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NEED FOR MANDATORY EDUCATION AND TRAINING FOR THE PREVENTION AND MANAGEMENT OF DISASTERS AND MAINTENANCE OF INTERNAL SECURITY IN INDIA

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ABSTRACT

The climatic fluctuations, environmental changes, and physical and infrastructural modifications have become causes of natural and man-made disasters all over the world, including India. These disasters have been adversely affecting the life and property in India, thereby posing a threat to the internal security of the country. The Government of India made various policies and plans for the management of disasters and brought the Disaster Management Act 2025 to effectively enforce the policies and plans. Further, the Act was amended in the year 2025 and notified on 22nd March, 2025, to make it more stringent and effective. Despite all the efforts by the Central and State Governments in India, there are still some shortcomings in the prevention and management of disasters and the internal security caused by them. The present paper discusses the causes of failures and highlights the need for mandatory education and training for the management of disasters and the internal insecurity caused by them in India.

Keywords: Climatic fluctuations, disaster management, internal security, policies, plans, training,, etc

INTRODUCTION

In fact, the word disaster is a terrifying word that indicates hindrance and disruption of a serious nature in the functioning of human and animal populations. It may cause injuries or even death on a large scale. There are irreparable losses beyond the capacity of the sufferers. Disasters are sudden or unexpected events. Extraordinary efforts, interventions and resources are required to save lives and properties in disasters.

The disasters can be natural or manmade and can be due to earthquakes, floods, cyclones, droughts, landslides, explosions, fires and tsunamis. Disasters can also be caused by the leakage of nuclear radiation or the leakage of poisonous gases. The wildfires/ forest fires in the USA, Australia, and India in the previous years have been glaring examples of the disasters.

In the Indian context, disasters have been caused by floods, cyclones, earthquakes, droughts and landslides in the past. Some disasters of high magnitude can be mentioned, like earthquakes in Kangra in Himachal Pradesh and Bhuj in Gujarat. There have been droughts in different states in different years. Other highly damaging disasters have been:

- Earthquake and tsunami in the Indian Ocean in 2024, in which there was a huge loss of lives and properties.
- Uttarakhand floods in the year 2013, in which more than 4,000 people died, and more than

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2,000 people were missing from Kedarnath.

- Forest fires in the hill states of Uttarakhand, Himachal Pradesh and Jammu and Kashmir have occurred almost every year in the past decade.
- Same states experienced disasters due to flash floods, cloudbursts and landslides in the year 2025, in which there was extensive loss of lives and properties.
- In India, there was a manmade disaster in the year 1984, known by the name of the Bhopal Gas Tragedy, in which more than 20,000 people died immediately due to the leakage of poisonous gas, and an equal number must have suffered long-term health problems.

Keeping in view the seriousness of the problem, disasters and their management are being taught in the Indian schools from 6th to 9th standard to raise awareness among the young students. However, the practical demonstration and pre-disaster planning can further help.

CHALLENGES OF DISASTER MANAGEMENT IN INDIA

Disaster prevention and management can't be done by a single department, group or ministry in isolation. It is the duty of every Indian citizen to contribute to this process, which in fact leads to nation-building and keeping internal security in the country. For a better future of the country, all Indian citizens should have a commitment to protect the national natural resources and the infrastructure. Some of the challenges can be listed here:

1. We do not have disaster resilience infrastructure for power, communication, transportation, buildings and bridges to withstand the impact of disasters. There is poor or no enforcement of construction and building codes, especially in high-risk seismic zones, hill slopes, and near the banks of the rivers, due to the rapid pace of urbanization. The unsafe constructions are not removed and reconstructed on time.
2. The frequency of recurrence of the disaster events has increased due to unpredictable climate change. It demands our preparedness on a war footing.
3. We need to build our capacity for generating a foolproof system for dealing with disasters through better coordination, response and regulatory mechanisms.
4. We need to make the local communities aware of the lessons learnt from the previous incidents so that they work towards what is to be done for prevention and control.
5. There is a lack of awareness, as well as an unwillingness to finance necessary mitigation measures by the community.
6. Delays in getting administrative and financial sanctions due to the political issues will hamper the process of mitigation.
7. Corruption and delays at various levels hinder the process, and funds are not available at the requisite end at the appropriate time.
8. In disaster risk reduction, cross-boundary issues between states and countries sometimes prove detrimental to the process. This process may also be hindered by the terrorists and antisocial elements.
9. We have no system at present for handling biological and chemical disasters.
10. In the age of science and technology, where there is the use of radioactive materials for energy generation and warfare, we need to develop a system for the prevention and mitigation of such disasters.
11. Early warning systems for some hazards are either still under development, lack nationwide implementation and are not available in many districts for forecasting purposes.
12. In the marginalized and vulnerable communities, there is a lack of public awareness and preparedness, especially in the remote areas.
13. Still, there are wide gaps between national, state and local bodies like NDMA, SDMA AND DDMA and between different government departments.

