School Safety Including the School Disaster Management Plans and Conduct of Mock Drills

July 2014

Third Edition

Training Module

Assam State Disaster Management Authority

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School Safety Including the School Disaster Management Plans and Conduct of Mock Drills

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July 2014

Title: School Safety including the School Disaster Management (DM) Plans and Conduct of Mock Drills

with inputs from Mr. Nayeem Wahra, Sectorial Expert, Bangladesh and Dr. Shiv Someshwar, Earth Institute, Columbia University, U.S.

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Preface

Disaster history has proven that School Children are the most vulnerable section of the society during the disaster. It is therefore, Imperative that school safety concerns are addressed to reduce the hazard induced losses in schools and increase safety of the children by building capacity of stakeholders through different activities.

In keeping with the vision of "A State Prepared" and a "Safer Assam", Assam State Disaster Management Authority (ASDMA) has initiated a massive capacity building and pilot implementing programme in 25 identified areas of Disaster Management. Under these initiatives, All India Disaster Mitigation Institute (AIDMI) has been entrusted with the responsibility of conducting school safety training for teachers in all the 27 districts of Assam and model pilot implementing programme in selected schools of Guwahati. These are significant steps towards disaster risk reduction in schools and create a disaster resilience culture among the society.

I wish this endeavour a great success!

(Nandita Hazarika)
(Deputy Secretary & State Project Officer),
DRR Programme
Revenue and Disaster Management Department,
Dispur, Guwahati- 6

Foreword

Making Schools Safer in Assam

Assam has always attributed special interest of All India Disaster Mitigation Institute (AIDMI). Its people, culture and its role in shaping Indian civilization has not only been striking but inspiring. Assam by virtue of its geographical location is a multi hazard prone area which has the continuous threat of hazards including Flood, Earthquake, Land slide etc. Flood, Earthquake, Landslide, Cyclonic Storms etc has often badly affected the state. On the one hand the response is becoming more effective, but on the other hand the challenge is becoming greater.

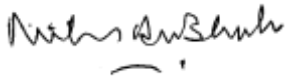
ASDMA initiated phase 1 and phase 2 "Training of Teachers on School Safety including School Disaster Management Plans and Conduct of Mock Drills in Assam" in 27 district of Assam. Perhaps this endeavour of ASDMA is the most systematic and state wide exercise any State Disaster Management Authority (SDMA) has taken up in India. Not many states have shown such interest and matched its interest with suitable resources and actions. The enthusiasm of teachers, students, DDMAs and the SDMA to make safer schools in Assam is remarkable. The third phase of training is aimed at building capacity of school representatives in 20 sub-divisions in 15 districts of Assam. ASDMA, the schools and AIDMI are taking this up as a commitment to the people of Assam and to the GOI to make life of all citizens safer from disaster.

ASDMA's interest in piloting School Disaster Management Plan in 4 schools of Kamrup(Metro) District is one of its kind in India. AIDMI also completed audit of DDMPs of 27 districts and 3 Cities of Assam. Such novel and path breaking approaches followed by ASDMA set it apart as an unique State Disaster Management Authority in India that always pushes the envelope of endeavour in terms disaster management in India to increase the resilience of communities to disasters in Assam.

This module has evolved since 2001 when AIDMI first launched Safer School Campaign in India. The campaign was supported by European Union and spread with support from many organizations, including UNICEF, in 12 states of India including 37 cities and 52 districts (including 7 districts of Assam) in its own small but sure way. AIDMI brings this professional and creative experience to Assam to match the commitment and dedication of ASDMA to make schools safer across the state. This module and AIDMI role in the program, builds on AIDMI work in floods and earthquake affected schools of Maharashtra, Gujarat, , Andaman and Nicobar Islands, Bihar, Jammu and Kashmir, as well as in National School Safety Programme (NSSP) in India. It tames and tidy as well as provocates more work in Assam.

The focus of AIDMI is on the girl child in the school and teachers of Assam, not only because they suffer so often from increasing number of risks—social to political to economic—in India but also because they offer such fresh stream of ideas and energy as well as the occasional ripple of outspoken demand for action. These qualities make this endeavour exciting.

Without direct support from Ajay Tewari of ASDMA with Dr. Nandita Hazarika of ASDMA this module was not possible. Ms. Bhupali, Mr. Ranjan Bora and other behind the scene in ASDMA team offered full support and open forum whole heartedly to AIDMI. We thank all for joining hands to make Assam safer.



Mihir R. Bhatt
All India Disaster Mitigation Institute
July 2014

Acknowledgments

The District Disaster Management Authorities (DDMAs) and the All India Disaster Mitigation Institute (AIDMI) is invited and awarded project to facilitate series of Training of Teachers on 'School Safety Including School Disaster Management Plans and Conduct of Mock Drills in Assam' on the basis of its sectoral experience of working with schools and on school safety issues in 12 states/union territories of India apart from the neighboring countries. We would like to thank Mr. Mihir R. Bhatt for overall guidance to move Child's Right to Safer Schools Campaign of AIDMI with focus on schools stakeholders and addressing the issues related to poor and vulnerable areas in India and beyond.

We are highly thankful to organizations who directly contributed to development of this training programme – National Disaster Management Authority (NDMA), Government of Assam; Assam State Disaster Management Authority (ASDMA); and Office of the Deputy Commissioners in all the 27 districts in Assam.

We take this opportunity to acknowledge whole-heartedly to individuals who actively supported to AIDMI for better execution of the trainings, Shri Ajay Tewari, Chief Executive Officer of ASDMA; Shri V. K. Pipersenia, Principal Secretary, Agriculture; Shri Nandita Hazarika, Deputy Secretary and State Project Officer, ASDMA; and Shri Bhupali Goswami and Shri Ranjan Kr. Borah, ASDMA. District Commissioners and District Project Officers of all the 27 districts of Assam have encouraged AIDMI for smooth execution of trainings in their respective districts by extending their full support.

We are also thankful to our past 2774 training participants for their involvement to make the AIDMI efforts with better quality. The module has been developed on the basis of AIDMI's experience in India and in the region. It has also been enriched with inputs and suggestions from teachers and school children (largely girls) from Assam including experience of phase 1 and Phase 2 School Safety Trainings and Guwahati

Emergency Management Exercise (GEMEx). Jorhat Management Exercise (JEMEx) Silchar Emergency Management Exercise (SEMEx), and Dibrugarh Emergency Management Exercise (DEMEx). Their important contribution is acknowledged wholeheartedly.

We acknowledge Mr. Nayeem Wahra, Sectorial Expert, Bangladesh and Dr. Shiv Someshwar, Earth Institute, Columbia University, U.S. for their expert inputs in making this training module more practical and useful to schools, teachers and children in context to local hazards of Assam.

We are also thankful to Ms. Sadhana Adhikary, Sardar Patel University and our Mr. Vishal Pathak, Mr. Kalpesh Prajapati, Mr. Manish Patel, Mr. Gautam Bhut, Mr. Kshitij Gupta, Mr. Kuldip Kalita, Mr. Anand Prokash Kanoo, Ms. Sonali Das, Ms. Ritu Saxena for their valuable inputs in this module as well as developing reference material. We are thankful to Mr. G.P. Hazarika for helping in getting the same module translated in Assamese. Entire AIDMI team gave valuable contribution in making this training module and their contribution is acknowledged herewith with deep respect. Ms. Arpita J. Chhatrapati and Mr. Sanchit Oza helped AIDMI in shaping up the concept of this project in initial period 2012.

The module conceptualizes school safety processes, provides basic concepts and provides essential knowledge on school based disaster risk reduction, preparation of school disaster management plans, and conducting mock drills for making schools safer in Assam. We have focused on the integration of climate change adaptation, girl child inclusive and participation of children.

Vishal Pathak
All India Disaster Mitigation Institute
July 2014

Abbreviations

ADPC	Asian Disaster Preparedness Center
AIDMI	All India Disaster Mitigation Institute
ASDMA	Assam State Disaster Management Authority
ASTEC	Assam Science Technology and Environment Council
CBDRR	Community Based Disaster Risk Reduction
DDMP	District Disaster Management Plan
DRR	Disaster Risk Reduction
ECHO	European Commission for Humanitarian Aid
GoI	Government of India
HFA	Hyogo Framework for Action
HPC	High Powered Committee
INEE	Inter-Agency Network for Education in Emergencies
IRS	Indian Remote Sensing Satellite
NDMA	National Disaster Management Authority
NGO	Non Governmental Organization
PRA	Participatory Risk Assessment
RCC	Reinforced Cement Concrete
SDMA	State Disaster Management Authority
SSA	Sarva Shiksha Abhiyan
ToT	Training of Trainers
UN	United Nations
UNCRD	United Nations Center for Regional Development
UNDP	United Nations Development Programme
UNFCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction

Introductory Session

Objective: At the end of the session the participants –

- will be able to describe the background and objectives of the course.
- will get acquainted with each other
- will be able to describe their expectations from the course
- will be able to describe the norms of running the course

Total Time: 1 hour

Topics	Methodology	Materials
Registration of Participants and invited guest(s)	Warm welcome to the participants while handing them the registration form	1. Registration forms 2. Training Kit for participants
Inauguration of the Training, Introduction, Objective, Outline of the Training	• Introduction of the Facilitators and the participants (using ice-breaker) • Explain the objective and the content of the Training • Brief them about how it will benefit them • Access their past knowledge regarding school safety at times of disasters • Click Group photo (Guests, Participants and Trainers)	1. Note of the outline of the Training 2. A4 paper/ paper piece/ chart piece and colour pens/ markers 3. Kit for guests with additional materials 4. Camera

Trainer's Note:

The Training coordinator shall warmly welcome the participants. The participants shall be asked to fill the registration forms. After the introduction of the coordinator and the trainers, the participants shall be asked to introduce themselves. The participants shall be briefed about the objective, the outline and the schedule of the training.

To create a more friendly training sessions, an ice breaking game is conducted which makes the participants know more about each other.

Common Materials required during the whole training:

White Board/Black Board, Markers/Chalks, Cutter, U-pins, Stapler, Stapler pins LCD, Laptop, Set of sketch pens, 10-20 A4 size papers, Module, Reference Materials, Materials to be distributed to the trainers.

Disaster Situation in India and School Safety Concept 1

Objective: At the end of the session the participants –

- Will understand the basic definitions and concepts related to disasters
- Will be aware of the hazards in India and Assam
- Will understand the effects of disasters on schools in India as well as in Assam
- Will know the concepts of school vulnerability and various school initiatives taken by different organizations and government bodies– NDMA, SDMA, UNDP, NSSP, UNICEF and importance of linking school safety in DDMP.

Total time: 2 hours

Topics	Methodology	Materials
1. Disaster Situation in India 2. School Safety initiatives 3. Key Terminologies	Presentation and Group discussions	1. Chapter 1 2. PPTs. (Hard as well as Soft copies) 3. A4 size print outs of terminology in form of PPT

The picture is drawn by a Mr. Imanu Shah who is an assistant teacher from Desang Dhai–Ali High School, Sivasagar district in Assam that depicts the disaster situation in Assam.

1. Disaster Situation in India and School Safety Concept

India is one of the most disaster prone countries in the world. In past decades several states have faced disaster situations in great measures. Country's geographical location renders it vulnerable to natural hazards. Communities, Schools, Regions area all negatively affected which hampers the growth of people as well the country. The poorest of the poor people are most severely affected.

Key Global and Regional Trends

- The number of reported natural disasters and number of reported affected has been increasing in last several decades.
- According to the Human Development Report 2007/2008 reported climate disasters such as droughts, floods and storms are on the rise.
  - Between 2000 and 2004 an average of 326 climate disasters were reported each year.
  - Over 98 percent of people affected by climate disasters live in developing countries.
- In 2008, for the first time, more than half of the world's population lived in urban areas.
- World population growth is concentrated in Asia. Countries like India, China, Pakistan, Indonesia, and Bangladesh are among the top ten countries that will be contributing most to world population growth over the next 30 years.

1.1 Disaster Situation in India

The disaster situation in India is worsening for many. The Central Water Commission, a nodal government agency, has noted that 11.2 per cent of India is flood prone. In 1998, floods inundated 37 percent of India. Earthquakes raze the northern Himalayan region and the Deccan plateau in southern and central India. It is estimated that 57 per cent of India is earthquake prone.

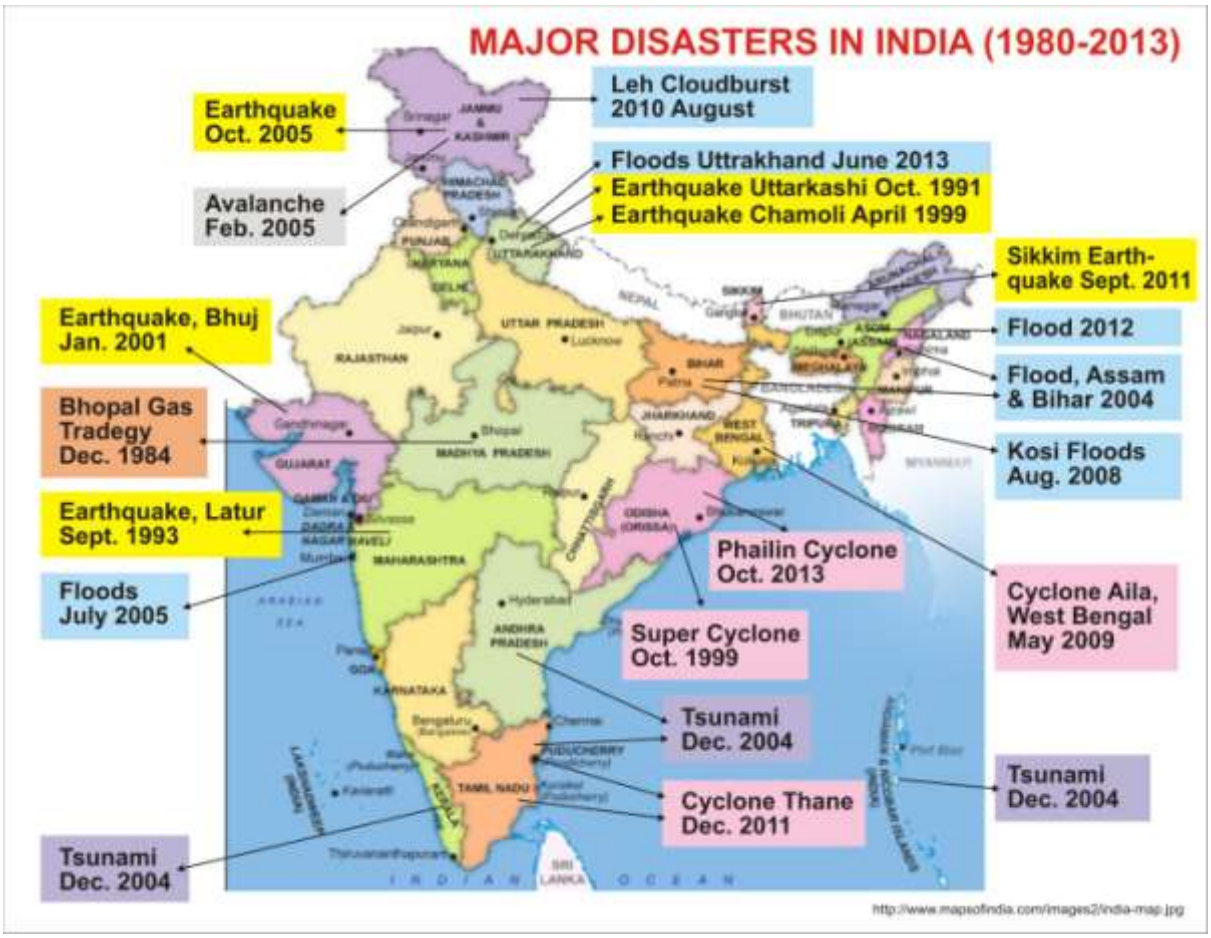
India is vulnerable to a large number of disasters to its geographical location. Some of the major disasters that the country has faced in the recent past include: the Orissa Super Cyclone (1999); Gujarat Earthquake (2001); Indian Ocean Tsunami (2004); Kashmir Earthquake (2005); Kosi Floods (2008); the Leh Flash Floods (2010); Sikkim Earthquake (2011); and most recently Uttarakhand flash Flood (2013); Bihar Mid day Meal Tragedy (2013); Cyclone Phailin in Odisha (2013) Losses incurred are known to have accounted for several thousand crores (ten millions) of rupees per disaster.[1]

In India, the number of internally displaced people caused by 'development' projects was over 21.3 million in 1990 and is probably 30 million today, according to the Indian Social Institute. As for non-conventional disasters: the cost of road accidents

[1] Child's Right to Safer Schools Campaign Report, AIDMI.

is equivalent to 1 per cent of country's Gross National Product. The number of four wheeled vehicles increased 23 per cent to 4.5 million between 1990 and 1993 and it has been forecast that 267 million vehicles will be on the roads by 2050.[2]

a. Hazards in India[3]



The potential hazards in India are numerous. India's location and geographical features render it vulnerable to a number of natural hazards including cyclone, drought, floods, earthquake, fire, landslides and avalanches.

Apart from natural hazards, India is vulnerable to numerous man-made disasters as current trends in industrialization, level of economic development, rapid population growth; patterns of human settlement and environmental degradation increase the region's vulnerability. In addition, parts of India are affected by conflicts and riots. Regions in India may be exposed to multiple hazards in a very small time period.

[2] Disaster Preparedness for School Safety, Course Module, August 2011, AIDMI

[3] Natural Disaster Management in India, Country Report http://www.adrc.asia/countryreport/IND/INDeng98/index.html

Indian Scenario

- Each year, India suffers disaster losses of US$1 billion according to World Bank studies.
- And on average, direct natural disaster losses amount to 2% of India's GDP and up to 12% of central government revenues. (Lester and Gurenko 2003).
- The Calamity Relief Fund of the Government of India spends US$ 286 million towards providing relief to the victims of disasters.

Indian Reality

- Communities are repeatedly exposed to disaster risks.
- Risk reduction is not a new thing; communities reduce risk on day-to-day basis, if they do not, they cannot survive.
- Disasters visit communities more frequently than their rate of building mitigation capacities.
- Loss assessments often ignores the loss of the informal sector, compensation takes too long and is notoriously below market rates.
- Humanitarian actors initially provide relief and leave to provide relief to someone else. Therefore, after this relief, communities are still exposed to risk. This is odd. Most relief measures leave out risk reduction.

Major natural disasters in India[4]

Gujarat Earthquake 2001: The disaster hit Gujarat on 26th January, 2001 at 8.46 am and lasted for 2 minutes. The 7.6 Richter scale quake, caused 20,000 deaths while 167,000 were injured. Nearly, 400,000 homes were demolished.

Tsunami 2004: With the magnitude of 9.1–9.3, it was the third largest earthquake of the world recorded ever. Almost 227,898 people died. The earthquake had the longest duration of faulting ever observed, between 8.3 and 10 minutes. Experts say the earthquake that caused tsunami was so powerful that its impact can be equated to the energy of 23,000 Hiroshima-type atomic bombs. The huge waves of tsunami killed lakhs of people in South India, Sri Lanka, Andaman and Nicobar Islands.

[4] http://www.indiatvnews.com/news/india/top-10-natural-disasters-that-rocked-india-29492.html?page=10

Sikkim Earthquake 2011: Earthquake measuring 6.8 on the Richter scale stuck Sikkim causing widespread devastation and left nearly 80 dead and left about 350 injured in the state. The earthquake has damaged more than 1 lakh of the 1.2 lakh houses in Gangtok. Key buildings like the state secretariat, police headquarters and hospital have suffered damages.

Assam Floods 2012: Altogether 105 people have died due to the floods and 16 in landslides caused by incessant rainfall, while 16 people are still missing. An estimated 22 lakh people have been affected in the worst floods in 2012, causing large-scale devastation in 2,809 villages in 27 of the 28 districts of the state. The current wave of floods has devastated the world famous Kaziranga National Park where more than 540 animals, including 13 rhinos, have perished. The situation in the world's largest river island Majuli was also grim. Almost the entire island is submerged and over 75 families have been rendered homeless due to heavy floods and unabated erosion.

Uttarakhand Floods 2013: The huge cloudburst caused flash floods and landslides that struck Uttarakhand from 14 June to 17 June, 2013. More than 5,700 people were assumed dead. More than 1,00,000 pilgrims were trapped in the valleys leading to Kedarnath shrine.

Cyclone Phailin in Odisha 2013: It ravages crops and infrastructure and flattening hundreds of thousands of houses. Many homes, hospitals, shops and schools will have been badly impacted in ways which will drive people into poverty. Although the death toll was minimal. In, Phailin damaged crops over 500,000 hectares of agricultural land and 224,000 houses were damaged.

Top 10 Natural Disasters in India for the period 2005 to 2013 sorted by number of killed are as follows:[5]

Sr. No.	Type of Hazard	Date	No. of killed
1	Flood	12-Jun-2013	5,000
2	Earthquake (seismic activity)	8-Oct-2005	1,309
3	Flood	24-Jul-2005	1,200
4	Flood	3-Jul-2007	1,103
5	Flood	11-Jun-2008	1,063
6	Flood	Jul-2009	992
7	Extreme temperature	Apr-2013	531
8	Flood	28-Jul-2006	350
9	Extreme temperature	Jun-2005	329
10	Epidemic	Jan-2009	311

Top 10 Natural Disasters in India for the period 2005 to 2013 sorted by number of total affected people:

Sr. No.	Disaster	Date	No. of total affected
1	Flood	24-Jul-2005	20,000,055
2	Flood	3-Jul-2007	18,700,000
3	Flood	12-Jul-2007	11,100,000
4	Flood	11-Jun-2008	7,900,000
5	Flood	22-Sep-2007	7,200,000
6	Flood	15-Aug-2011	5,549,080
7	Storm	25-May-2009	5,100,000
8	Flood	28-Jul-2006	4,000,065
9	Flood	23-Sep-2011	3,443,989
10	Flood	18-Sep-2010	3,267,183

Top 10 Natural Disasters in India for the period 2005 to 2013 sorted by economic damage cost:

Sr. No.	Disaster	Date	Damage (000 US$)
1	Flood	28-Jul-2006	3,390,000
2	Flood	24-Jul-2005	3,330,000
3	Flood	28-Jun-2005	2,300,000
4	Flood	25-Sep-2009	2,150,000
5	Flood	18-Sep-2010	1,680,000
6	Flood	12-Jun-2013	1,100,000
7	Earthquake (seismic activity)	8-Oct-2005	1,000,000
8	Flood	23-Sep-2011	930,000
9	Flood	5-Jul-2010	447,000
10	Flood	5-Sep-2011	432,000

[5] http://www.emdat.be/result-country-profile?disgroup=natural&country=ind&period=2005$2013

Table of School Disasters in India[6]

Sr. No.	Name of Disaster	Year of Disaster	Place/ Region	Impacts	Cause of Disaster
1	Mid day Meal Tragedy	July 17, 2013	Chapra, Bihar	22 children died and 50 students were seriously infected	Consumption of contaminated food of mid day meal in the school.
2	School Van Tragedy	September 2011	Tiruvananthpura, Kerala	4 children killed and 21 children injured	The vehicle that plunged into a canal was driven by its cleaner, who did not possess a license. The van was packed with children beyond its prescribed capacity
3	School Roof Collapsed	August 2010	Sumgarh village, Bagheshwar District, Uttarakhand	18 children killed and 6 children injured	The roof of a primary school collapsed in a hilly area following heavy rains. The tragedy occurred due to heavy landslides triggered by torrential rains at the hill where the school is situated.
4	Stampede in a School	September 2009	Delhi	5 girls killed and 34 injured	The stampede took place when students were trying to make their way up and down a narrow staircase when they were asked to shift classrooms during an examination. One of the girls who was going down the staircase fell leading to the stampede. Local residents also mentioned that some boys allegedly barged into a classroom for girl students and might have resorted to eve-teasing after which girls rushed out leading to the incident.

