buildings and contribute to erosion and scour.	Is the site prone to wind driven waves, which can take place in the coastal areas, riverine areas and site next to lakes? Waves can exert considerable dynamic forces on buildings and contribute to erosion and scour.	If applicable, then carryout an inspection & consult historical data. If you think that a specialist's intervention is needed for assessment then mention it in the column "REFERENCES/REMARKS"		REFERENCES/ REMARKS
		If not wave prone--> NA	NA	
		Type 1, If in wave prone areas, and the issue is addressed	BEST	
		Type 0, If in wave prone areas, and the issue not addressed	POOR	
If applicable, one can provide flood openings to automatically allow for inflow and outflow of floodwaters to minimize differential hydrostatic pressure	Does the school have enclosures below the flood elevation, meant for limited storage	Choose one from the following options		REFERENCES/ REMARKS
		If not applicable --> "NA"	NA	
		Type 1, if school has enclosures below the flood elevation and is provided with flood openings to automatically allow for inflow and outflow of floodwaters to minimize differential hydrostatic pressure	GOOD	
		Type 0, if school has enclosures below the flood elevation and is without flood openings to minimize differential hydrostatic pressure	POOR	
Refer to historical data on flooding to ascertain whether the expected water level is considerably higher than the bottom of the basement	If the ground water table is high and there is a basement, have you considered water load on retaining wall?	If applicable, then carryout an inspection. If you think that a specialist's intervention is needed for assessment then mention in column "REFERENCES/REMARKS"		REFERENCES/ REMARKS
		Type "NA", if not applicable	NA	
		Type 1, If water table is high & you have designed retaining wall accordingly	BEST	
		Type 0, If water table is high & you have not designed retaining wall accordingly	POOR	
Provide adequate depth of foundation and other local specific measures to protect the plinth and the foundation	If the building is in a place where flood water returns with speed to the nearby canal/river or sea causing scouring	Is the plinth adequately protected and the foundation has adequate depth?		REFERENCES/ REMARKS
		If not applicable --> "NA"	NA	
		Type 1, if the issue of scouring effect has been addressed adequately	BEST	
		Type 0, if the issue of scouring has not been addressed	POOR	
NON STRUCTURAL ISSUES				
Critical facilities in hospitals that depend on fresh water should be aware of the level of vulnerability of the local water supply	Is the potable water supply for the facility protected from flooding? If served by a well, is the wellhead protected? Can it be accessed during flood?	Choose one of the following options		REFERENCES/ REMARKS
		If not applicable -->"NA"	NA	
		Type 1, If applicable, & the potable water source is protected during flooding	BEST	



system, and the system's plans for recovery of service in the event of a flood.		Type 0, If applicable, & the potable water source is not protected during flooding	POOR	
Unprotected waste water service could casue a major disaster during and after flood with a long lasting detrimental effect on public life	Is the wastewater service for the building protected from flooding? Are any manholes below the Design Flood Elevation?	Is infiltration of floodwaters into sewer lines a problem? If the site is served by an onsite system that is located in a flood-prone area, have backflow valves been installed?		REFERENCES/ REMARKS
		Type NA, If not applicable	NA	
		Type 1, if the wastewater service is protected from flooding	BEST	
		Type 0, if the wastewater service is not protected from flooding	POOR	
Make sure that the tank openings and vents are elevated above the recorded elevation or the Design Flood Elevation	Is there any above ground or underground tanks on the site in flood hazard areas?	Choose one from the following options		REFERENCES/ REMARKS
		Type NA, If not applicable	NA	
	Are they installed and anchored to resist flotation during the design flood? Is the tank openings and vents are elevated above the recorded elevation or the Design Flood Elevation?	Type 1, if it is safe against flotation and vents elevated above recorded (historical) flood elevation	BEST	
		Type 0, if it is not safe against flotation and vents not elevated above recorded (historical) flood elevation	POOR	
If not possible, locate them to higher floors or into elevated additions	Are plumbing fixtures and water meters, etc.) Located above the recorded flood elevation?	Choose one of the following options		REFERENCES/ REMARKS
		Type NA, If not applicable	NA	
		Type 1, of if you have located the plumbing fixtures and water meters, etc. above recorded (historical) flood elevation	BEST	
		Type 0, if you have not located the plumbing fixtures and water meters, etc. above recorded (historical) flood elevation	POOR	
Utility equipment that is critical for functionality should be relocated to higher floors or into elevated additions.	Is the early warning system located above the recorded (historical) flood elevation	Choose one of the following options (if this facility does not exist, mention this in column "REFERENCES/REMARKS")		REFERENCES/ REMARKS
		Type NA, if this facility does not exist	NA	
		Type 1, if early warning systems are safely located	BEST	
		Type 0, if early warning systems are not safely located	POOR	
Adequate factor of safety should be adopted while locating the communication/IT systems	Are the communication/IT systems located above the recorded (historical) flood elevation	Choose one of the following options (if this facility does not exist, mention this in column "REFERENCES/REMARKS")		REFERENCES/ REMARKS
		Type NA, if this facility does not exist	NA	
		Type 1, if IT/communication systems are safely located above the recorded (historical) flood elevation	BEST	



		Type 0, if IT/communication systems are not safely located above the recorded (historical) flood elevation	POOR	
--	--	--	------	--

Handout 6
Non-Structure Assessment Form

Area / Location	Item (Full Description)	Risk Type			Priority H/M/L or 1,2,3	Weight (including contents) in KG	Mitigation Measure
		Life Safety	Property Safety	Operational Continuity			

DETAIL OF COLUMN:

Area / Location: mention particular room, indoor/ outdoor spaces of which the inventory is being taken.

Item: Mention closest detail of each non structural hazard of that particular location / area.

Risk Type: There are three types of risk associated with non-structural elements – Life loss, Property loss and functional/operational loss. Tick appropriate risk associated.

Priority (H/M/L): If the risk is of life; priority is always high and means you need to focus and mitigate/reduce risk of that element on priority. If it is Property loss; priority is medium and becomes secondary to loss of life risk. Hence your priority gets medium. If it is operational/functional loss; the priority is lowest within the three risk associated. It is essential to prioritize the risk and prioritize your action accordingly as school have a limited budget and time may be a constraint. Hence these prioritizations would help school to use time and fund very effectively.

Weight: Technically it is essential to quote the approximate weight of the item as it would help to decided on dimensions and material required for mitigation measure. For example; if a cupboard is of 70 kgs, hence what should be the size, dimension, material and type to fix it on to the wall. The weight gives a fair knowledge of it for a better technical solution.

Mitigation Measures: Most of the mitigation measures can be locally judged by the school teachers and authority, however; in few cases it may require technical person's support. The solution should address the

risk with local feasibility and acceptance. One should not impose measures which are difficult to replicate, the materials are not locally available and not accepted by the owner.

FILLED SAMPLE NSM ITEMIZED INVENTORY FORM

Non Structural Mitigation Itemized Inventory Form							
Area / Location	Item (Full Description)	Risk Type			Priority H/M/L or 1,2,3	Weight (including contents) in KG	Mitigation Measure
		Life Safety	Property Safety	Operational Continuity			
Room No 1	Computer	✓	✓	✓	H	3 kgs	Fixing by Hook and loop (velcro)
	Glass window pane	✓	✓		H	5 kgs	Filming
Room No 2	Door opening inward	✓			H	8 kgs	Outward opening/ double hinge
	Sharp Edge on exit door	✓			H	4kgs	Sloping
Lobby – 1st Floor	Copier Machine with roller		✓	✓	M	15 Kgs	Fixing /locking
	Telephone Exchange Board			✓	L	7 kgs	Relocate/fixing



Session 2.2 School Disaster Management Plan (SDMP)

2.2.1 Session Objectives

- Introduction of School DM plan-Model template
- Why school Disaster Management Plan and its linkage to School Development Plan and integration with district disaster management plan
- Identification of role and responsibilities of various stake holders (Identify role of school management, teachers, students, parents and outside agencies in disaster risk reduction)
- Importance of HRVA in School Disaster management plan
- Management of Schools as Relief Centre
- Education in emergency

2.2.2 Outline of Content

This session will introduce the DM Plan-Model template to the participants. The aim of this session is to familiarize the participants with DM Model and how they can use it in their area of work. Session will explain the various stake holders during all the four phases of disaster and what roles they are suppose to play; how to identify stake holder and importance of School Disaster Management Plan (SDMP).

2.2.3 Expected Outcome of the Session

By the end of this session participants will be able to:

- Identify the key stakeholders and their role to be involved in SDMP preparation
- Develop skills to prepare the SDMPs

2.2.4 Detailed Session Plan

2.2.4.1 Introduction (5 minutes)

Introduction of Resource Person by Course Coordinator

2.2.4.2 Q&A with discussion (15 minutes)

Ask participants the following questions:

- Have you heard about school Disaster Management Plan?
- If yes, have you been part of any such exercise?

Ask all the participants to share their experience on SDMP.

2.2.4.3 Note for the facilitator (40 minutes)

School Disaster Management Plan:

School Disaster Management plan is the process of assessment and planning, physical protection and response capacity development designed to:

1. Protect students and the staff from physical harm;
2. Minimize disruption and ensure the continuity of education for all children;
3. Develop and maintain a culture of safety

In the event of any disaster children and teachers in an unsafe school building are at considerable risk. The School is a densely populated place and has small children that are one of the most vulnerable groups in the society.

To reduce this vulnerability particularly for schools, it is important to have a school Disaster Management Plan. Schools also have many resources and are community nodes. Therefore, a School also has responsibility towards its immediate locality, just as the neighbouring community is linked to the school.



Not all emergencies can be prevented. Therefore, the plan needs to describe arrangements for responding to those Emergencies that do occur/are at a greater chance of occurring. It shall describe key roles and responsibilities including who will be responsible for coordination, control and communication when responding to an emergency.

PPT1:

While preparing the plan one needs to see to it that the plan prepared has a holistic approach to deal with any disaster. A written description of the school and its surroundings can provide a basis for identifying hazards to which the school might be exposed. Once the hazard has been identified, it becomes possible to develop preparedness, prevention and a response programme to minimise them.

It is important to note that there is a fundamental link between day-to-day emergency readiness and disaster preparedness. Schools that are well prepared for an individual emergency involving a student or staff member are more likely to be prepared for complex events such as community disasters.

PPT2: To prepare a Disaster Management Plan some simple steps can be followed

As students and teachers, there are two very important contributions you can make to reduce disaster risk for yourselves and for your communities:

1. Take care of yourself: Prepare for, mitigate and prevent disasters through a School Disaster Management Plan (SDMP) and at home, through a family disaster management plan. This will ensure that during an emergency, we are free from danger, so that we can be of help to others.
2. Spread the word: Create widespread awareness amongst our families, friends, and neighbourhood and not the least of all, those communities that are lesser privileged than us. Here we are talking about helping others to understand their vulnerabilities, and how to overcome them. We can call this our 'social responsibility' as a student or teacher, and as a responsible citizen of India

Education in emergency situations:

Emergency situations, caused by armed conflict, chronic crises or natural disasters, are a major constraint to the achievement of Education for All. Yet children and adolescents in crisis situations have the right to education, and to benefit from the stabilizing and reassuring environment that schools can provide.

Learning includes our past and future at once; it is an aspect of life that comprehends everything that makes development possible. To learn is to adapt, to cooperate, and to transform our environment. It is the process by which people communicate, put forward ideas and bring them to fruition; learning is the organizing principle of every society.

Education can also save lives by protecting against exploitation and harm, including abduction, recruitment of children into armed groups and sexual and gender-based violence. Lastly, education provides the knowledge and skills to survive in a crisis through the dissemination of lifesaving information about landmine and cluster bomb safety, HIV/AIDS prevention, conflict resolution mechanisms and peace building.

Management of schools as relief centre

Most often schools act as shelters for the communities living near school affected by disasters. In areas prone to disaster it is a common practice. While making the plan for disaster management, it should be kept in mind as how school can act as shelter in the time of any disaster. School facilities should be planned accordingly. It

is also one of the major points to be integrated in the School disaster management plan and village disaster management plan.

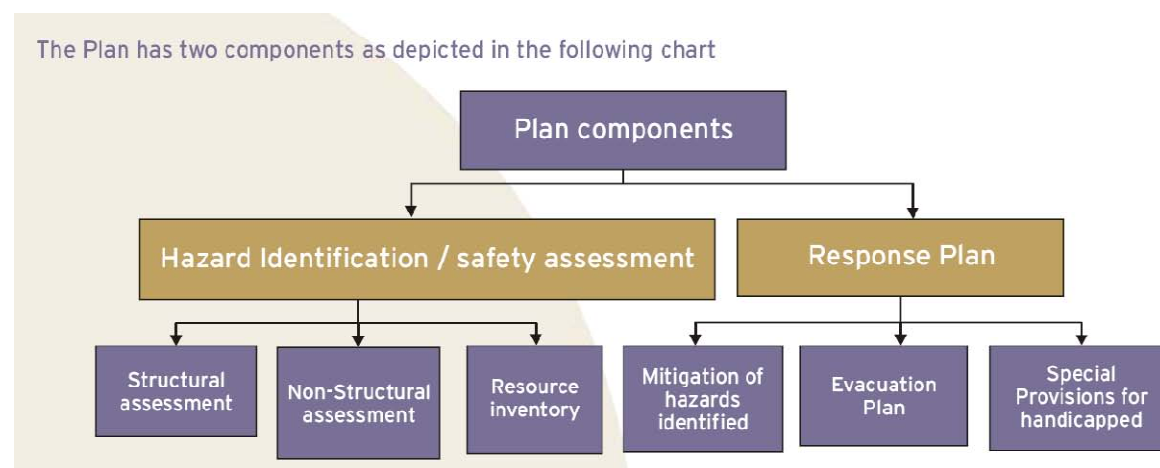
2.2.4.4 Energizer

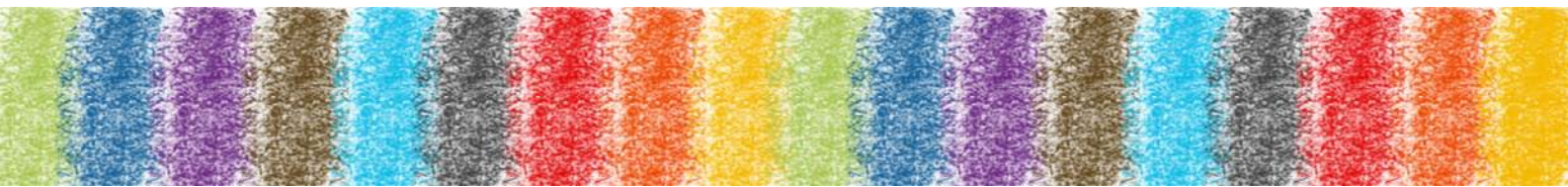
Please refer Annex 1 for the list of energisers. Choose one depending on the availability of time and number of participants.

2.2.5 Session Resources

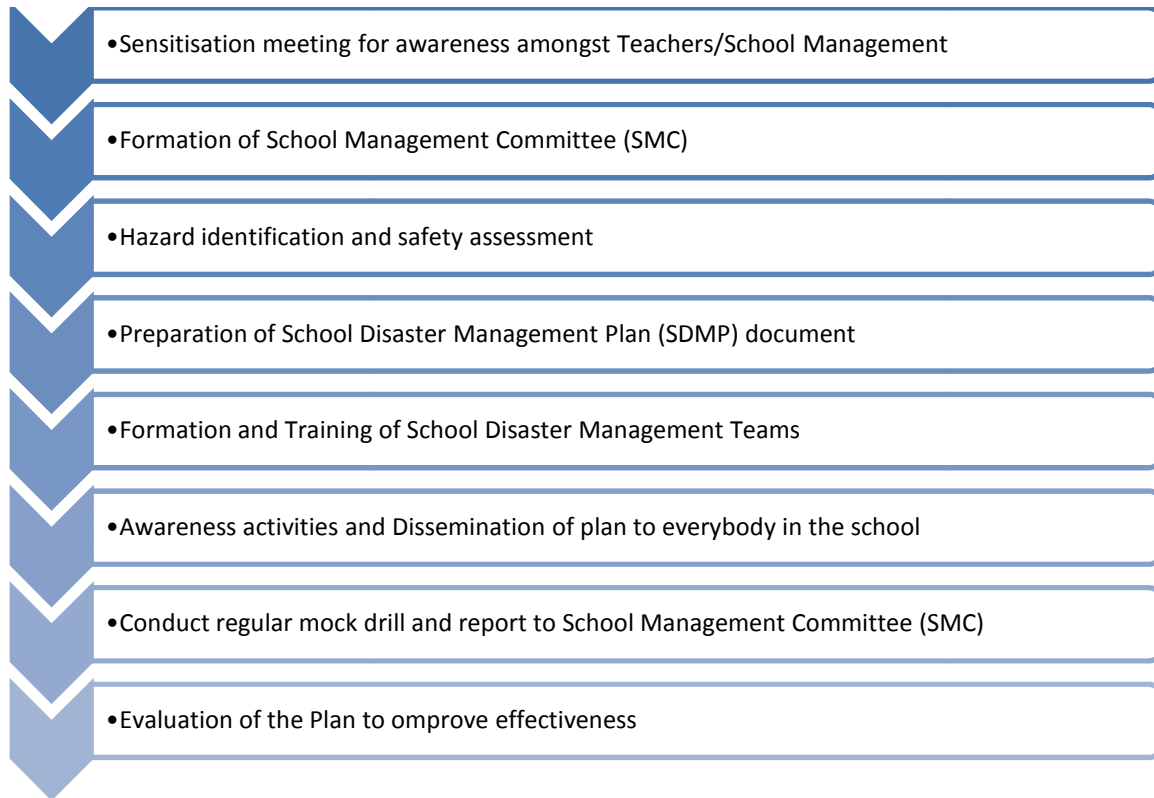
Power Point

PPT1 – plan components





Hand Outs



2.2.6 Reference/Further Reading:

1. <http://tdma.nic.in/pdf/n127.pdf>
2. <http://www.riskred.org/schools/ifc2.pdf>
3. Disaster Management in Education- National Perspective, GoI – UNDP, DRM Programme
4. Right to Education in Emergency Situations Report of the Special Rapporteur on the Right to Education, Vernor Muñoz



Session 2.3 Task Force

2.3.1 Session Objectives

Importance of Task Forces, their roles and responsibilities (Fire safety in schools, First Aid Skills, Search and Rescue Techniques in Disasters, Early Warning etc.), Guideline and SOPs for the task forces

2.3.2 Outline of Content

This session details out importance of task forces in disaster management in schools. What all task forces should be formed, who should be the members, what should be the criteria for selection of these members, training and information required by the members etc. The session also mentions the roles and responsibilities of each task force as well.

2.3.3 Expected Outcome of the Session

By the end of this session, participants should be able to identify the need for task forces, criteria for selection and their roles and responsibilities

2.3.4 Detailed Session Plan

2.3.4.1 Q&A with discussion (20 minutes)

Begin with asking the following questions:

- a) What is task force?
- b) Do you have any task force in your school to deal with emergencies?
- c) Are you part of any task force in your school?

Those you say yes, ask them to elaborate on their answer as to what task force and whether they plan any role in that.

2.3.4.2 Note for the facilitator (25 minutes)

This session would speak on task force in general and not on any explicitly on designated task forces (search & rescue, first aid, etc). Explain that common people are first to react to any disaster. If we want to protect our children, we will need to form task force on local level and train them so that they are able render services in any emergency situation. It is important for the success of any DM plan that children are part of the plan and are active participants in all the activities as well.

Various persons and institutions can help to prepare schools for disaster events and emergencies.

