

Editorial:

Preparing for School Disaster Risk Mitigation and Management

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Introduction:

Children are the most vulnerable in any disaster and disaster like situation. With increasing complexities of human life and its geo-political environment, incidence of disasters, both natural and manmade, is steadily increasing all over the world. As it generally comes without any warning, the weakest are the worst sufferers, mostly at both extremes of age. It is peculiar that the sufferers themselves end-up as first responders being at the theater itself. Particularly, the school children are in the receiving end, along with their teachers in the event of natural calamities and man-made disasters like vehicular (School bus) accidents, hostage taking and shoot-out by terrorists as they consider schools as soft targets to create a sensation in order to escalate public out-cry. Therefore it is most desirable that all our schools are sensitized to this and all stake holders, especially the students and teachers are trained on the basic principles of “Disaster Management” to cope and face the initial challenge boldly and effectively.

Definition: The UN defines Disaster as “A serious disruption of functioning of a community or society, involving widespread human, material, economic or environmental losses and impacts, that exceeds the ability of the affected community or society to cope within it's own resources”.

Types of Disaster and the extent of risk:

Natural disasters such as earthquake, floods, cyclone, tornado, tsunami, volcano, jungle fire and so on.

Man-made disaster such e.g.- industrial and vehicular accidents (Road, rail, air), stampede, fire, nuclear explosions, political unrest, ethnic

violence, rapid radicalization, riot, war, terrorist attacks, oil spills and so on.



Fig. 1: Terror Strike 9/11 At Chatrapati Shivaji Terminus, Mumbai

Mixed (hybrid):

In combination of the above e.g.-Climate change, destroying forest (Cutting, burning, dumping debris), soil erosion, transporting hazardous material, house collapse, jungle fire, oil spill on high seas, releasing industrial affluent into natural water sources and so on.



Fig. 2: Terrorism Affects Children Of Miscreants And Security Personnel Alike. – An Unknown Child During Mumbai Attack

Disasters relevant to schoolchildren:

1. Accidental fire in school building, electrical short-circuit, fire crackers, burning debris.
2. Accident of school bus, sports injuries, road raze by youngsters.
3. Terrorist attacks, bomb blasts, taking hostage of school children and staff, shoot-out, radicalization and related violence.
4. Poisoning of food and / or water supply sources to schools.
5. Natural disasters like floods, cyclone, hurricane, cloudburst, landslides etc.

Natural calamities terribly devastate the schools, mostly being run in makeshift structures in rural areas. The frequent terrorist violence of late at schools, places of worship, entertainment hubs and market places have shocked our children. Schools are being attacked or closed by terrorist groups killing children senselessly, irrespective of the countries. The extremists are taking innocents as hostages or forcibly imparting them arms training in order to use them as child fighters, as human shields or as live bombs. They are being used for spying and killing innocents by extremist groups like ISIS, HM, LeT, LTTE by the pet name of "Monkey brigade". Rapid radicalization has been a constant process everywhere has added to the problem. Taking advantage of their innocence, the children are even get used by the mischief mongers to pelt stones and instigate security force in J&K, inviting retaliation fire to achieve ulterior motives as continue to happen in that state. Imagine the psychology of children born and grown up in such conflict zones. Can well imagine what kind of citizen they are likely to be.

The police and other security Forces also do establish their campus in school buildings, unable to find any suitable place for safe camping in the rural and remote areas. The senseless attack on the Army Public School at Peshawar is a horrifying experience for the tiny tots in Pakistan, itself a perpetrator of Terrorism as its own victim. Same is

the story from Syria to Afghanistan and from Kashmir to Sukma. Our children in their tender age are being exposed to senseless violence and psychological trauma. Lets seriously think about the orphan children of extremists as well as children of armed forces' personnel killed by terrorists. We are going to find them in increased numbers in schools now on.

School Disaster Risk Reduction Measures to Observe.

Infrastructure: Due importance must be given to all aspects while selecting a site for school; starting from soil condition, approach road, drainage against over flooding, ensuring earthquake resistant school buildings right from the construction. The approach road to and from school for rescue teams, ambulance and fire-tenders must be exclusive and wide. Stairs and furniture should be designed child friendly without edges, preferably rounded, with due regard for their safety concerns. Class room should have two doors for easy evacuation; adequate cross ventilation and lighting. All doors should open outside, into open areas or corridors of adequate width. Lifts not to be used during fire. At least one lift in each building may open directly to open space in rear.