Thus, we need to remove the above-mentioned challenges for generating confidence among the Indian masses that they are secure from all angles in the country, including their lives and properties. It is true that our disaster management system in India at present is advanced from several points of view, but it lacks an effective implementation of policies at the local level.

RECOMMENDED IMMEDIATE ACTIONS

Looking at the challenges as discussed in this paper following recommendations are submitted for immediate further actions.

a. Community Awareness

. Among the Indian community, awareness about disaster management and prevention is lacking. All citizens must be made aware of the lessons learnt in the past from different disaster incidents and their impacts. How can citizens help in the prevention and mitigation of disasters? How can self-help groups in the local areas contribute to

helping themselves in the event of such unfortunate incidents? What preparations should they keep in different climates and seasons in India so as to prevent any damage from disasters? Who should be contacted and informed in such eventualities should be known to them. The awareness mission can be through contact programmes, through print and electronic media. Mock drills should be conducted for practical training.

b. Inclusive Planning

. For any construction project of construction there should be an inclusive budget for the safety and security of buildings. Requisite equipments and systems should be part of the construction plans. Disaster-resilient infrastructure should be created to prevent any damage in the near future. Long-term plans should also be drawn simultaneously.

c. High-Rise Buildings and Hill Constructions

. There should be strict enforcement of building codes for high-rise buildings, whether in urban or rural areas. In hilly areas, buildings should not be allowed to be constructed on prevented gradients. The heights of the buildings should not be allowed to exceed the specified floors. In 2024 and 2025, Himachal Pradesh and Uttarakhand states have borne the brunt, and several buildings have collapsed in rainy seasons and in flash floods.

d. Practical Training

. Where we are conducting education and training of disaster management that is in schools for SDRF, NDRF, under NDMA, SDMA, and DDMA, or other concerned departments, mere theoretical training does not help. The practical training and mock drills must be given to make such groups confident for future operations, whenever and wherever required. The use of equipments can only be learned if one learns to operate them personally; mere demonstrations by others do not help.

e. Firefighting Training

. Firefighting training should be made mandatory for every citizen of the country. Whenever there are fire incidents in houses, business premises, factories, electrical and transport systems, they should know how to protect them from fires and how to douse fires in different situations. They should also be trained to operate the firefighting equipments. The requisite equipments must be installed at the buildings, workplaces and transport vehicles and should be regularly audited and refilled or recharged. Mock drills in firefighting must be conducted to provide practical knowledge to the citizens. There are a large number of fires in the forests in India every year. They destroy our forest wealth and cause damage to the nearby human habitations, flora and fauna. If these are doused at the initial stage by the locals in the area, we can stop them from further spreading and from causing extensive damage. Rescue and rehabilitation of the affected people are also required immediately, for which sufficient funds and plans should be drawn up by the government for such disaster management. This is also essential for maintaining internal security in the country.

f. Swimming and Boating Training

. As we have observed during the last decade that there is a drastic environmental change in India due to global warming, deforestation, urbanization and industrialization. This has given rise to extensive, unpredictable, unseasonal rains, cloud bursts, landslides, flash floods and the floods in the plains. This has caused huge loss of life and property in the past, and the situation has been like a disaster to be managed. Police, paramilitary forces, army, navy, air force, and various other ministries and departments were involved in relief and rescue operations. Local communities also helped, but in a limited way due to a lack of resources and the concerns and fear of their own safety. It is felt that under such situations, the local communities could be of better help if they know swimming and boating training for self-help and for the help of elderly people and children.

. The preventive mechanism needs to be immediately enforced so that during constructions of any kind, people do not disturb or block the drainage systems of the area and also do not dispose of debris in the nullahs, khads, rivulets and rivers. The blockage caused by the debris gives rise to flash floods in the hills and the plains. The concerned departments should carry out periodical special checks and should penalize the defaulters who block the drainage system and cause harm to the natural ecosystem.

g. Biological Disasters

. Biological disasters are caused by the rapidly spreading diseases by bacteria and viruses, which in turn affect humans, animals and plants. These may be epidemics or pandemics. Cholera, H1N1, influenza or COVID-19 are examples that we witnessed in the past. These diseases can lead to a large number of deaths, injuries or disabilities to the living beings, that is, plants, animals or humans. Some such diseases may also be caused by toxins and parasites. Malaria and dengue fever are diseases of this type. These microorganisms may be released accidentally or can also be acts of terrorism or biological warfare.