[6] Disaster Preparedness for School Safety, Course Module, August 2011, AIDMI
http://www.hindustantimes.com/india-news/served-death-bihar-mid-day-meal-tragedy-kills-22-kids/article1-1093700.aspx

5	Fire Tragedy	July 18,2004	Kumba-konam, Tamil Nadu	87 children killed and 23 injured seriously	A violent spark in the kitchen burnt the thatched roof and spread to the main building. The thatched roof on the first floor of the main building broke down on the class rooms engulfing the children to death.
6	School Tragedy	January 26, 2001	Bhuj, Gujarat	971 students and 31 teachers dead 1884 school buildings collapsed and 11761 schools suffered major damages	Massive earthquake in Gujarat, epicenter 12 miles from Bhuj was devastated.
7	Fire Accident	December 23, 1995	Dabwali, Haryana	446 people killed including school children 160 people injured	Spark from a short circuit in an electric generator ignited a synthetic tent erected under the tin roof of a building with brick walls; no construction permit for building; afternoon fire at the main entrance trapped 1,500 occupants inside with only a single exit door available for evacuation; fiber mats and plastic chairs contributed to rapid spread of 5-minute fire.

b. Hazards in Assam[7]

The geo-environmental setting of Assam makes it highly susceptible to multiple hazards caused by geological, climatic and hydrological factors. The north region of the state is a hotbed of the monsoons. As a result, the rivers of the region are hydrologically dynamic in tune with the monsoons and also the freeze-thaw cycle of the Himalayan and trans-Himalayan glaciers and snow cover. Assam being surrounded by hilly areas through which most of the major rivers enter the valleys the state regularly experiences very high rainfall in the summer season including extreme events like cloud bursts often leading to catastrophic hydro meteorological hazards mainly floods and flash floods. The river Brahmaputra has 20 major tributaries joining from its north and 13 from its south. The north bank tributaries are mostly unstable, carry excessive sediments and therefore mainly responsible for the heavy sediment load of the Brahmaputra river, siltation of the river bed and lateral shifting of the river resulting in acute erosion of river banks (ASTEC, 2011).

Earthquake is one major damage syndrome which exists in the state of Assam from a very long period. The massive earthquake of 1869 in the Barak region of Assam was one of the major geographical devastation. However, at present Assam is not under the grip of such damaging earthquakes.

Earthquake[8]**:** Major Earthquakes occurred in the years 1869, 1897, 1923, 1930, 1943, 1947, 1950, 1985, 1984 &1988.

- **1869 – Cachar (Assam), India, Ms 7.5**: The impact of the shock was felt over 6,50,000 square kilometres. There was heavy damage in the towns of Cherrapunji, Silchar, Shillong and Sylhet and also in Manipur.
- **1897 – Near Rongjoli, Assam, India, Ms 8.7**: This was one of the most powerful earthquakes in the Indian sub-continent and probably one of the largest known anywhere in the world. The quake wrecked havoc across southwest of the states of Assam, Meghalaya and even Bangladesh. About 1542 people were killed and hundreds more injured. The damage from the earthquake was so great that dozens of buildings in Kolkata were badly damaged or partially collapsed. Tremors were also felt as far as in Ahmedabad, Peshawar and Myanmar.
- **1943 – Near Hojai (Assam), India, Ms 7.2:** Felt strongly in the region and in neighbouring Manipur. Not much is known about this earthquake as it occurred at the height of World War II when the threat of Japanese aggression on the eastern border of British India was extremely high.

Bomb Blast: Bomb blast is another second major hazard for the state of Assam and it is another cause of devastation in State. Recently the terror activities have become a

[7] Assam State Action Plan on Climate Change (SAPCC),2012-2017; http://www.indiaenvironmentportal.org.in/reports-documents/assam-state-action-plan-climate-change-2012-%E2%80%93-2017

[8] Documentation on past disasters, their impact, Measures taken, vulnerable areas in Assam, Centre for Natural Disaster Management: Assam Administrative Staff College, JAWAHARNAGAR: KHANAPARA: GUWAHATI –22. http://aasc.nic.in/course%20material/Disaster/documentation%20on%20past%20disasters.pdf

regular feature in Assam. The manmade disasters have the potential to rival the natural ones in enormity and the impact on human life. Every year people died due to blasts in different parts of Assam and major blasts took place in Assam in the years 2004, 2007, 2008, 2013[9].

Sr. No.	Date	Place	Total killed and injured
1	Aug. 15, 2004	Dhemaji	At least 17 school children, including nine girls, were killed and 40 injured in a bomb explosion at an official Independence Day function
2	May 26, 2007	Guwahati	The bomb was hidden in a rickshaw parked in the busy market area where 7 killed and 18 were wounded.
3	Oct. 30, 2008	Guwahati, Barpeta, Bongaigaon and Kokrajhar	It caused death of more than 77 people while injuring 470 injuries.[10]
4	January 9, 2013	Digboi	The blast took place near a lower primary school at Kharjan near Digboi where 3 children Killed and two injured.
5	December 17, 2013	Dibrugarh	A teenage girl was killed and nine persons, including a woman, were seriously injured

Floods: The occurrence of rains begins with the month of June in the land of Assam. More often than not, the intensity of rainfall crosses such an extent that invariably leads to natural catastrophes like floods. Various districts of Assam, both in remote and prominent areas, experience large-scale damage of agricultural crops, loss of livestock and much other allied destruction[11].

The basin of the Brahmaputra River is among the most floods prone in the world (River Flooding and Erosion in Northeast India, 2006). The extremely dynamic monsoon regime along with the unique physiographic setting of the basin has been considered as the single most cause for frequent occurrences of floods in this region (Assam Staff College Report, 2005). The basin experiences highest number of floods in India during the monsoon rains and suffers flood damages on an annual basis (Kienberger & Johnson). Historical records reveal that the valley faced flood hazards since primeval times (Assam Staff College Report, 2005).

[9] http://www.ndtv.com/topic/assam-explosion
[10] http://www.northeastblog.in/assam/30-oct-2008-assam-serial-bomb-blast/
[11] Maps of India, Assam, Climate, http://www.mapsofindia.com/assam/geography.html

Recent impact of flood in Assam:

Period	Farm land Under Water(damage of Standing crop)	Affected Districts	Affected Population
2013	350 hectares	Golaghat, Kamrup, Karimganj and Jorhat , dhemaji	35,000 people were affected in Dhemaji, nearly 15,000 people suffered in the other four districts.[12]
2012	1.39 lakh hectares	Barpeta, Dhemaji, Jorhat, Golaghat, Tinsukia, Dibrugarh, Sivsagar, Nagaon, Morigaon, Lakhimpur, Kokrajhar, Dhubri, Nalbari, Bongaigaon, Chirang, Baksa, Sonitpur, Udalguri, Goalpara, Cachar, Kamrup and Karimgan	124 people have lost their lives due to these floods including a large number of children. At least 16.70 lakh people have been affected by this flooding.[13]
2011	2490.37 [14]	Lakhimpur and Dhemaji worst affected, Sonitpur	Four people lost their lives in the flood and nearly two lakh people have been affected
2010	2.85	Lakhimpur, Dhemaji, Jorhat, Tinsukia	1.2 lakh people have been affected

[12] http://floodlist.com/asia/assam-june-2013

[13] http://www.thehindu.com/news/national/other-states/flood-situation-turns-critical-in-central-lower-assam/article3935406.ece

[14] http://cdrn.org.in/show.detail.asp?id=22185

Damage by Floods in Assam from 2000 to 2006[15]

Year	Area Affected 9% of total area)	Crop Area affected (% of Gross Crop area)	Value of crop lost (Rs. In Lakh)
2000	12.32	9.48	17,351.57
2001	2.59	1.07	835.79
2002	15.14	8.40	14,559.95
2003	11.88	8.34	14,700
2004	30.14	15.15	37,470.62
2005	2.84	2.95	2,347.26
2006	0.74	0.33	111.04

Source: Water Resource Department and Directorate of Agriculture, Government of Assam

The table below shows the flood damage trends in the Brahmaputra valley of Assam the period of the year 1953 to 2005 respectively.

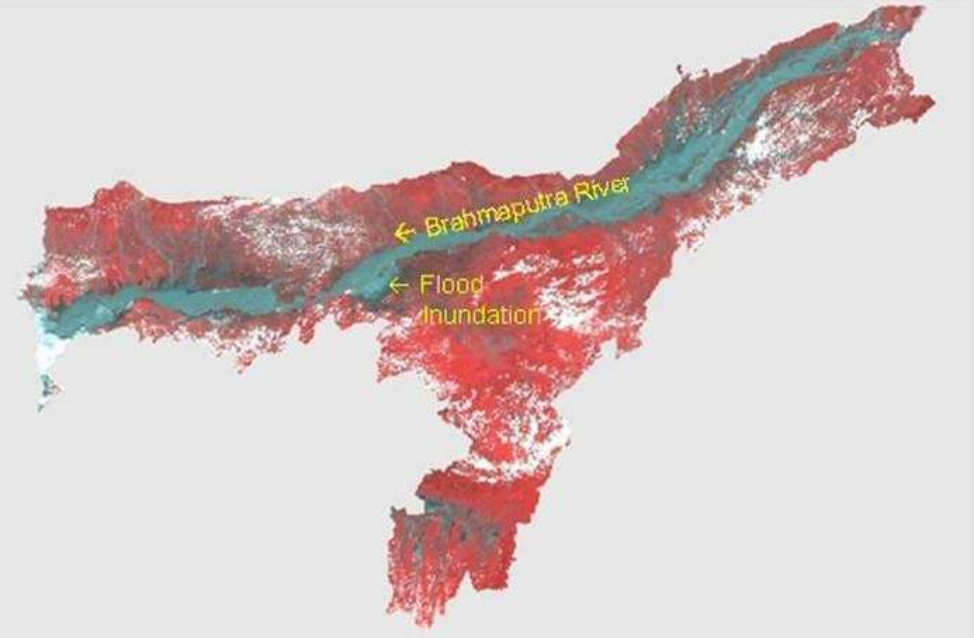
Period	Average Annual area flooded (Million Hectares)		Flooded crop as % of total inundated	Average Annual damage (Million Rupees)	Value of crop lost as % of total damage
1953-1959	1.13	0.10	08.85	0058.6	66
1960-69	0.75	0.16	21.33	0075.7	92
1970-79	0.87	0.18	20.69	0151.8	89
1980-1988	1.43	0.40	28.05	1455.2	96
1999-2005	1.07	0.38	35.65	7171.7	34

Source: Assam-SAPCC

According to the Second National Communication to UNFCC, 2010 out of the total area of 3.58 mha that are prone to flooding, 3.15 mha fall within the state of Assam. The damages due to floods and erosion are enormous affecting an average area of 9.31 Lha in a year amounting to a loss of 124.28 crores (Water resources Department, Government of Assam 2006).

Flash floods: Incidences of flash floods are new and increasing and pose as challenge to management due to its unpredictability (as informed by Jayanta Goswami, Director Planning, Chief Engineer's Office, Water Resource Department, Assam). The damage caused and some of its causes differ according to the landscape and development contexts of different districts.

[15] http://www.epw.in/notes/cropping-patterns-and-risk-management-flood-plains-assam.html

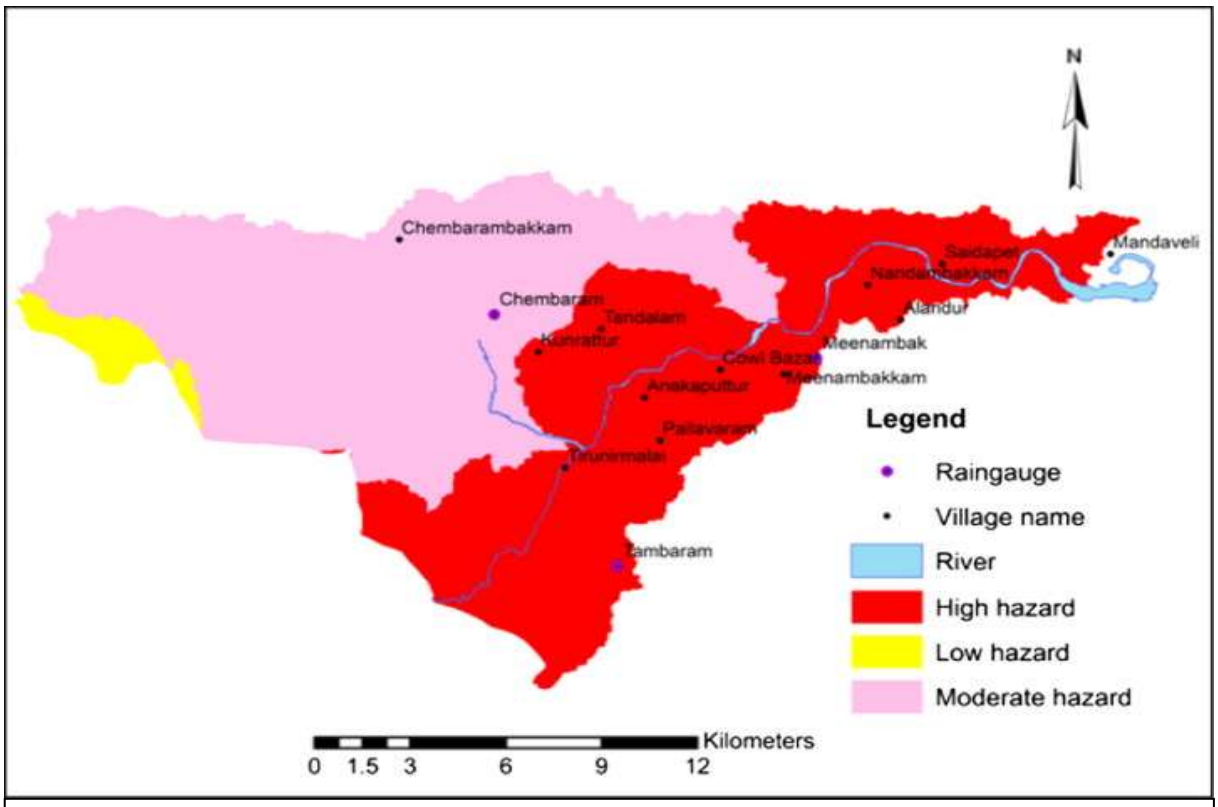


IRS satellite image showing the flood situation in Assam.

Source: India water portal; Flood hazard zonation of Assam – An atlas by National Remote Sensing Centre: ***http://www.indiawaterportal.org/node/19612***

In the month of July 2004, due to incessant rainfall in the Kopili-Kolong basin, rivers like Kopili, Kollong, Nonoi and the Brahmaputra created havoc in the districts of Morigaon and Nagaon.

In the month October 2004, the Balbala flash flood tragedy consumed about 250 human lives; property and live stock worth crores of rupees were also destroyed.



http://www.sciencedirect.com/science/article/pii/S0022169411003180

Recently in 2011, incessant rains in parts of Assam have caused flash floods in Sonitpur and Dhemaji districts, where nearly 30,000 people are affected.[16]

River Bank Erosion: Another major hazard that Assam is facing is the erosion of land that has been going on unabated since a long time. The soil around the river bank is generally sandy and when the rivers erodes the bank line huge chunks of land fall into the river and are lost.

Sand deposition/casting: Sand casting or deposition has become increasingly devastating since the mid 1990's especially in the northern banks of eastern Brahmaputra valley. In Dhemaji and Lakhimpur districts, the problem of sand casting in agricultural lands has proven to be an irreversible one which has led to cascading effects in loss of livelihoods, migration and even sporadic protests.

Landslides: Landslides are also a cause for devastating floods that may occur by sudden breaching of temporary dams that are formed by landslides. Temporary dams formed landslides can cause liquefaction damage in areas where the river enters the plains. Landslides are a major contributor to the sediment load of the river causing aggradations of the river beds and reductions in the carrying capacity resulting inundations of the surrounding low lands during summer flows. Encroachment in hill areas of Guwahati, Sonapur and clearing of slopes for Jhum cultivation in North Cachar are some of the causes for landslides in those areas.

Cyclonic Storms: During monsoon occasional cyclonic storms occur which cause colossal loss of human lives and damage to property. A total of 24 districts were affected in 2010 from storms namely Karimganj, Cachar, Darang, Jorhat, Morigaon, Dibrugarh, Hailakandi, Sonitput, Bapeta, Bongaigaon, Kokrajhar, Dhubri, Sivsagar, Nalbari, Kamrup, Chirang, Golaghat, Nagaon, Karbi, Anglong, Goalpara, Kamrup Metro, Norht Cachar Hills, Udalguri and Baksa.

Damage Due to Cyclonic Storm in Assam

A severe cyclone accompanied by heavy hailstorm lashed several villages and tea gardens on April 24, 2012 in Tinsukia and Dibrugarh districts claimed three lives, besides causing heavy damage to property. The storm accompanied by rains lasted for about 30 minutes, leaving a trail of destruction in most parts of the two districts with Doomdooma circle in Tinsukia being among the worst hit.

There were reports of heavy losses of livestock and wild animals in the cyclone. The National Highways 37 and 52 had been blocked by uprooted trees for several hours. The power supply and telecommunication system were also been disrupted in the cyclone-affected areas of the two districts. The cyclone played havoc in the entire areas destroying hundreds of residential houses, animal sheds, granaries, schools and other government buildings.

(*Details derived from The Assam Tribune dated April 25, 2012*)

[16] http://www.thehindu.com/news/national/other-states/flash-floods-in-assam-30000-affected/article2161476.ece

Forest Fire: Forest fires of March12 2009, Cachar,Darang,Hailakandi, Bapeta, Bongaigaon, Kokrajhar, Dhubri, Nalbari, Kamrup, Golaghat, Karbi, Anglong, Goalpara, Kamrup, North Cachar Hills were reported to be effected. During March 8, 2010, forest fires were reported from Bongaigaon, Darang, Dhubri, Golaghat, Kamrup, Karbi, Anglong, Nagaoan, North Cachar hills with the maximum number of forest fires being reported from the North Cachar hills.

1.2 School Safety Initiatives

a. Globally

The One Million Safe Schools and Hospitals Campaign

In 2009, UNISDR launched the One Million Safe Schools and Hospitals Campaign, a global advocacy initiative to make schools and hospitals safer from disasters.[17]

Children's Charter for Disaster Risk Reduction

A charter covering children's top priorities in disasters has been launched at the UN's Global Platform for Disaster Risk Reduction meeting in Geneva in May 2011. The 5-point charter is the culmination of new research involving more than 600 children in 21 countries[18].

Brochure on Children's Charter for DRR. (translated in Assamese, Gujarati, Hindi, Tamil, Urdu and Oriya languages by AIDMI)

Hyogo Framework for Action (HFA)

The HFA is an international framework that provides a strategic and comprehensive global approach to the challenge of reducing risk from natural hazards by 2015 at all levels. The main goal of the Hyogo Framework for Action (HFA) is to build the resilience of cities, communities and nations and reduce the impacts of disasters by 2015 in terms of lives and economic losses. The most relevant priority of the HFA for promoting school Safety is **HFA Priority 3 which emphasizes on** use of knowledge, innovation and education to build a culture of safety and resilience at all levels. It advocates for Inclusion of DRR into school curricula, formal and informal education

HFA2: Post 2015 Framework

Based on the experiences gathered through implementation of HFA1 till date, the year 2014 will be very crucial since the world leaders will meet for shaping HFA2. The UNISDR is leading consultations at different levels through seeking inputs from national and local governments, civil society organizations, academia, businesses,

[17] UNISDR. News Archive, Children's Charter for DRR – Prioritize Child Protection http://www.unisdr.org/archive/22712

[18] http://plan-international.org/about-plan/resources/news/childrens-charter-on-disaster-risk-reduction-launched-at-un

regional organizations and stakeholder groups to document the achievements and learning of the implementation of the Hyogo Framework for Action (HFA1) and to prepare the inputs for the Post-2015 Framework for DRR (HFA2). It is seeking inputs on seven key areas where area three which seeks to document local level actions for Disaster Risk Reduction as part HFA1 and inputs for post 2015 framework will be more relevant for school safety since school's are institutions at local level which had contributed in different ways for DRR and will have a greater role to play in the post 2015 framework.

b. South Asia Region[19]

INEE minimum standards for education in emergencies:

Developed by the Inter-Agency Network for Education in Emergencies (INEE), these standards attempt to ensure the right that all children have to receive education in contexts of disasters and post-crisis reconstruction, and to establish the minimum level of "quality, access and responsibility" that education in these circumstances should conform.

The Bangkok Action Agenda:

This constitutes a list of recommendations, priorities and strategies for reducing the vulnerability of schools and students to disasters, and for building the resilience of disaster-affected and hazard-prone school communities. Its recommendations are the product of an "Asia-Pacific Regional Workshop on School Education and Disaster Risk Reduction".

Safer school initiative by the tripartite core group (TCG) in Myanmar:

To facilitate information sharing on technical issues of school reconstruction, The School Construction Discussion Group was established in July 2009 by the members of the Education Cluster. The Group has developed a database on the number of students and the number and size of school buildings and classrooms to avoid overlap, and at the same time maximize the utilization of resources.

Save the Children alliance initiative:

Save the Children (SC) works with governments and education authorities to strengthen school systems and make them more child-friendly. They led a campaign that resulted in corporal punishment being outlawed in Mongolian schools, benefiting over 650,000 children.

Mainstreaming of disaster risk reduction in the education sector in Cambodia, Lao PDR, and Philippines:

The Regional Consultative Committee (RCC) on Disaster Management was created in 2000. It comprises 30 members from 26 countries of the Asian region and has as one of its main goals the promotion of development schemes concerned with Disaster Risk Reduction. As such, with compliance with the Hyogo Framework for

[19] Child's Right to Safer Schools Campaign Report, AIDMI.

Action, the RCC has recognised the important role played by education, and the need to integrate DRR in the Education Sector. These concerns have been materialised through a pilot project starting in 2007 and implemented by UNDP and ADPC with collaboration of the Humanitarian Aid Department of the European Commission (ECHO) in three RCC-member countries from the South East Asian Region.

Exposure estimation and seismic risk modelling:

For regional comparison and national screening purposes, this report presents rough estimates of the seismic risk for schools in countries in the Andean Region and Central America, taking a probabilistic approach. The risk is expressed in terms of the accidence loss rate and the Average Annual Loss of the schools' portfolio for each country in both the current and retrofitted case.

c. India

Supreme court of India judgment for basic minimum standards for safety in schools:

The Supreme Court bench of Justice Dalveer Bhandari and Justice Lokeshwar Panta articulated the following in the case related to the Kumbakonam Fire tragedy Avinash Mehrotra Vs Union of India (Writ Petition 483 of 2004).