Fire Fighting: Proper fire safety principles must be in place, with periodical fire audit of the building, installing various types of fire extinguishers, training the teachers, staff and the grown-up students how to use them in emergency; preventing electrical short circuits, delineate and notify escape routes, decide and clearly mark the safe assembly spaces. Repeated and regular rehearsal and hazard haunt exercises are important.

Dos and Don'ts: Do's and Don'ts for different specific disaster situations - natural or manmade, must be explained to all and displayed prominently at all vantage points in school. All need to be trained in rescue, first aid, basic life support procedures and disaster mitigation principles.

First-Aid and other contingency arrangement : Provision of first-aid box and disaster kits must be placed in each block, besides in all school buses. All staff, teachers and senior students be trained in casualty evacuation drill and first-aid. Sufficient essential medicines, candles, matchbox, generator, fuel, gas, food items, contingency arrangement for cooking may be kept.

Early warning: Constant liaison for early warning on natural calamities from district disaster management authority, TV, radio, local administration regarding floods, cyclone and earthquake must be obtained. Constant liaison with district administration, police, fire-brigade, nearest hospitals is essential in advance. Proper protection and help from local administration and police during national day celebrations like Independence day, Republic day, sports day, annual celebrations, festivals in schools premises must be secured against terrorist violence or hostage taking, especially in vulnerable places having such intelligence input. Children and teacher need to be sensitized on biological and nuclear warfare too.

Emergency Management Concepts and Priorities: Emergency management (EM) refers to the management of emergencies concerning all hazards, including all activities and risk management measures related to prevention and mitigation, preparedness, response and recovery. An emergency refers to "an immediate event, including an incident that requires prompt coordination of actions concerning persons or property to protect the health, safety or welfare of people, or to limit damage to property or the environment." The following diagram illustrates the EM continuum in the context of an effective EM system.

Challenges: Apart from Physical destruction to the school building, furniture, electric and water supply lines, these results in physical injury to the helpless tiny tots. Many are at the risk of being buried under the debris, having no physical ability to rescue themselves or others. They are also traumatized mentally both at the time of disaster

and thereafter, in the form of "Post traumatic stress disorder". Movement of population, chaos, stampede, lack of medical relief / expertise and local help are often usual than not. Personal injury, emotional stress, epidemics of communicable diseases resulting morbidities and mortality are to be tackled on war footing. Children are the most vulnerable group in view of their larger body surface area, decreased fluid reserve, less ventilation capacity, thin skin and lesser circulating blood volume. They deserve to be rescued with top most priority, wherever possible by experts. All adults in the school - the teachers and staff, must be trained in First aid as well as disaster mitigation methods for immediate action without losing the golden moments and precious time, saving as many lives as possible. Every ones' role in the given situation, including those of the rescue/medical personnel will be as under:-

During emergency:

1. Resource assessment
2. First information to the local authorities, soliciting help establish hot lines.
3. Determine and press available emergency services - code 'Blue' as known in hospitals.
4. Managing and evaluating injured kids, triage to identify priority for evacuation.
5. Counseling families experiencing psychological shock and distress.
6. Help, treat or evacuate children and staff to specialized care facilities as required.

Post-emergency:

1. Counseling parents and teachers about normal and abnormal patterns of psychological response expected from children.
2. Provision of referral system for medical and psychological issues.
3. Restoration and child friendly remodeling of infrastructure eg-building, stairs, furniture.

Public Safety Risk Management: It is composed of:

1. Hazard reduction and mitigation
2. Vulnerability reduction
3. Emergency preparedness

To summarize actions required during "D I S A S T E R", we may recall these steps as:

Detection, Incident Command, Safety and Security, Assessment of hazards, Support, Triage, Evacuation and Recovery.

Disaster Management Continuum or Disaster Cycle:

1. In any disaster situation, the victims in fact happen to be the first responders. In the event of disaster impact, instant action on ground, including emergency operations, provide immense experience to tackle any similar incidents in a better manner in future too.
2. The immediate management is always followed by a recovery phase consisting of restoration of infrastructure, essential services like electricity, water supply, transport and reconstruction activities. Such damage assessment exercise enables to plan early restoration of infrastructure and various services in "Prevention and mitigation" phase accordingly.
3. The lessons learnt in the entire process helps in planning and preparing to face any such disaster should it ever occur in the future in the "Preparation" phase. This phase also includes the pre-impact activities such as sensitizing the would be victims, social management system, administration, police, hospital services and so on.