Following aspects may be talked upon:

- If it is middle school and above:
 - Task Forces will be created at schools
 - Members will be children, school staff and teachers
 - Coordinators are senior teachers
 - Children should be of VIII and above or above the age group of 13-14 years
 - Trainee should be from std VIII & above
 - Training should be in accordance to learning & retaining capacity of a child
 - Members consent to be taken before nomination and no enforcement
 - Gender balance should be checked
 - Inclusion (CWD as a member of TF & other inclusion)
 - Adequate refresh training
 - Practice session compulsory during training session by each member

- Focus on Safety of a rescuer (primary, unless which the TF not to start)
 - Criteria of nomination of Task Force
 - Reason behind the usage of specific technique to be given
 - Once the children master in basic than the specialized training can be provided to them
 - Training to be provided at their own location (school)
- If it is primary school:
 - Task Forces will be created around school
 - Members will be youth and neighbour of school and present during the school hours
 - Coordinators are senior teachers
 - Members consent to be taken before nomination and no enforcement
 - Gender balance should be checked
 - Inclusion (PWD/CWD, SC, ST, minorities)
 - Adequate refresh training
 - Practice session compulsory during training session by each member
 - Criteria of nomination of Task Force

Main task force should be *(for details see handout 1)*:

1. Awareness generation Team

Role and responsibilities include:

- Develop IEC materials posters, pamphlets, simple tips on do's and don'ts in different disasters, street plays and “nukkad natak”
- Conduct awareness generation activities systematically in the whole school, targeting different classes and also staff and teachers.
- Conduct awareness generation activities in the neighbouring areas in coordination with the RWA representatives, the local police station, and any local NGOs.
- Organise innovative activities and exercises for students and teachers on Disaster Management to ensure continuing interest on the issue during normal time.

2. Warning and Information Dissemination Team

Role and responsibilities include:

- Monitoring and taking regular updates from TV/ Radio/Internet on the potential hazard that school can face, e.g. weather updates in case of floods, landslide, cyclones etc.
- Inform the school authorities of any impending hazardous situation
- Maintain contact with district authorities and communicate any directions to the school authorities
- Post warning signs / flags of appropriate colour for different warning level at prominent and designated places in the school.
- Disseminate the information to all the classrooms and teachers
- Coordinate with the other teams and inform them about the latest weather / warning situation

3. Search and Rescue Team

Role and responsibilities include:

- Check the exits
- Identify the open areas where the school can assemble after evacuation in an emergency
- Make sure there are no hazards present for evacuating to the designated area
- Make sure that necessary supplies are accessible
- Assist the Planning Committee in developing options in the event evacuation is required during stormy weather
- Be prepared for special equipment needs for mobility-impaired students

- Any special response procedure for special needs students must be tested during drills
- Conduct regular drills in coordination with the other teams and practise the different evacuation procedures used in different hazards

These different procedures have to be disseminated to the entire school and separate drills to be conducted for them

4. First Aid Team

Role and responsibilities include:

- Make sure that first aid supplies are up to date and always complete
- Keep emergency cards and health cards up-to-date
- Ensure training for all new members and refresher training for existing members (every year)
- Be aware of special medical requirements of students / employees and ensure that some stock medication (maybe 1-2 days medicines) are kept in the school and regularly updated
- Participate in regular drills

5. Fire Safety Team

Role and responsibilities include:

- Make sure fire-fighting equipment (extinguishers, etc.) is in working order and that staff has received training to use it
- Ensure that all non-structural earthquake hazards that can cause fire (i.e. Chemical Laboratories, Cafeteria Kitchens, hot water tank) are properly secured

Coordinate with the SDMC in ensuring that a fire safety assessment of the school premises is conducted by the local fire department and that the recommendations are implemented

2.3.5 Session Resources

Power Point

Hand Outs 1

School Disaster Management Planning **STEPS IN SCHOOL DISASTER MANAGEMENT PLANNING**

2. Warning and Information Dissemination Team

Members

- Computer Teacher (or a teacher who is familiar with computers and surfing the internet)
- Electronics teacher
- Geography teacher
- HAM club in charge
- 12 parents (preferably working in IMD, CWC, Office of the District Magistrate, Police, etc.)
- 4-6 students (know how to operate a VHF set)
- Members of the HAM club

The students in this team shall be from std. VIII to std. XII. The students from the lower grade can help in manning the Emergency Operations Centre (Control Room). Students trained in the operation of VHF sets or members of the HAM club shall be part of this team.

Materials required

- Computer with Internet access and e-mail, telephone, fax machine, radio, television, mobile phone, VHF set / HAM instrument.
- Siren
- Flags of different colours
- Battery operated radio and batteries
- Contact information of the various local authorities district magistrate, police, fire services, health department, Red Cross, etc.

Training Required

- A thorough orientation on different types of hazards
- Training in the operation of VHF wireless equipment.
- Familiarity with the Internet and disaster information websites.

Roles and Responsibilities:

Before the disaster

- Monitoring and taking regular updates from TV/Radio/Internet on the potential hazard that school can face, e.g. weather updates in case of floods, landslide, cyclones etc.



15

School Disaster Management Planning **STEPS IN SCHOOL DISASTER MANAGEMENT PLANNING**

- Inform the school authorities of any impending hazardous situation
- Maintain contact with district authorities and communicate any directions to the school authorities.
- Post warning signs / flags of appropriate colour for different warning level at prominent and designated places in the school.
- Disseminate the information to all the classrooms and teachers
- Coordinate with the other teams and inform them about the latest weather / warning situation

During disaster

- Duck, cover and hold at first sign of earthquake. Hold on to furniture legs. If furniture moves, if outside, move away from buildings
- Cross check the warning received from various sources
- Warning the school in case of an emergency by either ringing a bell/siren or on the public address system or through a messenger, whatever is available in the school
- Reporting to the school disaster management committee about the disaster in the school building
- Reporting to the government emergency response departments (Fire, SDM, Police etc.)
- In case of the school being used as a shelter, inform the shelter staff about the latest updates and weather reports.

After disaster

- Continue monitoring the various information sources
- Keep reporting on the situation of the disaster to all concerned teams and coordinate with them
- Disseminate safety tips in coordination with the Awareness Generation Team
- Work with the Incident Management Team from the district administration in preparing updates and disseminating information



16

DISASTER RESPONSE GROUP^{4,5}

1. Evacuation Team

- Members**
- All class teachers
 - Class monitors and Hall monitors
 - Prefects

Materials Required

- A detailed map of the school with the different exits, stairs, doors, and windows clearly marked.
- School Evacuation Plan
- Information on number of students and classes
- Information on number of employees
- Master keys
- Siren
- Signs to post and writing materials
- Special equipment for mobility-impaired students

Training Required

- Training in evacuation procedures through local fire services

Roles and responsibilities:**Before a disaster**

- Check the exits
- Identify the open areas where the school can assemble after evacuation in an emergency
- Make sure there are no hazards present for evacuating to the designated area
- Make sure that necessary supplies are accessible
- Assist the Planning Committee in developing options in the event evacuation is required during inclement weather
- Be prepared for special equipment needs for mobility-impaired students

⁴ The members of the various teams in this group may be chosen from NCC, NSS, and Scouts and Guides in the school. However, such students already receive different types of training from these organisations. Other students may also be encouraged to become a part of these teams.

⁵ All students will get consent from their parents before getting involved in the response teams.



17

- Any special response procedure for special needs students must be tested during drills
- Conduct regular drills in coordination with the other teams and practise the different evacuation procedures used in different hazards
- These different procedures have to be disseminated to the entire school and separate drills to be conducted for them

During disaster

- Duck, cover and hold at first sign of earthquake. Hold on to furniture (e.g. if furniture moves. If outside, move away from buildings)
- Evacuate in an orderly fashion as practised in the drills

After disaster

- Ensure that emergency assembly area is accessible and safe
- Determine if any additional assistance is required for evacuation.
- Take roll call and report group status to Administrator (Emergency Operations Centre).

2. Search and Rescue Team

Members

- Sports teachers
- NCC, NSS, Scouts and Guides instructors
- Civil Defence Trainer
- Fire Service representative
- 12 parents (preferably from the Armed / Paramilitary forces / Police / Fire Services / Civil Defence)
- Able-bodied students

Materials Required

- A detailed map of the school with the different exits, stairs, doors, and windows clearly marked.
- Information on number of students and classes
- Information on number of employees
- Torches with spare batteries
- Master keys
- Handhalls
- Stretchers, ropes and ladders



18

Training Required

- Training through local Civil Defence / Fire Services in basic search and rescue techniques

Roles and responsibilities:**Before a disaster**

- Make sure needed supplies are on site
- Make sure team members stay current with their training
- Any special response technique for special needs students must be tested during drills

During disaster

- Duck, cover and hold at first sign of earthquake. Hold on to furniture (e.g. if furniture moves. If outside, move away from buildings)
- Start rescue and search operations in case of another disaster

After disaster

- According to pre-established pattern, check (visually, vocally, physically) every room in the building.
- Report location of injured to First Aid Team.
- Report location of other problems to SDMC.
- Look for obvious structural problems/significant structural damage as sweep is made through the buildings
- Report any damage to the Administrator (EOC).



3. First Aid Team

Members

- School Doctor
- School Nurse
- St. John Brigade / Red Cross volunteers
- Civil Defence Volunteers
- 12 parents (preferably from the Medical / Paramedical profession)
- Students interested in health issues

Materials Required

- A medical kit for the entire school
- Classroom first aid kits

19

- Health Cards containing information on Special medicines being regularly taken by any student(s) / employees
- Emergency Cards containing information on medical resources in the area

Training Required

- Training through local Civil Defence / Fire Services / St. John Brigade / Red Cross / Health Department in basic first aid techniques and CPR (cardiopulmonary resuscitation)

Roles and responsibilities:**Before a disaster**

- Make sure that first aid supplies are up to date and always complete
- Keep emergency cards and health cards up-to-date
- Ensure training for all new members and refresher training for existing members (every year)
- Be aware of special medical requirements of students / employees and ensure that some stock medication (maybe 1-2 days' medicines) are kept in the school and regularly updated
- Participate in regular drills

During disaster

- Duck, cover and hold first sign of earthquake. Hold on to furniture (e.g. if furniture moves. If outside, move away from buildings).

After disaster

- Administer first aid and record all cases and treatments.
- Determine need for further medical assistance. Coordinate requests for assistance through the Administrator.
- Assign First Aid Team members to accompany Search and Rescue Teams during their search operations.



20

School Disaster Management Planning **STEPS IN SCHOOL DISASTER MANAGEMENT PLANNING**

4. Fire Safety Team

Members

- Teachers (2)
- 12 parents (preferably from fire services / civil defence)
- Students (10)

(Teams comprising 1 teacher and 5 students each may be formed)

Materials Required

- Fire extinguishers
- Hard hats, Gloves
- Map of school showing location of all exits, doors and windows, the electric main switches and the fire extinguishers

Training Required

- Training through local Civil Defence / Fire Services in basic fire fighting and fire safety techniques

Roles and responsibilities:

Before a disaster

- Make sure fire-fighting equipment (extinguishers, etc.) is in working order and that staff has received training in its use
- Ensure that all non-structural earthquake hazards that can be cause of fire (i.e. Chemical Laboratories, Cafeteria Kitchens, hot water tank) are properly secured
- Coordinate with the SDMC in ensuring that a fire safety assessment of the school premises is conducted by the local fire department and that the recommendations are implemented

During disaster

- Duck, cover and hold at first sign of earthquake. Hold on to furniture legs if furniture moves. If outside, move away from buildings.

After disaster

- Check for and confirm existence of fire. Report location to Administrator (EOC) and Site Security team
- Control fire, if possible (ensure personal safety)
- Look for conditions that may cause a fire to develop and seek maintenance staff assistance in removal of condition
- In case of electrical fire, turn off the electric main switches



21

2.3.6 Reference/Further Reading:

1. School Disaster Management Plan Guidelines by SEEDS.
2. National Disaster Management Guidelines : Management Of Landslides And Snow Avalanche, 2009, National Disaster Management Authority, Government Of India
3. Safe learning – safe citizens : Education today for a safe tomorrow
4. School Disaster Plan, Produced and edited by: Rajat Chhabra (DPO South)
5. A practitioner's handbook on School Safety, Save the Children



Session 2.4 Fire Safety/ Search and Rescue Techniques/First Aid

2.4.1 Session Objectives

Techniques of Fire Safety/ Search and Rescue /First Aid

2.4.2 Outline of Content

This session talks about fire safety and Search and Rescue techniques on which children can be trained upon and what not to be trained upon, which can be used in school during emergency situations. First aid is the most important part of dealing with emergency situation whether in day to day life or in mass risk situations. This session provides basic information about the first aid, search & rescue and fire safety and how it should be used in emergency situations.

2.4.3 Expected Outcome of the Session

By the end of session, participants are:

- Familiar with AIIMS Module for First Responders
- Able to identify fire safety and search and rescue techniques and methodologies which are appropriate for students to perform
- Trainers know that which all technique the children to be trained upon and what all to be avoided with children
- Children with Disability (CWD) perspective rescue training.

2.4.4 Detailed Session Plan

2.4.4.1 Q&A with discussion (15 minutes)

Begin with ask the following question:

- Are you aware about fire safety systems?
- Write down answers on the board or flip chart and sum up common ones.
- Ask next question:
- Have you used any fire safety equipment?
 - Ask participants for the name and write down on the board or flip chart.
- Ask next question:
- Do you know what first aid is and what it includes?
 - Let some of the participants who know elaborate for the entire group.
- Ask final question:
- Are you aware of any search and rescue techniques?

Encourage everyone to talk and share their experience related to fire safety, first aid and search & rescue.

2.4.4.2 Lecture (30 minutes)

In the event of fire incident or any other disaster, staffs/teachers and students in an unsafe and unplanned school building are at substantial risk.

Children are highly vulnerable in any disaster but fire is one of the common and probably one disaster which has very high occurrence as well. However, very schools are well prepared to deal with this danger. Given the seriousness of the matter, it is highly desirable that all schools develop their school fire safety management plan.

The school should focus more on precaution and prevention of fire mishap. Hence dos and don'ts of fire should be taught upon.

There are two main components in the fire safety plan:

A) Hazard identification/Safety Assessment, which includes –

- Structural assessment
- Non-structural assessment
- Resource inventory

B) Response Plan, which includes:

- Mitigation of hazards identified
- Evacuation plan
- Special provision for differently able

In order to achieve fire safety school, every school should form a task force for fire safety. The members of the team can include – teachers, parents and students.

Role & responsibilities of the school fire team:

- Make sure fire-fighting equipment (extinguishers, etc.) is in working order and that staff has received training in its use
- Ensure that all non-structural earthquake hazards that can be cause of fire (i.e. Chemical Laboratories, Cafeteria Kitchens, hot water tank) are properly secured
- Coordinate with the SDMC in ensuring that a fire safety assessment of the school premises is conducted by the local fire department and that the recommendations are implemented

(PPT1 and handout) FIRST AID

First Aid training helps save lives. Knowing first aid allows you to help someone who is injured or suddenly ill until help arrives or the person sees a health care provider.

First Aid is the immediate help given to the victim of injury or sudden illness. First aid is generally not all the treatment the person needs, but it helps the victim for the usually short time until advance care begins. Most first aid is fairly simple and does not require extensive training or equipment.

What is the aim of First Aid?

The key aims of first aid can be summarised in three key points

Preserve life is the overriding aim of all medical care, including first aid, is to save lives.

Prevent further harm also sometimes called preventing the condition worsening; this covers both external factors, such as moving a patient away from a cause of harm, and applying first aid techniques to prevent worsening of the condition, such as applying pressure to stop a bleed becoming dangerous.

Promote recovery - first aid also involves trying to start the recovery process from the illness or injury, and in some cases might involve completing a treatment, such as in the case of applying a plaster to a small wound.

First aid training often also incorporates the prevention of initial injury and responder safety, as well as the treatment phases.



What are the Key Skills Required?

Certain skills are considered essential to the provision of first aid and are taught universally. Particularly, the "ABC"s of first aid, which focuses on critical life-saving intervention, must be rendered before treatment of less serious injuries. ABC stands for Airway, Breathing, and Circulation.

- Attention must first be brought to the airway to ensure it is clear. Obstruction (choking) is a life-threatening emergency.
- Following evaluation of the airway, a first aid attendant would determine adequacy of breathing and provide rescue breathing if necessary.
- In Breathing: It is look, listen and feel for chest wall movement, air from mouth, any audible sounds of respiration and then feel for pulse.
- If pulse is absent, proceed for CPR.
- If pulse is present look for circulation signs i.e. pulse in hand, any bleeding point requiring compression bandage and limb elevation.
- D stands for disability in the form of neurological status i.e. conscious level of patient and the reaction of pupils to light .D can also hint towards deformity (bony).

Refer Handout 1: **AIIMS manual for First Responder**

Promoting recovery

The first aider is also likely to be trained in dealing with injuries such as cuts, grazes or broken bones. They may be able to deal with the situation in its entirety (a small adhesive bandage on a paper cut), or may be required to maintain the condition of something like a broken bone, until the next stage of definitive care (usually an ambulance) arrives.

What is search and rescue?

Who can perform search and rescue?

What are the basic methods with locally available materials?

STEPS

1 Fire : Things to remember for Children Task Forces

- Training should be in accordance to learning & retaining capacity of a child
- Focus to be more on precaution than dealing Fire
- Practice by children and not only demonstration by expert
- Clubbing is recommended with SAR team
- Class of fire
- Use/operation of fire extinguisher & appropriateness
- Locally available fire extinguishing mechanism in absence of fire extinguisher cylinder

2 First Aid (FA): Things to remember for children Task Forces

- Training should be in accordance to learning & retaining capacity of a child
- Only basic techniques to be given, like:
 - Technique to use gloves, mask, etc and its disposal
 - Knowledge on ABC, Bandaging, wound, sling, splint, fracture, burn

- 
- Local medical conditions like, snake bite, dog bite, heart attack, stroke, etc
 - **For children less than 15 year of age**, no training on – CPR, tourniquet, triage

3 Search and Rescue (SAR): Things to remember for children Task Forces

- Training should be in accordance to learning & retaining capacity of a child
- Only basic techniques to be given, like:
 - Fire man lift method, crawl, to drag, blanket drag, pick a bag, stretchers (2 hand, 3 hand, 4 hand seat method, blanket, rope, bamboo, etc) and similar
 - Training should be with free hand and materials available locally at schools
- No training on – rope (knots), rappelling, climbing, water rescue, pulley, high rise and other difficult techniques
- Hailing search method to be taught as it would help the experts to identify the location and reduce time.

2.4.5 Session Resources

Power Point

(PPT1) [PPTs\Sessions 2.2 - PPT1 - Fire safety.pptx](#)

Hand Out



AIIMS Manual for First Responders[©]

Dr Sushma Sagar, Associate Professor

Ms Hardeep Kaur, Trauma Nurse Co-ordinator

JPN Apex Trauma Center AIIMS, Delhi



Contents:

- Program Schedule/Module
 - Introduction
 - Medical needs
 - Triage/Preparedness
 - Initial Assessment
 - Circulatory Emergency
 - Foreign Body Airway Obstruction
 - Child Resuscitation
 - Musculoskeletal Trauma
 - Burn Injury
 - Skill stations
-
- 1) Airway management
 - 2) CPR
 - 3) Hemorrhage control
 - 4) Splinting and Bandaging
 - 5) Helmet removal
 - 6) Spine board application



Introduction

School environment plays an important role for health care workers with regard to safety issues in children. A major time of children with their peer group is spent here for learning and various other playful activities. Safety of this environment needs adequate attention and preparedness to face any kind of event/casualty

Major Causes of injury

- Fall
- Sports injury
- Assault
- Trap door injuries
- Stampede
- Medical conditions as Fainting
- Drowning
- Burns
- Stab

Adequate Prevention to reduce down such incidences can be taken. Supervision by teachers/Parents/Guardians is important.