In 2007 the Indian National Disaster Management Division published a school safety handbook for administrators, education officers, emergency officials, school principals and teachers. Noting that various accidents and hazards have struck Indian schools in recent years, sometimes with catastrophic results, the handbook stresses the importance of taking both structural and non-structural measures to reduce the vulnerability of the school children.

National Disaster Management Authority[20]:

National Disaster Management Authority has been constituted with the Prime Minister of India as its Chairman, a Vice Chairman with the status of Cabinet Minister, and eight members with the status of Ministers of State.

Inaugural Address by Shri M. Shashidhar Reddy, Vice Chairman NDMA at the Inception Workshop of the National School Safety Programme.

[20] http://www.dsalert.org/disaster-management/255-ndma-role-and-function

National School Safety Programme (NSSP): Demonstration Project[21]

The NSSP DP – The Scope	
Project period	2 years (September 2011 – August 2013)
Geographical spread	22 States & UTs (EQ Zone IV & V)
Location	2 districts / States (43 districts & UTs)
Scope	200 schools/ district (8600 schools)

Objective of NSSP:

- 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 carry out demonstrative structural retrofitting in select schools.

School awareness and safety programme of Government of India (GoI):

The School Safety Program under the GoI – United Nations Development Programme (UNDP) Disaster Risk Management Program essentially aims to promote a culture of safety in schools and draws on the commitment of providing a safe learning environment for children and education professionals.

UNICEF initiatives after 2001 Gujarat Earthquake:

On 26 January 2001, Gujarat was hit by a devastating earthquake. At the request of the Government, UNICEF responded to the needs of women and children by supporting the revitalization of health, water, nutrition, education, sanitation and child protection services.

School Safety Campaign – AIDMI[22]:

The campaign was formally started in 2001 with EU support. The Safer Schools Campaign initiated by the All India Disaster Mitigation Institute (AIDMI) is an effort which includes more than 1200 vulnerable schools and 42,000 students/school staff and agencies for making schools safer. The Campaign's aim is to facilitate various activities for children's safety in disaster-affected and disaster prone Indian states such as Assam, Bihar, Gujarat, Jammu & Kashmir, Maharashtra, Odisha, Rajasthan, Sikkim, Tamil Nadu, and West Bengal along with Union Territories like Andaman &

[21] http://ndma.gov.in/en/ongoing-programmes/school-safety-project.html
[22] AIDMI and School Safety http://aidmi.org/innovation.aspx?pagetype=activity6, http://schoolsafety.in/

Nicobar Islands and Puducherry of India as well as neighboring countries including Afghanistan, Bangladesh, Maldives and Myanmar. The UN agencies, INGOs/NGOs, national/local authorities and universities are active partners. The activities carried out under the campaign consists of school safety audits, school safety training for educators, conducting mock drills, non structural mitigation support to schools, children's platform for disaster risk reduction etc.

d. Assam

State Disaster Management Authority (SDMA) Assam[23]:

As mandated by Disaster Management Act 2005, the government of Assam has adopted the act with notification in the official Gazette in the month of December 2006. The state government has established the State Disaster Management Authority (SDMA) chaired by Honourable chief minister, with Honourable minister Revenue and Disaster Management as its vice chairperson. The secretariat of ASDMA has become functional since 2009.

NSSP in Assam:

The ASDMA through the DDMAs is implementing NSSP-DP in Kamrup (Metro) and Tinsukia districts. While the implementation of the project in both the districts have been geared up with training of teachers, conduct of mock drills, sensitization of officials, non-structural mitigation etc, there are different elements of learning coming up for ensuring a safer environment in the State's schools.

Training on school safety

GUWAHATI, Sept. 30 – The District Disaster Management Authority (DDMA), Kamrup Metro, organised a series of teachers training programmes on school safety and preparation of school disaster management plan under the National School Safety Programme (NSSP).

The series of programmes started from August 12 and concluded recently. Under the project 2,000 teachers of 200 schools were trained in school safety.

(Published On: 2013-09-30, Assam tribune)

UNDP in Assam:

UNDP has been supporting various initiatives of the central and state governments to strengthen disaster management capacities for nearly a decade in Assam.[24] A total of 144 teachers were trained during May 2011 in three batches on School safety at the Assam Administrative Staff College. The teachers were given an understanding on the vulnerability profile of the state, disaster management concepts. Preparation of school level disaster management plan, mock drill by Civil Defence personnel were also an important part of the training.[25]

[23] Assam State Disaster Management Policy 2010
[24] State Disaster Management Authority, Assam, http://sdmassam.nic.in/footer/help.html
[25] www.in.undp.org

UNICEF in Assam[26]:

Until 2006 UNICEF West Bengal state office in Kolkata was covering Assam state. In mid-2006 a full-fledged Assam State Office came into being. The Government of Assam-UNICEF cooperation focuses on two critical age groups: children under 3 years of age and school-going children.

Upgrading primary school infrastructure such as toilets and water supply are also key thrust areas. UNICEF facilitates the state government to implement the Total Sanitation Campaign to promote rural and school sanitation and also support an action plan for fluoride mitigation in two districts.

Sishu Duryug Pratirodh Samiti: Preparing future generation to understand, plan and reduce risks of disaster in flood plains of Brahmaputra river basin.

Sishu Duryug Pratirodh Samiti (SDPS) is a village/school based institution aiming to make children understand disaster, plan to address disaster and in turn plan to reduce risks of disaster in their own initiatives.

Goal of SDPS: The flood vulnerable children of Brahmaputra River basin understand, plan and reduce risks of disaster in their own initiatives.

Objective: The flood vulnerable Children of Brahmaputra River basin are trained to reduce risks of disaster.

Source: Best Practices For Adaptation Anbest and Disaster Risk Reduction/Case Study 2/ Rural Volunteers Centre Village+P.O=Akajan, Via-Silapathar District-Dhemaji (Assam), INDIA PIN-787 059

School Safety in DDMP[27]:

Several districts of Assam have prepared their District Disaster Management Plans (DDMPs) to the state government. Among many initiatives the most important is involvement of schools and stakeholders for risk reduction activities. The DDMP for Barpeta, Dhemaji, Dhubri, Jorhat Goalpara, Nalbari, Karimganj, Lakhimpur, Cachar, Kamrup, Morigaon, Nagaon, Hailakandi districts mentions about disaster management with schools and school stakeholders such as–

- First-aid and rescue and evacuation are a compulsory part of school, college, educational institutions (both techno-tech) curriculum starting from primary level in its continuous planning, innovative thinking & implementation plan.
- Also it has been made compulsory to take test on First-aid at entrance exam including entry level into +2 college/school as part of test for driving license for two wheeler up wards etc.[28]

[26] UNICEF India, State Profiles, Assam, http://www.unicef.org/india/state_profiles_2715.htm
[27] Formulation of District Disaster Management Plan Module, www.nidm.gov.in/PDF/modules/DDMP.pdf
[28] State Disaster Management Authority, Assam, District Plan; http://sdmassam.nic.in/dmp.html

Training on School Safety and Conduct of Mock Drills-Joint Initiative of AIDMI and ASDMA

Adhering to its commitment to make Assam a disaster resilient State, ASDMA in collaboration with AIDMI has started trainings on School Safety throughout the state. The following table highlights the coverage through these trainings:

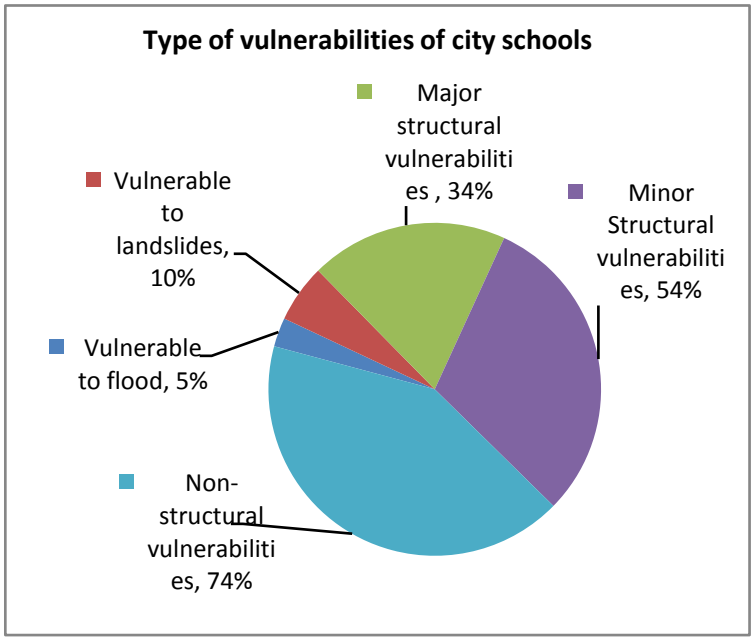
Training coverage								
Year	Total trainings	No. of schools	Participants			Children		
			Male	Female	Total	Boys	Girls	Total
2012	40	1314	1412	270	1682			
2013	15	431	471	124	553	251	397	749
		1745	**1883**	**394**	**2235**	**251**	**397**	**749**

So far 1587 draft School Disaster Management Plans are being prepared by the participating teachers who can mark the beginning in their respective school.

Status Survey of School Buildings and Hospitals in Guwahati City:[29]

In order to ensure that schools and hospital buildings are safe, ASDMA has taken up a project with the Civil Engineering Department of Assam Engineering College for assessing existing schools and hospital buildings of Guwahati. The findings of this survey reflect the following:

- 5% of schools surveyed are affected by floods,
- 10% of schools are vulnerable to slope failure / Landslide,
- 34% of schools have Major Structural Vulnerabilities
- 54% of schools have Minor Structural Vulnerabilities
- 74% of schools have Non-Structural Vulnerabilities



[29] http://asdma.gov.in/project_survey.html

Model SDMP implementation in Assam:

School Safety initiatives were broadened in terms of coverage in Assam with ASDMA and AIDMI piloted implementation of School Disaster Management Plan in participation of school community. Schools came up with comprehensive School Disaster Management Plans based on guideline provided by NDMA which were implemented through a well-defined process; included capacity building on search and rescue, first aid and mock drill, evacuation and crowed management planning, non-structural mitigation measures etc. It was with the ownership, leadership and interest based initiatives from schools that visible changes promising enhanced safety and reduced risks in these schools can be witnessed. The outcomes will serve as guide to all relevant stakeholders involved in school safety in the entire state and beyond.

The case is selected as one of the best case studies by Duryog Nivaran under 'Women as a Force in Resilience Building and Gender Equality in Disaster Risk Reduction'.

EMEx and School Safety:

Assam has become the first state in India to conduct 4 simultaneous city level Emergency Management Exercises in the State with School Safety track as an integral component in the cities of Guwahati (October 2012), Jorhat (April 2013), Silchar (November 2013) and Dibrugarh (February 2014). These exercises involved capacity building training tracks for Schools, Hospitals, Public Health functionaries, CBOs, NGOs, SDRF, Police, Line Departments and industries on thematic issues of emergency response based on their role and situation. These training tracks were followed by Table Top simulation and Mega Filed drills. Teachers and students were actively involved in different roles not only in training and thus fostered their thinking and planning to deal with emergency situations.

Linkages to RTE, SSA and UNSRC:

Sarva Siksha Abhiyan (SSA) is implemented as India's main programme for universalizing elementary education. Its overall goals include universal access and retention, bridging gender and social category gaps in education and enhancement of learning levels of children. SSA provides for a variety of interventions, including inter aila, opening of new schools and alternate schooling facilities, construction of school and additional classrooms, toilets and drinking water, provisions of teachers, periodic teachers training and academic resource support for learning achievement.

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 RTI act. The RTE act has also brought in new monitoring mechanisms to ensure that child's 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. The new law provides a judicial legal framework that entitles all children between the ages of 6-14 years free and compulsory education, attendance and completion of elementary education. It provides for child's right to an education of equitable quality, based on principle of equity and non-discrimination.

An example of recent disaster is the Uttarakhand Flash Floods in India in July 2013 which had lead to the death of thousands of pilgrims and local residents, destruction of assets and properties worth billions and has disturbed the entire social life in the region. While the exposure to hazard was of cloud burst and existence of river Mandakini and Alaknanda as well as that of landslides, presence of pilgrims in hilly terrains during rainy season, construction of hotels on riverside and other haphazard development practices in the eco-sensitive areas of Uttarakhand were some of the vulnerabilities and inadequate preparedness and insufficient resources and planning for effective emergency response were certain insufficient capacities that have caused the disaster.

1.3 Key Terminologies

a. Key Definitions and Concepts[30]

Disasters:

A drawing by Mr. Tarun Kalita, one of participant shared the impact and response to flood in Assam.

A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation.

Hazard:

A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

The hazards of concern to disaster risk reduction as stated in footnote 3 of the Hyogo Framework are "…hazards of natural origin and related environmental and technological hazards and risks." Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. In technical settings, hazards are described quantitatively by the likely frequency of occurrence of different intensities for different areas, as determined from historical data or scientific analysis.

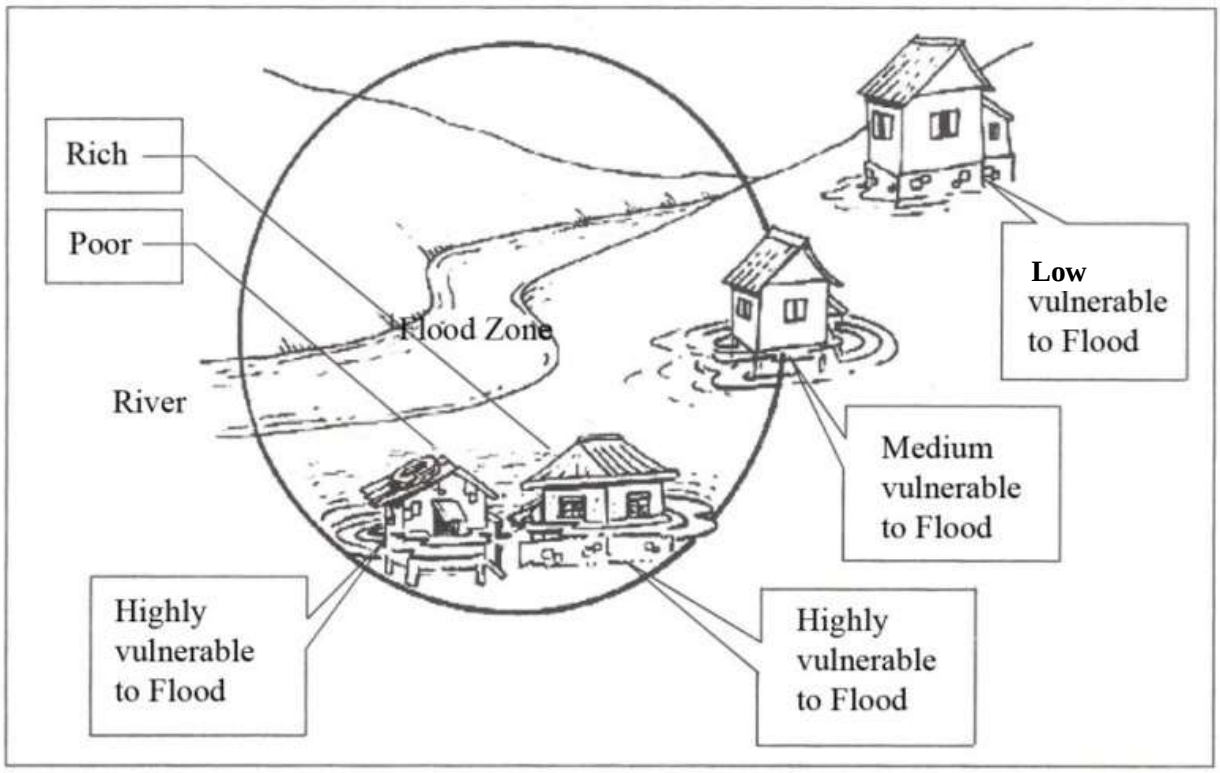
Hazards can be both natural and manmade. Examples of natural hazards are earthquakes, floods, landslides, storms, cyclones, tsunami, tornados, and fire etc. While man-made hazards are bombblast, communal riots and chemical and nuclear warfare etc. These once actually transmitted into extreme events and results in the required damage become disasters. But, they are present even before and after the disastrous events and by being present these hazards carry a possibility of disaster.

[30] UNISDR Terminology on Disaster Risk Reduction, 2009 version; http://www.unisdr.org/we/inform/terminology

Thus hazards are continuous (relatively permanent) situations while disasters are eventual. To understand it more comprehensively let us take for example a school located in a low lying area in flood plain areas of a river. Flood as a disaster for that may not be a continuous situation as it will come for a specific period of time and will end. But by being in such a location, possibility of flood remains continuous which we term as hazard.

Vulnerability:

The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard is Vulnerability.



There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors.

Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management. Vulnerability varies significantly within a community and over time. This definition identifies vulnerability as a characteristic of the element of interest (community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element's exposure.

Let us understand the dynamics by differentiating hazards, vulnerabilities and disasters. While hazard is a permanent condition for its prone localities, the impact of disaster varies because of the vulnerabilities. For example the amount of loss due to an earthquake of high magnitude in an island without life habitation will be far

lesser than a crowded city. The reason is increased vulnerability due to development, increased population other reasons. While the event of an earthquake will be a disaster for that city, for that island it will be not be the case as there will be lesser damage.

Capacity:

The process by which people, organizations and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through improvement of knowledge, skills, systems, and institutions.

While capacity in general is a broader term, in the context of disaster it plays a specific role. It refers to anything and everything that can reduce the impact of a disaster. The number of examples is enormous but let us look into our schools and understand the terms. An assumptive example can be a school which is located in an area prone to earthquake which is the major hazard for that school. Considering that hazard, the school has multi-storied infrastructure, limited number of exits, school kitchen in the top floor, primary section near the kitchen etc. which are the major vulnerabilities. Now the school decides to multiply its exits to three numbers, retrofit its building structure after assessment by engineers, makes provision to shift the primary section to the ground floor, purchases fire extinguishers and trains its fraternity on its use, makes certain committees to take care of first aid, rescue and evacuation through planned structure and many more. These initiatives taken by the school can be termed as capacity building efforts of the school for minimizing the impact of disaster if a severe earthquake strikes.

Disaster = hazard x **vulnerability**

"A disaster occurs when a hazard exposes the vulnerability of individuals and communities in such a way that their lives are directly threatened or sufficient harm have been done to their community's economic and social structure to undermine their ability to survive."

Disaster Risk:

The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period.

Disaster Risk has been represented as:

Disaster Risk = (Hazard x Vulnerability)/Capacity

Disaster Risk Reduction:

Disaster risk reduction includes all measures, which reduce disaster related losses of life, property or assets by reducing the vulnerability of the elements at risk.

Disaster Risk Reduction Plan:

A document prepared by an authority, sector, organization or enterprise that sets up goals and specific objectives for reducing disaster risks together with related actions to accomplish these objectives.

Mitigation:

The lessening or limiting of adverse impacts of hazards and related disasters.

Disaster Mitigation refers to risk assessment, disaster prevention, and disaster preparedness. Disaster response refers to relief, rehabilitation and reconstruction. These phases can be modeled as a management cycle. These phases normally overlap and the duration or significance of each phase differs. Disaster management activities can be carried out before the disaster (Pre-Disaster Phase), during the disaster (On-Disaster Phase) and after the disaster (Post-Disaster Phase).

Preparedness:

The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.

Resilience:

The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.

Emergency Response includes essential services and activities that are undertaken in the aftermath of a disaster to assist disaster victims. Some examples include: search and rescue; repair of critical facilities like bridges and power lines; provision of food and water relief; emergency health care; psychosocial interventions; management of evacuation centers; and provision of emergency shelter relief.

Rehabilitation covers interventions to restore basic service to facilities and recovery of the affected population. Examples are assistance to victims to repair their

dwellings; establishment of essential services such as community facilities; and revival of economic and social activities.

Reconstruction is a permanent measure to repair or replace damaged dwellings, infrastructure and t set the economy back on course.

Preparedness involves measures taken in anticipation of disaster to ensure that appropriate and effective actions are taken in the aftermath. Preparedness attempts to limit the impact of a disaster by structuring the response and effecting a quick and orderly reaction to the disaster. Examples include: formation of disaster response plans; early warning systems; stockpiling of supplies for immediate

Structural measures:
Any physical construction to reduce or avoid possible impacts of hazards, or application of engineering techniques to achieve hazard resistance and resilience in structures or systems; Common structural measures for disaster risk reduction include dams, flood levies, ocean wave barriers, earthquake-resistant construction, and evacuation shelters

Non-structural measures:
Any measure not involving physical construction that uses knowledge, practice or agreement to reduce risks and impacts, in particular through policies and laws, public awareness raising, training and education. Common non-structural measures include building codes, land use planning laws and their enforcement, research and assessment, information resources, and public awareness programmes.

(Note that in civil and structural engineering, the term "structural" is used in a more restricted sense to mean just the load-bearing structure, with other parts such as wall cladding and interior fittings being termed non-structural.)

Climate Change and related terms

(a) The Inter-governmental Panel on Climate Change (IPCC) defines climate change as: "a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcing or to persistent anthropogenic changes in the composition of the atmosphere or in land use".

(b) The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods".

Environmental Degradation:

The reduction of the capacity of the environment to meet social and ecological objectives and needs. Degradation of the environment can alter the frequency and intensity of natural hazards and increase the vulnerability of communities. The types of human-induced degradation are varied and include land misuse, soil erosion and loss, desertification, wild land fires, loss of biodiversity, deforestation, mangrove destruction, land, water and air pollution, climate change, sea level rise and ozone depletion.

Behavioural activities to promote sustainable energy use, Ashley Church of England Primary School, Surrey In 2008

Ashley School started the '100 Club' as a challenge to reduce electricity consumption using the data provided by the school's monitoring system, eco Driver. The three teaching blocks have weekly consumption targets, and collectively the challenge is to keep the school's consumption below 100 kWh per day. If the school manages to do this over a whole week, pupils are rewarded with £10 from the head teacher; the School Council then decides how this money is spent. The school has extended its efforts to the wider community with pupils' families engaged in the school's Carbon Countdown Challenge to keep energy consumption at less than 100 kWh per week in each home.

Extract from: 2009 Schools Ashden Awards case study. The Ashden Awards for Sustainable Energy. 2009. www.ashdenawards.org/winners

Ecosystem Services:

The benefits that people and communities obtain from ecosystems. This definition is drawn from the Millennium Ecosystem Assessment. The benefits that ecosystems can provide include "regulating services" such as regulation of floods, drought, land degradation and disease, along with "provisioning services" such as food and water, "supporting services" such as soil formation and nutrient cycling, and "cultural services" such as recreational, spiritual, religious and other non-material benefits. Integrated management of land, water and living resources that promotes conservation and sustainable use provide the basis for maintaining ecosystem services, including those that contribute to reduced disaster risks.

