GUJARAT INSTITUTE OF DISASTER MANAGEMENT

BUILDING RESILIENCE

FIRE PREVENTION AND LIFE SAFETY MEASURES

IN SCHOOL BUILDING

24-25 May, 2021

Background

Children spend more time at School other than their own. They need a safe and secure environment to effectively learn and grow. A safe learning environment, protection from sexual abuse, corporal punishment and safety from the impact of natural hazards or any manmade activity which causes the mishap or disaster is needed for a successful education and future. The issue of school safety is a major concern at all levels of government to address all the aforesaid situations. The school Staff, which includes administrative and non-teaching staff, are critical in ensuring the safety of the children from all the types of disasters and personal safety & Security related issues in School.

A school must always understand the Importance of a safe environment. Fire is a most common hazard in the schools and hostels premises. School & Hostel management needs to be more cautious for Fire Prevention and making a fire-safe place for children. School fire safety measures, fire devices, fire drills, fire exits, fire escapes fire alarms are just components of a good school fire safety measures.

School fire tragedies and disasters can be prevented if proper fire safety measures are in place and religiously implemented, school authorities are well informed, the right school personnel is suitably designated to implement such measures, all government fire safety policies are followed and of course proper training and cooperation by students and faculties.

School fire prevention is important for the simple reason that a lot of kids are gathered at one spot and a single fire can affect all of them. The chemistry lab which includes a huge number of flammable fluids is, particularly at risk. A fire in such locations can go out of control and hence, fire safety in schools is now an incredibly important issue.

Legal Mandates

Constitution of India:

As per the Indian Constitution, access to education is a fundamental right of each child in the country National Policy on Children (2013): The National Policy for Children reaffirms the Government commitment to the realization of rights of all children in the country. It recognizes that “every person below the age of eighteen years as a child and that childhood is an integral part of life with a value of own, and long term, sustainable,

multi-sectoral, integrated, and inclusive approach is necessary for the harmonious development and protection of our children". The Policy has identified survival, health, nutrition, education, development, protection (including from emergencies/disasters), and participation as the undeniable rights of every child, and has also declared these as key priority areas.

National Disaster Management Act (2005):

The National Disaster Management Act 2005 lays down the institutional, legal, financial, and coordination mechanisms for Disaster Management (DM) at the national, state, district, and local levels. Through the National Institute of Disaster Management, the Act envisages the promotion of safety awareness among stakeholders including teachers and students.

National Policy on Disaster Management (NPDM), 2009:

The National Policy on Disaster Management 2009 highlights the need for structural as well as non- structural safety in schools and educational institutions. In the chapter on Techno-legal Regime, in section 6.4.1, the Policy identifies school buildings as a national priority and enables provision for designing the school buildings/hostels with earthquake-resilient features and equip them with appropriate fire safety measures. In the chapter on capacity development under section 10.2.2, the policy also emphasizes disaster management training in all educational institutions including schools. Section

makes a reference to the role of the National Cadet Corps (NCC) and scouts and guides in schools and colleges for disaster management related work. Section 10.6.1 of NPDM discusses the introduction of the subject of disaster management in the curriculum through the Central and State Boards of Secondary Education.

National Policy on Education (NPE) 1968, Revised in 1992, the National\Policy on Education calls for a "child-centered approach" in primary education but does not contain a specific reference to school safety or disaster risk issues of children.

Right to Education Act 2009:

Right to Education (RTE) Act 2009 guarantees free and compulsory education to all the children in the country till the age of 14. The Act sets minimum norms and standards with

regard to location and quality of schools and in Clause 19, lays down that no school shall be established, or recognized unless it fulfills the norms and standards specified in the schedule. One of the key standards is in relation to access to all “all-weather buildings”; in areas with difficult terrain, risk of landslides, floods, lack of roads and in general, the danger for young children in the approach the State Government / Local Authority shall locate the school in such a manner as to avoid such danger. The Act lays down the formation of the School Management Committee for the planning of infrastructure and other requirements with respect to the operational functioning of schools. The School Development Plan, as laid out by the Act, spells out the physical requirements of additional infrastructure and equipment to meet the norms spelled out in the schedule (in relation to all weather buildings). The RTE Rules provide detailed guidance on the implementation of the Act on the ground.

Fire Prevention and Fire Safety (National Guidelines on School Safety)

Fire Prevention and Fire Safety measures should be part of initial school design, and also require regular maintenance and testing. The following must be ensured:

- Flammable and hazardous materials sources are limited, isolated, eliminated, or secured. This includes electrical lines and appliances, heaters and stoves, natural gas pipelines and LPG canisters, flammable or combustible liquids;
- Exit routes are clear to facilitate safe evacuation in case of fire or other emergencies;
- Detection and alarm systems (especially urban setups) are working;
- Fire extinguishers are regularly refilled;
- Other fire materials and equipment are regularly maintained;
- Electrical systems are maintained and operable, in compliance with fire safety design criteria (Source: Adapted from IFC EHS Guidelines) be procured and maintained regularly by the School Authorities.

In addition to this, NBC (2016), Part IV, para 3.1 has the mandatory provisions for the Fire Safety Measures in Schools.