A checklist with regard to *Preparation *What to do *Whom to call for help and *Where to go should remain available with one and all

Key issues in Stampede

- On site resuscitation
- Information to relatives
- Identity and Photographs of the patients
- Communicate to the hospital
- Where to take/How many to take/Do not congest

AIIMS Manual for First Responders is a basic outline for pre hospital emergency care to be provided by trained responders including doctors, nurses, paramedics as well as lay persons in the absence of advanced medical care.

It consists of a number of life-saving techniques focused on the “ABC” of emergency care: Airway: the protection and maintenance of patent airway including the use of airway adjuncts such as on oral and nasal airway. Breathing: the actual flow of air during respiration, natural or artificial respiration often assisted by emergency oxygen. Circulation: the movement of blood due to beating of the heart after CPR.

It also includes considerations of patient transport such as the protection of the cervical spine and avoiding additional injuries through splinting and immobilization. The time from collapse to revival is an important determinant of survival.

For witnessed sudden collapse in victims of all ages, the rescuer should first call for help/ emergency medical services system and then return to continue CPR (phone first). But for un-witnessed arrest (e.g., drowning,



drug overdose and trauma), the rescuer should deliver five cycles of CPR before calling emergency number and then continue CPR.

NEED TO RESPOND WHEN:

Respiratory Arrest:

- Respiratory arrest is present when respiratory efforts are completely absent or inadequate to maintain effective oxygenation and ventilation.
- Respiratory arrest without cardiac arrest can result from a number of causes including submersion, near-drowning, smoke inhalation, drug overdose, electrocution, suffocation, trauma, myocardial infarction and coma due to any cause.
- Immediately establish a patent airway and provide rescue breaths to prevent cardiac arrest and hypoxic injury to the brain and other organs.

Cardiac Arrest

- In cardiac arrest, circulation ceases and vital organs are deprived of oxygen. The victim will have no pulse and no signs of circulation. The victims of cardiac arrest need immediate CPR.
- For every minute without CPR, survival from witnessed sudden cardiac arrest decreases from 7 to 10%. When bystander CPR is provided, the decrease in survival is gradual and averages 3 – 4% from collapse to defibrillation. Thus, CPR doubles or triples survival from sudden cardiac arrest.

Assess Response

Non-trauma patient: shake the victim and shout “Are you **OK**?”

Trauma patient: Tap and talk.

Determine scene safety.

Shout for help, if alone

If no one responds, activate Emergency Medical Services (EMS).

Then return to the victim and begin CPR.

If the victim has sustained trauma to the head and neck or if trauma is suspected, move the victim only if necessary.

Position of the Victim:

For resuscitation and evaluation to be effective, the victim must be supine and on a firm, flat surface. If the victim is lying face down, roll the victim as a unit so that the head, shoulders and torso move simultaneously without twisting (“log roll” the victim).

Medical Needs

First Aid box

- Bandage roll 6 inches/4inches
- Scissors/Blade
- Cotton/Swabs
- Cleaning solution as Betadine /Savlon/Normal Saline

- Adhesive tape
- Rubber tubing/Tape roll (to be used as tourniquet)
- Ointment as Neosporin/Soframycin

Availability of Medical personnel in schools

Medical Aid at all crowded places

Transport vehicle (identified with name of driver)

List of nearby doctors/medical facilities

Medical unit

- A good Public Address system(For TRIAGE)
- Availability of scoop stretcher/spine board
- Cervical collar
- Oxygen cylinders with mask
- Splints
- Clean disposable sheets
- Bandages with cotton pads
- First aid boxes /Intravenous fluid access

Triage (to filter/to sort out the needy)

Are you ok?

Move to a safe place -follow me

Raise your arm/leg

Color code the patients/victims

- Green – walking, wounded
- Yellow – less serious(can listen and respond to you/moves arm or leg)
- Red - very serious
- Black - nearly dead



Quick survey

- Look - chest movements
- Listen - breath sounds
- Feel - pulse

Initial Assessment

- A AIRWAY
- B BREATHING
- C CIRCULATION
- D DISABILITY (neurological status – eye movement/movement of limbs/ verbal response)

A= Airway

Airway is the path the air takes from nose to lungs.

If the victim is unresponsive, you must determine if the airway is open, the victim is breathing and if the respiration is adequate. To assess breathing, the victim should be supine (lying on his or her back) with an open airway.

How to open the Airway?

Most victims with respiratory or cardiac arrest have no signs of breathing. Some victims will demonstrate respiratory efforts with signs of upper airway obstruction. Most common cause of upper airway obstruction is relaxed tongue and epiglottis. These victims may resume effective breathing when the airway is opened.

The techniques available to open the airway are:

Head tilt – chin lift maneuver / Jaw thrust maneuver

Head Tilt – Chin Lift Maneuver

The lay rescuer should open the airway using the head tilt – chin lift maneuver for both injured and non-injured victims. The health-care worker should use this maneuver to open the airway of a victim without evidence of head and neck trauma.



To accomplish the head tilt – chin lift maneuver, place one hand on the victim's forehead and apply firm, backward pressure to tilt the head back. Place the fingers of the other hand under the bony part of the lower jaw near the chin. Lift the jaw upward to bring the chin forward. This maneuver supports the jaw and helps tilt the head back.

- Note:
1. Do not press deep into the soft tissue under the chin
 2. Do not use thumb to lift the chin.

Jaw Thrust Maneuver (Health – care worker)

This technique is recommended for health-care workers as an alternative method for opening the airway when trauma to head and neck is present or suspected.

Place one hand on each side of the victim's head. Grasp the angles of the victim's lower jaw and lift with both hands, displacing the mandible forward.

The jaw thrust technique without head tilt is the safest approach to opening the airway of a victim with suspected neck injury because it is accomplished without extending the neck. The head should be carefully supported without tilting it backward or turning it from side to side.



Cervical Spine Stabilization:

In trauma victims, cervical spine needs to be stabilized using cervical collar, if available. Any hard object can be used to restrict the neck movement, even bricks at the trauma site can be placed on the sides of the neck.

B = Breathing

To assess breathing, place your ear near the victim's mouth and nose while maintaining an open airway:

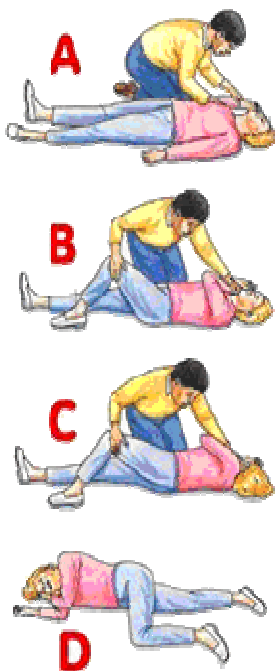
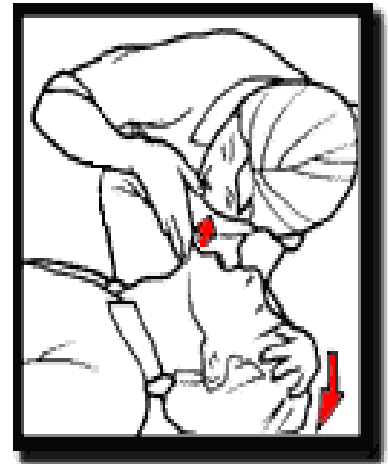
Look for the chest to rise and fall

Listen for air escape during exhalation

Feel for the flow of air

If the chest does not move and no air is exhaled, the victim is not breathing. This should not take more than ten seconds.

Some victims will make weak, inadequate attempts to breathe. In addition, reflex gasping respiratory efforts (agonal respirations) may occur early in the course of primary cardiac arrest. Treat the victim who has occasional gasps as if he or she is not breathing and give two rescue breaths over one second each to produce visible chest rise. If the victim resumes breathing during or after resuscitation continue to help him maintain an open airway until he or she is sufficiently alert to protect his or her own airway. If the respiration is adequate, place the victim in the recovery position.



Recovery Position

The recovery position is used for unresponsive adult victim with normal breathing and effective circulation. It maintains a patent airway and decreases the risk of airway obstruction and aspiration.

The position should be as near a lateral position as possible with the head dependent to allow free drainage of secretions. Avoid any pressure on the chest that impairs breathing.

It should be possible to turn the victim onto his or her side and to return to the back easily and safely without flexion or rotation of the back, neck or spine.

The victim in the recovery position must be closely monitored.



Methods of Rescue Breathing

Mouth – to – Mouth Breathing (lay person/health-care worker)

Mouth – to – Mouth rescue breathing provides oxygen to the victim. To provide rescue breaths, open the victim's airway, pinch the nose and create an airtight mouth-to-mouth seal. Give a breath over one second, take a regular breath and give a second breath over one second. Most common cause of ventilation difficulty is improperly opened airway. If the chest does not rise with the first breath, perform head tilt-chin lift maneuver and give the second rescue breath.

- No infection is transmitted by mouth-to mouth breathing
- Even a handkerchief can be used as a barrier.

Recommendations for Rescue Breathing

- The recommendations for rescue breathing include:
- Deliver each breath over one second
- Give sufficient volume (by mouth-to-mouth or bag-mask ventilation) to produce visible chest rise
- Avoid rapid or forceful breaths

Rescue Breathing without Chest Compressions (Health –care worker)

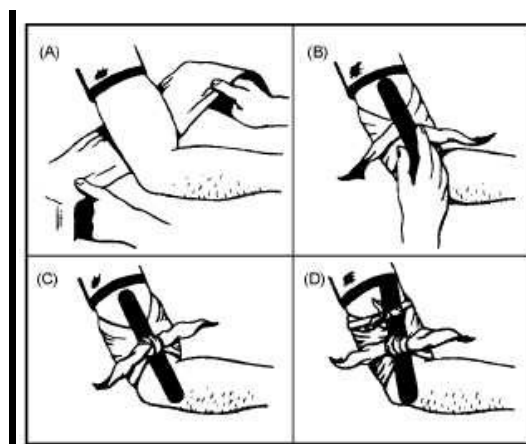
If an adult victim with spontaneous circulation (palpable pulse) requires support of ventilation, give rescue breaths at the rate of 10 – 12 breaths per minute or one breath every five to six seconds. Each breath should be given over one second and should cause visible chest rise. During delivery of rescue breaths, reassess the pulse every two minutes.

C = Circulation

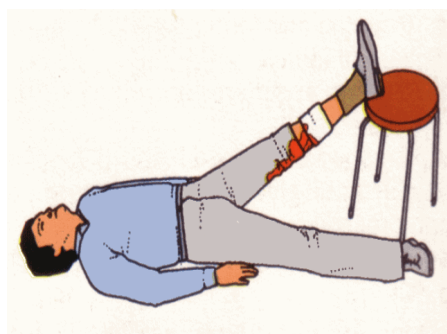
Cardiac arrest results in the absence of signs of circulation, including the absence of a pulse. Signs of circulation include normal breathing, coughing or movement in response to the rescue breaths. The carotid pulse check has been the “gold standard” usually relied on by rescuers to determine if the heart is beating or not. The pulse check should take no less than five seconds and no more than ten seconds. To perform a pulse check in the adult, the rescuer attempts to palpate a carotid pulse. As an alternative, the femoral artery pulse may be palpated.

To locate the carotid artery pulse, maintain head tilt with one hand on the victim's forehead and locate the trachea, using two or three fingers of the other hand. Slide these fingers into the groove between the trachea and the muscles at the side of the neck, where the carotid pulse can be felt. This technique is often easier and requires less pressure to perform on the side nearer to the rescuer. If the victim does not show signs of circulation, immediately begin chest compressions.

In a trauma victim: After opening the airway, deliver two rescue breaths. If there are no signs of circulation, start CPR. If there are signs of circulation, look for overt bleeding and try to control it by direct compression which can be applied by using a cloth or a tourniquet.



Elevation of limb can reduce bleeding



Chest Compressions

Chest compressions consist of rhythmic application of pressure over the lower half of the sternum. These compressions increase intrathoracic pressure and create blood flow or directly compress heart. When rescue breathing is provided and blood is circulated to the lungs by chest compressions, the victim receives enough oxygen to maintain oxygenation of brain and other vital organs for several minutes till defibrillation can be performed.

Proper Compression Technique

1. The victim must be in the horizontal position
2. The rescuer's elbows are locked in position, arms straightened and the rescuer's shoulders positioned directly over his or her hands so that the thrust for each chest compression is straight down on the sternum.
3. The compressions should depress the victim's sternum approximately 1.5 to 2 inches (4 to 5 cm).
4. Release pressure on the chest to allow blood to flow into the chest and heart. The pressure must be released completely and the chest allowed to return to its normal position after each compression

(although the rescuer's hands should continue to touch the victim's sternum to maintain proper hand position).

5. Chest compressions should be performed at the rate of 100 compressions per minute.
6. To maintain correct hand position, do not lift your hands from the chest and do not change hand position during compressions. Allow the chest to return to its normal position after each compression and allow approximately equal compression and relaxation times.

A ratio of 30 compression to 2 ventilations at the rate of 100 compression per minute is recommended.

1 and 2 Rescuer CPR

If two rescuers are present, one person is positioned at the victim's side and performs chest compressions. The other rescuer remains at the victim's head, maintains an open airway and provides rescue breathing and monitors the carotid pulse for adequacy of chest compressions. The compressor and ventilator should change roles every two minutes to prevent compressor fatigue and deterioration in quality and rate of chest compression. The compression rate for one-and two-rescuer CPR is approximately 100 compressions per minute.



Summary

No movement or response.		
Call for help.		
Open AIRWAY, check BREATHING		
If not breathing , give 2 BREATHS that make chest rise		
If no response, check pulse: Do you DEFINITELY feel pulse within 10 seconds?	Definite	Give 1 breath every 5 to 6 seconds
	Pulse	Recheck pulse every 2 minutes
Give cycles of 30 compressions/ 2 breaths until help comes. Minimize interruptions in compressions		

D = Disability (Neurological examination)

Throughout all interventions, assess the patient's response and monitor closely for signs of deterioration. The response can be remembered as:

A = Alert patient; V=Responds to verbal commands; P=Responds to pain; U=Unresponsive patient

If the patient is unresponsive, put the patient in recovery position.



E= Extremity Injury and Environment

- After ABCD evaluation and management, look for any extremity injury.
- To define the extent of the injury, remove the victim's clothing.
- Use splint in case of obvious deformity. A stick or even a cloth can be used as splint. When the injury assessment is complete, cover the patient to prevent the development of hypothermia.

Special Situation

Drowning

Rescuer should provide CPR, particularly rescue breathing, as soon as an unresponsive submersion victim is removed from the water. When rescuing a drowning victim of any age, the lone health-care provider should give five cycles (about two minutes) of CPR before leaving the victim to activate the EMS. Mouth-to-mouth ventilation in the water may be helpful when administered by a trained rescuer.

The rescuer should remove drowning victims from the water by the fastest means available and should begin resuscitation as quickly as possible. Only victims with obvious clinical signs of injury or alcohol intoxication or a history of diving, waterslide use or trauma should be treated as a "potential spinal cord injury," with stabilization and possible immobilization of the cervical and thoracic spine.

Hypothermia(Exposure to cold)

- In an unresponsive victim with hypothermia, health –care provider should assess breathing to confirm respiratory arrest and assess the pulse to confirm cardiac arrest or profound bradycardia for 30 to 45 minutes. If the victim is not breathing, initiate rescue breathing immediately. If the victim does not have a pulse, begin chest compressions immediately. Do not wait until the victim is rewarmed to start CPR. Remove wet clothes, insulate or shield the victim, cover with any sheet/ newspaper.
- Avoiding rough movement, safely transport the victim to a hospital as soon as possible. For the hypothermic patient in cardiac arrest, continue resuscitative efforts until the patient is evaluated by advanced care providers. In the out-of-hospital setting, passive warming should be continued until active warming is available.

Pregnancy

- Place the victim in left lateral position
- Do CPR at midsternum

Electrocution

- Immediately switch off the main electric output. Evaluate and perform the resuscitation.

Adult Foreign Body Airway Obstruction (FBAO)

Foreign body airway obstruction should be suspected when a person suddenly develops difficulty in breathing, becomes cyanotic(blue) or unconscious for no apparent reason.

CAUSES

Three common causes of airway obstruction:

1. Foreign body (large piece of meat, dentures)
2. Relaxed tongue

Altered sensorium (unconscious)

Unresponsive patient

3. Swollen air passages

Foreign bodies may cause either partial or complete airway obstruction. With partial airway obstruction, the victim may be capable of either good or poor air exchange. With good air exchange, the victim continues spontaneous coughing and breathing efforts.

Do not interfere with the victim's efforts

Stay with the victim and monitor. Activate emergency medical services, if obstruction persists.

In case of partial airway obstruction and with poor air exchange, the signs are:

Weak, ineffective cough

Respiratory difficulty

Cyanosis

This is treated in the same way as severe or complete airway obstruction. A victim with severe or complete airway obstruction may be:

Unable to speak, breathe or cough forcefully

Clutch his neck with thumb and finger making 'universal choking sign'

UNIVERSAL CHOKING SIGNS

1. Ask the victim if he or she is choking
2. If the victim indicates 'yes' by nodding his head without speaking

Severe or complete obstruction is present

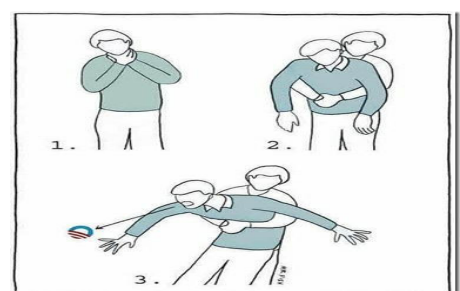
The victim may become unresponsive and death will soon follow. Use abdominal or chest thrusts as described below.

A. HEIMLICH MANEUVER/ABDOMINAL THRUST/SUBDIAPHRAGMATIC ABDOMINAL THRUST

- Indicate for relief of FBAO in adults and children on to eight years.

Victim Standing or Sitting

1. Make a fist with one hand.
2. Place the thumb side of your fist against the victim's abdomen, in the midline, slightly above the navel and below the tip of the xiphoid process.



- 
3. Grasp your fist with the other hand, press into the victim's abdomen and give thrusts until either the object is expelled or the victim is unresponsive.

Victim Standing or Sitting

1. Stand behind the victim with your arms directly under the victim's armpits and encircle the chest.
2. Place thumb side of one fist in the middle of the victim's breast bone.
3. Grab your fist with the other hand and perform backward thrusts until the foreign body is expelled or the victim becomes unresponsive.

Victim Lying Down

Place the victim on his or her back, kneel close to the victim's side. The hand position and technique for chest thrusts is the same as for chest compressions during CPR.