Adaptation:

The adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. This definition addresses the concerns of climate change and is sourced from the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). The broader concept of adaptation also applies to non-climatic factors such as soil erosion or surface subsidence. Adaptation can occur in autonomous fashion, for example through market changes, or as a result of intentional adaptation policies and plans. Many disaster risk reduction measures can directly contribute to better adaptation.

Adaptation to Climate Change:[31]

Adaptation means anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause, or taking advantage of opportunities that may arise. It has been shown that well planned, early adaptation action saves money and lives later. Examples of adaptation measures include: using scarce water resources more efficiently; adapting building codes to future climate conditions and extreme weather events; building flood defences and raising the levels of dykes; developing drought-tolerant crops; choosing tree species and forestry practices less vulnerable to storms and fires; and setting aside land corridors to help species migrate.

b. Classifications of Disasters[32]

There are many kinds of disasters and various classifications. Traditionally a distinction is made between natural and man-made disasters. Identifiable human actions are the principal, direct causes in man-made disasters or emergencies. This mainly involves situations in which civilian populations suffer causalities, losses of property, basic services and means of livelihood as a result of war, civil strife, other conflict or detrimental policy implementation.

Natural disasters can be classified according to the type of natural force: biological events such as plague and malaria; water and climate related events such as cyclone, flood and drought; and geophysical events such as earthquake, volcanic eruption, tsunami and landslide. Extreme climatologically, hydrological or geological processes are one cause of natural disasters. Technological disasters include industrial accidents, server pollution accidents, nuclear accidents, air crashes, major fires or explosions that affect a large amount of people, property, infrastructure, or economic activity. The speed of onset is an important criterion for disaster managers. A disaster can develop slowly until it reaches a point where survival is ultimately jeopardized, as with droughts, or it can start suddenly and immediately affect human lives and social structures, as with cyclones. The predictability of the phenomena is also an important characteristic for a pragmatic approach.

[31] http://ec.europa.eu/clima/policies/adaptation/index_en.htm

[32] Disaster Preparedness for School Safety, Course Module, August 2011, AIDMI

Disaster Identified by the High Powered Committee (HPC)

The High Powered Committee on Disaster Management in India proposed the following categorization for disasters.

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 failure/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. Biological Disasters and Epidemics

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

After the enlistment and deliberations over thirty odd disasters, there were further suggestions for inclusion of more types of disasters such as civil strife, communal violence etc.

More important than the classification of disasters is the concept that lies behind a disaster. A disaster is not just the occurrence of an event such as an earthquake, flood, conflict, health epidemic or an industrial accident; a disaster occurs if that event/process negatively impacts human populations. Reduction of the impact that an event has on human beings can prevent a hazard from becoming a disaster. Disasters combine two elements: hazard, and the vulnerability of affected people.

Need for School Safety and Community Based Disaster Risk Reduction

2

Objectives: At the end of this session the participants -

- Will understand the need for school safety and why it is so important to be included in each and every school of Assam
- Will understand the role of schools in disaster mitigation for community
- Will learn the steps for reducing school vulnerability and ways of promoting DRR activities at school
- Will understand how to implement disaster risk reduction strategies at schools

Total time: 2 hours

Topics	Methodology	Materials
1. Need for School Safety 2. Reducing school Vulnerability	Presentations and group discussions	1. Chapter 1 2. PPTs. (Hard as well as Soft copies) 3. A4 size print outs of Needs of school safety, overview of Community Based Disaster Risk Reduction

2. Need for School Safety and Community Based Disaster Risk Reduction

2.1 Need for School Safety[33]

It has been identified that many of the schools do not address issues of safety. In a typical school environment there are several areas where safety concerns exist. It may be possible to identify them and list them, but specific actions require the attention of school managers and local authorities. There are several aspects to be addressed for school safety. The challenge is to build these aspects into the lives of children so that they become an inherent part of their culture towards safety. Partnerships with local institutions need to be built up to initiate the process rather than wait for the disaster to occur. It is a moral obligation of the current generation to help create safe schools and take care of the future generations. In the school safety program the target group should essentially be comprised by education departments, administrators, emergency officials, teachers, students and the community by large. By educating children and building safety into their lives, future disaster managers are ensured. By educating teachers and communities, a sustainable and disaster resilient society is ensured.

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 it is important to have a School Disaster Management Plan. In the event of an earthquake, children and teachers in an unsafe school building are at considerable risk. A Disaster Management Plan for School should be an extensive exercise that helps each school to prepare and respond promptly to crisis situations.

The school safety program should essentially promote a culture of disaster safety in schools. Primary strategies are to help, inform, persuade, and integrate the issues of safety to create safe schools. The goal should be to promote a culture of disaster preparedness in the school communities. The objective should be to sensitize children and the school community on issues of disaster preparedness and safety measures and to motivate key stakeholders through direct participation in activities that would foster towards a disaster resilient community.

a. Disaster Impacts on Schools[34]

Among various rights, children have the right for a safe, healthy and conducive environment for education. Under this right, it is an obligation of the society to provide sufficient and necessary safety at schools not only against natural and human made disasters but also from other conditions, which may cause harm to them. It has been observed from the past disasters resulting due to events like earthquakes and fires that school children constitute one of the most vulnerable population groups during such situations. It has been observed that during disasters, school buildings are destroyed, taking away the precious lives of children and teachers, and stalling access to education in the aftermath of a disaster. It is very

[33] South Asian Disaster Knowledge Network, School Safety, http://www.saarc-sadkn.org/theme_social_school.aspx

[34] Disaster Preparedness for School Safety, Course Module, August 2011, AIDMI

costly and time consuming to rebuild the educational infrastructure in such situations. It has been documented from the past disasters that school buildings had been destroyed due to earthquakes and other natural disasters throughout the world, causing deaths to large number of students, teachers and other functionaries of the schools.

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 both the short or long term phases. An example of a direct effect of a 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. 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 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 Ahmedabad, 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 buildings and cause injuries. It is also necessary to prevent situations that may affect the continuity of the services that schools provide.

Direct Effects	Indirect Effects
• Damaged school buildings • Injured students, teachers, school staff • Loss of valuable records and documents. • Uses of Schools as Emergency Shelters.	a. Difficulty in Accessing the Schools. b. High Drop-out Rate caused by Floods and in certain cases by communal riots. c. Disruptions to the completion of the Study Programs. d. Loss of trust in education institution. e. Decrease in education quality. f. Increased stress. g. Psycho Social Impacts.

b. Structural and Non Structural Hazards in Schools

Structural Hazards:

The structural elements of 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 (Column, 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 and other hazards they are prone to. It should be certified by the relevant government authorities/engineers on the safety standards.

Non structural Hazards:

The non structural elements of building do not carry the weight of building and include windows, doors, stairs, partition walls, pipes and ducts. They include "building contents" like furniture, appliances, coolers, water tanks, etc.

Non structural elements are those which are either attached to buildings or kept in buildings. The school is prone to non-structural hazards 'on site' and 'off site'. The other elements which are not the part of the actual building but placed within the school campus are open well, no fencing, no grab bar etc. These elements do not form seismic hazards but increases threats to students and staff. Removing them will not solve the purpose. But it is important to learn what safety measures can be adopted so that it becomes fully fledged resource and not a threat.

Within School Building

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

Hazards outside the School Building

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

Ways to reduce risks from non structural hazards around you:

- Secure and relocate furniture and its content
- Actions for offsite non structured hazard
- Ask for consultation from engineer and maintenance person for together for solution
- Behavioural changes among users. i.e. using dustbin to avoid water blocking/logging, discipline when moving in the mass

c. Overview of Community Based Disaster Risk Reduction[35]

Communities are not always homogeneous; differences in terms of social categories such as caste, economic distinctions such as class or party politics may sometimes fracture communities; size of community may also vary from small and compact rural hamlets to medium size urban settlements and mega cities where even neighbors may not always know each other; nonetheless they are communities in the sense that they live in the same physical area and share common interests and problems. In rural areas communities typically are villages or hamlets.

There are inherent strengths in communities which can be effectively harnessed for better assessment of risks and vulnerabilities and for better preparedness for disasters.

- They have the local knowledge on risk reduction as they are living in a disaster prone area and are aware of the locally available resources;
- They are also the first real-time responders to every disaster
- Communities have the most authentic knowledge of local risks and vulnerabilities- they prepare their vulnerability map "by default"
- They are also the reservoir of time-tested knowledge of coping mechanism
- Communities are the best assessor of disaster damages in their locality
- Communities can also be the best evaluator of disaster recovery needs

Community Based Disaster Risk Reduction (CBDRR) utilizes these latent strengths of communities to make them effective and potent instruments of disaster risk reduction. It acknowledges the reservoir of local knowledge and resources in communities and links them horizontally with science and technology driven information and vertically with institutions, resources and processes of governance for a sustainable disaster risk reduction at grassroots level.

[35] Community Based Disaster Risk Reduction, Training Manual for Field practitioners, November 2011, AIDMI

The Aim of CBDRR

The aim of CBDRR is to reduce vulnerability and increase capacities of households and communities to withstand damaging effects of disasters. It aims to capacitate the community, so the community itself can design, plan and implement activities that suits their needs. CBDRR contributes to people's participation and empowerment in achieving sustainable development and sharing in its benefits. The community and its most vulnerable groups are the primary actors while outsiders have supportive and facilitative roles, from situational analysis to the planning and implementation of risk reduction and disaster preparedness measures. Although the community-based approach enables vulnerable communities to have greater control over local disaster situations, in many cases their vulnerabilities are linked to (if not caused by) intermediate and national levels. Advocacy and networking in such instances are important disaster risk reduction strategies.

A thorough assessment of the community's hazard exposure and analysis of the specifics of their vulnerabilities as well as capacities is the basis for activities, projects and programs to reduce disaster risks. Because the community is involved, the whole situation is considered and there is a greater likelihood that problems will be addressed with appropriate interventions.

2.2 Reducing School Vulnerability[36]

Disasters are manageable: risks can be identified and mitigation measures can be arranged. The benefits of reducing the vulnerability are far larger than the costs. Empirical evidence has shown that structural and non-structural mitigation measures greatly reduce the effects of storms, earthquakes, landslides, floods, droughts and other disasters. There is much that can be done by schools to plan for disaster, mitigate risk, protect the safety of students and teachers, and build their capacities for quick recovery. The key is in planning and preparedness. Instead of focusing on picking up the pieces for recovery after a disaster, it's preferable to expend energy before the disaster. It is impossible for a relief agency to undo all the damage of an earthquake on an unprepared. Every school needs to be prepared, as no location, district or state is impervious to disaster. The costs of repairing or replacing schools after disasters are much higher than preparing schools for disasters.

a. School Based Disaster Risk Reduction

More investment in capacity building of school stakeholders is needed. mobilization; emergency communications; training of volunteers; community drills and simulation exercises; and public education and awareness. "Preparedness is not limited to short term measures, which are taken during a warning period before the impact of a disaster event: it must be supported by legislation and be concerned with operational planning; education and training of the population at large and the technical training of those who will be required to help in a relief operation; stockpiling and supplies; the emergency funding arrangements. The more effectively

[36] Disaster Preparedness for School Safety, Course Module, August 2011, AIDMI

these tasks are carried out in advance, the more readily will it possible to take also the action necessary during the emergency phase itself and later phase of relief, rehabilitation and construction."

Children's Health and School

More than half of the world population is below the age of 25 years, 29% are between 10 and 25 years of age, of which 80% live in developing countries. Due to technological advancement and health promotion activities, children who in the past would have died in infancy are surviving into childhood, adolescence and adulthood. Due to limited resources in developing countries, it is important to utilize all available cost-effective resources to improve the health care[1]. Schoolteachers are the best resource for implementation of school health programmes.

However, the growing age of the school children is an important phase of life. Diseases like anaemia and other nutritional deficiencies, refractive errors, diarrhoea, pneumonia, worm infestation, dental caries, malaria, injuries are common health problems of school children in developing countries. Many children present as an emergency in the form of pain abdomen, high grade fever, body aches, vomiting, toothache, bleeding etc. in the school hours. In developing countries like India, due to lack of training of teachers on health, paucity of funds, ill developed referral and transport, such situations are not adequately handled though these ailments need immediate attention.

Recommendations:

1. Schools must have First aid kits in adequate quantity and should be accessible during emergencies.

2. The students' and staff's health records should be with the schools.
3. The schools should establish a system to respond to emergency medical needs. For this, connections with the nearest health facilities can be established and emergency contact numbers (as mentioned in school disaster management plans) can be used. Teachers/staff should consult the nearest health facility, doctors or trained persons before responding to medical emergency.
4. All staff members and teachers in school should be aware of emergency medical response guidelines.

Have a safe play area, free from garbage and waste water.

5. Special care to be taken for specially able children, diseased and minors while responding to emergencies.

Involve everyone in planning, special care for specially able children.

6. A daily routine of checking whether the children had bath, combed hair, and washed their faces was introduced. The school's general cleanliness was also monitored. The student representatives can be encouraged to promote good hygiene practices in schools.

Monitor proper use of latrines and clean them regularly.

7. To avoid such emergencies awareness program on health and hygiene should be conducted regularly.
8. Mid day meal committee in schools must be established. The team should check food quality, hygiene and cleanliness to avoid spoilage of mid day meals provided to children.
9. Schools should incorporate healthy eating habits and educate children & parents on importance of healthy food.[37]

Involve parents and community to spread awareness about good health and hygiene practices.

[37] Source: 1. WHO Technical Report series, 870. 1997.
2. Barrett LC. Teaching teachers about school health emergencies. J Sch Nurs. 2001; 17:316-322.
3. Limburg H, Vaidyanathan K, Dalal HP. Cost effective screening of school children for refractive errors. World Heath Forum. 1995; 16:173-178.
4. WASH_in_Schools_in_Emergencies_Guidebook_for_teachers, UNICEF

Climate Change in Assam and School Safety – a much needed integration

Source: http://www.ptlsolar.com/s4s/

It is a harsh reality that climate change has started showing its brutal side throughout the globe and India is not an exception. Of late we have suffered from a number of climate induced disasters which had caused mammoth impact to all segments of society. While school is a place where the most vulnerable segments of the population are, disasters caused under the impact of climate change have resulted unprecedented damage to the schools be it in Uttarakhand (cloudburst 2013), Odisha (Cyclone Phailin, 2013) or frequently increasing floods and erosion in Assam .

Some of the major trends of climate change that the State of Assam is witnessing are the following:[38]

- The region is characterized by high rainfall but analysis of long-term trends in the annual rainfall indicates a slight decline in the total rainfall received in the region
- The pre-monsoon and post-monsoon thundershowers are very dominant over this region
- Due to topography and the humidity available for convection the probability of association of thunderstorm with rainfall is quite high. Also months with high rainfall have been observed to have more number of thunderstorms.
- Thunderstorms in post-monsoon season have been observed to be with higher intensities than during the pre-monsoon season.
- Chances of prevalence of high floods have been observed when monsoon rainfall has been high over these regions.
- The region has experienced increase in the annual mean maximum temperatures, with increase at the rate of +0.11°C per decade and annual mean temperatures at a rate of 0.04°C per decade in the region.
- The rise in temperature with respect to the 1970's (climatology) shows a range between 1.7 to 1.8 degree C.

[38] Assam State Action Plan on Climate Change 2012-2017 accessed through http://envfor.nic.in/downloads/public-information/Assam-SAPCC.pdf

Some of the key Projections highlight the following impacts:[39]

- The annual temperatures are set to increase from a minimum of 26.8 degree C to a maximum of 27.5 degree C in the 2030's.
- Seasonal temperature for all the three QUMP (stands for Quantified Uncertainty in Model Projections) simulations also projects a rise from 1.5 to 2.2 degree C, with the monsoon months of June, July, August and September showing maximum rise amongst all the seasons.
- Increase in rainfall over Assam while projected to increase, is projected to be slightly lesser when compared to the state of Arunachal Pradesh and some parts of North Assam adjoining Arunachal Pradesh
- On an overall the number of rainy days is projected to decline in Assam, but intensities would increase.
- Changes in rainfall patterns and its increasing variability in the future may have some regions experiencing scarcity of rainfall and others an increase. Drought like conditions might prevail given the climatic variations expected.
- Projected increase in rainfall, rainfall intensities and accelerated summer flows may produce more frequent conditions of floods, flash floods in the Brahmaputra valley.

Considering the above, schools as important segments of society are required to play important role in promoting climate change adaptation as tool for social living. While climate change will impact functioning of schools (e.g., number of days when school had to be closed due to floods increased and so as the case with excessive temperature), schools must consider the local impact and should promote local level actions through initiating and integrating actions on climate change adaptation. Schools should consider following points in this regard:

- All trends in terms of changes in rainfall, increase in temperature, increase in floods, flash floods will have direct impact upon the schools.
- Many schools have already suffered direct and indirect impacts of climate induced disasters.
- Schools should have their own assessment of seasonality change and its impact on schools academic endeavour. This should be done to understand the localized trend and accordingly initiate changes in the academic calendar as a part of adaptation.
- School Disaster Management Plans should also address climate induced risk and should incorporate measures for adaptation
- While schools can be instrumental in awareness generation, neighborhood campaigns through outreach activities of students to promote climate change adaptation can be one of many strategies.
- Promoting green schools as to promote localized adaptation
- Flexibility in approach, actions to bring resilience in school can be achieved through well thought, scientific and serious actions of adaptation and mitigation in schools.

[39] ibid

It is an era which demands collaborative, uniform and time bound actions from all segments of society for protecting future and thereby ensuring sustainability of our race. Schools do have the most important role in ensuring that sustainability. It is time to think beyond defined boundaries of roles and pro-active initiation of actions that can ensure school safety through integration of climate change adaptation where the breed of our civilization can be nurtured and sustained.

Child-Centered Spaces (CCS)[40]:

Child-centred spaces (CCS) (or child friendly spaces) provide a safe space for learning and playing. They also function as information centres and a forum for community discussion.

The Centres also provide a platform to augment community and child voices and spread awareness of government schemes and services.

Guidance Notes:

- The child-friendly space/school should create a Council establish strong links with the community. The council helps children and their communities to increase their participation in relief, rehabilitation, and recovery and to acquire disaster preparedness knowledge and skills through training at their local center.
- Children can assist in building child-friendly spaces or schools
- Children are often impeded from study because they lack a study space or parental support and they are required to do house chores, rear animals, collect firewood, and take care of their younger siblings. CCS school hours should be flexible and be organised to enable the maximum number of children to attend education sessions even if they are working.
- In CCS, teachers must take care to treat all students equally, allowing for their participation and enjoyment.

Link Academic Institutions with NGOs for School based DRR

School safety is an important and relevant topic because university students – especially social work and/ or sociology branch – are working in schools during their field work. Universities can link with NGOs and disaster management organizations to offer workshops and trainings to their students.

[40] Mainstreaming Child-rights in Disaster Risk Reduction, A practical guide for development practitioners and humanitarian workers, based on Bihar Floods 2008, December 2009

Climate Risk with DRR

Climate change risk is inextricably linked to disaster risk. Because of climate change, natural disasters are occurring with greater intensity and frequency. Unfortunately, many schools are doing little to educate their children about climate change and simple steps they can take to mitigate their impact on the climate. Moreover, even at the university level, there is a scarcity of courses related to climate change. In light of this reality, it is important that school stakeholders and NGOs take collective action to spread climate change awareness at the school and university level. If children and students of higher education are aware of climate change, they can share their knowledge with their peers and communities.

Aichi Biodiversity Targets[41]

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

Target No.1 of Strategic Goal A states that: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

The Child's Right to Safer Schools Campaign organized training programmes for the university students from Social Work and Sociology department of Sardar Patel University. The primary objectives of the trainings were to build knowledge on DRR education, climate change and school safety and to help students to link their practical social work studies with DRR and School Safety. During the programme, campaign provided information on recent school-based disasters and activities of the regional 'Child's Right to Safer Schools Campaign'. Students were shown how to conduct different school safety activities in their field study.

In addition to school safety, one climate change awareness-raising session imparted information on different aspects of climate change. Trainers explained the scientific process of climate change, its causes, and ways to mitigate impacts such as using public transport, less energy, and so forth.

(Source: Southasiadisasters.net issue no. 71, October 2010, AIDMI)

[41] Convention of Biological diversity/Strategic Plan for Bio diversity 2011-2020/Targets; http://www.cbd.int/sp/targets/

b. Distribution of Stakeholders' Roles for Disaster Preparedness[42]

Various persons and institutions can help to prepare schools for disaster events and emergencies. The task can be addressed to parents, students, teachers, school staff and community-based organizations. The school's students, teachers, administration, teaching methods, school rules, physical facilities and environments should all be considered.

School buildings have multiple purposes in a community. They function as learning centers for most of the day; at other times they become gathering places for community events and fundraisers, meeting venues for clubs and religious organizations, storage facilities for books and technical equipment, and public shelters during emergencies. The centrality of school buildings in the life and welfare of the community means that school managers, teachers, students, parents/guardians, the community, local authorities, and government all have important roles in making schools safe. These roles, as well as some suggestions of ways which they can contribute to school safety, are outlined below.

School Manager's Role: School managers can be principals, senior administrative staff, senior teachers any person who is responsible for leading and administering the school. As they are the ones who provide the overall vision and direction for the school, it is with them that the responsibility of fostering, promoting and maintaining a disaster preparedness culture lies. Some methods of achieving this are:

1. Directing that school safety issues be incorporated into the school curriculum.
2. Initiating an audit of school safety, ensuring that staff and students are involved.
3. Providing training to teachers and administrative staff on disaster awareness, disaster preparedness, disaster risk reduction, disaster mitigation, basic school safety issues, operating safety equipment (for example fire extinguishers and first aid kits), and how to educate children about disasters.
4. Providing training to students in essential survival skills, for instance swimming, first-aid, basic health care and personal safety.
5. Together with staff, students, local authorities, government and other external bodies, prepare a Crisis Management Plan, a Disaster Preparedness Plan and a Disaster Response Plan. These plans should focus on both the short and long term.

[42] Disaster Preparedness for School Safety, Course Module, August 2011, AIDMI

6. Designing school safety guidelines, especially for high-risk areas such as kitchens, toilet/bathroom facilities and science laboratories
7. Creating a comprehensive records system consisting of students' personal details (for example, the contact details of parents, home address, blood group, medical history and past accidents), and details of emergency incidents which have previously occurred. The medical profiles of staff members should also be recorded.
8. Keeping emergency contact numbers in an easily accessible, safe and prominent location, also ensuring that staff and students are aware of what the numbers are and where they are kept. Make sure that they have access to a phone to call the numbers.
9. Taking an insurance policy which covers students and teachers in case of an accident or disaster.
10. Organising community disaster awareness-raising events and other engagement activities.
11. Devising ways to protect learning materials during a disaster.
12. Establishing an internal communication system which identifies a chain of command for disaster situations and designates particular staff members as disaster liaison officers.
13. Obtaining a communications unit (with a backup system) that allows the school to receive disaster warnings and contact emergency authorities and other organisations. This system should also incorporate an early warning system and allow for external bodies to be contacted in an emergency.
14. Designing and implementing emergency drills and evacuations.
15. Attending to structural and non-structural hazards.
16. Forming Disaster Management Committees and Disaster Management Teams. The latter should comprise of senior students, teachers and non-teaching staff, and they should attend to the following issues:
    - Awareness Generation, Warning, Information Collection and Information Dissemination
    - Emergency Evacuation and School Security
    - Search and Rescue
    - Fire Prevention and Control
    - First Aid

It is essential that school managers and other relevant personnel periodically review and update the school's guidelines, plans, and records. They should also ensure that staff members are sent for follow-up training or refresher courses. Finally,

they should require that the school regularly carry out their evacuation plans practices, emergency drills, first-aid training and fire prevention activities

Teacher's Role: Teachers, being the ones who stand at the forefront of educating students, bear the main responsibility of ensuring that students are knowledgeable about disaster risks, disaster preparedness, disaster risk mitigation, school safety, and how to respond to a disaster situation. Their role however extends beyond being an educator. They can act as mentors to novice teachers, share their professional skills and instructional resources with fellow teachers, and lead the school's disaster management programme by serving on school leadership committees. Finally, they should consider themselves as catalysts of change and continuously strive to find ways of improving disaster teaching and management methodologies.