The continuum is depicted in as a wheel where all four risk-based functions of emergency management are interconnected and are interdependent; from prevention and mitigation to preparedness, response, and recovery. It shows that

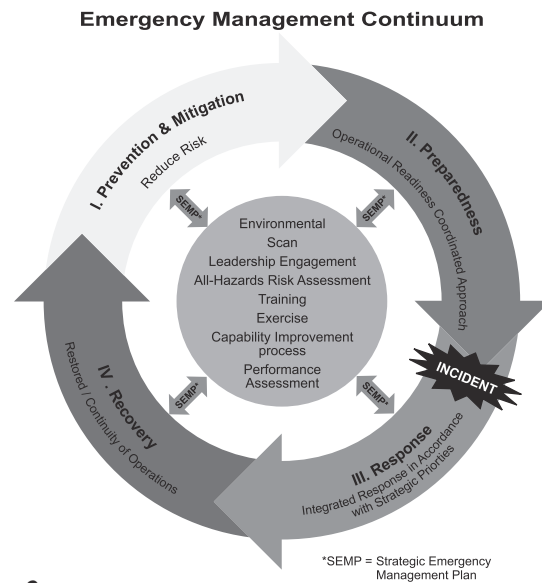


Fig. 3:
The Emergency Management Continuum:

an effective emergency management system ensures prevention and preparedness efforts are in place in advance to respond to and recover from an incident at the shortest possible time. In the center of the wheel are the main elements that influence the development of a **Strategic Emergency Management Plan (SEMP)**. Those elements are : (1) Environmental Scan, (2) Leadership Engagement, (3) All-Hazards Risk Assessment, (4) Training, Exercise, (5) Capability Improvement Process, (6) Performance Assessment.

Highlights of four interdependent risk-based functions of EM are: (1) Prevention and mitigation, (2) Preparedness, (3) Response and recovery from emergencies. These functions can be undertaken sequentially or concurrently, and they are not independent of each other. The inner circle includes all elements that influence the development of the SEMP, such as: (1) Updates of environmental scans, (2) Ongoing/regular all-hazards risk assessments, (3) Engaged leadership, (4) Regular training, exercise and capability Improvement Process (CAIP)- Whole of the government approach to collection and analysis of response for exercise and real events. The figure below better explains the SEMP in the continuum as a living document, which should be continuously

improved and adjusted. As lessons are learned through responses/exercises or a changing risk environment, the same are always integrated and updated from time to time

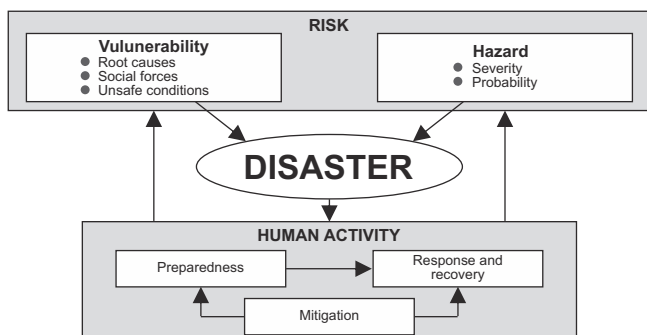


Fig. 5.1 : Disaster cycle. Source : Etkin (1999)

Conclusion :

Schools are the most convenient places to develop a disaster resistant culture in the society. Therefore the level of preparedness for the disaster management at school should rise to higher levels. The following are few important suggestions and recommendations for implementation:

1. To provide for nationwide policies and determination to execute the policies.
2. Government, the Social institutions and NGO's should work together collaboratively.
3. Nation-wide training modules for school Principals, teachers and families should be generated, implemented, evaluated, constantly reviewed and renewed for improvisation.
4. School authorities should realize and pass effective instructions and all stakeholders must be trained for gaining leadership

qualities to deal emergencies effectively and adequately

5. The principals must make special efforts to create awareness for disasters and build a culture for resistance and resilience. Safety from home to school and back to be ensured.
6. The principals should try to ensure that the staff the students and other personnel know how to act and behave Before - During - After disaster stages.
7. Students should have awareness and knowledge of protecting the nature and environment. Also have adequate knowledge on various types of disasters likely to occur and the ways of protecting from them by mainstreaming the same in their curriculum.
8. Suitable courses at Higher education institutes must be added to school curriculum.
9. Activities through theatres, street plays, movies, workshops, conferences and seminars.
10. Each School must constitute a school DM community, comprising of families and school management, realizing and treating it as a mission. Those in education, media, public health, civil defense, police, armed forces, mayors and local administration must work together with the common objective in tandem and in complete coordination.
11. The Pediatrician of the locality should play a leading role voluntarily in planning, sensitizing all in shoulder to shoulder with school authorities and parents. Adopt one.
12. Always remember: **Hazards Can't Be Prevented But Disasters Can.**