UNRESPONSIVE VICTIM WITH FBAO

- Activate Emergency.
- Perform a tongue-jaw lift, then a finger sweep to remove the object.
- (Tongue-jaw lift is performed by opening the victim's mouth by grasping both the tongue and lower jaw between thumb and fingers and lifting the mandible. Insert the index finger of the other hand along the inside of the cheek up to the base of the tongue. Use hooking action to dislodge the foreign body and maneuver it into the mouth so that it can be removed. If foreign body comes within reach, grasp and remove it. (Don't let your finger get a bite).
- Open the airway and try to give two rescue breaths. If you are unable to make the victim's chest rise-reposition the victim's head, reopen the airway and try again to ventilate.
- If you cannot deliver effective breaths even after attempts to reposition the airway, straddle the victim's thighs and perform the Heimlich maneuver (or chest thrust for pregnant and obese patients) at least five times.
- Repeat the sequence of tongue-jaw lift, finger sweep, attempt (and reattempt) to ventilate and Heimlich maneuver or chest thrusts until the obstruction is cleared and chest rises with ventilation or until advanced procedures are available to establish a patent airway.

After Relief of FBAO

Provide two slow rescue breaths.

If signs of circulation are present but the victim is not breathing, continue rescue breathing.

If the victim is breathing adequately and the signs of circulation are present, place the victim in the recovery position and continue monitoring him or her until help arrives.

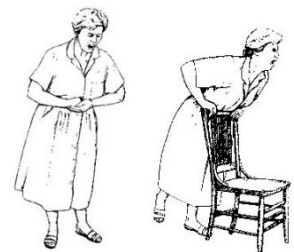
After FBAO is successfully relieved with abdominal thrusts, encourage the victim to seek immediate medical attention.

SELF – ADMINISTRATION OF HEIMLICH MANEUVER

There are two ways to perform the Heimlich maneuver on one's self. The first method is much like conducted on others:

1. Make a fist with one hand and place it in the middle of the body, about two inches above the navel but below the breastbone. Then grasp the fist with other hand and push sharply inward and upward.

If the above method fails, the victim should press the upper abdomen over the back of a chair, edge of a table, porch railing or something similar and thrust up and inward until the object is cleared.



CHILD RESUSCITATION

Gently tap the child and ask "Are you all right?" If the child is responsive, he or she will answer or move. Quickly assess the presence or extent of injury and determine whether the child needs medical assistance.



If the child is unresponsive, shout for help and start CPR. If you are alone, continue CPR for five cycles (about two minutes). One cycle of CPR is 30 compressions and two breaths for lone rescuer.

HOW TO POSITION THE VICTIM

Keep the victim in supine position.

HOW TO OPEN AIRWAY IN CHILD:

1. Head Tilt – Chin Lift Maneuver (Lay rescuer)

If the child is unresponsive and trauma is not suspected, open the child's airway by tilting the head back and lifting the chin. Place one hand on the child's forehead and gently tilt the head back. At the same time, place the fingertips of the other hand under the bony part of the child's lower jaw, near the the chin and lift the chin to open the airway.

Health-care worker should use head tilt – chin lift only if there is no evidence of injury to the head and neck.

2. Jaw Thrust maneuver (Health – care worker)

If head or neck injury is suspected, use only the jaw thrust maneuver for opening the airway. Place two or three fingers under each side of the lower jaw at its angle and lift the jaw upward and outward.

Keeping the victim's airway open:

- Look for the rise and fall of the chest and abdomen,
- Listen at the child's nose and mouth for exhaled breath sounds, and
- Feel for air movement from the child's mouth on your cheek for no more than ten seconds. If the child is breathing and there is no evidence of trauma, turn the child onto the side (recovery position). This helps maintain a patent airway and decreases the risk of aspiration.

HOW TO PROVIDE RESCUE BREATHS

If the child is not breathing or has occasional gasps, maintain an open airway and give two rescue breaths. Make sure that the breaths are effective. If the chest does not rise, reposition the head, make a better seal and try again.

1. Mouth-to-Mouth Breathing (Lay person/Health-care worker)

If the victim is an infant, place your mouth over the infant's mouth and nose to create a seal. Blow into the infant's nose and mouth (pausing to inhale between breaths), making the chest rise with each breath. During breathing attempts, maintain a patent airway and create an airtight seal over the airway.

If the victim is a large infant or a child (one to eight years of age), provide mouth – to – mouth rescue breathing. Maintain head tilt – chin lift (to keep the airway patent) and pinch the victim's nose tightly with thumb and forefinger. Make a mouth-to-mouth seal and provide two rescue breaths, making sure that the child's chest rises visibly with each breath.



If rescue breathing fails to produce chest expansion despite repeated attempts at opening the airway, foreign body airway obstruction may be present.

Technique

- Position yourself directly above the victim's head.
- Apply the mask to the victim's face using the bridge of the nose as a guide for correct position.
- Place your thumbs and thenar eminence (portion of the palm at the base of the thumb) along the lateral edges of the mask.
- Place the index fingers of both hands under the victim's mandible and lift the jaw. Place your remaining fingers under the angle of the jaw.
- While lifting the jaw, squeeze the mask with your thumbs and thenar eminence to achieve an airtight seal (see jaw thrust).
- Provide slow rescue breath (1 to 1.5 seconds each) while observing for chest rise.

C = CIRCULATION

Rescuers should assess the victim for signs of circulation by performing a pulse check while simultaneously evaluating the victim for breathing, coughing or movement after delivering rescue breaths. This assessment should take not more than ten seconds.

Health – care worker should learn to palpate the RADIAL Pulse / CAROTID Pulse .

RADIAL PULSE: Press against bone on thumb side (radius) near wrist joint .

CAROTID PULSE: Press against the muscle belly joining angle of jaw to midline deep in neck , 3 finger below lower jaw.

Indications for Chest Compression

The rescuer should provide chest compressions if:

There are no signs of circulation (normal breathing, coughing or pulse) or

The pulse is less than 60 beats per minute after delivery of rescue breaths.

Techniques of Chest Compressions

Chest Compressions in infants (0 – 1 year)

- Two – Finger Technique (lay person)
- Two Thumb – Encircling Hands Technique (Health – care worker)

Two Finger Technique

In an infant victim, compress the sternum with two fingers placed just below the intermammary line.

- Press down in the sternum depressing it approximately one –third to one –half the depth of the infant's chest. This will correspond to a depth of about ½ to 1 inch (1.5 to 2.5 cm).

- Compress the infant's sternum at the rate of at least 100 times per minute.

Two Thumbs – Encircling Hands Technique

- Place both thumbs side by side over the lower half of the infant's sternum.
- The thumbs may overlap in very small infants. Encircle the infant's chest and support the infant's back with the fingers of both hands. Both thumbs should be placed on the lower half of the infant's sternum approximately one finger width below the intermammary line.
- With your hands encircling the chest, use both thumbs to depress the sternum approximately one – third to one – half the depth of the infants' chest.
- After each compression, completely release the pressure on the sternum and allow the sternum to return to its normal position without lifting your thumbs off the chest wall.
- Deliver compressions in a smooth fashion with approximately equal time in the compression and relaxation phases.
- Compress the sternum at a rate equal to or greater than 100 times per minute.

Chest Compressions in the Child (1 – 8 years)

- Place the heel of one hand over the lower half of the sternum
- Lift your fingers to avoid pressing on the child's ribs. Depress the sternum approximately one – third to one – half the depth of the child's chest.
- After the compressions, release the pressure on the sternum allowing it to return to its normal position but do not remove your hand from the surface of the chest.

In large children and children 8 years of age or older, the adult two –handed method of chest compression

- Place the heel of one hand on the lower half of the sternum.
- Place the heel of the other hand on the back of the first hand. Interlock vertically about the victim's chest and with your arms straight, press down on the sternum to depress it approximately 1.5 to 2 inches (4 to 5 cm).

Coordination of Compressions and Ventilation

A 30:2 compression- ventilation ratio is recommended for infants and children (single rescuer) and 15:2 for two rescuers. For newborn with pulses, the rescue breathing rate of 40 – 60 breaths per minute is acceptable. When providing compressions for newborn, the rescuer should compress 1/3rd the depth of chest. Paediatric Foreign Body Airway Obstruction (FBAO)

Foreign body airway obstruction in children

More than 90% of deaths from FBAO occur in children less than 5 years of age and 65% of victims are infants. Liquids are the most common cause of choking in infants, whereas small objects like nuts, candies are common causes in children.

Signs of FBAO include a sudden onset respiratory distress with coughing, gagging, stridor and wheeze.

RESPONSIVE INFANT & CHILD

Responsive Infant: Back Blows and Chest Thrusts

With the rescuer seated and holding the infant on the lap:

- Hold the infant prone with the head slightly lower than the chest resting on your forearm. Support the infant's head by firmly supporting the jaw.
- Deliver five back blows forcefully in the middle of the back between the infant's shoulder blades, using the heel of the hand. Each blow should be delivered with sufficient force to attempt to dislodge the foreign body.
- Turn the infant as a unit while carefully supporting the head and neck. Hold the infant in the supine position with your forearm resting on your thigh. Keep the infant's head lower than the trunk.
- Provide five quick downward chest thrusts in the same location as chest compressions (lower third of the sternum) approximately one finger's width below the inter-mammary line. Chest thrusts are delivered at the rate of approximately one per second each with the intention of creating an "artificial cough" to dislodge the foreign body.

Responsive Child

If a child shows signs of severe or complete FBAO, provide a series of Heimlich sub – diaphragm – matic abdominal thrusts.



UNRESPONSIVE INFANTS AND CHILD

Note: Blind finger sweeps should not be performed in infants and children

Unresponsive Infant

- Open the victim's airway using a tongue – jaw lift and look for the object in a pharynx. If an object is visible, remove it.
- Provide two rescue breaths. If the breaths are not effective, reposition the head and reattempt ventilation.
- If the breaths are still not effective, perform the sequence of five back blows and five chest thrust.
- Repeat steps 1 to 3 until the object is dislodged and the airway is patent or for approximately one minute. If the infant remains unresponsive call for help.

Unresponsive Child

- Place the victim in the supine position.
- Using a tongue – jaw lift, look for the object in the pharynx. If an object is visible, remove it.
- Open the airway with a head tilt – chin lift and attempt to provide two rescue breaths. If breaths are not effective, reposition the head and reattempt ventilation.
- If the breaths are still not effective, kneel beside the victim or straddle the victim's hips and perform the Heimlich maneuver (abdominal thrusts) as follows:

- Place the heel of one hand on the child's abdomen in the midline slightly above the navel well below the rib cage and xiphoid process. Place the other hand on top of the first.
- Press both hands onto the abdomen with a quick inward and upward thrust. Direct each thrust upward in the midline. If necessary, perform a series of five thrusts.
- Repeat steps 2 and 3 until the object is retrieved or rescuer breaths are effective. Once effective breaths are delivered, assess for signs of circulation and provide additional CPR as needed. If the child demonstrates adequate breathing and signs of circulation, place him in the recovery position.

Spine board is a safe transport



Musculoskeletal Trauma

- Injury to skin, soft tissue and bones is a common associated injury. May be life threatening if blood vessel injury is also present.
- ABCD priorities remain the same.
- Skin and soft tissue injury needs thorough washing and cover with sterile sheets.
- Avoid applying antibiotic creams /lotions

Splinting

Principles:

- Prevent further damage
- Reduce pain
- Stabilize and strap the injured bone
- A joint above and a joint below is included to splint

- Bandaging is started from below upwards(towards the heart)
- No tight dressing except when it is bleeding/snake bite



Burn Injury

Burn is type of injury to the skin caused by heat , electricity ,chemical ,light, radiation or friction.

- Bystanders are the first care providers.
- Early transport from the scene of the accident to primary care & onto burn care facility.
- Care received within first few hours of burn injury largely determines the final outcome
- Delay can be life threatening.

KEY POINT

- Save yourself
- Fire fighting is not your job
- Priorities remain the same.

Types of burn

- Thermal, chemical, electric, lighting ,inhalation of smoke

Thermal burns:

Rescuing the victim from the burning premises:

- First priority
- Move to a safe place.
- STOP and DROP “policy”
- Prevent the victim from running
- Ask victim lie down on the floor

Note: victim Should not be rolled on the ground it can transfer the fire to previously undamaged areas and can also cause other injuries.

If there is lot of smoke along with the fire:

- Stay low/ crawl on the floor to minimise the inhalation of the toxic fumes.
- Use wet handkerchief to filter out the fumes, carbon and other toxic particles.

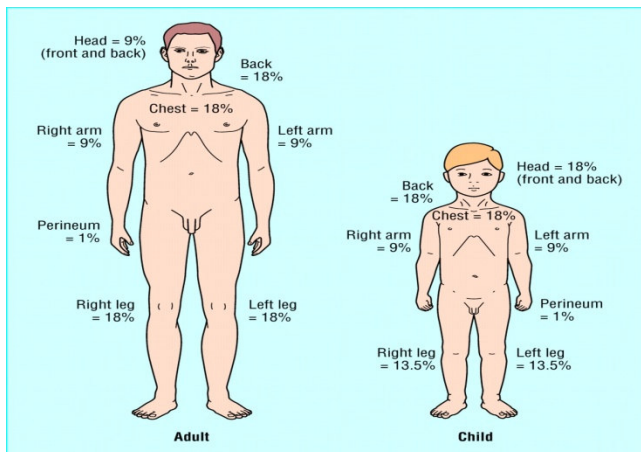
The flames should be doused with water. Pour water in copious amounts(avoid ice cold water) over the victim. Covering the burning body with clean sheet or newspaper to excludes the air. Don't throw/apply mud/sand over the victim's body to put out the fire .Then assess ABC's of victim

Once the fire has been extinguished:

- Remove All the burnt clothes and ornaments.
- Fabric that has melted and is stuck to the burn wound should be left in place.
- Do not break any blisters.
- Recognition of the associated injuries(Injuries to head, spine, upper and lower extremity, chest and abdomen.)
- Immobilization and prevention of secondary injury.
- Safely transport to the hospital/burn speciality.



Burn Assessment



Chemical Burns

All chemical burns are classified as major burn injuries and preferably be transferred to a burn centre. The process of tissue damage in chemical burns stops only when the chemical is either neutralised by the tissues/antidote or is sufficiently diluted/washed away by irrigation with tap water.

What to do:

- Wear protective gloves, mask, eye protectors
- Clothing/ornaments/watch/belt/socks/shoes should be immediately and completely removed.
- Thorough irrigation
- Continue for 2 hours - acid burns
- 12 hours -alkali burns.

Electric burn

- Turn off the source of electric supply.
- Victim should be removed with a non-conducting material like a dry wooden stick/pole/wooden chair.
- Look for Airway, Breathing and Circulation

Lightning injuries

- Lightning burns are often superficial and present with a spidery/arbores cent pattern markings which rapidly disappear.
- Cardiopulmonary arrest is the most common cause of death in lightning victims.

Inhalation burns

An inhalation injury occurs in those patients with history of being burned/trapped in an enclosed smoke filled space. Features include head and neck burns, singeing of nasal vibrissae, agitation/anxiety, hoarseness of voice, stridor/wheeze, dyspnoea, carbonaceous (sooty) sputum, brassy cough, impaired visual acuity



Acknowledgement:

Prof MC Misra, Chief JPN Aex Trauma Center AIIMS, Delhi
Dr Subodh Kumar, Associate Professor JPN Aex Trauma Center AIIMS, Delhi
Dr Amit Gupta Associate Professor JPN Aex Trauma Center AIIMS, Delhi
Dr Maneesh Singhal Associate Professor JPN Aex Trauma Center AIIMS, Delhi
Mr Suresh Sangi, TNC, JPNATC & ATLS India co-ordinator

2.4.6 References/Further Reading:

1. A complete manual for school fire safety & evacuation plan, DGCD (fire project cell)
<http://sdmassam.nic.in/download/searchandrescuemanual.pdf>
2. Guideline for School Disaster Management Plan, SEEDS



Session 2.5 Mock Drill Framework

2.5.1 Session Objectives

Introduce participants to the mock drill framework.

2.5.2 Outline of Content

This session will outline frame work used for mock drill in schools. What the components of a mock drill, who conducts and how it is conducted in schools. What can be the involvement of community in a drill?

2.5.3 Expected Outcome of the Session

By the end of the session, the participants will be able to identify components for conducting a mock drill in school.

2.5.4 Detailed Session Plan

2.5.4.1 Introduction (5 minutes)

Introduction of Resource Person by Course Coordinator

2.5.4.2 Q&A with discussion (15 minutes)

Begin with asking the following questions:

- Do you know what a mock drill is?
- How many of you have either conducted or participated in a mock drill?
- Give participants meta cards and pens.
- Ask all the participants to write what they think is a mock drill.
- Give them 5' to do this task.
- Ask them to pin up their cards on the pin board or stick on the white board.

2.5.4.3 Note for the facilitator (25 minutes)

CONDUCTING MOCK DRILLS:

A Mock Drill is the testing of the efficacy of Disaster Management Plan. Lot of homework needs to be put in to prepare a plan and then conduct a mock drill which may last only a few minutes. It is a participatory method to practice the safety-related measures and evacuation of a building during an emergency situation. For fire related evacuation mock drills, the fire-alarm is activated and the building is evacuated as though a real fire had occurred. Generally, the time it takes to evacuate is measured to ensure that it occurs within a reasonable length of time.

To ensure proper execution of a mock drill exercise, the roles and responsibilities of the concerned staff, teachers and students as well as the departments like fire services, home guards and civil defence should be precisely defined and the standard operating procedures (SOPs) should be clearly understood by everyone.

In order to avoid mishap facilitator should conduct the mock drill with the help of mock drill specialist.

The objectives of conducting Mock Drills in Schools:

- 
- a. Educating and training staff, teachers and students to react for any unforeseen emergency situations specifically like Earthquake & Fire, mainly because they have a quick onset and hardly have any warning signs.
 - b. Mock exercises and evacuation to build up courage and confidence in staff, teachers and students.
 - c. To teach Life Saving and Rescue techniques to school staff, teachers and students and to enable them to be life savers at the time of emergencies.
 - d. Testing the efficacy of School Disaster Management Plan and improving it further so that it becomes doable.
 - e. To have clarity and better understanding of the roles and responsibility of all stakeholders.

The mock drills can be classified into two types:

(i) Pre-announced Drills: When the staff, teachers and students are expecting a mock drill, it is called as Pre-announced Drills. The objectives of Pre-announced Drills are:

- To ensure everyone has read and understand new evacuation procedures.
- To Test how everyone reacts to a more specific hazard (like a predetermined blocked exit route).
- To determine people's ability to locate and operate fire extinguishers.

(ii) Unannounced Drills: Unannounced drills are a good way to test people's ability to react to a hazardous situation they weren't expecting. Schools should conduct unannounced drills once the understanding about mock drills is clear and a certain level of proficiency has been attained. The objectives of Unannounced Drills are:

- To ensure everyone in the school premises can clearly hear the alarms.
- To discover if the staff, teachers and students know the exit routes to take. To determine whether staff and teachers with special roles (in the case of an emergency) know what steps to take and
- To find out how long it takes to get everyone out of the building.

PPT1

Emergency Evacuation Plan

Identifying the evacuation assembly area and the evacuation route is critical in a School Emergency and Disaster Preparedness Plan.

PPT2

An Evacuation Route Map showing the site and neighbourhood map with identified evacuation routes and locations should be posted in strategic and conspicuous places (preferably in each room with the room marked on the map).

- Depending on the hazard, the school should identify safe evacuation areas.
- Open areas for earthquake and fire
- Shelter for windstorms, heavy rainfall etc.
- Higher ground for floods and flash floods



Evacuation routes should avoid potentially hazardous conditions and elements.

- Avoid routes where there are no objects like toppled cabinets, broken glass, fallen trees, cut electrical wires) which may hinder evacuation.
- Avoid flooded areas.
- Avoid storage areas of combustible or hazardous chemicals.

Simple rules for building evacuation which teachers must stress upon the students:

- Do not push, run, talk or go back during the evacuation.