Some ways that teachers can make themselves, their students, and the school 'disaster-ready' are:

1. Undergoing disaster-related training sessions.
2. Assisting in preparing the School's Safety Audit, evacuation plans, Crisis Management Plan, Disaster Preparedness Plan and Disaster Response Plan.
3. Teaching students about the disasters they face, focusing on issues such as the various different types of disasters that exist, how they are caused, the risk of their occurrence, and their impacts on the school, the students, their families, and their community.
4. Ensuring that students are aware of emergency numbers, where they are located in the school and when they should be used.
5. Encouraging students to keep areas clean and teaching them how to be safe in dangerous areas such as kitchens and science laboratories.
6. Promoting student involvement in disaster management, for example, encouraging senior students to become part of the school's Disaster Management Teams, and assigning students with tasks such as leading fellow students during a disaster, monitoring student numbers, and acting as 'buddies' to younger students.
7. Carrying out mock drills regularly.
8. Encouraging students to talk to their families about disasters, risk management, and disaster preparedness.
9. Create School Safety Clubs

Teachers should note that girls can be more traumatized by a disaster than boys, and that they may have low feelings of self-worth owing to the education system's

tendency to treat girls as inferior to boys accordingly, teachers should take special care to make girls feel safe and that they can be trusted. Together with the school management, teachers could also direct their DRR work to have a particular focus on girls. Some methods of doing so are:

1. Creating girl-only disaster management clubs or teams.
2. Forming mothers' disaster planning groups
3. Educating girls in women's rights and selecting female role models for them to follow.
4. Creating mechanisms for girls to report instances of abuse and to seek support following a disaster.

Students' Role: Students can play a critical role in information sharing, raising awareness and actively carrying out disaster preparedness activities. They can:

1. Assist with identifying school hazards and participate in the school's disaster management programme.
2. Form student committees who meet regularly to monitor recent disasters, discuss disaster management, attend trainings in warning and information, emergency evacuation, search and rescue, first-aid, and fire-fighting, also let them participate in the school's DRR activities. They can even form support networks with other schools that stand at risk of being affected by a disaster.
3. Put together information packages to give to other students. They could also make emergency exit signs and create posters to put around the school reminding students about what to do in a disaster situation.
4. Assist teachers in drills by obtaining class lists, taking attendance, and helping to maintain order.
5. Increase community awareness by talking to friends and family about disasters and risk mitigation.

Parents'/Guardians' Role: Parents can provide crucial practical, social and emotional support to a school's disaster-preparedness efforts.

They can also help ensure that students retain their education in disaster management. Some possible methods of doing so are:

1. Encouraging students to apply what they have learned in school at home, for example, identifying the disasters that may affect the family, establishing the risks around the house, and thinking of strategies to mitigate such risks.
2. Forming parents' groups which maintain regular contact with the school on its disaster management activities. Some consideration should be given to forming mothers' disaster planning groups to support the female students in schools.
3. Attending the school's community awareness-raising activities.
4. Assisting the school with mitigating structural and non-structural hazards.

Community's Role: Like parents, the wider community can play a critical role in making a school safe. They can:

1. Form response teams to assist the school during an emergency, such as search and rescue, first aid, fire fighting and looking after the affected children.
2. Prepare emergency relief supplies for the school.
3. Participate in the school's community awareness-raising and training sessions.
4. Assist the school with mitigating structural and non-structural hazards.

Local Authority's Role: Local authorities are bodies which have administrative and political functions, such as a district government, a municipal administration or a panchayat. Their role is principally to support the school and community in their efforts to make schools safe. This may be achieved by doing the following:

1. Providing financial resources
2. Assisting schools to access technical expertise for activities such as conducting a risk assessment, mitigating structural and non-structural hazards, developing crisis management plans, disaster management plans and evacuation plans.
3. Supplying tools and machinery.
4. Supporting schools with their disaster awareness-raising activities and encouraging community members to take part in them.
5. Co-sponsoring training programmes at schools.
6. Working together with schools to ensure that there is a fully functioning emergency communication system with backups in place.

7. Helping schools obtain disaster response materials, such as medicine kits, rescue equipment, survival kits, warning equipment, fire fighting equipment and evacuation equipment.
8. Identifying locations where schools can safely store their essential items.

- During an event of flood or after a flood when roads are eroded, children often have to come to school using boats and thus are always in risk. The risk management for travel during and after a flood event is very essential at school level. It is unnecessary to mention that schools cannot construct roads neither can link bridges, but a perfect motivation and awareness on situation specific decision making can help in reducing the risk. Children should know and be able to identify associated risks by themselves and should have the capacity to take decisions for their safety which is only possible through educating them on disaster risk management and reduction.
- There is a need to give floods a routine place in curriculum planning of the school since there is no other way of escaping from this hazard. The curriculum should recognise flood as an annual and seasonal hazard and should incorporate planning accordingly ensuring safety of the children who attend those schools.
- The guardians, local communities, public representatives, thinkers and policy makers should recognise the potential role of schools of Assam in flood risk mitigation and adhere to ensure basic minimum guidance and facilities enabling the schools to play that role. This should not merely be limited to use the school as relief shelters but should be looked in far beyond.
- The schools by virtue of their interface with the local communities can serve as the channel of communication between emergency service providers for the affected community. Thus it should have certain facilities and skills to serve emergencies. The coordination channel should also provide ample scope for the involvement of schools in this regard.

Thus, to sum up it can be mentioned that so far the potential capacities of schools have not been fully utilized. However, keeping the causes of increasing floods in Assam and the increasing vulnerability, this system needs a boost so as to deal with this increasing crisis in future.

Building Child Friendly Cities: A Framework for Action

In order to put children at the centre of urban development, the Child Friendly Cities Initiative (CFCI) was launched by the United Nations Children Fund (UNICEF) and the United Nations Human Settlement Programme (UN Habitat) in 1996. The purpose of this initiative is to implement the Convention on the Rights of the Child at the level where it can have the greatest impact on children's life. Out of this emerged the concept of a "Child Friendly City' which stands for a system of local governance where children's rights are addressed and reflected in policies, laws, programmes and budgets.

Building a Child Friendly City refers to the implementation of the Convention on the rights of Child. UNICEF has devised a framework for action that translates the process of implementing the aforementioned Convention by national governments into a local government process. Through this framework for action, the special needs of children are sought to be addressed. In fact, this framework can be viewed as a strategy for children to achieve their fullest potential.

The Child Friendly Cities Framework is based on the following nine principles of the Convention on the rights of the Child:[43]

1. **Children's participation:** promoting children's active involvement in issues that affect them; listening to their views and taking them into consideration in decision-making processes.
2. **A child friendly legal framework:** ensuring legislation, regulatory frameworks and procedures which consistently promote and protect the rights of all children.
3. **A city-wide Children's Rights Strategy:** developing a detailed, comprehensive strategy or agenda for building a Child Friendly City, based on the Convention.
4. **A Children's Rights Unit or coordinating mechanism:** developing permanent structures in local government to ensure priority consideration of children's perspective.
5. **Child impact assessment and evaluation:** ensuring that there is a systematic process to assess the impact of law, policy and practice on children – in advance, during and after implementation.
6. **A children's budget:** ensuring adequate resource commitment and budget analysis for children.
7. **A regular State of the City's Children Report:** ensuring sufficient monitoring and data collection on the state of children and their rights.
8. **Making children's rights known:** ensuring awareness of children's rights among adults and children.

[43] Building Child Friendly Cities: A Framework for Action, www.unicef-irc.org/publications/416

9. **Independent advocacy for children:** supporting non-governmental organisations and developing independent human rights institutions – children's ombudspeople or commissioners for children – to promote children's rights.

The foundations for building a Child Friendly City are the following four key principles of the Convention:[44]

1. **Non-discrimination (article 2):** A Child Friendly City is friendly and inclusive for all children. So it needs to seek out and give special attention to any children who are suffering discrimination in access to their rights.
2. **Best interests (article 3):** A Child Friendly City ensures that the best interests of the child are a primary consideration "in all actions concerning children".
3. **Every child's right to life and maximum development (article 6):** Child Friendly City seeks to maximise the survival and development of all its children – providing the optimal conditions for childhood, for the child's life now. And "development" in the context of the Convention means children's physical, mental, spiritual, moral, psychological and social development.
4. **Listening to children and respecting their views (article 12):** Children are seen and heard in a Child Friendly City. Their active participation as citizens and rights-holders is promoted, ensuring them the freedom to express their views on "all matters affecting them" and making sure that their views are taken seriously – in government, in their neighbourhoods and schools and in their families.

It should be borne in mind that this framework is not a standard model which needs to be implemented according to a uniform protocol. It is a framework that seeks to implement the Convention on the rights of the Child. Through this framework big cities, medium-sized towns as well as small rural communities can plan a concerted strategy to make themselves a better place for their children.

(Source: Southasiadisasters.net issue no. 108, March 2014, AIDMI)

A drawing by participant shared the impact and response to fire in the school.

[44] ibid.

Facilitator's Note

1. Suggestions for Trainers Prior to Training

Although the most effective trainers are able to address the emerging needs of trainees in a flexible manner, the following notes offer a basic outline of activities that trainers may use to lead trainings. To prepare for session, trainers may find it useful to:

- Review the Chapter learning objectives listed above,
- Review the suggested methods and activities listed below,
- Assess the anticipated knowledge needs, interests, and constraints of trainees,
- Identify additional potentially effective activities suitable for their particular trainees,
- Review related background literature on Disaster Situation in India and Vulnerability of Schools; this can include but is not limited to the additional resources listed at the end of the module.
    - Prepare your own notes so that you may convey the relevant information in a way that is comfortable for you.
    - Do not feel constrained by the information on the slides-this is merely a guide for you.
- Prepare materials for the training, including:
    - PowerPoint or other presentation materials including revisions if desired
    - Print-outs or any other necessary handouts
    - Tools and props needed for activities
    - Rewards or treats to encourage involvement and participation

2. Suggested Methods and Activities

This chapter covers 2 areas: need for school safety, and community based disaster risk management. Both of these areas will explain interactive ways of achieving those aims.

Disaster Preparedness for School Safety Spend the first 5 minutes introducing the topic of the session, explaining the objectives of the session and making the contents of the presentation clear.

The purpose of the session entitled 'Need for School Safety and CBDRM' is to explain the reasons why school safety and CBDRM approach is necessary for sustainable disaster risk reduction activities in community and in educational institutions. Both areas are inter-connected. It can be presented through disaster impacts on schools and roles of schools in disaster mitigation for the community after basic orientation.

The main reason that the need for school safety is being advocated is due to the targets set by the 3rd Priority for Action for the UN's ISDR HFA 2005-15. Some explanation of the UN's Millennium Development Goal (MDG) may be required. The goal related to universal primary school education will be furthered if schools are safer, because parents will be more likely to send their children to school if they believe them to be safe. Schools are very important within communities as places for protection during disasters, and centres for social action and interaction during normal times. They can also serve as a centre of learning and action for Disaster Risk Reduction (DRR).

Educating children and teachers about disaster safety can help to achieve 'bottom-up' safety in schools, implementing measures to make then safer. 'Bottom-up' means ideas and actions that have originated at the small, community level. And have then been used on a larger wider scale in the region.

Trainers can also cover positive case studies related to school safety work which demonstrate the impact of school safety work on children, school and at community level.

Notes:

School Risk Assessment and School Safety Audit 3

Objective: At the end of this session the participant –

- Will revise the previous session
- Will identify the terms such as risk identification and risk reduction measures
- Will understand the concepts of risk assessment and assessment of school risk in Assam
- Will be able to develop school neighbourhood and resource maps
- Will understand the use of PRA tools and the concept of participatory approach in school safety in Assam
- Will know what is school safety audit
- Will know about the methods of data collection and analysis.
- Will learn about the key findings in India. Compare the key findings of Assam with rest of the country.
- Will be able to list out various opportunities for schools to enhance its safety in Assam

Total Time: 2 hours

Topics	Methodology	Materials
1. School Risk Assessment 2. School Safety Audit	Presentation and group discussion	i. Chapter 3 ii. PPTs (Hard and Soft Copies) iii. Blank Tables drawn on white sheet for Hazards, Vulnerability and Capacity (2 copies for each)

3. School Risk Assessment and School Safety Audit

Risk is the combination of the probability of an event and its negative consequences.[45]

3.1 Risk Assessment

a. Assessing Hazards[46]

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

- **Forces:** wind, water, seismic, conflicts, industrial/technological, other human-related
- **Warning signs and signals:** scientific and indigenous indicators that hazard are likely to happen
- **Forewarning:** time between warning and impact
- **Speed of onset:** rapidity of arrival and impact. We can distinguish between hazards that occur with little or no warning (e.g. earthquake), and hazards that can be predicted three to four days in advance (e.g. typhoon)
- **Frequency:** average rate of occurrence (e.g. annual, every five years, etc.)
- **When:** seasonal occurrence or particular time of year disasters tend to occur
- **Duration:** duration of onset of disaster and its after effects

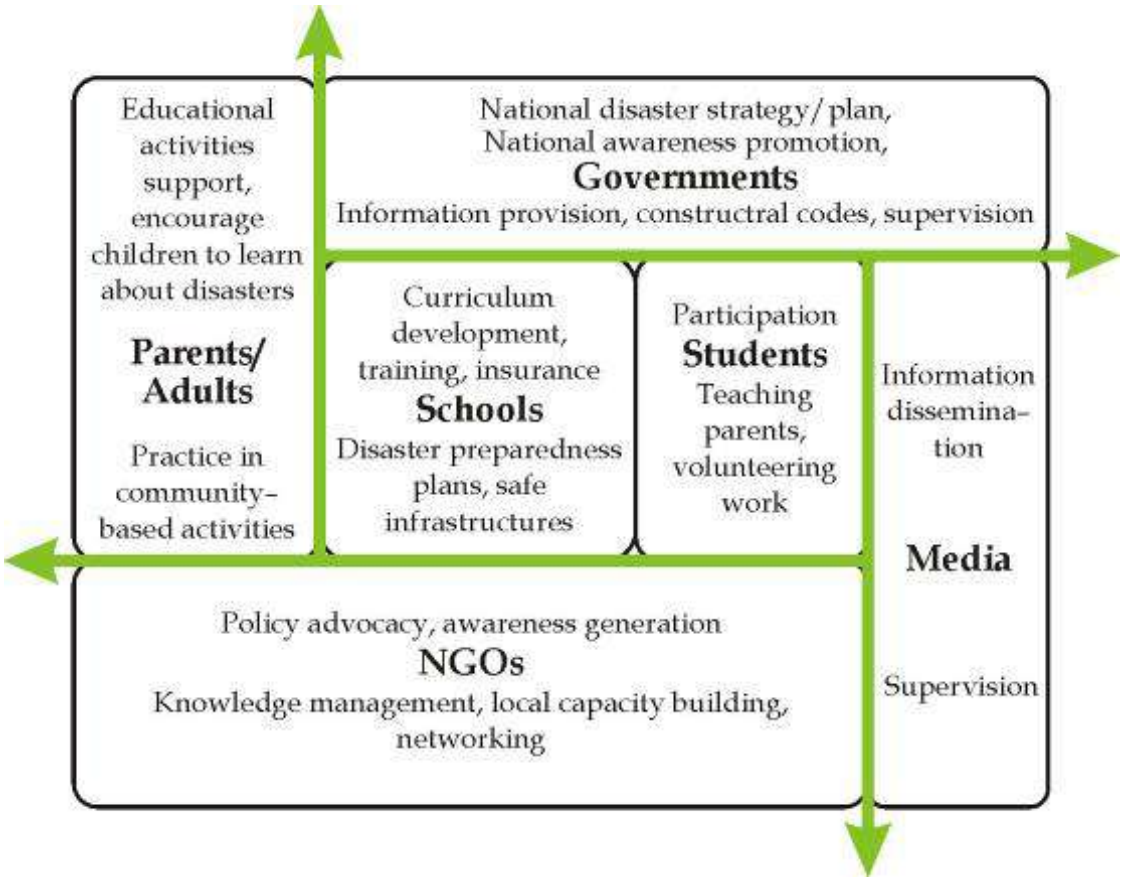
It is important to remember that some hazards also cause secondary hazards. For example, cyclone can cause landslides; drought might cause epidemics and pest infestation; earthquakes can cause fires Although hazard assessment is based on past hazard patterns, we should not forget to look at possible disaster threats that are new and are likely to happen. There are an increasing number of threats due t changes in natural, economical, social and political trends. Threats unnoticed before, simply because no one was exposed to them, can easily turn into major problems that no one had predicted (e.g ethnic conflicts, industrial hazards) Be aware of local threats: the number of small scale, localised hazards that do not hit the headlines of appear in disaster statistics, is increasing. Collectively, these can present a more serious problem than any catastrophic event. For example, in densely populated shanty towns, fires, floods, landslides, and epidemics are increasingly common

[45] UNISDR Terminology on Disaster Risk Reduction,2009 version; http://www.unisdr.org/we/inform/terminology

[46] Disaster Preparedness for School Safety, Course Module, August 2011, AIDMI

events. We should also consider the various intensities, which each hazard may have the less frequently a hazard occurs in a given area, the less historical information there is to work with. Therefore, other sources should be consulted to provide more reliable information about their prediction and possible behaviour.

A hazard assessment should first identify which hazards are prone in the school or area. Discussion can then continue to take up hazard intensity (potential destructive force, adverse effects) and extent (geographical coverage, range of impact). Such discussion flows to the next step in the risk assessment process, to the vulnerability assessment.



(Source: Southasiadisasters.net issue no. 30, May 2007, AIDMI)

b. Assessment of Vulnerabilities[47]

Vulnerability is defined as "the extent to which a community, structure, service, or geographical area is likely to be damaged or disrupted by the impact of a particular hazard, on account of their nature, construction and proximity to hazardous terrain or disaster prone area."

Vulnerability is a set of prevailing or consequential conditions, which adversely affects the school's ability to prevent, mitigate, prepare for or respond to hazard events. These weakness or constraints affect a school's ability (or inability) to absorb losses after disasters and to recover from the damage.

[47] Disaster Preparedness for School Safety, Course Module, August 2011, AIDMI

Vulnerability precedes the disaster event and contributes to its severity, impedes disaster response, and may continue long after a disaster has struck. Physical Vulnerability relates to the physical location of people, their proximity to the hazard zone and standards of safety maintained to counter the effects. Physical vulnerability also relates to structural soundness of buildings and structures and their resistance to the forces acting upon them during a hazard event. But the degree to which a population is affected is not purely in the physical components, but is contextual to the prevailing social and economic conditions and its consequential effect on human activities within a society. Schools can be vulnerable because of material, social or organisational insufficiencies.

For schools some examples for vulnerability categories include:

Physical/material vulnerability

- Disaster-prone location of school buildings
- Lack of adequate skills and educational background of teachers.
- Lack of basic services in schools: safe drinking water, shelter, sanitation, access roads, electricity and communication

Social/ organisational vulnerability

- Lack of leadership, initiative, organisational structures to solve problems or conflicts
- Ineffective decision-making
- Absence of or weak community organisations
- Neglected relationship with government, administrative structures
- Lack of building requirements

Motivational/attitudinal

- Lack of initiative
- Lack of unity, cooperation and solidarity
- Lack of knowledge/awareness of hazards and consequences

Another categorization gives the following examples for schools:

- Physical Vulnerability – school has prone location (in flood plain or a coastal location exposed to cyclones)

- Technical Vulnerability – structures and infrastructures (school building, roads, bridges, and irrigation channels) unable to withstand and resist hazard events
- Economic Vulnerability – insufficient assets and reserves to withstand loss, lack of economic diversification
- Cultural Vulnerability – system of beliefs regarding hazard, vulnerability and disasters
- Educational Vulnerability – lack of information or misinformation regarding risk scenarios
- Institutional Vulnerability – lack of public services, planning, emergency preparedness and response

Vulnerability Assessment is the process of estimating the susceptibility of 'elements at risk' (people, school faculties) to various hazards and analysing root causes which place these elements at risk.

Vulnerability assessment done by one of the participants.

A hazard is the trigger event, which sets off the disaster. It could be an earthquake, volcanic eruption, landslide or civil conflict. The unsafe conditions are the vulnerable contexts where people and school properties and buildings are exposed to risk of disaster. These make the school vulnerable to a particular hazard.

Useful tools in vulnerability assessment include:

- **Hazard maps:** helps in visualizing the 'elements at risk'
- **Transect walk:** helps to get a better understanding of the community map and affords opportunity to ask more questions on physical/material vulnerability
- **Seasonal calendar:** provides insight into periods of stress, diseases, hunger, and debt
- **Venn diagram:** shows the state of coordination among organisations and government agencies or leadership patterns
- **School drama:** enables people to express what happens during disasters and why in an accessible format
- **Problem Tree and Ranking:** shows linkage of vulnerabilities and enables the school to express the priority vulnerabilities to address.

c. Assessing Capacities

Capacities are strengths and resources, which exist or are present among individuals, households and the community, which enable them to cope with, withstand, prepare for, prevent, mitigate or quickly recover from disaster.

Capacity assessment is the process for determining what people do in times of crisiss to reduce damaging effects of the hazard, and to secure the functioning of the school. It means understanding school's previous experiences with hazards that enabled them to develop coping strategies. It means analysing which resources are available and used by the school to reduce risk, who has access to those resources and who controls them. In first instance, schools may have developed coping mechanisms to deal with the immediate effects of a hazard: they developed warning systems, evacuation routes and places, they rely on kinship relations, and existing community organisations coordinate relief. These are capacities people rely on before and during emergencies. The aim of these strategies is to minimise the loss of life and property.

Capacities can be categorised into physical / material, social / organisational and attitudinal / motivational. Schools with economic and material resources may have a better building construction and recover more easily. Schools that are embedded in social networks can rely on support in emergencies. Teachers who are aware of their abilities are better able to cope with crisis.

For example, the capacities of schools differ according to the following categories: building, personnel qualification, personnel number, student number, student/staff ratio, and financial resources.

Invite local authority representatives to expand and increase their involvement in school safety activities. The capacity assessment process involves the following key components:

- Understanding people's previous experiences with hazard and the coping strategies they have developed.
- Analysing which resources are available and used by the school to reduce disaster risk, and who has access to and control over these resources.