Key Challenges for Safe Schools

Efforts on school safety at the National and State levels are at an evolving stage. Key challenges in the implementation of school safety measures include:

1. **The disconnect between institutions:**

There is a visible disconnect between the non-emergency schemes (Pertaining to Education) such as Samagra Shiksha Abhiyan and Disaster response/preparedness. Education programs are executed in most states with little synergy or policy linkages with the SDMA / DDMA.

2. **Limited convergence between schemes:**

Resources required for the effective implementation of a govt. The scheme cannot be leveraged in the absence of a mechanism for collaborative working with other budget holders. For instance, land development within the school campus may be funded through the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). However, close coordination between micro-planning activity for MGNREGA and School Development Plan preparation would be necessary for convergence.

3. **Limited understanding of school safety concept:**

It is evident that the existing education machinery in the country is keen to promote a safe learning environment for children and teachers but the actual implementation of programs on the ground points to a limited understanding of the concept of safety. At best, new school designs incorporate earthquake safety features in many areas; however, floods, cyclones, landslides have been given little attention in the design and costing of schools. In addition, non-structural elements are often not understood as threats to safety. At the level of teachers and students, safety issues are discussed and pursued as one-off activities. School timetables and curriculum need suitable modifications to make safety understanding a routine activity.

4. **Lack of Understanding of Existing Hazards:**

Preparedness is the key to minimize any hazard impact and for adequate preparedness, one is able to identify the hazards which may be enabled through basic understanding of Disaster Risk Management. The past incidents from Tamil Nadu in 2004 and Surat in 2019 highlighted the negligence of management in providing safer places. The management had failed to identify the fire hazards and subsequently could not prepare for better response. It eventually resulted in putting a dark spot in the history of Indian School Safety.

With respect to this, Hon'ble Supreme Court of India has also come out with its judgment in support of school safety, and insisted on adherence to NBC standards in school building specifications and construction.

The following cases in points shows how those mishaps could have been avoided, if the management would have been well versed with aspects of DRM.

Case in point:

1 2004 Kumbhakonam School fire: 2004 Kumbhakonam school fire incident happened in a school in Kumbhakonam in the Thanjavur district of the Indian state of Tamil Nadu. A totalof 94 students of the primary section of the Krishna English Medium School were burnt to death in their classroom as the thatched roof caught fire on 16 July 2004. The accident was one of the four largest fire accidents and the largest school accident in Tamil Nadu's history, as well as the second largest school fire in India in terms ofcasualties.

The buildings in the nursery and primary schools had no ventilation. Near the eastern entrance, there was a narrow staircase 4.5 ft (1.4 m) wide leading to the first floor of the building. The layout of the first floor was similar to the ground floor where classes had no separation and exit was through a narrow collapsible door. The lower end of the class on the western side was connected to the noon meal kitchen thatched roof and the cycle stand roof, where the accident occurred. The Sri Krishna Girls High School had 179, Sri Krishna Aided Primary School had 477 and Saraswathy Nursery and Primary School had 126 students in its roles, totaling to 782 students. The second floor measured 62.5 ft (19.1m) * 13 ft (4.0 m) and had classes for standards VI, VII, VIII and IX of the girl's high school. The third floor had an open terrace having a water tank.

2 **2019 Surat fire:** On 24 May 2019, a fire occurred at a commercial complex in Sarthana Jagatnaka area of Surat in the Gujarat state of India. Twenty-two students died and others were injured in an academic coaching center located on the building's terrace. The fire was started by a short circuit on the ground floor; the students in the coaching center were trapped by the destruction of a wooden staircase. Three people have been arrested for their alleged involvement or their alleged negligence leading to the fire and the deaths.

The fire occurred at a commercial complex called Takshashila Arcade, located in the Sarthana area of Surat. Smart Design Studio, a coaching center, was operating in a makeshift dome built on the terrace of the building. The fire broke out between 3:45 p.m. and 4:00 p.m. (IST). An electrical short circuit in the air-conditioner started a fire on the ground floor near a staircase on the rear side of the building. The fire quickly spread, engulfing the third floor and the makeshift dome on the terrace of the building. There were about 50 to 70 students in the coaching center at the time. Two shops and several vehicles parked near the building were also destroyed in another fire ignited by the blaze.

A total of 22 students died: 18 girls and 4 boys, aged between 15 and 22. Of these, 16 students died due to fire or asphyxiation, 3 died as they jumped off the terrace of the building, and 3 succumbed to the fire-burns they sustained. Three of the students who died had appeared for the Class XII exams of the Gujarat education board, the results of which were declared on 25 May 2019, a day after their deaths. A further 16 students were admitted to hospital; a child aged three or four years old was also hospitalized with burn injuries.

Aim & Objectives

The webinar is designed with the following objectives: -

- Awareness building with respect to fire risk prevention & management
- Propagating idea of the school safety approach
- Enabling basic understanding of Disaster Risk Management

The main aim of this training program is to enhance synergy between different stakeholders to inculcate the culture of imbibing safety culture for better preparedness and disaster risk reduction.

Methodology

This training blended program may be conducted in two stages. First GIDM may organize virtual classroom and orient the participant with basics of DRM & Compressive School Safety approaches. During the residential program, participant may able to get theoretical as well as practical knowledge of Fire Hazard. Following tools may use:

PowerPoint Presentation Interaction

and experience sharing Reading

material (Soft Copy only)

Flip chart

Presentations (Soft copy only) Language

to be used: Hindi/ Gujarati

Question/Answer