Create a Buddy System to ensure safety of the children with disabilities

School Administration must pay attention to the needs of children with physical disabilities (especially during an emergency situation). Persons with disability may not be able to evacuate without any assistance. Therefore, it is strongly advised that each student with disability is accompanied by a physically-fit student. This practice is known as Buddy System. Ideally, the school administration should arrange to get such children (with disabilities) make several acquaintances with their fellow classmates at the time of the beginning of the academic session, so that they can get build up trust and friendship between themselves. Teachers must also keep motivating the students to assist their physically challenged colleagues during an emergency situation.

The facilitator needs to contextualise and link the session with the type of drill that would be conducted in school next day.

Following is a reference to the earthquake drill:

- Alarm - Continues for 40-50 secs
- Duck Cover & Hold where ever you are
- Incidental Commander takes charge of situation
- Ready for evacuation
- Ground floor evacuates first followed by other floors
- Teachers evacuates with Attendance register
- Assemble at Safe Evacuation Point
- Head count by teachers through attendance register
- In case of absence of attendance register, count through partner student
- Head count of teachers and non teaching staff
- Missing person list to be reported and handed over to incident commander
- Incident commander calls coordinator of SAR, FA & fire Safety
- All 3 task force takes up their station
- Coordinator of SAR along with other members chalks out plan to enter the building if the building is safe
- Fire Safety team assist SAR
- Coordinator of FA prepares Medical First Aid Responder (MFR) station
- SAR moves into building and evacuates victims and bring them to MFR station
- FA task force provides first aid to victims and arranges to move them to nearest hospital
- Second alarm goes for fire.

- Incident commander calls upon fire safety team to ambush fire
- Fire occurs in oil (class B) and class A
- Fire safety team extinguish fire
- SAR prepares to search victims of NO GO building through Hailing Search Method
- Expert reaches collapse building site and evacuates victim through chair knot.
- Incidental commander ends the drill as successful evacuation of all students and other school community
- SAR, FA & Fire safety team share their experience

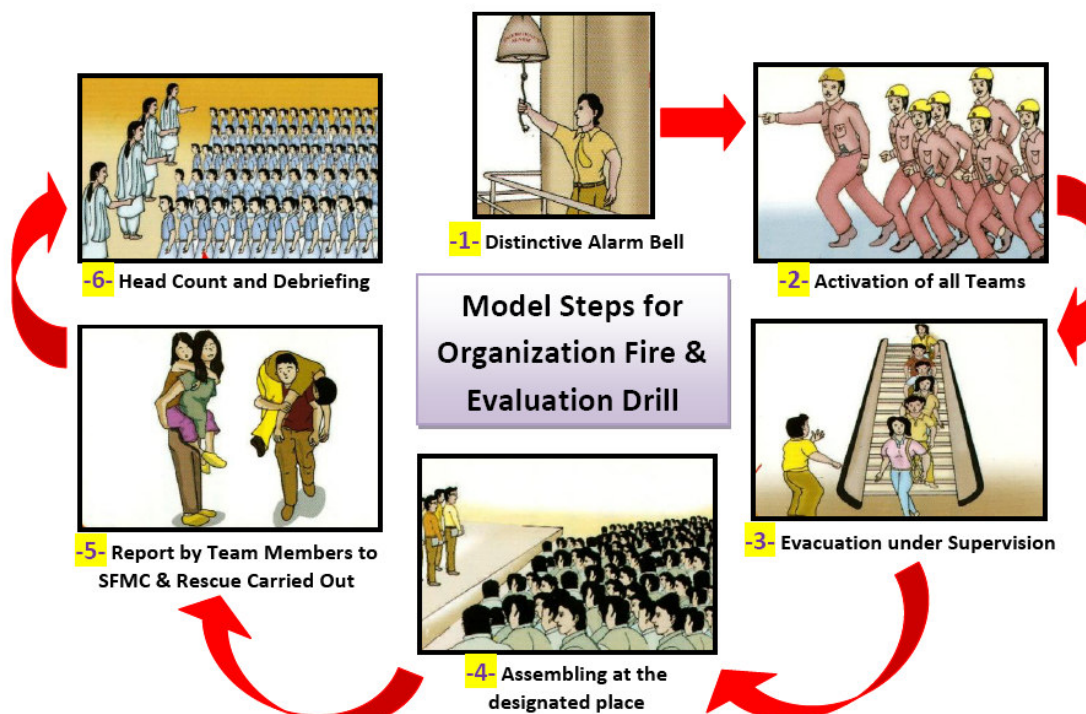
Soon after the drill is over; call upon the entire stake holder and have a feedback session. This session would provide base and need for change in disaster management plan.

2.5.5 Session Resources

Power Point

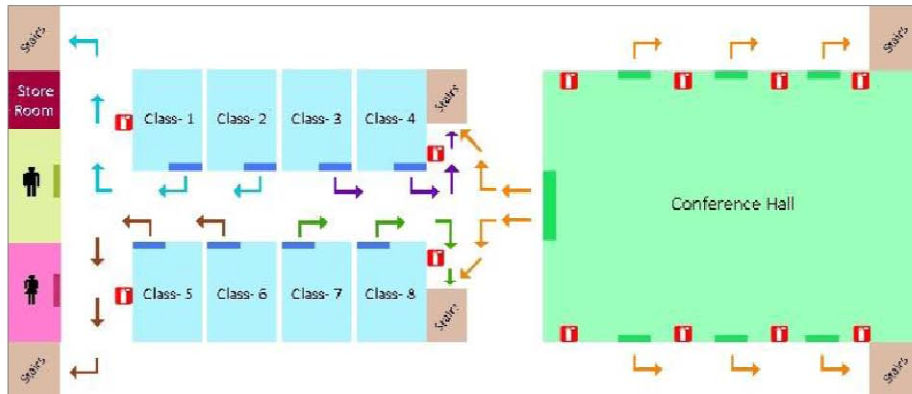
PPT1

NOTE: To begin with, all schools are advised to conduct pre-announced mock drills till they attain proficiency in it. It is also necessary to avoid injury to any student. In the end of the drill, debriefing by the Drill In-charge or the Principal should be done to review and suggest any changes in the School Disaster Management Plan.

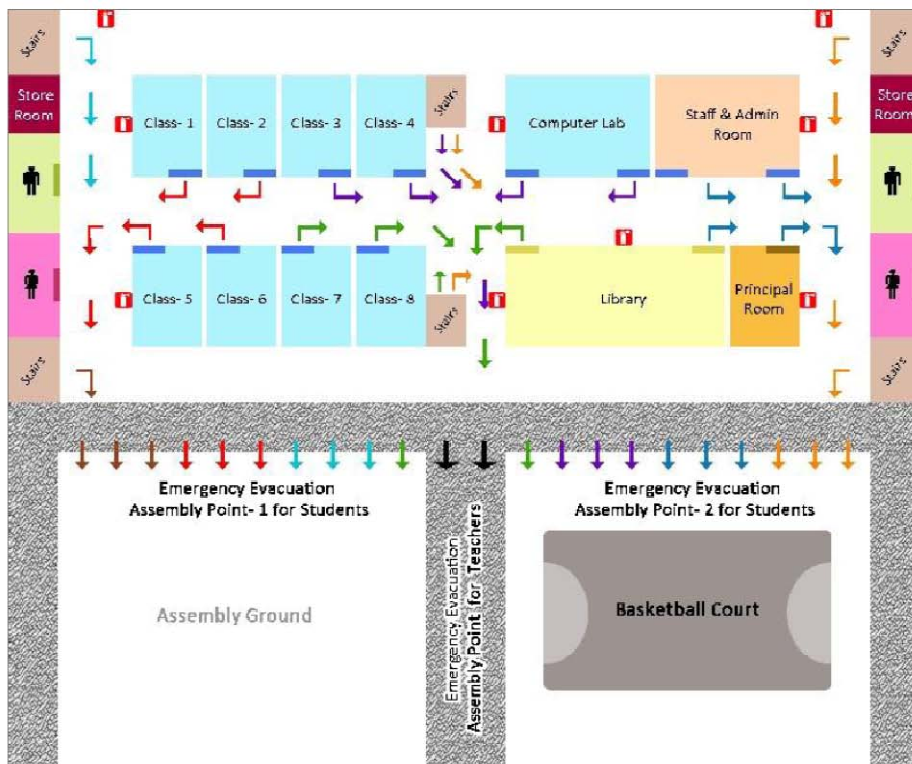


PPT2

- School Emergency Evacuation Plan- TOP FLOOR -



- School Emergency Evacuation Plan- GROUND FLOOR -



2.5.6 References/Further Reading:

1. <http://hpsdma.nic.in>



Day 3: Planning for School Safety

Session 3.1 SDMP Planning

3.1.1 Session Objectives

Preparation of a typical School DM Plan by participants

3.1.2 Outline of Content

This session focuses on use of the information being shared on school safety and disaster management plan so far. Participants will be asked to prepared school safety management plan (SDMP) in their specific context. This will be achieved through a group exercise. **SDMP template will serve as a guideline.**

3.1.3 Expected Outcome of the Session

By the end of this session, Participants are able to prepare a School Disaster Management Plan (SDMP) of schools in their area.

3.1.4 Detailed Session Plan

Materials required for the day: Flip chart/White board, Chart papers, Markers

3.1.4.1 Group exercise (120 minutes)

- Divide participants in state wise groups or on the basis of common interest/area.
- Ask participants to prepare a SDMP.
- Ask each group to present their plan in front of the large group.
- Q&A by other groups on the presentation.



Session 3.2 Mock Drill in a nearby School

3.2.1 Session Objectives

To give practical training in a school

3.2.2 Expected Outcome of the Session

- Participants have observed on how to conduct a mock drill in a school

3.2.2.1 Note for the facilitator (180 minutes)

Guiding Note to Observer:

A briefing on mock drill and of school should be provided to observer beforehand, about its hazard, vulnerability, risk, capacity, strength of school and sequence of the drill, etc. The institute must make available a copy of evacuation plan to the observer.

Do's:

1. You should reach at least 1 hour before the drill starts.
2. You should all be wearing Ids provided by training institute and it should be very visible.
3. You should maintain silence in the school
4. You should be polite and courteous to students and other staff

Don'ts:

1. You should not disturb the ongoing class
2. You should not reveal the reason of your visit to the school to any student as the drill may be done without flowing information to students.
3. You should avoid criticising school but you may place your recommendation to them.
4. You should avoid indulging into handling mock drill or suggesting ideas when the drill is ongoing.

Points to remember:

1. Observer should check all the location of the school building as well campus before the drill starts.
2. Choose your location from where you would like to observe the drill. Later after the evacuation is over, you can proceed to different location to observe the skill of search & rescue, First aid, fire safety or any other task formed by task forces.
3. Avoid location where you could be a hindrance to evacuation route.

Things to focus upon:

1. Record followings
 - a. Timing of the siren/bell
 - b. Timing of evacuation of all students
 - c. Scope of improvement
 - d. Points where clarification is required
2. Discipline of the students while conducting mock drill
3. Involvement of teachers and other staff
4. Follow of the evacuation map by school
5. Sequence of action
6. Listen to messages given by incident commander/principal
7. De warning or closure call for drill



Day 4: Planning for School Safety and addressing special needs

Session 4.1 Mock Drill lessons learnt

4.1.1 Session Objectives

Discussion and feedback on Mock drill observed in a nearby school to clear their doubts and ways to improve SDMP.

4.1.2 Outline of Content

This session will focus on feed back on the mock drill observed a day before to bring in clarity on drill as well SDMP. The sequence and its component will be discussed in length to provide clarity and need of drill.

4.1.3 Expected Outcome of the Session

- The participants will have a practical knowledge on mock drill and its linkage with SDMP
- To avail clarity on any component of drill
- Importance of feedback sessions or evaluation session after a drill to improvise on SDMP

4.1.4 Detailed Session Plan

Materials required for the day: Flip chart/White board, Chart papers, Markers

4.1.4.1 Recap from previous day sessions (15 minutes)

Begin with asking the following:

- What did they learn from SDMP
- How was their mock drill experience
- Encourage all the participants to talk.

4.1.4.2 Q&A with discussion (45 minutes)



Session 4.2 Inclusive Approaches

4.2.1 Session Objectives

Inclusive approach (Gender, CWD, HIV, other inclusion as per RTE) and Disaster Safety in Schools.

4.2.2 Outline of Content

This session basically about inclusive approach to school safety and disaster risk reduction/disaster risk management. Children are the most vulnerable section of the society but among them also there are even more vulnerable groups e.g. children with special needs, differently abled students, HIV affected children etc.

4.2.3 Expected Outcome of the Session

By the end of this session, participants are able to:

- identify and prepare an inclusive SDMP
- to perform Hazards, Risks, Vulnerability Assessment

4.2.4 Detailed Session Plan

4.2.4.1 Q&A with discussion (15 minutes)

- Ask participants the following questions:
 1. What do you understand by “inclusive approach”?
 2. Do we value all children equally?
 3. Is inclusion a culturally relevant process?
 4. Are there some children for whom inclusion into regular schools might be inappropriate?
 5. Are these inclusive children be a beneficiary or bring them to decision maker
- Ask one question at a time and give time for response and then move on to the next question.
- Make note of relevant comments from the participants.
- Encourage participants to share their experience and information.

4.2.4.2 Note for the facilitator (25 minutes)

What is inclusive approach?

A safe, inclusive and accepting school environment is a necessary condition for student success. Students cannot be expected to reach their potential in an environment where they feel insecure and intimidated.

Sarva Shiksha Abhiyan (SSA) has adopted a more pragmatic approach to implementing the programme of inclusive education. SSA framework clearly states that “SSA will ensure that every child with special needs, irrespective of the kind, category and degree of disability, is provided education in an appropriate environment. SSA will adopt zero rejection policy so that no child is left out of the education system. It will also support a wide range of approaches, options and strategies for education of children with special needs”

Gender issues in Disaster Management⁷

The relationships between men and women are powerful forces in every culture. The way these relationships are defined creates differences in the roles and responsibilities of men and women. It also leads to inequalities in their access to, and control over, resources (who inherits land or can get credit from the bank) and decision-making powers (who has a voice and sits on community councils and committees). The combined effect of

⁷ A practical guide to Gender-sensitive Approaches for Disaster Management



these differences and inequalities means that women and girls, and men and boys face different types and levels of exposure and vulnerability to natural hazard risks and disaster impacts. Gender based behaviours and stereotypes about what men and women can and cannot do, or should and shouldn't do, can further contribute to gender differences, sometimes with devastating consequences. Yet, attention to gender is consistently one of the weakest areas of humanitarian response (Active Learning Network for Accountability and Performance in Humanitarian Action, 2005).

Women and girls generally tend to be the main victims of natural disasters. A few commonly recorded reasons for higher death tolls among women and girls include:

- Cultural constraints on female mobility which hinder self-rescue, for example, women may not leave the home without male permission, they may be reluctant to seek shelter
- Because shared communal facilities do not have separate, private spaces for women or clothing may have been damaged
- Lack of skills such as swimming or tree climbing, which are traditionally taught to males
- Less physical strength than males, in part due to biological differences but, in some countries, also due to the effects of prolonged nutritional deficiencies caused by less access to Food than men and boys.

At the same time, gender-based behaviours and stereotypes can also have negative effects on men and boys. For example, the majority of the victims of Hurricane Mitch in 1998 in El Salvador and Guatemala were men. Some researchers attributed this to societal concepts of masculinity that compelled men to feel they had to take very high risks in order to protect family, community lives and property (Smyth in A Dimitrijevic, 2007).

Children with disability (CWD)

80% of the children with disability (CWD) live in developing countries (Promoting the rights of Children with disabilities, UNICEF, 2007). Having said that, CWD are four times more vulnerable to violence against them (WHO, 2012). This is due to the following stigma attached to them –

- Disabled,
- Discrimination that CWD face,
- Ignorance amongst general public regarding the intensity and forms of disabilities (given below)
- Lack of social support.

The stereotype set for CWD says that they are weaker than and inferior to, children without any form of disability'. When during normal times CWD are more prone to violence and given a lower position in the community, during disasters this seemingly insignificant action intensifies and puts CWD in further more vulnerable and hence perilous position.

Social Model of Disability ascribes the inability of persons with disability to perform on to the barriers within the society. Hence, the disability does not lie within a person but in the mind of the society. (*The Social Model of Disability*, British Council of Disabled People, 1981).

CWD are much stronger than what the community perceives of them and instead of undermining them, their needs have to be included in every aspect of child development. This includes customized interventions in schools and effective communication for providing accessible information and societal setting. The needs of the CWD can be well defined by them and therefore we need to begin to including them in the process of disaster preparedness and mitigation planning in schools. Involve them in all facets of disaster management in schools and provide them a platform based on equality and non-discrimination so that they grow beyond their vulnerabilities.



Children with Special Needs

Children who have been exposed to maltreatment

- Physical abuse
- Emotional abuse
- Neglect
- Sexual abuse

Children with developmental disabilities

- Blind and visually impaired
- Deaf and hard of hearing
- Mobility impaired
- Mentally ill
- Brain disorders and injuries
- Chronically ill
- Drug and/or alcohol dependent
- Dually-diagnosed with mental illness and substance abuse

Children with special psychiatric needs

- Children who were previously defined as psychiatrically disturbed, and/or who were receiving psychotropic medication, and/or whose condition worsened due to the lack of access to medications
- Children with existing psychosocial and psychiatric problems which are exacerbated by the stress of disaster

Children who experience cultural/ethnic health disparities or live in geographic isolation

Cultural/ethnic groups and Rural residents

Children with limited language proficiency

- Limited-English or non-English speaking
- Refugees
- Legal immigrants
- Illegal/undocumented immigrants
- Sign language

Children who live in economic disadvantage

- Population-wide poverty
- Living at or below the poverty line
- Working poor

Children with special medical needs

- Children with medical trauma
- Children with medical needs
- Families with children with medical needs

Others

- Juvenile offenders
- Dependent on public transportation
- Families underserved by public health
- Sheltered juveniles: runaways, battered youth
- Homeless youth

Source: American Psychiatric Association, 2007



Scheduled Castes and Scheduled Tribes

The “Scheduled Castes” and “Scheduled Tribes” are names given to different groups in the Indian society which have been given a lower position in the society and/or considered less worthy of dignified life due to the kind of occupation, economic status, and way of life and place of dwelling. Though today malpractices such as ‘untouchability’ are considered unlawful, Indian Constitution considers them disadvantaged due to the inferior treatment meted out to them years back. Nonetheless to say, many members of the Scheduled Castes still live in rural areas and economic abuse remains their most severe problem. Many Scheduled Tribes still raise voice asking for recognition and equal opportunities for their development and growth. When placed in very sensitive and hazardous conditions in the community, SC and ST members involuntarily become unsafe and during and post a disaster are further more eligible to neglect, abuse, and left disenfranchised.

Children from such strata of the society need to be given support to access their rights. Their problems can be very different from children of higher castes, for example poverty, and need to be addressed in a different way. Including them in the planning of school safety programme is the first step towards ensuring a safe environment to learn and nurture.

(Reference: MHRD)

4.2.4.3 Q&A with discussion (20 minutes)

- Divide participants in groups.
- Ask participants to perform HRVA with integrating inclusiveness.
- Ask participants to present in front of the larger group.
- Discussion on what changes they had to make for integrating the inclusive approach.
- Ask the participants to evaluate the plan which they have developed in earlier session and make necessary changes with inclusion.