Useful PRA Tools in Capacity Assessment include:

- Historical profiles and time lines
- Seasonal Calendar
- Institutional and social network analysis-formal and informal service

Important elements of the Capacity Status are:

1. Institutional capacity
2. Technical and training resources
3. Community preparedness
4. Public education and awareness
5. Coordination and NGO-GO cooperation
6. Risk review of development initiatives
7. Learning from experience

Community's view (including children) of what they can do to reduce disasters is very important element for participatory process.

Supreme Court of India Judgment for Basic Minimum Standards for Safety in Schools[48]

The Supreme Court bench of Justice Dalveer Bhandari and Justice Lokeshwar Panta articulated the following in the case related to the Kumbakonam Fire tragedy Avinash Mehrotra Vs Union of India (Writ Petition 483 of 2004). 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 safety standards alluded to are enumerated here below:

Fire Safety Measures in Schools:

- Provision of adequate fire extinguishers of Indian Standards Institution (ISI) in eye-catching spots in each block of the school.
- First Aid kits and necessary medicines should be readily available in the school.
- Provision of water tank and separate piping from the tank with hose reel to the ground floor and first floor.
- Fire fighting training to all teachers and students from X to XII standards.
- Fire Task Force in every school comprising Head of the institution, two teachers / staff members and one member from the Fire and Rescue Department. The Fire and Rescue Department member shall design a fire safety plan and conduct an inspection once every three months.
- Display of emergency telephone numbers and list of persons to be contacted on the notice board and other prominent places.
- Regular Mock drills. Fire alarm should be provided on each floor. A separate long bell arrangement in case of emergency in rural schools.
- 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.
- 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.
- The Fire and Rescue Department shall frame guidelines with "DO's and DON'Ts" for schools and issue a fitness certificate, which shall be renewed periodically.

Training of School Teachers and Other Staff:

[48] http://indialawyers.wordpress.com/2009/09/17/sfety-measures-in-school-try-govt-official-for-criminal-negligence/

- 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.
- They shall also be trained in providing emergency first-aid treatment.
- 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.
- Emergency Response Drills conducted at regular intervals to train the students as well as the school staff.
- All schools to observe Fire Safety Day on 14th of April every year with awareness programmes and fire safety drills in collaboration with the Fire and Rescue Department.

School Building Specifications:

- The school buildings shall preferably be an 'A' Class construction with brick/ stone masonry walls with RCC roofing. Where it is not possible to provide Reinforced Cement Concrete (RCC) roofing only non-combustible fireproof heat resistance materials should be used.
- The nursery and elementary schools should be housed in single story buildings and the maximum number of floors in school buildings shall be restricted to three including the ground floor.
- The School building shall be free from inflammable and toxic materials, which if necessary, should be stored away from the school building.
- 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.
- 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.
- 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.
- School buildings have to be insured against fire and natural calamities with Group Insurance of school pupils.
- Kitchen and other activities involving use of fire shall be carried out in a secure and safe location away from the main school building.
- All schools shall have water storage tanks.

Clearance and Certificates:

- 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 continuing a School.

- 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 out 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 (CEO).
- The building plans for schools shall be prepared only by a Government certified engineer and the Public Works Department (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 continuing a School.
- 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, and a reputable NGO shall be members. They shall visit the schools periodically or at least the erring institutions as listed by the Chief Education Officer.
- Conditional recognition / approval shall never be resorted to for any school.
- 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.
- 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.

It also directs that:

- 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.
- All existing government and private schools shall install fire extinguishing equipments within a period of six months.
- The school buildings should be kept free from inflammable and toxic material. If storage is inevitable, material should be stored safely.
- Evaluation of structural aspects 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 may be issued only after proper inspection. Dereliction in duty must attract immediate disciplinary action against the concerned officials.

- Necessary training will be imparted to the staff and other officials of the school to use the fire extinguishing equipments.
- 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.
- List this petition on 07.12.2009 to ensure compliance of this order.

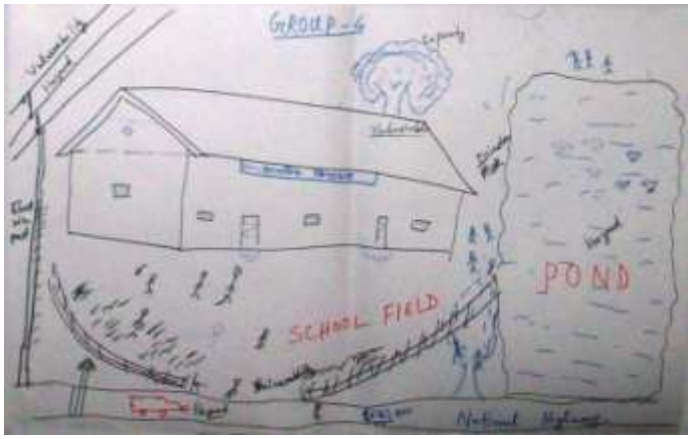
3.2 School Safety Audit

In the backdrop of the present day the essence of uplifting School Safety and Disaster Preparedness, School Safety Audit has the paramount importance in varied spaces. Schools generally conduct affairs keeping the academic pursuits in the center of attention. This frame of action does not provide sufficient methodological scope to focus on the aspects of safety. School Safety Auditing has the inherent potential to bring into light the concerns of safety from varied angles such as those of natural and man-made hazards, vulnerabilities of structural and non-structural, physical and psychological origin as well as the gap between existing capacities and the need for it.

As every planned process depends on facts and figures for accuracy and reliability, School Safety planning also will need the same. The School Safety Audit brings these facts for school safety planning and helps finding out the action components. Vulnerabilities are broad in nature and cover facts that need crosschecking from different angles. The set of questions and queries involved in a tool designed for the Safety Audit enables the same situation to be examined from varied angles.

It provides the administrators a bird' eye view of development activities needed for the school. At the same time it helps the teaching fraternity to take care of educational and awareness related gaps which the audit will highlight in detail. To sum up, the School safety audit plays an indispensible and crucial role in guaranteeing the Safety of the children in school and right to Safer Education.

For assessment of non-structural elements in school the checklist for Non-structural elements in schools under National School Safety Programme (NSSP) by NDMA may be used. The list is attached as Annex 1 and download link http://ndma.gov.in/images/pdf/school_safety/checklist-22-1-13.pdf



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- Review related background literature on Disaster Situation in India and Vulnerability of Schools; this can include but is not limited to the additional resources listed at the end of the module.
    - Prepare your own notes so that you may convey the relevant information in a way that is comfortable for you.
    - Do not feel constrained by the information on the slides-this is merely a guide for you.
- Prepare materials for the training, including:
    - PowerPoint or other presentation materials including revisions if desired
    - Print-outs or any other necessary handouts
    - Tools and props needed for activities
    - Rewards or treats to encourage involvement and participation

2. Suggested Methods and Activities

Introduce the chapter using the title and objective pages. Move on to explain the contents of the presentation, topic by topic, so that the participants understand what will happen during the session.

During the session trainers should emphasize on key terminologies – hazard, vulnerability and capacity in the context of school safety. These explanations should be followed by the identification of hazards in school, and ways of reducing vulnerability and increase the capacity in school. The context of vulnerability and capacity should be explained by all three categories – physical/material, social/ organisational, and motivational/ attitudinal. Trainers may cover slide shows of different risk appraisal tools and school safety audits.

School Disaster Management Plan

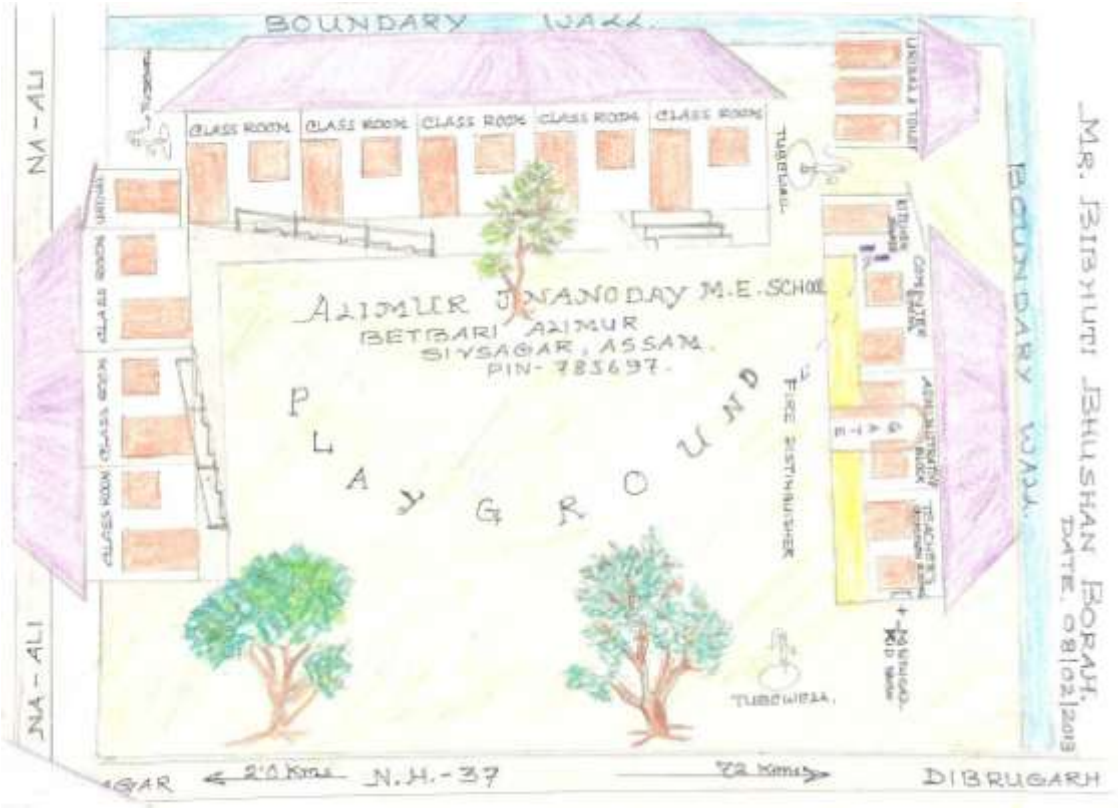
4

Objectives: At the end of this session the participants -

- Will be involved in the outcome activity
- Will understand the idea and importance of a School Disaster Management Plan
- Will understand the distribution of stakeholder roles for disaster preparedness
- Will be able to develop and implement School Disaster Management Plans for schools in Assam
- Will experience practically how to devise a School Disaster Management Plan

Total time: 4 hours and 30 minutes

Topics	Methodology	Materials
School Disaster Management Plan (SDMP) (Theoretical) • Need for the SDMP • Activities • School Stakeholders	**Theoretical** Section wise discussion on SDMP Discussions –School wise **Practical**	1. Chapter 4 2. PPTs (Hard Copies and soft copy)



School Disaster Management Plan in Sibsagar, Assam.

4. School Disaster Management Plan

School Disaster Management Plan (SDMP) is a community based disaster management plan involving following steps:

- Raising awareness of disaster issues among the targeted stakeholders (students, teachers, school management and others) through lectures, discussions, posters, drama (street play) and demonstration.
- Identifying and listing hazards and vulnerabilities outside the school as well as structural and non-structural hazards inside the school.
- Identifying and listing ways of reducing vulnerabilities.
- Identifying the roles and responsibilities of various stakeholders.
- Training teachers on how to prepare a school disaster management plan and may include school evacuation plan.
- Building emergency response capacity, focusing on skills such as rescue and first aid (training provided to student groups).
- Listing, in the school disaster management plan, the contact information of all facilities and resources available in the school for emergency management.
- Conducting a mock drill, at the end of the school safety activities, to demonstrate the evacuation skills acquired by the school stakeholders.
- Keeping targeted schools informed through a newsletter.
- Promoting School Safety Clubs to sustain risk education.

4.1 Introduction to School Disaster Management Plan[49]

The aim of emergency planning is to ensure that the safety of the students and the staff is maintained during an emergency. The emergency management plan is a means by which this can be achieved. In this unit, we will look at:

- how to identify the hazards in the school
- how to manage the hazards
- how to mitigate the effects through planning and effective response

[49] AIDMI Training Reference Material.

Characteristics of a School Emergency and Disaster Preparedness Plan

1. The Plan should provide specific directions for immediate action, yet flexible enough to allow for adjustments and changes as unexpected situations develop.
2. The Plan must be reviewed and kept current with
    a. Growing school population;
    b. Changes in physical plans;
    c. Technical and technological advances; and
    d. Changes in rules and policies in the community.
3. The Plan should consist of simple step-by-step procedures that are clear and easy to implement
4. The Plan should assign a standard procedure for a particular emergency response.
5. The Plan should have specific instructions for backup, with a clear chain of command (for instance, if the principal or emergency committee head is absent, then the next person in-charge should be identified).

4.2 Need for the School Disaster Management Plan[50]

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.

Rescue and relief measures leading to further disaster: Tamil Nadu Experience[51]

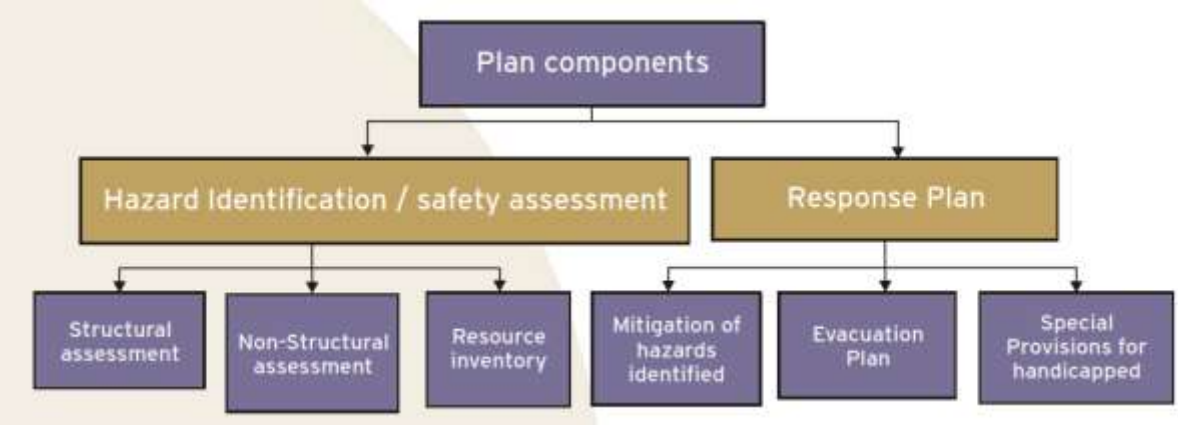
Inadequate planning and preparation in rescue and relief may lead to further disasters—"42 persons die in a stampede at Chennai flood relief camp—They came in droves seeking relief from their tragedy, instead they fell victim to another tragedy as a stampede on Sunday (18th December 2005) at a relief camp for flood victims in Chennai which left 42 people dead and 40 injured. Hundreds of people ran for cover following a sudden downpour and fell on each other, crushing women and children in their wake. The tragedy occurred at 4.30 a.m. as a crowd of around 4,500—largely poor people—gathered in front of the locked gate of Arignar Anna Corporation Higher Secondary School at K.K. Nagar in west Chennai to receive food and other relief goods. The K.K. Nagar relief camp in the school was one of 141 such camps in and around Chennai distributing relief to victims of floods caused by unprecedented rains in different parts of the state since October".

[50] AIDMI Training Reference Material.

[51] Ministry of Home Affairs, Government of India, Disaster Management in India, 2011; http://workspace.unpan.org/sites/internet/Documents/B4IN11%20Disaster%20Management%20of%20India.pdf

4.3 Components of School Disaster Management Plan

The Plan has two components as depicted in the following chart:



While preparing the plan one needs to see assure that the plan prepared has a holistic approach to combat any disaster. A written description of the school and its surroundings shall 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.

Components of a School Emergency and Disaster Preparedness Plan

1. Complete contact information, such as office, home and mobile phone numbers, and e-mail addresses of all members of the school emergency and disaster preparedness committee.
2. Telephone numbers of emergency and support agencies (e.g. fire departments, hospitals, police, radio and television stations, etc.).
3. Maps and floor plans
   a. Maps of the community and school site, and school floor plans that provide summaries of the natural and man- made features of the area.
   b. Topographic maps and street maps that can be used to assess the vulnerability of the school to hazards such as floods, landslides, forest fires, and transportation accidents involving hazardous materials.
   c. Floor plans and site plans of the school facilities which offer planners a summary of building features in order to:
      i. Identify shelter areas;
      ii. Plan evacuation routes;
      iii. Locate shut-off devices for gas, water and electricity, underground gas lines, and fire suppression equipment; and
      iv. Locate chemical storage areas.
4. Emergency warning system for informing the school population of the actual or impending danger. Aside from a public address system, new technologies like emails, mobile phones, etc. can be used.
5. A school evacuation plan and map for specific disasters, showing the location and route inside and outside the school.

6. List of school buildings to be used as shelters for evacuees in case of a community disaster.
7. Emergency Preparedness Plan orientation and drills for all students, teachers and staff.
8. Procedures for informing parents and guardians during school emergency situations (e.g. local radio, TV, internet, telephone or cell phone)
9. A school property inventory may reveal equipment that may pose danger in the event of a disaster or emergency
10. Provision of emergency transportation for students and staff
11. Alternate warning system to alert the entire campus if and when there is a power failure.
12. Contingency plan for continuity of student learning (e.g. home study or conduct of classes at alternative locations) in case the school is temporarily closed for repairs or used as an evacuation shelter.
13. Off-site back-up of important school records.

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.

4.4 Process of Preparing School Disaster Management Plan[52]

The school disaster management plan has eight key steps.

[52] AIDMI Training Reference Material.

This requires involvement of each and everyone from all sectors of the entire school community. It is also important to have a good co-ordination among all involved. National Disaster Management Authority (NDMA) has prepared a template of a School Disaster Management Plan for implementation and actions which can be taken by school stakeholders (*please see Annex 2*).

1. **Sensitization meeting for awareness of School Management:** As a necessary first step to preparing a plan and teacher training on how to prepare a plan, sensitization meetings should be organized by the school authority in which all key school members are present (i.e. principals, administrative staff, all teachers, student leaders, head cook). These key members should discuss potential hazards in their school, disaster management plans, as well as how to organize a committee and conduct a school safety audit with trained staff or experts.

2. **Formation of the School Disaster Management Committee:** Four groups: Coordination group, Disaster awareness group, Risk reduction group and Disaster response group. All four will conduct together an audit and then begin school-based DRR activities. The group's roles and responsibilities could be defined.

3. **Conduct School Safety Audit Hazard Identification and Safety Assessment:** The audit enables the school to enumerate potential risks and risk reduction measures. It also helps to identify limitations and necessary support from outside agencies. Audit findings enable the school to prepare a school specific plan for DRR activities. For example, a school might not have emergency lighting to use during a power failure, exit doors and windows that jam and will not open, existing risk like outside electrical wires, suspended ceilings, weak tree branches, unsafe building, risk at high way located near to the school etc.

4. **Preparation of the School-based Disaster Risk Reduction document:** The document should contain a detailed analysis of the school safety audit, mostly emphasizing information related to school specific hazards, vulnerability and capacity through key aspects such as:
    - The physical location and demographic details of the school building and its surrounding environment like the number of classrooms and laboratories as well as its proximity to river, highway, and railway line/crossings, etc.
    - Resource mapping showing the resources available within the school (i.e. stretcher, fire extinguishers, ladders, first aid kit, disaster response kit, etc.)
    - Vulnerability mapping and coping mechanisms showing the vulnerable location of the school building such as the average number of students and teachers per class room, taps located in the vulnerable place, and outside electrical wires, coping mechanisms for the hazards identified should be listed out.
    - Possible risk wise safe places and evacuation route with charts and signs of the school should be prepared and pasted at notice board. Time-to-time this document should be updated and reviewed.

5. **Formation and Training to the School-based Disaster Risk Reduction Teams:** The member of the group should be creative, while developing the materials for awareness generation, kindly note that the cultural background of the area should be kept in mind. Based on location of school (urban or rural) community should be targeted. Each team member will engage in different activities such as raising awareness, risk reduction implementation, soliciting support from outside agencies, disaster response, coordination within the team and evaluation, etc. For these various tasks, team members need materials and training subjects like school safety, school based DRR, first aid, and search and rescue are several key subjects.

6. **Awareness activities and dissemination of the plan to everybody in the school:** It is important that after plan preparation, the plan is disseminated to every school through innovative and interesting activities and with the integration of existing school activities.

7. **Conduct regular safety demonstrations and report to Committee:** Mock drills, fire safety demonstrations are conducted to train students and teachers and to test the various elements of your response plan in order to evaluate and revise it. During a disaster, life-protecting actions such as evacuation to safer place search and rescue and first aid must be taken immediately. There will not be time to decide what to do next; everyone must know in advance because evacuation or first aid administration may be necessary; well trained staff and students will guarantee that these crucial steps are taken as quickly as possible. Disaster specific drills can be conducted against any disaster — fire, earthquake, accident, cyclone etc

8. **Implementation of risk reduction measures:** Based on the audit analysis, the team develops an understanding of the school's vulnerability. Now the team knows where and what kinds of mitigation measures should be implemented with whom and for whom. Several examples could be removing weak tree branches, taking fire safety measures in laboratory and kitchen, raising awareness on specific topics where school's lack knowledge, constructing safer buildings, designing appropriate exit routes, and taking steps to ensure the safety of vulnerable groups such as young students (std.1 to 4), and People with Disabilities (PWDs). This step — implementation of risk reduction measures — is important for making schools safer and according to the progress of this measure all other aspects are changing.

9. **Evaluation of the plan to improve effectiveness:** The school-based disaster risk reduction plan needs to be periodically evaluated and updated. The suggested period for plan updating could be quarterly. For example, the first mock drill may have many mistakes or consume more time. This drill needs to be evaluated and improved.

   The National Disaster Management Authority (NDMA) has prepared a model template for concerned school authorities and other school stakeholders for preparing a school disaster management plan. This initiative has been taken as a

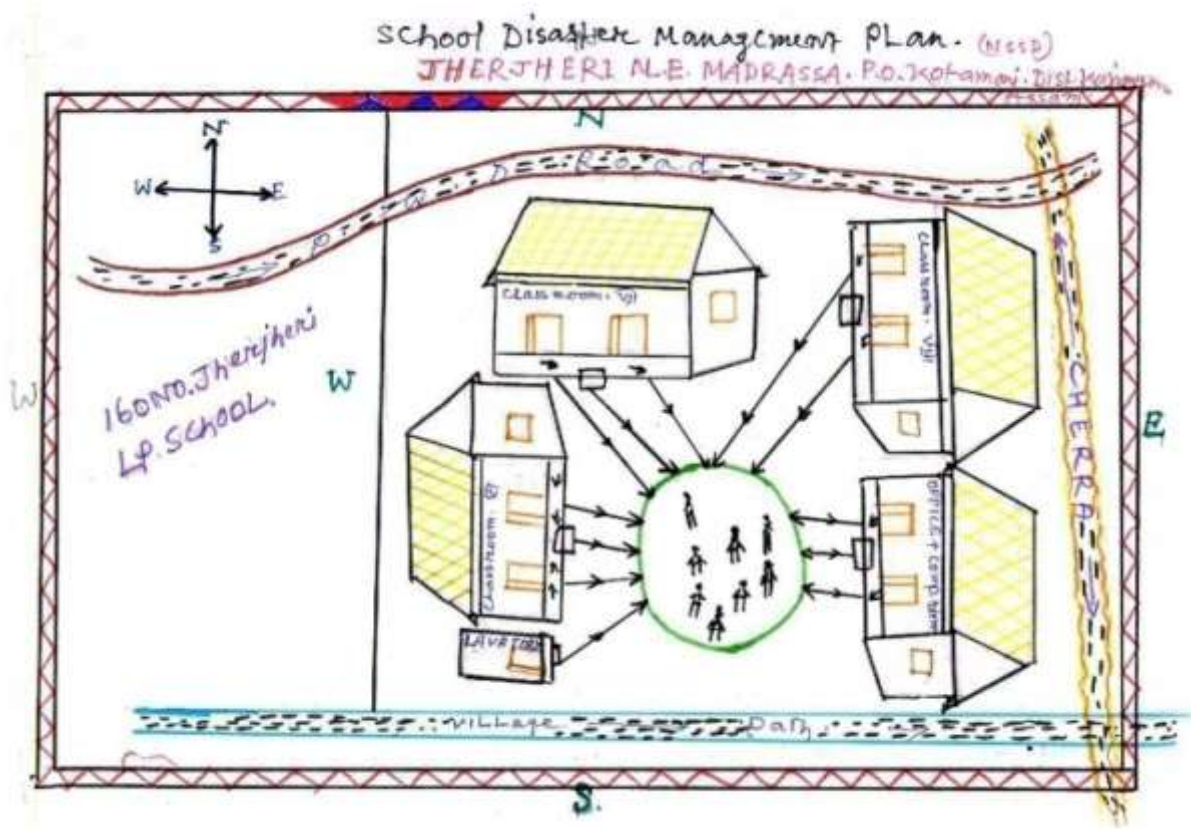
part of the NSSP that NDMA will be implementing in 8600 schools from 22 states/ union territories of India falling in seismic zone IV or V. The template is also available on http://www.ndma.gov.in/images/pdf/school_safety/link3.pdf

Linking HFA Priorities to Child focused Programming[53]	
HFA Priority	**Child Focused Programming Application**
1. Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation.	• Gain support from, and create active links with local and state institutions, and DRR agencies to promote disaster risk reduction education (in rehabilitation, recovery, and development activities) in schools and child friendly (or child centered) spaces • Provide classes to children on disaster management • Facilitate education sessions for children to be led by DRR agencies, government departments, hospitals, fire department and police to raise awareness • Facilitate school field trips to related departments such as disaster management centre, health centre, weather department and other local agencies • Create awareness-raising materials (make them available in local languages) and publications and disseminate them at local, state, national and regional levels • Work directly with local communities and children, assess human resource capacities (e.g. children) and promote community participation. • Build network of schools to share experiences and resolve challenges in collaboration with local authorities
2. Identify, assess and monitor disaster risks and enhance early warning.	• Provide training to children in order to strengthen their capacity for identifying hazards, reducing risks, and enhancing early warning mechanisms. • Involve children in risk identification, mapping, and monitoring disaster risks at community or school level. • Children can participate and/or lead School Safety or Community Hazard Assessments to identify specific hazards, capacities, and opportunities. • Display hazard map on school buildings or walls in community. • Use early warning tools such as television, telephone, and newspaper. • Remain in contact with related departments that can provide early warning information.

[53] Mainstreaming child-rights in Disaster Risk Reduction, A practical guide for development practitioners and humanitarian workers, based on Bihar Floods 2008, December 2009

3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.	• Conduct awareness-raising activities with children and community. • Impart knowledge through education to children, school staff, local volunteers, and community to build a culture of safety by spreading scientific awareness. • Utilize school platforms to spread knowledge and conduct activities. • Develop local slogan for children related to key issues. • Provide up-to-date IEC tools related to specific hazard risks. • Provide local language material with local photographs. • Use games, drama, songs, films, puppet shows, drawing, and other art forms to spread knowledge. • Organize school exposure visits to best practice schools. • Assign responsibilities and roles to children and other community members for safety and resilience. • Partner with local government departments and civil society organizations, and involve a range of institutions in building a culture of safety at multiple levels.
4. Reduce the underlying risk factors.	• In addition to identification of risk factors, implement program activities such as mock drills, formation of child-led disaster task force, local risk mapping, structural improvements to buildings and practical disaster response and DRR plans. • Create student clubs to raise awareness and monitor and reduce disaster risks. • Raise awareness on risks in schools such as fire, tree, and electrical hazards. • Conduct regular drills and follow-up education sessions. • Organize regular disaster management task force meetings to review risks and progress. • When hazards can be anticipated such as monsoons, take necessary preparations such as storing food and setting up water purification systems to reduce risk for children and their families.

5. Strengthen disaster preparedness for effective response at all levels.	• Local capacity building trainings provide the knowledge, skills, and tools for disaster preparedness at all levels. • Provide local support to schools and communities such as fire extinguishers, first aid kits and IEC displays. • Case studies have demonstrated that children share awareness and preparedness practices with their families, including lessons on what to do before, during and after disasters. • Build safer schools and create disaster response plans for school and community level. • Create local DRR centres operated at school or community centres and give children important positions. • Integrate DRR activities with Block Resource Centre (BRC). • Integrate science curriculum with DRR education. • Conduct regular practical drills such as fire safety, first aid, earthquake, etc.



School Disaster Management Plan in Kamrup, Assam.

Case Study

Student Safety Insurance: A Success Story

Insurance is an emerging tool in disaster mitigation. The Campaign targets children from India's most vulnerable communities.

In 1990, Francis decided to migrate to India from Sri Lanka; the conflict situation near his home was growing worse. He came to the state of Tamil Nadu and took refuge along with many other families in Mudaliyarkuppam village. After some time he married Vijayalakshmi, a girl from his community. Their family grew quickly, with four sons born in a relatively short period of time. Francis began working as a labourer at a church three kilometers from his new village while Vijayalakshmi took care of the children and household responsibilities.

On December 4, 2006, Francis took his family to visit his mother. The children had grown—the youngest son, Gana, was now studying in 4th standard. The kids were always excited to see their grandmother, who gave them each a little money to spend on their own. Gana was looking forward to buying some chocolate, one of his favorite treats. While returning to their village they saw a shop across the road and Gana asked his father if he could go to purchase chocolate for himself and his brothers. As he ran across the street a speeding car struck him, knocking him off the road. The driver fled the scene. Gana was covered in blood. Francis and his wife, in a state of panic and intense distress, rushed Gana to a local hospital, the Puducherry Institute of Medical Science.

Gana was under observation and treatment for two days as he battled for life. He underwent all kinds of tests, scans and treatments. In his state of grief, Francis also had to struggle for money; medical bills were approaching 20,000 Rupees. Borrowing from relatives, friends and others, he managed to obtain the money at a total yearly interest rate of around 10%. But after two days Gana was dead. With his wife and remaining three sons mourning and crying, Francis was joined by other community members to cremate the body.

After his son's death, Francis spent another 10,000 Rupees on various formalities and preparations. The now 30,000 Rupee total was an enormous debt that he would be

unable to pay with his present salary. He found it difficult to focus on his work, as did his wife, and his three sons, all of them excellent students, lost their ability to concentrate on their studies.

Gana had been a student at the Panchayat Union Primary School of Mudaliyarkuppam village. This school is one of the 30 tsunami-affected schools in Tamil Nadu covered under the Student Safety Insurance Policy arranged by AIDMI's Child's Right to Safer Schools Campaign. The policy covers students and teachers alike for harm inflicted by any type of accident or disaster. It covers them in and out of school, 24 hours per day, 7 days per week. After being informed of Gana's death, AIDMI immediately initiated the claim process. As per the insurance plan, Francis was entitled to 27,500 Rupees for life insurance and medical expenses reimbursement.

Neither AIDMI nor anyone else can alleviate the immense sorrow brought about by the death of a family member. Yet the insurance plan—which covered Gana for a premium of just 17 Rupees per year—protected Francis and his family from a financial burden that would likely have kept them impoverished for the rest of their lives. It gave them the means to keep Gana's brothers in school, rather than forcing them to drop out and work to support the family. While we cannot put a price on life or health, we can recognise the pertinent financial issues that stem from death and injury, and their potential to have significant impacts on the lives of loved ones. All students in India are vulnerable to accident and disaster. It is important that we mitigate these risks to promote the welfare of vulnerable communities and families throughout the country.

School Disaster Management Plan in Sibsagar, Assam.

Facilitator's Note

1. Suggestions for Trainers Prior to Training

Although the most effective trainers are able to address the emerging needs of trainees in a flexible manner, the following notes offer a basic outline of activities that trainers may use to lead trainings. To prepare for session, trainers may find it useful to:

- Review the chapter learning objectives listed above,
- Review the suggested methods and activities listed below,
- Assess the anticipated knowledge needs, interests, and constraints of trainees,
- Identify additional potentially effective activities suitable for their particular trainees,
- Review related background literature on the Disaster situation in India and Vulnerability of Schools; this can include but is not limited to the additional resources listed at the end of the module.
    - Prepare your own notes so that you may convey the relevant information in a way that is comfortable for you.
    - Do not feel constrained by the information on the slides-this is merely a guide for you.
- Prepare materials for the training, including:
    - PowerPoint or other presentation materials including revisions if desired
    - Print-outs or any other necessary handouts
    - Tools and props needed for activities
    - Rewards or treats to encourage involvement and participation

2. Suggested Methods and Activities

Introduce the chapter using the title and objectives pages. This should only take a matter of a few minutes.

Move on to explain the contents of the presentation, topic by topic, so that the participants understand what will happen in the next hour and a half.

Start your presentation on school disaster preparedness and response planning. Introduce the basic components of the plan. Form groups and ask each group to outline a disaster management plan using the outline given in the module in context to the risks, vulnerabilities and capacities in and around their respective schools. Ask groups to share outcomes of their group work with the facilitators and other fellow participants for inputs and update; and conclude your presentation with analysis and practical tips on improvising and updating school disaster management plan.

Notes:

Guidelines on Conducting Mock Drills on Floods and Earthquakes

5

Objective: At the end of this session the participants

- Will know how to conduct mock drills
- Will understand the methods of conducting mock drills for earthquakes and floods
- Will experience a practical session of the mock drill

Total Time: 2 hours and 30 minutes

Topics	Methodology	Materials
Mock Drill	• To show a video on School Safety • Actual conduct of Mock Drill	• Video: School Safety Video CD 24 min • Whistles • Colour chalks

5. Guidelines on Conducting Mock drills on Floods and Earthquake

5.1 Mock Drills[54]

A Mock Drill is the testing of the efficacy of the Disaster Management Plan. A lot of homework needs to be done in order 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 if 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.

Conducting mock exercise with active participation of children leads towards better preparedness and lesser loss to human lives.

The mock drills can be classified into two types**:**

Pre-announced Drills: When the staff, teachers and students are expecting a mock drill, it is called a Pre-announced Drill. 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.

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.

[54] http://hpsdma.nic.in/Mock%20Drills-%20Guidance%20Note%20for%20Schools%20(29-03).pdf

Sequencing a School Safety Mock Drill

- Head of the School or Management or Security department, if any, acts as Incident Commander. Supervisors give command to the rest of the teams. Class teacher and one assisting teacher perform the safety drill in their respective class rooms and corridors. The remaining assisting teachers act as evaluation team members.
- Two teams to be formed of 10-15 members each from among the group of volunteers available (both males and females) such as parents, senior students, friends and relatives of staff. One for Search and Rescue (S&R) operation and the other for First Aid (FA) activities.
- Incident Commander gives instruction to Peon to ring the bell with unusual sound for one minute (60 seconds).
- All teachers, students and other staffs will make drop cover hold position till the end of bell. Drop (kneel) down to the desk/table, hold one leg of desk/table tightly and put one palm/bag/book on back of the head.
- Safety evacuation of the students as per the instruction of the class teacher and an assisting teacher with a planned and disciplined manner by putting bag on the head to pre-identified open field and stand class wise queue. This process will be done in 5 minutes.
- In the next two minutes time class teacher will make head count and tally with the attendance sheet and inform to the Supervisor if anybody is absent
- Supervising will give command to S&R Team (for rescue of the missing students from particular class.
- In the next five minutes, the rescue operation would be carried out by the S&R team. They may split into different classes as per requirement. The S&R team will hand over the injured victims to the FA team.
- The FA team will perform the first aid activities if needed as per the command of the Supervisor. This will take another five minutes.
- Evaluation Team will submit the report to Incident Commander within 2 minutes
- De-briefing of Incident Commander with all teachers and Students for 5 minutes.

We now proceed in providing some guidelines and procedures on how to conduct mock drills that cover floods and earthquakes.

5.2 Mock Drills on Floods

Source: The Hindu

Alarm Operation

When it is announced that floods are pending, immediately activate the distinctive alarm by operating the nearest alarm call point. The alarm should ring differently than the normal school bell. Preferably it should not be electricity operated.

Evacuation and Assembly

- Upon hearing the alarm, pupils must be instructed to leave the building in single file and in a calm, orderly manner.
- The person in-charge of each class must indicate the exit route to be used and everyone must be directed to pre-identified evacuation areas.
- Specific arrangements must be made for students with physical or mental disabilities to ensure that they are assisted during evacuation.
- No running is to be permitted to avoid panic and stampede.
- On staircases, everyone must descend in single file. Overtaking of classes or individuals must not be permitted. 2 files can be permitted on wide staircases.
- Anyone who is not in class when the alarm goes off must go immediately to the assembly point.
- At assembly point, the students should stand according to their Roll Number.
- At the assembly point, a roll call or body count must be made to ascertain that no one remains in the school premises.
- Each teacher must report whether everybody is accounted for or if there are missing students.[55]

5.3 Mock Drills on Earthquakes

Alarm Operation

A pre-arranged distinctive signal such as a siren or bell is set off indicating earthquake shaking. Pupils and teachers will be alerted by this signal.

[55] NARRI (National Alliance for Risk Reduction and Response Initiatives), Revisiting the Flood Mock Drill through camera lens

Response

- While the signal is ongoing, move away from windows, glass and unfastened objects.
- Everyone should perform **"drop, cover and hold"** under tables, desks or chairs until the "shaking" signal stops.

- School bags can be used to protect head where sufficient number of desks are not available or where there are no desks at all.
- Door mentor should hold the door open to prevent it from locking the people inside.
- If outside, get clear of buildings, power lines, trees, light poles and other dangers, dropdown to your knees and cover your head and neck.[56]

School Safety and Crowd Management

Schools are considered potent hubs of capacity building for children as they nourish the future of any country. These are the place where children of a nation acquire skills which equip them to face the challenges of adulthood. Since, a school may house many children at a time and since these numbers translate into huge gatherings and congregations at schools, proper procedures and practices to regulate such crowds becomes indispensable.

Crowd Management is an important aspect with respect to school safety which cannot be undermined in any respect. Schools are vulnerable to different disasters like earthquake, stampede, fire accidents etc. which needs to be handled with effective crowd management skills. The aspect that raises the concerns may be with different age groups of the students, the level of understanding, numbers of total students (enrollment) in the school, level of preparedness etc. Here we need to mention the role of an effective evacuation plan with a systematic crowd handling plan in the school. A well designed evacuation route and floor-wise evacuation map plays a vital role in the safe and fast evacuation of the school crowd.

Management of crowd is such an aspect of the larger whole which becomes a necessity for the safety of children. Generally, safety is looked at from the point of

[56] GOI, Ministry of Home Affairs, National Disaster Management Division, School Safety (Version 1.0)

view of threats or hazards which are defined as potential causes that can bring in injuries and life loss as well as damage to infrastructure. However, having said so, stampede forms the top priority in almost all settings where crowd gathering is involved either occasionally or frequently. But a school is a place where crowd gathering of minors is a routine phenomenon. Each school has set up its own system of controlling and guiding the behavior of crowds of children whether during assembly hours or at any other function. However, when emergency incidents are considered, it becomes essential to chalk-out the formalities with proper standard operative procedures (SOP) in this regard. Crowd Management is expected to look at all possible ways that can avoid such a chaotic situation.

Mock Drills (a simulation drill of a real situation of an emergency) provide schools with an opportunity to visualize images of emergency scenario and how the crowd will move and open up an opportunity to strengthen the crowd management and evacuation plans. Discipline and control, system and coordination, responsibility and leadership are key concerns for effective crowd management planning in schools. The ability to visualize and handle nerves when crowd are left with panic, hue and cry requires skill, confidence, decision making power and self belief among those responsible. *(Source: Southasiadisasters.net issue no. 107, March 2014, AIDMI)*

Facilitator's Note

1. Suggestions for Trainers Prior to Training

Although the most effective trainers are able to address the emerging needs of trainees in a flexible manner, the following notes offer a basic outline of activities that trainers may use to lead trainings. To prepare for session, trainers may find it useful to:

- Review the Chapter's learning objectives listed above,
- Review the suggested methods and activities listed below,
- Assess the anticipated knowledge needs, interests, and constraints of trainees,
- Identify additional potentially effective activities suitable for their particular trainees,
- Review related background literature on Disaster Situation in India and Vulnerability of Schools; this can include but is not limited to the additional resources listed at the end of the module.
    - Prepare your own notes so that you may convey the relevant information in a way that is comfortable for you.
    - Do not feel constrained by the information on the slides-this is merely a guide for you.
- Prepare materials for the training, including:
    - PowerPoint or other presentation materials including revisions if desired
    - Print-outs or any other necessary handouts
    - Tools and props needed for activities
    - Rewards or treats to encourage involvement and participation

2. Suggested Methods and Activities

Introduce the chapter using the title and objectives pages. This should only take a matter of a few minutes.

After initial discussion on importance and needs of mock drills, participants can be oriented with a video show on mock drills in schools. This will help them gain confidence and reduce hesitation to impart in and leading the mock drill in their respective schools. Mock drills may be executed in 3 stages to bring improvisation among the participants. It will also raise confidence among them.

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6

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For more information:

- **National Disaster Management Authority**
  A-1, SAFDARJUNG ENCLAVE, NEW DELHI-110029
  Phone: 011-26701700 Website: http://www.ndma.gov.in

- **Assam State Disaster Management Authority**

  Government of Assam
  Assam Sachivalaya Complex, Dispur, Guwahati-781006
  Assam, India Website: http://assamgovt.nic.in/

Emergency Response[57]

IMPORTANT PHONE NOS. REVENUE AND DISASTER MANAGEMENT DEPARTMENT (Assam) State Level				
1	State Control Room	--	1070 **	
2.	District Control Room	--	1077 **	
(** Add the STD code, while calling from other places)				
Sr. No.	**Name and Designation**	**Code No.**	**Phone No.**	**Mobile No.**
1	Shri. S.C. Das, IAS, Addl. Chief Secretary Revenue and Disaster Management Department.	0361	2237054	099549-44044
2	Shri. Ajay Tewari, IAS, Chief Executive Officer	0361	2237221/ 218	
3	Smti. N. Hazarika, Dy. Secretary & State Project Co-ordinator	0361	2237010	094355-47642
Assam State Disaster Management Authority (ASDMA)				
Sr. No.	**Name and Designation**	**Mobile No.**		
1	Ranjan Kumar Borah, Project Officer(DRR)	09954124742		
2	Ms. Sushmita Dutta, Project Officer (Awareness Generation)	09854365159		
3	Ms. Bhupali Goswami, Project Officer (Training & Capacity Building)	09435732541		
4	Ms. Kakoli Acharya, Project Officer(A&G & DRR)	09864221122		
Sr. No.	**Hospital**	**Code No.**	**Phone No.**	
1	Gauhati Medical College & Hospital	0361	2529457/ 2529561	
2	M.M.C. Hospital	0361	2543998	
3	Down Town Hospital	0361	2331003, 2336906, 2336911	
4	G.N.R.C. Hospital	0361	2227700, 2227703	
5	Sankardev Netralaya	0361	2305516, 2228879, 2228921	

[57] http://sdmassam.nic.in/emergency.html

6	Redcross Hospital, Chandmari	0361	2451062
7	B. Barooah Cancer Hospital	0361	2472364 / 2472366
8	T.B. Hospital	0361	2540193
Sr. No.	**Fire Brigade**	**Code No.**	**Phone No.**
1	Panbazar Fire Brigade	0361	2540222
2	Dispur Fire Brigade	0361	2260221
Sr. No.	**Ambulance**	**Code No.**	**Phone No.**
1	G. L. P. Publication	0361	2544357
2	Marowary Yuva Manch	0361	2542074 / 2547251
3	Lion's Club	0361	2545220
Sr. No.	**Dead Body Carrying Van**	**Code No.**	**Phone No.**
1	G. L. P. Publication	0361	2737373
2	Marowary Yuva Manch	0361	2547251

Deputy Commissioners (District wise) of Assam[58]

Sr. No.	District	Name of Deputy Commissioner	Office	Mobile	Email
1	Baksa	Shri Babul Chandra Barbarua, ACS	03624-234524/ 234556(f)	09435118553 09678085617	dc-baksa@nic.in
2	Barpeta	Shri Siddharth Singh, IAS	03665-252129	09435026088	dc-barpeta@assam.nic.in
3	Bongaigaon	Shri S P Nandy, IAS		09435125459	bongaiga@nic.in
4	Cachar	Shri Harendra Kumar Dev Mahanta, IAS		09435015639	dc-sibsagar@assam.nic.in
5	Chirang	Shri Puru Gupta, IAS	3664241103(f)	09957173933	dcchirang@gmail.com
6	Darrang	Shri Sohrab Ali, IAS	03713-222135	-	dc-darrang@assam.nic.in
7	Dhemaji	Shri M S Manivannan, IAS	03753-224208	-	dnmias@yahoo.com
8	Dhubri	Shri Kumud Chandra Kalita, ACS	03662- 230050 230419	-	dc-dhubri@assam.nic.in
9	Dibrugarh	Smti Aruna Rajoria, IAS	0373-2316063/ 2316034(F)	-	dio.dibrugar@nic.in
10	Dima Hasao (N.C. Hills)	Shri Barun Bhuyan, ACS	03673-236222	09435077265	nchill@nic.in
11	Goalpara	Shri Preetam Kr Saikia, IAS	03663-240030	-	dc-goalpara@assam.nic.in
12	Golaghat	Shri Sanjib Kr Gohain Barua, ACS	03774-80222/03774-280455(F)		dcgolaghat@yahoo.co.in
13	Hailakandi	Shri S Thiek, ACS		09435379600	spk.bora@nic.in
14	Jorhat	Shri R.C. Jain, IAS			dc-jorhat@assam.nic.in
15	Kamrup	Shri Supriya Kr Roy, ACS		09435340540	dc-kamrup@nic.in
16	Kamrup (Metro)	Shri Ashutosh Agnihotri, IAS		09435028800	
17	Karbi Anglong	Shri Prasanta Kr Buragohain, ACS	03671-272257	-	dc-kanglong@assam.nic.in, angamuthuias@yahoo.com
18	Karimganj	Shri Debeswar Malakar, ACS	03843-262345	-	dc-karimganj@assam.nic.in
19	Kokrajhar	Shri Jayant Narlikar, IAS		09435179871	dckokrajhar@rediffmail.com
20	Lakhimpur	Dr Anwaruddin Choudhury, IAS	03752-222196	09435006000	dc-lakhimpur @nic.in
21	Morigaon	Shri Solanki Vishal Vasanth			
22	Nagaon	Shri Pratibandla Ashok Babu, IAS	03672-233185	09435091114	dc-nagaon@assam.nic.in
23	Nalbari	Shri Lalit Gogoi, ACS	03624-220496	-	nalbari@nic.in
24	Sivsagar	Shri Jatindra Lahkar, ACS	-		dc-sibsagar@assam.nic.in
25	Sonitpur	Shri Tapan Chandra Sarma, ACS	03712-20005	-	dc-sonitpur@assam.nic.in
26	Tinsukia	Shri S.S. Meenakshi Sundaram, IAS	-	-	absarh@yahoo.com
27	Udalguri	Shri Thaneswar Malakar, ACS	03711-224433	09435184777	dc-udalguri@assam.nic.in