4.2.5 Reference/Further Reading:

1. Access to Equality in Education for Children with Disability through Inclusive Education by Dr. Vandana Singh, Lecturer, School of Education, IGNOU
2. http://www.indg.in/india/sitemap-1/primary-education/education-as-fundamental-human-right/inclusion-discovering_new_paths.pdf



Session 4.3 Psychosocial issues of School children in disaster

4.3.1 Session Objectives

Psychosocial problems of school children from different dimensions and the need for special attention for them during disaster

4.3.2 Outline of Content

This session details the physical, social and psychological impact of school children in general at various levels.

4.3.3 Expected Outcome of the Session

The participants would be able to understand the emotional reactions of the school children of different age group and the persons to be involved in the psychosocial interventions for them.

The participants would be able to internalize the role of teachers in the provision of psychosocial care for the school children

4.3.4 Detailed Session Plan

4.3.4.1 Grouping of the participants (10 minutes)

Participants should be asked to name animals. After four participants have named one animal each, the remaining participants should repeat the same four names in order one after the other. By doing this each participant would have one name of any of the four animals named first. So, participants with similar animal names would form groups.

4.3.4.2 Presentation (15 minutes)

One representative of each group would be presenting on the outcome of the discussions

Sum up with brief comments: The psychosocial care giver should understand the different impact at different age level to formulate the interventions accordingly. For the age group of 0 to 5 years the intervention should be mainly by the parents with some referral interventions. In the age group of 6 to 12 years of children, the intervention should be by both parents and teachers. Also the peer group should be used positively to build a better future for the children. During adolescent period, children would have more changes and one should address these issues through the peer group meetings as each adolescent is influenced by the group.

4.3.4.3 Clay and Potter game (25minutes)

The participants would be paired. One in each pair would be clay and the other is potter. Potter would be asked to shape the clay in to a statue of their interest. Then the roles would be reversed.

4.3.4.4 Group discussion (15 minutes)

Each group formed in such manner would be given a topic of emotional reactions of school children of age group 0 -5 years, 6 -12 years, 13 Years and above boys & 13 years and above girls.

Each participant would be asked to explain what they have made and the reason behind it. Most of the shapes would be of positive outlook

Sum up with brief comments: The school children affected in disaster is like clay. It is in the hands of teachers who can shape the children to have a positive outlook of their future.

4.3.4.5 Notes for Facilitators

The facilitators can add the following psychosocial issues of school children as part of presentation by respective groups

0 to 5 years:	6 to 12 years:
• Fear • Crying • Dependent towards parents • Refusing food • Lack of appetite • Disturbed sleep • Adamancy • Bed wetting, thumb sucking, nail biting • Irritation • Aggressive behaviour • Anger • Refusing to go to school • Lack of energy • Lack of concentration • Feeling insecure • Numbness	• Change in behaviour • Fear, anxiety, tension • Anger, irritability • Lack of interest • Lack of interest in studies • Disturbed sleep • Dreams • Repeated thoughts about disaster • Change in their behaviors • Loneliness • Fear towards the future • Confusion • Not respecting others • Pretending to work • Aggressive towards the classmates. • Use of substance
13 years and above boys	13 years and above girls
• Poverty • Fear, unsecured feeling • Lack of interest in education • Lack of sleep • Change in their behaviour • Forgetfulness • Change in their mind status • Antisocial behaviour • Suicidal thoughts • Loneliness • Depression • Child labor • Early marriage • Fear towards the future • Dependency • Easily influenced by peer group • Lack of interest • Stress • Lack of acceptance • Drug abuse	• Fear • Emptiness • Lack of interest in studies • Loneliness • Changes in their relationship • Tension • insecure feelings • Unreasonable anger • Lack of sleep • Bed wetting • Lack of interest towards future • Becoming orphan/ single parenthood • Loss of memory • Anger • Aggressiveness • Believing others immediately • Lack of appetite • lack of self care • Verbal/ physical and sexual abuse

4.3.4.6 Energizer

Please refer Annex 1 for the list of energisers. Choose one depending on the availability of time and number of participants.

4.3.5 Session Resources

Power Point:

PPT1

Pre-schoolers

- Temper tantrums
- Crying
- Clinging and demanding
- ◆ Scary nightmares
- Helplessness
- Regressive behaviour (thumb sucking, wanting to be carried, bed-wetting)
- Moodiness, irritation
- Fear of darkness or sleeping alone
- Easily frightened and then angry
- Increased aggression, especially in boys.



Adolescents

- Seeks isolation, becomes less communicative
- Sleeplessness or increased sleep
- Feel different or alienated because of their experiences
- Irritability
- Increased risk-taking behaviour
- Increase substance abuse
- Avoidance of trauma-related thoughts, feelings and activities

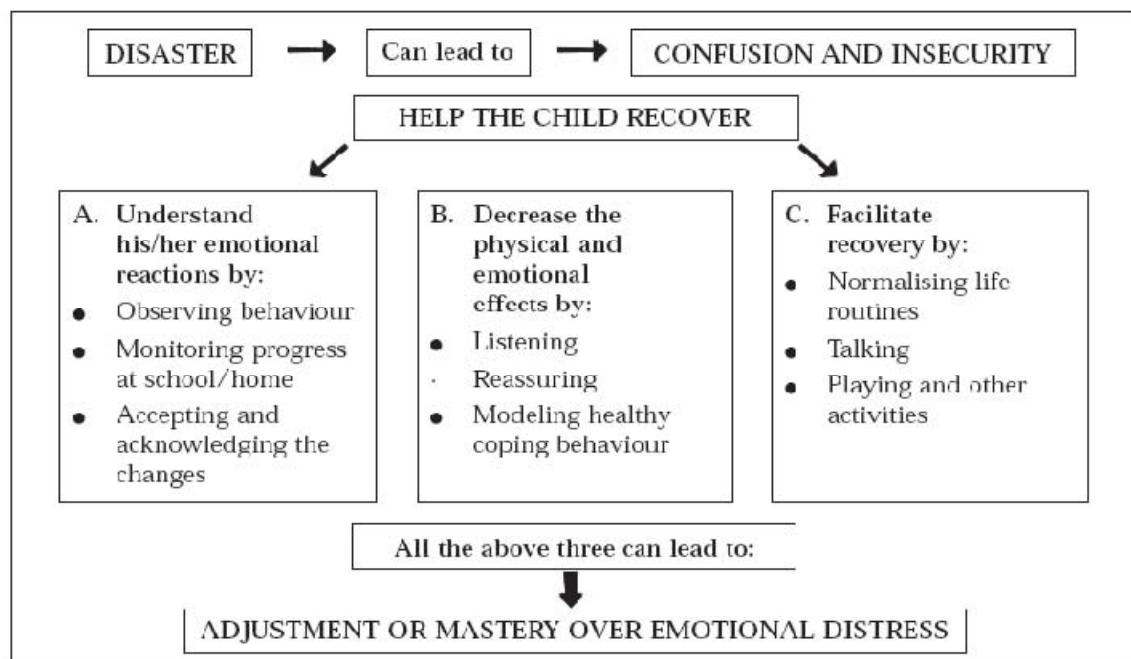


- Aggression – fights, destroys, argues
- Feelings of hopelessness, feeling of neglect and isolation
- Disobedience, especially towards authority and parents
- Tries to get involved in activities to get a sense of control like rescuing and organising at the camps
- Angry, frustrated and may feel very helpless
- Depression due to loss
- Guilt for not being able to do enough or for having survived
- Inability to concentrate
- Behavioural problems like aggression, lying, stealing
- Dropping out of school or work
- Aches and pains due to stress.

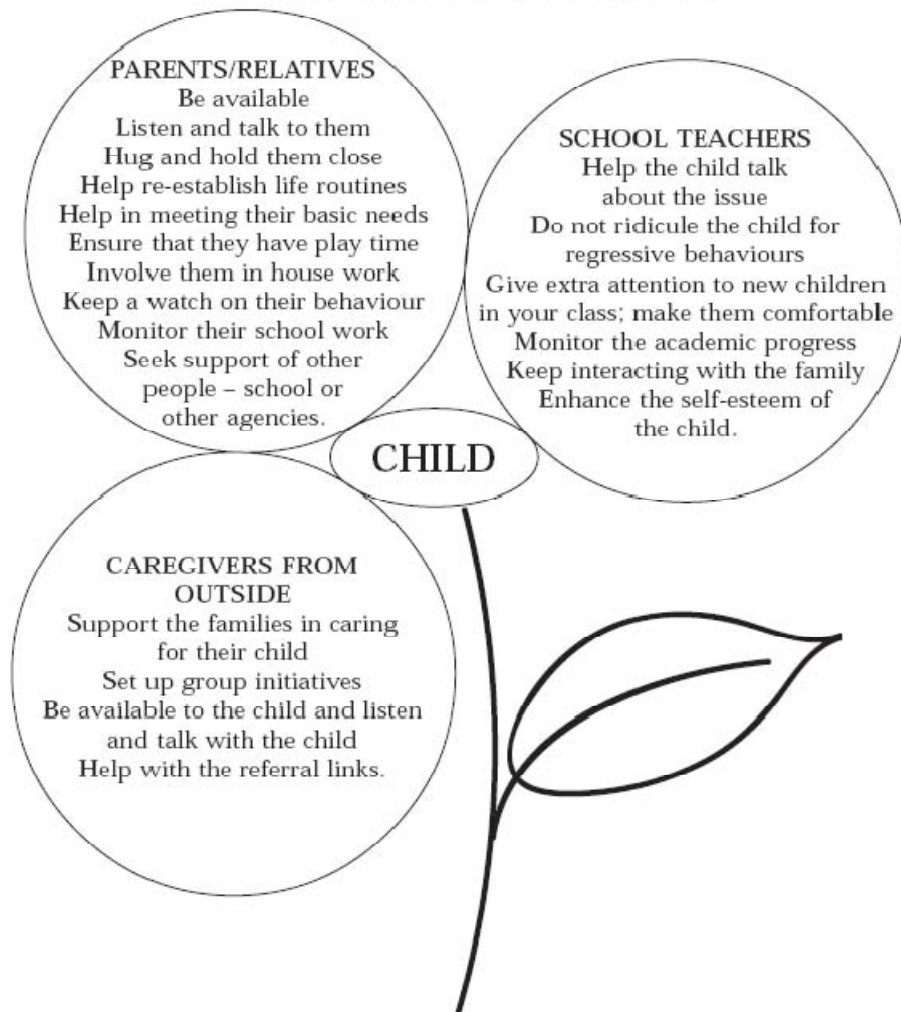
PPT2

The diagram below captures the recovery process after a disaster and what you can do to hasten the recovery.

How to support a child's recovery from a traumatic event



Role of Different Caregivers



4.3.6 Reference/Further Reading:

1. NDMA Guide line on psychosocial support:
<http://ndma.gov.in/ndma/guidelines/PSSMHSGuidelines.pdf>
2. http://www.nimhans.kar.nic.in/dis_man/man_hm3.pdf
3. CHILDHOOD TRAUMA REACTIONS: **TEACHER MANUAL** to accompany *Childhood Trauma Reactions: Tip Sheet Series*
4. INFORMATION MANUAL 3, RIOTS : PSYCHOSOCIAL CARE for CHILDREN by Books for change
5. Psychosocial Care in Disaster Management: A training module of Training of Trainers module, NIDM
<http://nidm.gov.in/PDF/modules/psycshosocial.pdf>



Session 4.4 Revisiting SDMP

4.4.1 Session Objectives

Revisiting SDMP finalization and sharing

4.4.2 Outline of Content

This session is basically to summarise key points of the School Disaster Management Plan. This will be done through a group exercise. It will also act as an assessment to see how much participants have been able to understand and grasp during the programme.

4.4.3 Expected Outcome of the Session

By the end of session, participants should be able to prepare an inclusive SDMP

4.4.4 Detailed Session Plan

4.4.4.1 Recap (15 minutes)

Divide participants in different groups.
Give chart paper and sketch pens to each group.
Ask groups to list out key points for the SDMP.
Ask each group to come and read out their list.

4.4.4.2 Group Activity (55 minutes)

Ask participants to form groups as previously formed. Everyone should be in their same group.
Ask participants to revisit their previous SDMP plan and rework on it and finalize with keeping in view all the new information particularly the inclusive approach.

Ask groups to then present in front of the larger group. Discussion on the plan, if needed.

4.4.4.3 Energizer (20 minutes)

Please refer Annex 1 for the list of energisers. Choose one depending on the availability of time and number of participants.



Day 5: Reflection and Planning Way Forward

Session 5.1 Training Session

5.1.1 Session Objectives

Enhance the knowledge and skill of delivering training in most effective manner.

5.1.2 Outline of Content

The session will provide the participants with the skill to deliver training and deliver it in such a manner that their engagement and participation remain high constantly.

5.1.3 Expected Outcome of the Session

- The session will provide participants with the skill to conduct and modulate training in most effective manner with their participation.
- The trainer will learn the skill of converting training session in more interesting way, thereby the knowledge is conveyed well to them.

5.1.4 Detailed Session Plan

Materials required for the day: Flip chart/White board, Chart papers, Markers

5.1.4.1 Recap from previous day sessions (30 minutes)

- Form a circle with all the participants
- Ask participants to tell one new thing they learned yesterday
- What information they will be able to use in their area of work
- Ask from each participant

5.1.4.2 Facilitator Skills (60 minutes)

- Who is a Facilitator
- What does Facilitator do
- Facilitator techniques

5.1.5 Session Resources

Handout 1

5.1.6 References/Further Reading:



Handout 1

Who is a FACILITATOR?

A facilitator is a person who helps the participants learn the skills presented in the course. The facilitator spends much of his time in discussions with participants, either individually or in small groups. For facilitators to give enough attention to each participant, a ratio of one facilitator to 3 to 6 participants is desired. In your assignment to teach this course, YOU are a facilitator.

As a facilitator, you need to be very familiar with the material being taught. It is your job to give explanations, do demonstrations, answer questions, talk with participants about their answers to exercises, conduct role plays, lead group discussions, organize and supervise clinical practice in outpatient clinics, and generally give participants any help they need to successfully complete the course. You are not expected to teach the content of the course through formal lectures. (Nor is this a good idea, even if this is the teaching method to which you are most accustomed.)

What, then, DOES a FACILITATOR do?

As a facilitator, you do 3 basic things:

1. You INSTRUCT:

- Make sure that each participant understands how to work through the materials and what he is expected to do in each module and each exercise.
- Answer the participant's questions as they occur.
- Explain any information that the participant finds confusing, and help him understand the main purpose of each exercise.
- Lead group activities, such as group discussions, drills, group exercises, and role plays, to ensure that learning objectives are met.
- Promptly assess each participant's work and give correct answers.
- Discuss with the participant how he obtained his answers in order to identify any weaknesses in the participant's skills or understanding.
- Provide additional explanations or practice to improve skills and understanding.
- Help the participant to understand how to use skills taught in the course in his own school.
- Explain what to do in each session.
- Give guidance and feedback as needed during group exercises.

2. You MOTIVATE:

- Compliment the participant on his correct answers, improvements or progress.
- Make sure that there are no major obstacles to learning (such as too much noise or not enough light).

3. You MANAGE:

- Plan ahead and obtain all supplies needed each day, so that they are in the classroom or taken to the field when needed.
- Make sure that movements from classroom to field (for the conduct of mock exercise) and back are efficient.

- 
- Monitor the progress of each participant.

How do you do these things?

- Show enthusiasm for the topics covered in the course and for the work that the participants are doing.
- Be attentive to each participant's questions and needs. Encourage the participants to come to you at any time with questions or comments. Be available during scheduled times.
- Watch the participants as they work, and offer individual help if you see a participant looking troubled, staring into space, not writing answers, or not turning pages. These are clues that the participant may need help.
- Promote a friendly, cooperative relationship. Respond positively to questions (by saying, for example, "Yes, I see what you mean," or "That is a good question."). Listen to the questions and try to address the participant's concerns, rather than rapidly giving the "correct" answer.
- Always take enough time with each participant to answer his questions completely (that is, so that both you and the participant are satisfied).

What NOT to do.....

- During times scheduled for course activities, do not work on other projects or discuss matters not related to the course.
- In discussions with participants, avoid using facial expressions or making comments that could cause participants to feel embarrassed.
- Do not call on participants one by one as in a traditional classroom, with an awkward silence when a participant does not know the answer. Instead, ask questions during individual feedback.
- Do not lecture about the information that participants are about to read. Give only the introductory explanations. If you give too much information too early, it may confuse participants. Let them read it for themselves in the modules.
- Do not review text paragraph by paragraph. (This is boring and suggests that participants cannot read for themselves.) As necessary, review the highlights of the text during individual feedback or group discussions.
- Avoid being too much of a showman. Enthusiasm (and keeping the participants awake) is great, but learning is most important. Keep watching to ensure that participants understand the materials. Difficult points may require you to slow down and work carefully with individuals.
- Do not be condescending. In other words, do not treat participants as if they are children. They are adults.
- Do not talk too much. Encourage the participants to talk.
- Do not be shy, nervous, or worried about what to say.



FACILITATOR TECHNIQUES

A. Techniques for Motivating Participants

Encourage Interaction

1. During the first day, you will talk individually with each participant several times (for example, during individual feedback). If you are friendly and helpful during these first interactions, it is likely that the participants (a) will overcome their shyness; (b) will realize that you want to talk with them; and (c) will interact with you more openly and productively throughout the course.
2. Look carefully at each participant's work. Check to see if participants are having any problems, even if they do not ask for help. If you show interest and give each participant undivided attention, the participants will feel more compelled to do the work. Also, if the participants know that someone is interested in what they are doing, they are more likely to ask for help when they need it.
3. Be available to the participants at all times.

Keep Participants Involved in Discussions

4. Frequently ask questions to participants to check their understanding and to keep them actively thinking and participating. Questions that begin with "what," "why," or "how" require more than just a few words to answer. Avoid questions that can be answered with a simple "yes" or "no."
After asking a question, PAUSE. Give participants time to think and volunteer a response. A common mistake is to ask a question and then answer it yourself. If no one answers your question, rephrasing it can help to break the tension of silence. But do not do this repeatedly. Some silence is productive.
5. Acknowledge all participants' responses with a comment, a "thank you" or a definite nod. This will make the participants feel valued and encourage participation. If you think a participant has missed the point, ask for clarification, or ask if another participant has a suggestion. If a participant feels his comment is ridiculed or ignored, he may withdraw from the discussion entirely or not speak voluntarily again.
6. Answer participants' questions willingly, and encourage participants to ask questions when they have them rather than to hold the questions until a later time.
7. Do not feel compelled to answer every question yourself. Depending on the situation, you may turn the question back to the participant or invite other participants to respond. You may need to discuss the question with the Course Director or another facilitator before answering. Be prepared to say "I don't know but I'll try to find out."
8. Use names when you call on participants to speak, and when you give them credit or thanks. Use the speaker's name when you refer back to a previous comment.
9. Always maintain eye contact with the participants so everyone feels included. Be careful not to always look at the same participants. Looking at a participant for a few seconds will often prompt a reply, even from a shy participant.

Keep the Session Focused and Lively

10. Keep your presentations lively:



- Present information conversationally rather than read it.
- Speak clearly. Vary the pitch and speed of your voice.
- Use examples from your own experience, and ask participants for examples from their experience.

11. Write key ideas on a flipchart as they are offered. (This is a good way to acknowledge responses. The speaker will know his suggestion has been heard and will appreciate having it recorded for the entire group to see.)

When recording ideas on a flipchart, use the participant's own words if possible. If you must be more brief, paraphrase the idea and check it with the participant before writing it. You want to be sure the participant feels you understood and recorded his idea accurately. Do not turn your back to the group for long periods as you write.

12. At the beginning of a discussion, write the main question on the flipchart. This will help participants stay on the subject. When needed, walk to the flipchart and point to the question.

Paraphrase and summarize frequently to keep participants focused. Ask participants for clarification of statements as needed. Also, encourage other participants to ask a speaker to repeat or clarify his statement.

Restate the original question to the group to get them focused on the main issue again. If you feel someone will resist getting back on track, first pause to get the group's attention, tell them they have gone astray, and then restate the original question.

Do not let several participants talk at once. When this occurs, stop the talkers and assign an order for speaking. (For example, say "Let's hear Ms Samua's comment first, then Dr. Salvador's, then Mr. Lateau's.") People usually will not interrupt if they know they will have a turn to talk.

Thank participants whose comments are brief and to the point.

13. Try to encourage quieter participants to talk. Ask to hear from a participant in the group who has not spoken before, or walk toward someone to focus attention on him and make him feel he is being asked to talk.

Manage any Problems

14. Some participants may talk too much. Here are some suggestions on how to handle an overly talkative participant:

- Do not call on this person first after asking a question.
- After a participant has gone on for some time say, "You have had an opportunity to express your views. Let's hear what some of the other participants have to say on this point." Then rephrase the question and invite other participants to respond, or call on someone else immediately by saying, "Dr. Samua, you had your hand up a few minutes ago."
- When the participant pauses, break in quickly and ask to hear from another member of the group or ask a question of the group, such as, "What do the rest of you think about this point?"

- Record the participant's main idea on the flipchart. As he continues to talk about the idea, point to it on the flipchart and say, "Thank you, we have already covered your suggestion." Then ask the group for another idea.
- Do not ask the talkative participant any more questions. If he answers all the questions directed to the group, ask for an answer from another individual specifically or from a specific subgroup. (For example, ask, "Does anyone on this side of the table have an idea?")

15. Try to identify participants who have difficulty understanding or speaking the course language. Speak slowly and distinctly so you can be more easily understood and encourage the participant in his efforts to communicate.

Discuss with the Course Director any language problems which seriously impair the ability of a participant to understand the written material or the discussions. It may be possible to arrange help for the participant.

Discuss disruptive participants with your co-facilitator or with the Course Director. (The Course Director may be able to discuss matters privately with the disruptive individual.)

Reinforce Participants' Efforts

16. As a facilitator, you will have your own style of interacting with participants. However, a few techniques for reinforcing participants' efforts include:
 - Avoiding use of facial expressions or comments that could cause participants to feel embarrassed,
 - Sitting or bending down to be on the same level as the participant when talking to him,
 - Answering questions thoughtfully, rather than hurriedly,
 - Encouraging participants to speak to you by allowing them time,
 - Appearing interested, saying "That's a good question/suggestion."
17. ***Reinforce participants who:***
 - Try hard
 - Ask for an explanation of a confusing point
 - Do a good job on an exercise
 - Participate in group discussions
 - Help other participants (without distracting them by talking at length about irrelevant matters).

B. Techniques for Relating Modules to Participants' Jobs

1. Discuss the use of covered topics/ group activities in participants' own schools. In this module each session starts by asking some question from participants. Be sure to ask these questions and listen to the participant's answers. This will help participants begin to think about how to apply what they are learning.
2. Reinforce participants who discuss or ask questions by acknowledging and responding to their concerns.



C. Techniques for Assisting Co-facilitators

1. Spend some time with the co-facilitator when assignments are first made. Exchange information about prior teaching experiences and individual strengths, weaknesses and preferences. Agree on roles and responsibilities and how you can work together as a team.
2. Assist one another in providing individual feedback and conducting group discussions. For example, one facilitator may lead a group discussion, and the other may record the important ideas on the flipchart. The second facilitator could also check the course module and add any points that have been omitted.
3. Each day, review the teaching activities that will occur the next day (such as role plays, demonstrations, and drills), and agree who will prepare the demonstration, lead the drill, play each role, collect the supplies, etc.
4. Work together on each module rather than taking turns having sole responsibility for a module.

When Participants are working:

- Look available, interested and ready to help.
- Watch the participants as they work, and offer individual help if you see a participant looking troubled, staring into space, not writing answers, or not turning pages. These are clues that the participant may need help.
- Encourage participants to ask you questions whenever they would like some help.
- If important issues or questions arise when you are talking with an individual, make note of them to discuss later with the entire group.
- If a question arises which you feel you cannot answer adequately, obtain assistance as soon as possible from another facilitator or the Course Director.
- Review the points in this Facilitator Guide so you will be prepared to discuss the next exercise with the participants

When Providing Individual Feedback:

- Before giving individual feedback, refer to the appropriate notes in this module to remind yourself of the major points to make.
- If the participant's answer to any exercise is incorrect or is unreasonable, ask the participant questions to determine why the error was made. There may be many reasons for an incorrect answer. For example, a participant may not understand the question, may not understand certain terms used in the exercise, may have overlooked some information, or may not understand a basic process being taught.
- Once you have identified the reason(s) for the incorrect answer to the exercise, help the participant correct the problem.
- Summarize, or ask the participant to summarize, what was done in the exercise and why. Emphasize that it is most important to learn and remember the process demonstrated by the exercise. Give the participant a copy of the answer sheet, if one is provided.
- Always reinforce the participant for good work by (for example):
 - Commenting on his understanding,
 - Showing enthusiasm for ideas for application of the skill in his work,
 - Telling the participant that you enjoy discussing exercises with him,
 - Letting the participant know that his hard work is appreciated.

**When Leading a Group Discussion:**

- Plan to conduct the group discussion at a time when you are sure that all participants will have completed the preceding work. Wait to announce this time until most participants are ready, so that others will not hurry.
- Before beginning the discussion, refer to the appropriate notes in this module to remind yourself of the purpose of the discussion and the major points to make.
- Always begin the group discussion by telling the participants the purpose of the discussion.
- Often there is no single correct answer that needs to be agreed on in a discussion. Just be sure the conclusions of the group are reasonable and that all participants understand how the conclusions were reached.
- Try to get most of the group members involved in the discussion. Record key ideas on a flipchart as they are offered. Keep your participation to a minimum, but ask questions to keep the discussion active and on track.
- Always summarize, or ask a participant to summarize, what was discussed in the exercise. Give participants a copy of the answer sheet, if one is provided.
- Reinforce the participants for their good work by (for example):
 - Praising them for the list they compiled,
 - Commenting on their understanding of the exercise,
 - Commenting on their creative or useful suggestions for using the skills on the job,
 - Praising them for their ability to work together as a group.



Session 5.2 Open House Discussion

5.2.1 Session Objectives

Discussion with the participants on the contextual issues and specific challenges related to school safety.

5.2.2 Outline of Content

This session is to clear concepts; doubts related to specific contexts that participants belong to.

5.2.3 Expected Outcome of the Session

By the end of session, participants are able to resolve issues raised regarding school safety and related topics to their local context.

5.2.4 Detailed Session Plan

5.2.4.1 Q&A with discussion (60 minutes)

It will be preferable to invite external resource persons for sharing of experiences and feedback

5.2.4.2 Note for the facilitator

- Announce the house is now open for discussion.
- Ask participants to raise any issue they wish to discuss to get more information on.
- Write down question and concerns on the board or flip chart.
- Facilitator may encourage other participants to respond to the queries and add more information if required.

Facilitator should finally respond to the questions and concerns raised by the participants.

5.2.3 References/Further Reading:

<http://ndma.gov.in/ndma/nssp-projects/ModelSchoolDMplantemplateenglish.pdf>



Session 5.3 Action Plan

5.3.1 Session Objectives

Preparation of Action Plan

5.3.2 Outline of Content

This sessions given an opportunity to the participants to prepare action plan as they feel fit for the School Safety. This session will help them understand the School Safety Planning in a more holistic manner.

5.3.3 Expected Outcome of the Session

By the end of session, participants are able to prepare their action a plan for the next steps

5.3.4 Detailed Session Plan

5.3.4.1 Group activity (30 minutes)

- Ask participants to regroup in same groups.
- Ask participants to make action plan in their specific regional context for the way forward.
- Ask groups to present in front of the larger group.
- Discussion on the presentations.



Session 5.4 Post-Training Evaluation

5.4.1 Session Objectives

Feedback & Suggestions

5.4.2 Outline of Content

This session is to get feedback from the participants about the training programme. This will help the facilitator to determine what worked well and what didn't in the training programme. What will be the areas for improvement next time?

5.4.3 Expected Outcome of the Session

Strengths of the training Areas for improvement

5.4.4 Detailed Session Plan

5.4.4.1 Experience sharing (90 minutes)

Ask participants to share their experience during the training in terms of content, material, methodology etc.

Ask participants the following:

- What have you gained from this training?
- Will they be able to use this information in their work?
- Anything they wish to share regarding the entire programme?
- Who among the participant became their best friend and one thing they like about that person.
- Encourage each participant to talk

5.4.5 Session Resources

Hand Outs

Training Programme on School Safety (24-28 September, 2012)

Overall Evaluation/ Feedback

Name of the participant: _____

Thanks in advance for giving your assessment. Just **encircle** the option that expresses you truly.

1. I think the structure and organization of the course fulfilled the objectives of the Training programme.
Excellent Very Good Good Average No response
2. I think the contents of course were relevant
Excellent Very Good Good Average No response
3. I found the course materials supplied to us to be.
Excellent Very Good Good Average No response

- 
4. I believe this will help me in my future job related to Disaster management
Strongly Agree Agree Can not say Disagree Strongly disagree
 5. I feel this inspires me to take up assignments related to disaster management
Very strongly strongly Can not say Low Do not feel at all
 6. I have benefited from interaction with fellow participants in the course
Excellent Very Good Good Average No response
 7. Your overall impression of the training workshop
Excellent Very Good Good Average No response
 8. Specific suggestions from participants for improving the course
 9. Which portion of the Workshop you found least helpful
 10. Any specific observation/ comments you wish to make
 11. Any suggestion regarding the training methods
 12. Any suggestion regarding topic and speakers
 13. any particular faculty you have in mind, give the subject and address of the faculty
 14. You comments on administrative arrangements (Just encircle the option that expresses you truly):

Sl. No.	Item	Comments				
a.	Reception & Registration	Excellent	Very Good	Good	Satisfactory	Poor
b.	Drinking water arrangements in the Lecture hall	Adequate		Inadequate		
c.	Lunch and Tea during the Programme	Excellent	Very Good	Good	Satisfactory	Poor
d.	Lodging arrangements	Excellent	Very Good	Good	Satisfactory	Poor
e.	Catering in the hostel	Excellent	Very Good	Good	Satisfactory	Poor

15. Any other recommendation/ suggestion, not covered above, to improve the programme

16. Kindly indicate how effective the following sessions/topics to you were:

Day /Date	Topic	Faculty Name	Assessment				
			Excellent	Very Good	Good	Fair	No Response
Monday 24-09-2012	Drought Risk and Vulnerability in India- Challenges and Mitigation	Dr. Anil K. Gupta, NIDM					
	Drought Proofing Strategies in Changing climate- Case studies and Analysis	Dr. Anil K. Gupta, NIDM					
	Climate change and Extreme Events – Context of Food security & Drought	Dr. Akhilesh Gupta, Advisor, DST					
Tuesday 25-09-2012							
Wednesday 26-09-2012							
Thursday 27-09-2012							
Friday 28-09-2012							

Any other Comments:



Session 5.5 Valediction

5.5.1 Session Objectives

Completion of the training

5.5.2 Outline of Content

Do invite important senior members and other key people for this session. Thanking the participants for their participation.

5.5.3 Detailed Session Plan

5.5.3.1 Valediction (60 minutes)

Thank participants for their participation.

ANNEX 1

List of Energizers

The Energizers can be taken in-between sessions depending on the time and the strength of participants.

Name	How to Conduct	What is achieved
Card Games	The card games have dos and don'ts written on each card on different hazard. There are three ways to play it dumb charades, Lucky star and memory bank. However dumb charades would be most suitable one. Two groups are to be formed. Facilitator reads out the entire message on each card and explains them to the groups. Each group will choose one card and act on it without uttering words and writing on board. The other group has to recognize the message being act. It would go on till all the messages are read	This is would show one of the ways the children can be oriented on dos and don'ts of different hazards and it would also bring in the age appropriateness. Like primary students prefer games than a lecture or a session.
Connecting eyes	Participants stand in a circle. Each person makes eye contact with another person across the circle. The two walks across the circle and exchange positions, while maintaining eye contact. Many pairs can exchange at the same time, and the group should try to make sure that everyone in the circle is included in the exchange. Begin by trying this in silence and then exchange greetings in the middle of the circle.	It would help participants to know each other and open among themselves which would eventually help the topic discussions more proactive.
Killer wink	Before the game starts, ask someone to be the "the killer" and ask them to keep their identity a secret. Explain that one person among the group is the killer and they can kill people by winking at them. Everyone then walks around the room in different directions, keeping eye contact with everyone they pass. If the killer winks at you, you have to play dead. Everyone has to try and guess who the killer is. It can continue to number of times.	It shows the importance of identifying the risk which may also be hidden and plan accordingly. Otherwise, if in planning these risks are not included the whole plan would fail. Hence participatory approach becomes helpful to identify and assess these risks.
Family members	Prepare cards with family names. You can use different types of professions, such as Mother Farmer, Father Farmer, Sister Farmer and Brother Farmer. Or you could use names of different animals or fruits. Each family should have four or five in it. Give each person one of the cards and ask everyone walk around the room. Explain that when you call out, "family reunion", everyone should try to form a "family group" as quickly as possible.	It can be linked with stake holder analysis and their importance.
Act on	The facilitator asks all the participants to stand in different area of venue. He then shouts name of hazards, the participants would now need to act appropriately for	It shows the importance of awareness and act on the knowledge gained.



Name	How to Conduct	What is achieved
	that hazard. Like, fire the facilitator shouts “earthquake”, everyone would go for duck cover and hold. Similarly if he says tsunami, they stand on chairs or any elevated place.	
Port and Starboard	Participants stand in the centre of the room. If the leader shouts “starboard”, everyone runs to the right. If he/she shouts “port”, everyone runs to the left and if he/she shouts “man the ship”, everyone runs back to the centre.	It is to relate to the team work and leadership.
Don’t Answer	Ask the group to stand in a circle. One person starts by going up to someone and asking them a question such as, “what is your most annoying habit?” However they must not answer the question themselves – the person to their left must answer. People can make their answer as imaginative as possible.	This is to emphasis on knowing stake holders about their capacity, weakness, and resources and so on and so forth.
Count Down	Ask the participants to form a circle. Explain that the group needs to count together from 1 to 50. There are few rules: they are not to say seven or any number which is a multiple of seven. Instead, they have to clap their hands. Once someone claps their hands one time, the group must continue the number from next digit. If someone claps their hands twice or more than twice, the group must count the number in reverse. If someone says seven or multiple of seven, start the counting again.	It shows the importance of being sensitive towards local culture, child’s age, gender, religion, so on and so forth. However it does not mean that the positive message is not to be given but should be delivered in very strategic, localized and non-offending ways.
Mirror Image	Participants sort themselves into pairs. Each pair decides which one of them will be the “mirror”. This person then copies (mirrors) the actions of their partner. After some time, ask the other person can be “mirror”.	It shows the importance and how replication of good practice can be done. May be with some slight contextual modification.



ANNEX 2

Supreme Court of India

Avinash Mehrotra vs Union of India & Ors. on 13 April, 2009

Author: D Bhandari

Bench: R.V. Raveendran, Lokeshwar Singh Panta

IN THE SUPREME COURT OF INDIA

CIVIL ORIGINAL JURISDICTION

WRIT PETITION (CIVIL) NO.483 OF 2004

Avinash Mehrotra... Petitioner Versus

Union of India & Others... Respondents JUDGMENT

Dalveer Bhandari, J.

1. This important Public Interest Litigation relates to a fire swept through the Lord Krishna Middle School in District Kumbakonam in the city of Madras, Tamil Nadu. The fire started in the school's kitchen while cooks were preparing mid-day meal. In order to protect the rights of life and education guaranteed to all school going children under Articles 21 and 21-A, the petitioner has prayed this Court to bring about safer school conditions.
2. It is alleged that Lord Krishna Middle School is one of the thousands of private schools that have sprung up in response to drastic cuts in government spending on education. This building houses more than 900 students in a crowded, thatched-roof building with a single entrance, a narrow stairway, windowless classrooms and only one entrance and exit.
3. The fire had sparked by dry coconut leaves used as firewood in a nearby makeshift kitchen with thatched-roof. The fire had started when the cooks were preparing mid-day meal under a Mid-day meal scheme popular in Tamil Nadu. It is alleged that the ventilation of the entire school building was extremely poor with only cement-perforated windows. It took sufficient time for the fire fighters on a crane to break these windows and rescue the few children they could with severe burn injuries. The kitchen fire rose so high that the thatched roof of the classrooms caught fire and the blazing roof supported by bamboo poles collapsed on the school children and most of them died on the spot.



4. The nearby residents started dousing the flames and trying to rescue children. The school's narrow, steep stairs and few exits apparently hampered those efforts. The crowd of volunteer rescuers ended up blocking the main door as they tried to help.
5. According to rules, a government-certified engineer is supposed to visit these schools once every two years and issue a "stability certificate" if the building is found to be in good condition and all safety precautions are met. The engineer can refuse to issue the certificate if he finds the safety measures inadequate, losing the school its licence to operate.
6. It is mentioned in the petition that the investigations have revealed that the school in Kumbakonam was last inspected three years ago. The school had a thatched roof in severe violation of building laws. It even had a thatched kitchen close to the thatched classrooms. The fire officials had described the school as a death trap. They said that the victims had no chance of escape when the fire erupted as they were doing their lessons on the top floor. It is alleged that the incidence of Kumbakonam District is not the first of its kind. In the year 1995, a school prize-giving ceremony in a Northern Indian town turned to tragedy when a fire broke out, killing nearly 400 people, many of them children and teenagers. The fire was caused by an electrical short circuit in the town of Dabwali in the state of Haryana, about 150 miles from the National Capital.
7. Flagrant violation of school safety regulations continues in the entire country even four decades after the government pledged to enforce them after a private school building in Madurai caves in, killing 35 school girls and injuring 137.
8. The petitioner has prayed that he has filed this petition with a specific objective that: (1) each and every child of this country can receive good education free from fear of safety and security, (2) to ensure that more stringent rules and regulations are framed keeping in mind the safety of the students, (3) to ensure that such standards of safety are at par with the highest standards set up anywhere in the world; and (4) to ensure that such standards are in fact enforced regularly for the safety and protection of children in classrooms across the country.
9. The petitioner has submitted that the concerned building by-laws and rules are not followed by most of the schools in the country causing serious safety hazards for the children.
10. In this petition, it is prayed that along with the existing rules regarding safety, some additional rules be framed to strengthen the laws to protect the children in school buildings in cases of fire and other kinds of emergencies. In the petition, the petitioner has prayed for:



- i Developing a manual with fire safety procedures, and other safety precautions and distributing them in schools. The manual can include the ways fires can be prevented through careful design, management, and maintenance practice; and ideas for limiting fire damage, and other calamities. Marking clear and safe emergency evacuations. Making sure that all exits are marked clearly and that there are no objects obstructing the Entry and Exit of the school building.
- ii Ensuring that the kitchen in the precincts of the school has adequate safety mechanisms. Not keeping any hazardous, inflammable material in the school precincts. Not making school buildings with inflammable material like thatched roof, or having any exposed wires in the school.
- iii Separating hazardous areas from the main school.
- iv Ensuring that the schools are not exceeding the limit of the students it can admit in accordance with the facilities available for each school, ensuring proper facilities like safe drinking water, toilets, first aid boxes, proper ventilation, lighting etc is available to the students and the teachers.
- v Schools must take appropriate safety measures and an emergency response plan that delineates staff responsibilities, communication modes, and training and updating procedures for all members of the faculty, staff and students. Assigning duties to teachers in case of an emergency like fire, earthquake, flood, a mob attack etc and training the staff to ensure that all safety precautions are followed.
- vi Fire insurance coverage should be made mandatory for all schools. This will also help as all insurance companies will definitely inspect the school premises before agreeing to provide insurance cover, thereby ensuring adherence to the highest safety standards by the schools.
- vii Residential schools to have proper safety measures in case of using boilers, kitchen, ensuring that there is no leakage while using or storing fuel, and that it is outside the reach of children. All school buildings must install fire extinguishing equipment and sensor alarms in case of fires. Such alarms must be able to automatically intimate the nearest local fire station so that their response times are much quicker in case of fire. (viii) Regular fire drills to make students aware of what to do in case of a fire emergency.
- ix The States should deal with all aspects of safety within schools pertaining to classrooms, kitchen, laboratories, and libraries and outside schools relating to playgrounds, swimming pools and field trips.
- x There should be a policy prescribing safety audits in all schools vide which an assessment of the extent to which the stipulated safety procedures for a particular area/task are followed can be done. Audits can be



used to identify weaknesses in safety norms and check compliance with set standards and reinforce positive safe behavior.