[58] Official website of Government of Assam; http://assamgovt.nic.in/districts/district.asp?disp=govtoff&distId=1to25

List of District Project Officers of District Disaster Management Authority, Assam[59]

Sr. No	District	District Project Officer	Mobile	Email
1.	Kamrup Metro	Kaustav Talukdar	09401054679	kaustavtalukdar07@gmail.com
2.	Barpeta	Jayanta Dutta	09854319378	mail2dpojayanta@gmail.com
3.	Kamrup (rural)	Jagadish Bhattacharyya	09864116646	jagadish.bhattacharyya@gmail.com
4.	Goalpara	Hemanta Baishya	09854082113	baishyahemanta@yahoo.co.in
5.	Baksa	Dhanjit Kumar Das	09854013167	dhan2881@gmail.com
6.	Darrang	Joydeep Choudhury	09435088805	joydeepboomba@rediffmail.com
7.	Nalbari	Ananta Samanta	08486666701	anantasamant@gmail.com
8.	Dhemaji	Lohit Gogoi	09577550399	lohitecology@gmail.com
9.	Jorhat	Pran Krishna Gogoi	09864855138	pran_gogoi@yahoo.com
10.	Lakhimpur	Dr. Rajib Dutta Choudhury	09435023991	rdchowdhury@gmail.com
11.	Dibrugarh	Dipjyoti Hatikakati	09678468787	ddmadibrugarh_2010@yahoo.com
12.	Cachar	Shamin Ahmed Laskar	09435374141	shamim.laskar@gmail.com
13.	Kokrajhar	Bijayanta Goswami	09435238099	bij_goswami@rediffmail.com
14.	Tinsukia	Smita Chetia	09678069458	chetia.smita@gmail.com, ddmatinsukia@gmail.com
15.	Hailakandi	Siju Das	09401094232	sdrddas05@gmail.com
16.	Chirang	Kusumbar Choudhury	09854365159	kusumbar@gmail.com
17.	Sibsagar	Rupam J.Borah	09859032678	ddmasivasagar@gmail.com
18.	Nagaon	Sanjib Kr. Das	09854735679	sanjibdas83@gmail.com
19.	Bongoigaon	Pankaj Kr.Choudhury	09435021517	pankaj.choudhury1@gmail.com
20.	Dhubri	Sarfaraz Haque	09678947408	ddmadhubri@gmail.com
21.	Golaghat	Ronney Rajkumar	09435292948	ronney.rajkumar@gmail.com
22.	Morigaon	Minakshi Das	09854449226	minakshida56@gmail.com
23.	Sonitpur	Ruby Gogoi	07399132531	rubygogoi.digboi@gmail.com
24.	Karimganj	Ikbal Hussain Laskar	09954140710	ikbal.laskar@gmail.com
25.	Dima Hasao	Md. Ahmed	09401591404	ahmedmd2008@gmail.com

[59] Official District websites http://assamgovt.nic.in/districts

Annex 1

National Disaster Management Authority

Checklist for Non-Structural Elements in Schools under National School Safety Programme

S.No	Potential Hazard	Check if item is present	Does item need to be moved	Anchored?	Total Items
	Architectural/Outside				
1	Stone Wall Cladding	☐	☐	☐	
2	Spalling of Cracked Cement Plaster	☐	☐	☐	
3	Broken Sun Shade	☐	☐	☐	
	Furniture & Equipment	☐	☐	☐	
4	Bookshelves	☐	☐	☐	
5	Storage Cabinet	☐	☐	☐	
6	Display cupboards/Almirah	☐	☐	☐	
7	Filing cabinets	☐	☐	☐	
8	Laboratery Equipment	☐	☐	☐	
9	Computer Equipment	☐	☐	☐	
10	Black/Green Boards	☐	☐	☐	
11	Ceiling Fan	☐	☐	☐	
12	Fire Extinguishers	☐	☐	☐	
13	Storage cabinets	☐	☐	☐	
14	Sound equipments	☐	☐	☐	
15	Kitchen Equipment	☐	☐	☐	
16	Computer/Printer/Photocopy Machine	☐	☐	☐	
17	Moveable Wooden Partition	☐	☐	☐	
18	Standing wooden Sinage				
	Ceiling and Overhead:				
19	Light fixtures	☐	☐	☐	
20	Coolers	☐	☐	☐	
21	Water Tank	☐	☐	☐	
22	Flower Pots	☐	☐	☐	
	Wall Mounted Items:				
23	Shelves	☐	☐	☐	
24	Pictures Frame	☐	☐	☐	
25	Wall-mounted cabinets	☐	☐	☐	
26	Wall-mounted gadgets	☐	☐	☐	
27	Equipment, LCD TV	☐	☐	☐	
28	Air Conditioner	☐	☐	☐	
29	Acqua Guard Wall Mounted	☐	☐	☐	
	Other				
30	Aquarium	☐	☐	☐	

School DM Plan Model Template-
National School Safety Programme (NSSP)

Section 1: Introduction:

a. School profile *(attached format in annexure-I)*
b. Aim and Objective of the plan
c. Geographical location of the school.

Guidance Note:

- This section of the plan will provide information relating to the school as per details given in Annexure-I It should also mention the objective of the plan, the stakeholders who will be using the plan and members who would be responsible for implementing, reviewing and updating the plan.
- This section can also include a map of the school.

Section 2: Hazard Risk and Vulnerability Assessment

a. Non-structural assessment *(can be done practically by all teachers and select students in a group exercise)*
b. Structural assessment (to be done by a Civil Engineer, Licensed Building Surveyor)
c. Identification of hazards outside the school campus (Road Safety, Industrial Hazard, Chemical hazard,open drain flooding etc).
d. Database of past disasters/accidents which has affected the schools.
e. Identification of vulnerable locations within the school campus
f. Summary of the key findings and identifications of action for mitigation.

Guidance Note:

This section of the plan will focus on identifying the various vulnerable areas within the school building as well as the probable risks arising out of structural and non structural elements.

For identifying non-structural and structural weakness in the school building a committee may be constituted comprising members of School Administration(including Physical Education Teacher) , officer from nearest fire station/Civil defence post warden, Health Service Provider (doctor/nurse/ health worker) from nearest health centre/hospital/nursing home, officer from the nearest police station, engineers from PWD,SSA ,Municipal Corporation/Zilla Parishad who may help in identifying the structural and non-structural weaknesses in the building. Likewise this committee can also identify hazard outside the school campus particularly the hazard related to road/traffic outside the school building, industrial (Chemical Hazard) which may be due to location of such an industry in vicinity of the school.

This *Hazard hunt* activity will help in identifying some of the obvious risks like improper location of electricity panel in the school, open electricity panels, live wire if any, improper placing of cupboards and furniture, obstruction in the escape route or object that can fall during the Earthquake such as glass panel, flowerpot etc.

This section of the plan can also document or provide details of any past disaster that had affected the school or in the vicinity of the school.

Section 3: Preparedness

This section of the plan should include the following:

a. **Constitution of school DM Committee Composition of the Core Team and its roles and responsibilities during different phases.**

b. **Constitution of sub team and** identification of roles and responsibilities of each of the sub teams/ task force, before, during and after disaster. The school may comprise of the following teams/task forces.

   i. *Awareness Generation , Warning and information dissemination team.*
   ii. *Evacuation team.*
   iii. *Search and rescue team (only teachers to be member of this team)*
   iv. *Fire safety team*
   v. *First aid team.*
   vi. *Bus safety team (for each bus) - wherever applicable.*
   vii. *Site security team.*

Guidance Note:

This section of the plan will focus on Preparedness. Higher Level of preparedness for disaster helps to minimise the loss of life and prevention of injures caused particularly during earthquakes for which there is no warning. However certain other hazards like flood, cyclone etc do have early warning system thereby giving some time for taking response. Children being the future of tomorrow should be ensured a safe learning environment and prepared well to respond effectively during disasters. To put this into practice it is recommended that every school constitute a School Level Disaster Management Committee along with sub committees to ensure better preparedness and response in disasters. The various committees constituted in a school will comprise of members from among teachers, non teaching staffs as well students. However for certain committee like search and rescue students are not recommended. The recommended structure for a School Disaster Management Committee is as follows:

1. Chairperson: Principal
2. Vice Principal, Heads of primary and middle sections
3. Education Officer / Deputy Education Officer for the zone
4. Parent Teacher Association President
5. 4 Students (NCC, NSS, Scouts and Guides, Head Boy and Head Girl)
6. Representative of Relief/ Revenue/ Disaster Management Department/ District Administration/ Municipal Corporation
7. Representative of the Fire Services (from Closest Fire Station) or Civil defence personnel.
8. Representative of Police (from Closest Police Station)
9. Representative of Health Department (Local Doctor)
10. A Warden from Civil Defence

The sub committees mentioned below will work under overall supervision of school DM Committee(SDMC).Following sub committees can be constituted

- Awareness generation and warning and information dissemination team.
- Evacuation team.
- Search and rescue team (only teachers to be member of this team)
- Fire safety team
- First aid team.
- Bus safety team (for each bus).
- Site security team.

For First Aid and Site Security team the representative of nearest Police Station, Hospital/health services and fire station may be identified. The roles and responsibilities of these committees during disaster as well as peace time need to be defined clearly.

c. Resource inventory

i. Listing of resources available inside the school campus: which could be used during any disaster situation for effective response.

ii. Identification and listing of resources outside the school within vicinity of one-five kilometres

a) Nearest hospitals Health Centre for emergency treatment.

b) Police Station.

c) Fire station.

iii. **Updation of important telephone numbers in Principal's room**

iv. **Critical health problem record** of each child to be maintained by school and also displayed on his I-Card with blood group along with **Updated contact details** of parents/Guardian and alternate contact persons.

v. **Disaster preparedness check-list**.(Attached in Annexure-II)

d. Mechansim for alerting students and teachers during school time including installation of alarm.

e. School Map with evacuation plan in place (Attached in annexure-III).

f. **Annual calendar for conducting various preparedness activities** along with plan to implement it. This will include the list of various awareness generation programmes to be conducted by the school annually.

g. **Action plan for conducting Mock drills** and development of a checklist to identify the gaps

h. **Steps for Updation of DM plan**-indicating the timeline and the process of doing it along with the roles of teachers and other non teaching staffs.

Guiding note for Resource inventory:

As part of preparedness exercise, each school must develop a School DM kit. It is suggested that a network is established by the school management with the nearest hospital /health centre/ health worker for help in case of emergency. The suggestive list of items which could be procured for School DM kit been listed below. However, it is suggested that each school must have provision for other external resources (grants given by the State Government like MPLADs/MLALADs etc) to strengthen this resource list further.

i. Stretcher.
ii. Ladders.
iii. Thick rope.
iv. Torch.
v. First-aid box.
vi. Temporary shelter(tents and tarpaulins)
vii. Sand buckets.
viii. Fire Extinguishers.

} Provision of School DM kit.

School map with evacuation plan:

It is recommended to prepare a floor wise evacuation plan and display it prominently at the notice board at each of the floor. The evacuation plan may be discussed by the evacuation team with the teachers and students to generate awareness to help conduct mock drill. (A sample Evacuation Map is attached for reference as Annexure III)

Guiding note for Mock drill

Mock drills are the way of listing the preparedness plan .It is one of the last steps in preparedness. The mock drill on earthquake, fire etc may conducted at periodic interval preferably once in every six months and the deficiencies may be assessed for updation of the plan. This section of the plan should clearly indicate the steps to be followed to conduct the mockdrills and the responsibilities of the teachers, non teaching staffs and students. If required school should invite the Fire Service Officers and trained Civil Defence volunteers for support. The steps to be followed for earthquake drill mentioned below.

Earthquake drill:

i. Practice drop, cover and hold.
ii. Evacuate classroom in less than 1 minute without pushing and falling.
iii. Evacuate school in less than 4 minutes using different exit.
iv. Lookout for friends.
v. Stay away from weak areas/structures.
vi. Help those who need assistance *(identification of task force in advance for rescue of special children).*

Fire/Chemical Accident/Drill:

i. Evacuation from classroom

ii. Ensure safe storage of inflammable liquids/chemicals.

iii. Put off electricity and remove or close down gas connections.

i. **Capacity building and training**:

Capacity Building and training of students teachers is an important step to ensure safety of school going community in a disaster situation. Every year appropriate number of teachers and students may be trained in various skills of disaster management.

Action plan for training of teachers, non teaching staffs and students on DM including all the task force constituted and also organising refresher course. This can also include documentation of details of trained teachers and students.

j. **Awareness generation and sensitization:**

Awareness generation/sensitization is a part of preparedness measures aiming at sensitising and educating all the stakeholders including students, teachers and officials/parents issues relating to school safety.It is suggested that an annual calendar of events may be prepared including various activities involving students/teacher etc where experts from outside may also be invited for giving their opinion on school safety issues.

Some of the measures which could be undertaken by the school management for creating awareness are as follows:

a. Through poster, audio-visual clips, organizing debate, quiz, sports activities, drawing competition, rally in schools.
b. Display of important information on school notice board including school evacuation plan and weather clipping.
c. Conducting seminars and lectures on making the learning environment safer and involvement of Parents in such seminars.
d. Observing a month of safety in the year calendar of school as *Preparedness month*.

Section 4: Response:

a. Hazards specific response plan including Crowd Management to avoid stampede on special days like annual functions, sport day etc.

b. Alternate arrangement for continuation of school education. (Delivery of education during and post disaster situation particularly in cases where the school will be used as relief shelters).
c. Reporting of Emergencies/Disasters to the Government.
d. Special provision for specially abled children.

Guidance Note:

This section of the plan should be very precise, crisp indicating the various roles and responsibilities of teachers, non teaching staff and students during disaster situation. The plan should clearly mention the steps to be followed in case of an earthquake, fire, flooding, cyclone or such emergent situation like stampede or health problems faced by any student. The plan should include all the steps to be taken up by the school management to ensure safety of the child including their safe evacuation from the affected site till the child is handed over to the parents. It will also include all other steps to be taken up by the management to ensure supply of essential services in the school like power, water and food and basic first aid during a disaster and immediately after it.

Section 5: Mitigation measures

a. Listing of various Non-structural measures to be undertaken in the school along with timeline.

i. Ensuring clear passages, stairway which are to be used as evacuation routes.
ii. Chemistry labs- the bottles used for storing the chemicals are secured and protected against shattering.
iii. Fixating of *Almirahs* to the walls of staff room.
iv. Securing fans and light from ceiling.
v. Fire safety measures.

b. Safety audit

i. Electric safety audit-checking of the electrical system by an electrician.
ii. Fire safety audit- checking for possible sources of fire and identifying inflammable items within the school.
iii. Inspection of quality of food getting served during mid-day meal.

iv. Audit of purity of water supply in school.

v. Inspection of the hygienic conditions in kitchen and washrooms.

Guidance Note:

This section of the plan will focus on various mitigation measures to be undertaken by the school. Mitigation Planning is a long term exercise and hence it is essential to divide the strategy prioritizing the actions along with definite timeline.It is also necessary to prioritise the actions based on the nature of the threat and its potential to cause injuries and loss of life. Some of the non structural mitigation measures like anchorage of almirahs, clearance of the exit routes, relocation of the storage of laboratory items, installation of warning alarms could be done immediately by incurring minimal cost , some other mitigation measures like major structural repair work will require more time and fund commitments.

As a part of mitigation action, school should also undertake periodic fire and electrical safety checks by involving officials from Electricity Department/ board, Fire Services, PWD etc. Other measures like testing of purity of drinking water and hygienic conditions in the school should also be undertaken.

(Annexure-I)

Details of School Profile

1. Name of School and code number provided by Department of Education
2. Postal address with pin code.
3. Contact number-
4. Number of teacher - Male _____ Female _____
5. Number of students – Male _____ Female _____
6. Number of differentially able students: Male _____ Female _____
7. Specify the type of disability-
8. Date of Construction of School building-
9. Number of Buildings in the school compound-
10. Number of classrooms –
    - Number of Chemistry laboratory
    - Number of Physics laboratory
    - Number of Biology Laboratory
11. Number of floors-
12. Number of staircases-
13. Do you have a kitchen? Yes/No----------

    -if yes do you have Gas stove or open fire kitchen or use cooking gas connection-

14. Do you have toilets separate for- Boys- Yes/No Girls – Yes/No
15. Number of drinking water points-
16. Playground size and open area -
17. Fire extinguisher installed-
    - If yes number of fire extinguisher –
    - Date when last checked-
18. Number of Sand Buckets installed -
19. Evacuation drill organized – Yes/No

    if yes last date when drill conducted and number of student who participated –

(Signature of Principal)

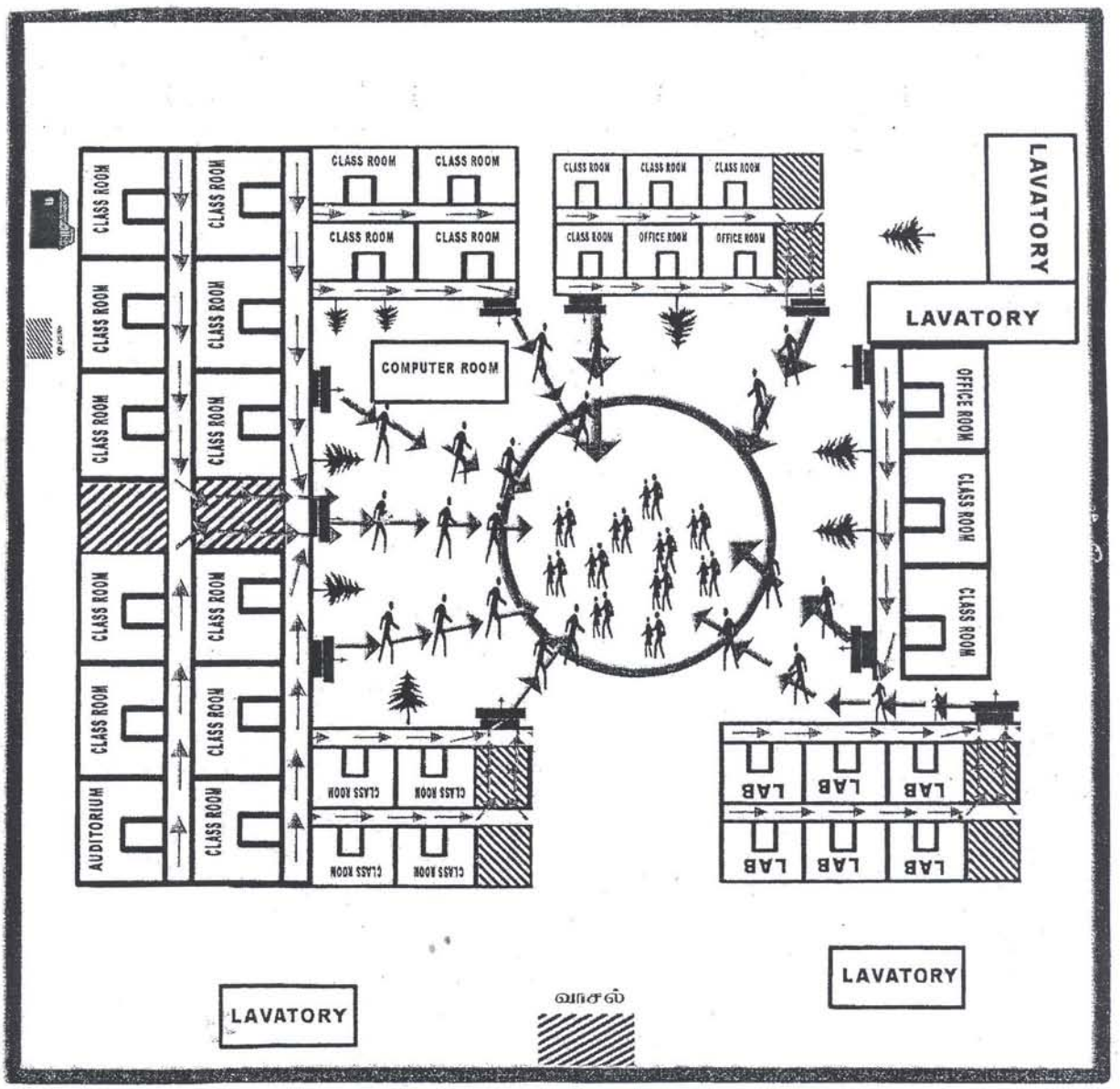
(Annexure-II)

EMERGENCY MANAGEMENT PLAN CHECKLIST

NAME OF SCHOOL & LOCATION**.....**
DATE:**.....**

	YES
1. Have the emergency numbers been confirmed with the concerned departments	☐
2. Are the emergency contact numbers prominently displayed in the principal room	☐
3. Does the plan clearly specify procedures for reporting emergencies to the government services and the relevant education authority	☐
4. Are the potential risks within and up to a kilometre from the workplace identified?	☐
5. Does the plan clearly mention about the evacuation plan?	☐
6. Are the roles and responsibilities of key personnel's clearly defined – task force team leaders, class teachers, office staff and students.	☐
7. Are the staff responsibilities to account for and supervise students during and following the emergency clearly described?	☐
8. Does the plan give emphasis on the more vulnerable children below class V?	☐
9. Does the plan address the students with special physical, mental and medical needs?	☐
10. Does the plan describe about how the DM team will be trained ?	☐
11. Does plan provide the calendar for mock drill to be conducted?	☐
12. Has the plan been endorsed by local police and fire brigade?	☐

Sample School Evacuation Plan



School Safety Including the School Disaster Management Plans and Conduct of Mock Drills

1. Disaster Situation in India and School Safety Concept
2. Need for School Safety and Community Based Disaster Risk Reduction
3. School Risk Assessment and School Safety Audit
4. School Disaster Management Plan
5. Guidelines on Conducting Mock drills on Floods and Earthquake

Pattern source: http://www.dsource.in/gallery/gallery-0087/fullview.html

All India Disaster Mitigation Institute

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statedmcontrolroomassam@gmail.com