- xi The local authorities in both urban and rural areas should be given specific directions with regard to the safety measures by the respective State Government.
11. In the petition, it is averred that the State is duty bound to protect and secure lives of students across the country by ensuring the minimum safety standards. The State is liable to promulgate policies, which ensure the implementation of the safety laws and procedures laid down. The State must ensure that the government-certified engineer visits each and every school at least once in two years and issued a 'stability certificate'. If the building is found to be in good condition and all safety precautions are met. There should be strict supervision on those engineers who can issue these kinds of certificates. It is alleged that most of the Indian private schools in district towns are dull, claustrophobic, cramped and often have derelict structures with no fire safety systems, playgrounds or libraries. Most of these private schools in the district towns are located in a warren of congested lanes and school authorities often lock the gates when classes are on to keep children from slipping out of the school. Most of the schools in the villages and small towns are still made of thatched roofs made from coconut leaves or other cheap and easily available materials to avoid the cost of construction in flagrant violation of the building laws.
 12. It is prayed in the petition that a committee of jurists, legal experts and lawyers be constituted to formulate a comprehensive report in a time bound plan for carrying out reforms in the safety standards as prescribed in the schools and to direct all the schools to implement the plan, alternately to come forward with their own plan for providing safety measures in the schools. It is further prayed that this Court should evolve model safety standards as a part of Article 21 and for free and fair exercise of fundamental rights under Articles 14, 15 and 19 of the Constitution of India.
 13. In this petition, we are called upon to determine what, if any, safety standards schools should have and how, if at all, schools have not met those standards.
 14. The National Building Code of India, 2005, promulgated by the Bureau of Indian Standards, provides detailed instructions on how to construct fire-safe buildings. Tables and drawings set standard for schools particularly, including number and type of fire extinguishers, quantity of water necessary for a proper fire suppression system, and many more, providing an engineer-tested, nationally applicable set of standards that our schools could follow. In the introductory materials for the Code, the Bureau of Indian Standards affirms the petitioner's claim in this case: "The hazards of fire in educational buildings can be considerably



lowered by adoption of certain predetermined fire safety measures with regard to proper planning of buildings, choice of proper materials and components, electrical equipments and making suitable provisions for fire detection and suppression system.”

15. This Court issued notice to the Union of India, State Governments and the Union Territories. Replies and counter affidavits have been received from almost all the State Governments and the Union Territories and also the Union of India. This Court appointed Mr. Colin Gonsalves, learned Senior Advocate as Amicus Curiae. He also suggested some guidelines which need to be followed by all schools in the country.
16. 27 States and Territories have filed affidavits in this Court detailing the current safety of their schools and plans for improvement. The States admit that many schools do not meet self-determined safety standards, let alone the more rigorous standards of the National Building Code. The affidavits generally focus on plans for improvement, rather than schools' current conditions, because much work remain. Where States have provided detailed counts of schools and installed safety features, it emerges that thousands of schools lack any fire suppression equipment. Thousands more schools do not have adequate emergency egress or non-inflammable roofs. Unfortunately, most States failed to provide any quantitative data in their affidavits. Instead these States filed vague plans for future renovations and piecemeal schemes to improve schools safety. Little technical advice informs some of the plans, and few have any admitted force of law or fail-safe or follow-up mechanism from the State Government.
17. While we applaud States' efforts to improve schools, we find that States have done too little, too late. With the guidance of the National Building Code and affidavits in this case, we view Mr. Gonsalves's brief as crystallizing a minimum set of safety standards for schools. By their own admission, States have not met these standards and they have welcomed this Court's guidance in achieving improvement. We will consider in more detail the exact standards required and relief sought later in this view. It is clearly borne out from the affidavits filed by the respondents that even the basic fire extinguishing equipments have not been installed in most of the schools. Majority of the schools do not have emergency exits. The schools must realize and properly comprehend the importance of the fire safety equipments, but unfortunately most of the schools do not have fire extinguishing equipments and consequently, the schools are not following the minimum safety standards prescribed by the Building Code, the Bureau of Indian Standards.
18. Despite best intentions and frequent agreements, these codes and safety standards rarely bind builders in law or practice. State or local governments must enact Building Codes before any may have the force of law. Some Building Codes exist in law, but few states or municipalities have enacted a standard as rigorous as the National Building Code. Weak enforcement often then moots the enacted code's effectiveness, no



matter the Code's intent, whether fire safety officials, routinely speak to the need for meaningful standards with real enforcement.

19. In the petition, the petitioner does not seek damages or court's finding on culpability. The main intention of filing this petition is to protect against similar future tragedies by improving the conditions of the schools in our country.
20. Education occupies an important place in our Constitution and culture. There has been emphasis on free and compulsory education for children in this country for a long time. There is a very strong historical perspective. The Hunter Commission in 1882-83, almost 125 years ago, recommended Universal Education in India. It proposed to make education compulsory for the children.
21. The Government of India Act, 1935 provided that “education should be made free and compulsory for both boys and girls.” While debating a bill in Imperial Legislation Council in 1911, Shri Gopal Krishna Gokhale strongly advocated that elementary education should be both compulsory and free.
22. Our original Framers of the Constitution placed free and compulsory education in the Directive Principles. The un-amended Article 45 provided that:

“The State shall endeavour to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years.”
23. The Kothari Commission on Education set up by the Government of India in 1966 strongly recommended free and compulsory education for children up to 14 years. The Commission observed that there is no other way for the poor to climb their way out of this predicament.
24. Education occupies a sacred place within our Constitution and culture. Article 21A of the Constitution, adopted in 2002, codified this Court's holding in *Unni Krishnan, J.P. & Others v. State of Andhra Pradesh & Ors.* (1993) 1 SCC 645, in which we established a right to education. Parliament did not merely affirm that right; the Amending Act placed the right to education within the Constitution's set of Fundamental Rights, the most cherished principles of our society. As the Court observed in *Unni Krishnan (supra)*, para 8:

“The immortal Poet Valluvar whose Tirukkural will surpass all ages and transcend all religious said of education”



“Learning is excellence of wealth that none destroy; To man naught else affords reality of joy.”

25. Education today remains liberation - a tool for the betterment of our civil institutions, the protection of our civil liberties, and the path to an informed and questioning citizenry.

26. Then as now, we recognize education's “transcendental importance” in the lives of individuals and in the very survival of our Constitution and Republic. In the years since the inclusion of Article 21A, we have clarified that the right to education attaches to the individual as an inalienable human right. We have traced the broad scope of this right in [R. D. Upadhyay v. State of A.P.](#) & Ors. AIR 2006 SC 1946, holding that the State must provide education to all children in all places, even in prisons, to the children of prisoners. We have also affirmed the inviolability of the right to education. [In Election Commission of India v. St. Mary's School](#) & Ors. (2008) 2 SCC 390, we refused to allow the State to take teachers from the classroom to work in polling places. While the democratic State has a mandate to conduct elections, the mundane demands of instruction superseded the State's need to staff polling places. Indeed, the democratic State may never reach its greatest potential without a citizenry sufficiently educated to understand civil rights and social duties, [Bandhua Mukti Morcha v. Union of India](#) & Ors., (1997) 10 SCC 549. These conclusions all follow from our opinion in Unni Krishnan. Education remains essential to the life of the individual, as much as health and dignity, and the State must provide it, comprehensively and completely, in order to satisfy its highest duty to citizens.

27. Unlike other fundamental rights, the right to education places a burden not only on the State, but also on the parent or guardian of every child, and on the child herself. Article 21A, which reads as follows, places one obligation primarily on the State:

“The State shall provide free and compulsory education to all children of the age of six to fourteen years in such manner as the State may, by law, determine.”

28. By contrast, Article 51A(k), which reads as follows, places burden squarely on the parents:

“Fundamental duties - it shall be the duty of every citizen of India who is the parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.”

29. The Constitution directs both burdens to achieve one end: the compulsory education of children, free from the fetters of cost, parental obstruction, or State inaction. The two articles also balance the relative burdens on parents and the State. Parents sacrifice for the education of their children, by sending them to



school for hours of the day, but only with a commensurate sacrifice of the State's resources. The right to education, then, is more than a human or fundamental right. It is a reciprocal agreement between the State and the family, and it places an affirmative burden on all participants in our civil society.

30. This Court has routinely held that another fundamental right to life encompasses more than a breath and a heartbeat. In reflecting on the meaning of “personal liberty” in Articles 19 and 21, we have held that “that ‘personal liberty’ is used in the article as a compendious term to include within itself all the varieties of rights which go to makeup the ‘personal liberties’ of man.” [Kharak Singh v. State of U.P.](#) & Ors. AIR 1963 SC 1295, para 16. Similarly, we must hold that educating a child requires more than a teacher and a blackboard, or a classroom and a book. The right to education requires that a child study in a quality school, and a quality school certainly should pose no threat to a child's safety. We reached a similar conclusion, on the comprehensive guarantees implicit in the right to education, only recently in our opinion in [Ashoka Kumar Thakur v. Union of India](#) & Ors. (2008) 6 SCC 1.
31. The Constitution likewise provides meaning to the word “education” beyond its dictionary meaning. Parents should not be compelled to send their children to dangerous schools, nor should children suffer compulsory education in unsound buildings. Likewise, the State's reciprocal duty to parents begins with the provision of a free education, and it extends to the State's regulatory power. No matter where a family seeks to educate its children, the State must ensure that children suffer no harm in exercising their fundamental right and civic duty. States thus bear the additional burden of regulation, ensuring that schools provide safe facilities as part of a compulsory education.
32. In the instant case, we have no need to sketch all the contours of the Constitution's guarantees, so we do not. We merely hold that the right to education incorporates the provision of safe schools.
33. This Court in Ashoka Kumar Thakur's case (supra) observed as under:

“It has become necessary that the Government set a realistic target within which it must fully implement Article 21A regarding free and compulsory education for the entire country. The Government should suitably revise budget allocations for education. The priorities have to be set correctly. The most important fundamental right may be Article 21A, which, in the larger interest of the nation, must be fully implemented. Without Article 21A, the other fundamental rights are effectively rendered meaningless. Education stands above other rights, as one's ability to enforce one's fundamental rights flows from one's education. This is ultimately why the judiciary must oversee Government spending on free and compulsory education.”



34. In view of the importance of Article 21A, it is imperative that the education which is provided to children in the primary schools should be in the environment of safety.

35. In view of what has happened in Lord Krishna Middle School in District Kumbakonam and other incidents which have been enumerated in the preceding paragraphs, it has become imperative that each school must follow the bare minimum safety standards, in addition to the compliance of the National Building Code of India, 2005, in particular Part IV - Fire & Life Safety and the Code of Practice of Fire Safety in Educational Institutions (IS 14435:1997) of the Bureau of Indian Standards. The said safety standards are enumerated herein below:

3.1 FIRE SAFETY MEASURES IN SCHOOLS:

- i. Provision of adequate capacity and numbers of fire extinguishers of ISI marks to be provided in eye-catching spots in each block of the school.
- ii. First Aid kits and necessary medicines should be readily available in the school.
- iii. Provision of water tank and separate piping from the tank with hose reel to the ground floor and first floor.
- iv. Fire fighting training to all teachers and students from X to XII standards.
- v. Fire Task Force in every school comprising of Head of the institution, two teachers / staff members and one member from the Fire and Rescue Department should be constituted. The Fire & Rescue Department member shall monitor and make fire safety plan and conduct inspections once in every three months.
- vi. Display of emergency telephone numbers and list of persons to be contacted on the notice board and other prominent places.
- vii. Mock drills to be conducted regularly. Fire alarm to be provided in each floor and for rural schools separate long bell arrangement in case of emergency.
- viii. All old electrical wiring and equipment shall be replaced with ISI mark equipments and routine maintenance conducted by the School Management in consultation with the Fire and Rescue Department.

- 
- ix. No High Tension lines should run inside or in close proximity to the school. Steps must be taken to shift them if they are already there.
 - x. The Fire and Rescue Department shall frame guidelines with “DOS and DON'Ts” for schools and issue a fitness certificate, which shall be renewed periodically.

3.2 TRAINING OF SCHOOL TEACHERS & OTHER STAFF:

- i. The teachers along with other staff shall be trained to handle safety equipment, initiate emergency evacuations and protect their students in the event of fire and other emergencies by the Fire and Rescue Department.
- ii. They shall also be trained in providing emergency first-aid treatment.
- iii. There shall be a School Safety Advisory Committee and an Emergency Response Plan drafted by the Committee in approval and consultation with the concerned Fire & Rescue Department.
- iv. Emergency Response Drills conducted at regular intervals to train the students as well as the school staff.
- v. All schools to observe Fire Safety Day on 14th of April every year with awareness programs and fire safety drills in collaboration with the Fire and Rescue Department.

3.3 SCHOOL BUILDING SPECIFICATIONS:

- i. The school buildings shall preferably be 'A' Class construction with brick / stone masonry walls with RCC roofing. Where it is not possible to provide RCC roofing only non-combustible fireproof heat resistance materials should be used.
- ii. The nursery and elementary schools should be housed in single storied buildings and the maximum number of floors in school buildings shall be restricted to three including the ground floor.
- iii. The School building shall be free from inflammable and toxic materials, which if necessary, should be stored away from the school building.
- iv. The staircases, which act as exits or escape routes, shall adhere to provisions specified in the National Building Code of India 2005 to ensure quick evacuation of children.
- v. The orientation of the buildings shall be in such a way that proper air circulation and lighting is available with open space all round the building as far as possible.

- 
- vi. Existing school buildings shall be provided with additional doors in the main entrances as well as the class rooms if required. The size of the main exit and classroom doors shall be enlarged if found inadequate.
 - vii. School buildings have to be insured against fire and natural calamities with Group Insurance of school pupils.
 - viii. Kitchen and other activities involving use of fire shall be carried out in a secure and safe location away from the main school building.
 - ix. All schools shall have water storage tanks.

3.4 CLEARANCES & CERTIFICATES:

- i. Every School shall have a mandatory fire safety inspection by the Fire and Rescue Services Department followed by issuance of a 'no objection certificate' to the School as a mandatory requirement for granting permission for establishing or continuation of a School.
 - ii. An Inspection Team consisting of experts like a Civil Engineer, a Health Officer, a Revenue Officer, a Psychologist, a Fire Officer, a local body officer and a development officer besides the educational authorities shall carry inspection and assessment of infrastructural facilities before the commencement of each academic year. The Team shall submit its Inspection Report to the concerned district Chief Educational Officer.
 - iii. The building plans for schools shall be prepared only by a Government certified engineer and the PWD Executive Engineer concerned should inspect the building and award a structural stability certificate. Stability Certificates shall be issued by the State or Central Government Engineers only and shall be mandatory for granting permission for establishing or continuation of a School.
 - iv. In every district, one Recognition Committee headed by a retired judge shall be constituted. Officials from Revenue Department, Public Works Department, Fire Service, Electricity Board, Health and Education Department, a reputed NGO shall be members. They shall visit the schools periodically or at least the erring institutions as listed by the Chief Education Officer. v. Conditional recognition / approval shall never by resort to for any school.
36. In this petition, we need not take any action contrary to government policy to fulfill the Constitution's mandate. Union and State officials have already filed wide-ranging plans to improve school safety. Along



with the National Building Code, a combination of the better parts of these plans would bring the nation's schools to an adequate level of safety. States have also expressed enthusiasm for reform and some have asked this Court expressly for direction.

37. Many States have already begun implementation. The most forward thinking States have enacted and enforced the National Building Code in their schools. Often these States have also created, empowered and funded a state-wide emergency response office. The coordinated efforts and concentration of knowledge in these administrative units make States better able to prepare for emergencies, as much as to respond once the problem has started. For example, the State of Gujarat has established such an emergency management office. Having already settled building codes and other large issues, the State can focus on other aspects of emergency management. With the assistance of outside experts, Gujarat recently created a colouring book to teach children how to respond to emergencies. On a smaller scale, but no less vital, in the Union Territory of Pondicherry, administrators replaced all thatched roofs and allocated an additional Rs.500 lakhs to build pucca classrooms. Some States have counted their schools and know which require repairs; they provided these details in their affidavits along with detailed plans for improvement. We are encouraged by the agreement shared among States that safety must improve. Our order should provide additional stimulus for the general aims of the States' already agreed policy.
38. In the end, we should need to do little but enforce existing laws and encourage States in their own well-intentioned safety programmes. However, in the years since the fire at the Lord Krishna Middle School, some States have moved slowly and safety standards have varied in quality across States. These delays and variations have subjected millions more school children to danger from fire, earthquakes and other causes, when simple enhancements could offer much greater protection. Articles 21 and 21-A of the Constitution require that India's school children receive education in safe schools. In order to give effect to the provisions of the Constitution, we must ensure that India's schools adhere to basic safety standards without further delay.
39. It is the fundamental right of each and every child to receive education free from fear of security and safety. The children cannot be compelled to receive education from an unsound and unsafe building.
40. In view of what happened in Lord Krishna Middle School in District Kumbakonam where 93 children were burnt alive and several similar incidences had happened in the past, therefore, it has become imperative to direct that safety measures as prescribed by the National Building Code of India, 2005 be implemented by all government and private schools functioning in our country.



We direct that:-

- (i) Before granting recognition or affiliation, the concerned State Governments and Union Territories are directed to ensure that the buildings are safe and secured from every angle and they are constructed according to the safety norms incorporated in the National Building Code of India.
 - (ii) All existing government and private schools shall install fire extinguishing equipments within a period of six months.
 - (iii) The school buildings be kept free from inflammable and toxic material. If storage is inevitable, they should be stored safely.
 - (iv) Evaluation of structural aspect of the school may be carried out periodically. We direct that the concerned engineers and officials must strictly follow the National Building Code. The safety certificate be issued only after proper inspection. Dereliction in duty must attract immediate disciplinary action against the concerned officials. (v) Necessary training be imparted to the staff and other officials of the school to use the fire extinguishing equipments.
41. The Education Secretaries of each State and Union Territories are directed to file an affidavit of compliance of this order within one month after installation of fire extinguishing equipments.
42. List this petition on 07.12.2009 to ensure compliance of this order.

.....J. (Dalveer Bhandari)

.....J. (Lokeshwar Singh Pant)

New Delhi; April 13, 20..