. We in India are well aware of the severity of

COVID-19 in the recent past, in which there were multiple casualties and disabilities. The country as a whole had to face war war-like situation for controlling the same, and in the treatment, isolation and disposal of the dead bodies. The normal functioning of the society was totally paralyzed. The whole of the world had to face the challenges of COVID-29. After the 9/11 incident in the USA in September 2001, there was a great hue and cry in the world that the terrorists were sending Anthrax spores through different parcels/ packets. The Government of India and various state governments had to pool their resources in the country for the testing of the same; however, we were not fully prepared beforehand.

. The other problems in the biological disasters come from the prevention of the diseases, and the infected persons are required to be kept in isolation so that others may not catch the infection from them. Thus, for this purpose, we need to have ample space/beds for quarantine purposes. In the event of deaths on a large scale, the dead bodies are required to be identified, which requires training and capacity of the experts for biomorphic, biometric and DNA analysis for identification. In different flash floods, the bodies are recovered after several days from the rivers or from under the debris and are highly putrefied, which can only be identified by DNA profiling. Thus, for DNA sampling and analysis, we need to build capacity at the national level laboratories and in the state laboratories.

. For the respectful disposal of the unclaimed or unidentified bodies for any reason, we should draw plans and resources and an ongoing ever ever-ready system for this purpose. Similar situations have to be faced in the cases of railway accidents, plane crashes and explosion cases in terrorist activities. Besides, the industrial explosions and fire incidents also warrant such human body identifications. Flash floods in Kedarnath, Uttarakhand, in 2013 and the plane crash in Ahmedabad, Gujarat, are glaring examples of cases in which dead bodies had to be identified by DNA profiling. The public had to face the delays in sample collection and analysis in both cases. Thus, there is a need for capacity building for the same.

h. Chemical Disasters

. There have been several cases in India that were termed as chemical disasters. Bhopal Gas tragedy, chlorine and ammonia gas leakage from tankers and the aerosol explosions from hydrocarbon and other gases are notable examples. We need to have policies in place for the prevention, first aid, treatment and protection from such incidents. Chemical disasters can be accidental or warfare happenings, but are very destructive and painful. There has been usage of chemical warfare agents in the world in the past; such possibilities can't be ruled out in the future. Our preparedness for the same will be a stepping stone in maintaining national security.

i. Nuclear Disasters

. Nuclear disasters are caused by the use of nuclear warfare weapons, as happened in Japan in World War II in the cities of Hiroshima and Nagasaki (1945), which were destroyed by nuclear bombs; both cities were turned into ruins and lakhs of people died in no time. The leakage of nuclear radiation from the Chernobyl nuclear accident (1986) and Fukushima (2011) nuclear plants has also been very troublesome. The incidents have killed and displaced many people. Such incidents require specialized preparation for prevention, detection, protection, first aid and treatment, without which the public, police, paramedical staff, and doctors don't know what to do. We need to generate a trained task force in India for dealing with such disasters. Several countries in the world are nuclear powers. Some are in the race to build their capacity for the same. Further, all over the world, different countries are using nuclear power generation plants for the production of electricity. It needs preparation for protection from nuclear radiation.

j. Cyber Terrorism/Frauds

. On November 7, 2025, Indira Gandhi International Airport (IGI) in New Delhi faced chaos as over 700 flights were delayed after a mysterious system failure in Air Traffic Control. The automatic message switching system, which manages flight data and communication, went offline, forcing controllers to switch to manual operations. This was stated to be a GPS spoofing incident that disrupted flights, caused ATC failure and raised concerns about aviation and cybersecurity. From 2023 to 2025, there have been cyber frauds in India of over one lakh crores of rupees and as per data from RBI, a great cause of concern. Thus, to avoid such incidents or to have protection from such incidents, we need to have solid perspective plans, which are highly essential. Such incidents are no less than disasters and need to be checked for the internal and external security of the country. Security of human life and finances are the major aspects for the stability of peace in any nation.

k. Cloud Bursts, Flashfloods, and Floods

. Due to climate change and damage to the environment, there has been a persistent increase in the cloudbursts, flash floods and floods in the hills and the plains in India. The fundamental reasons are:

- Haphazard constructions
- Illegal felling of trees
- Damaging forest cover
- Human intervention in the environment
- Creating tourism infrastructure without preserving natural resources and the environment.

. The unbalanced ecosystem is an invitation to great disasters in future. Human populations in the hills are required to be made aware of the same. The tourist influx also needs to be regulated as per the available infrastructure.

l. Climate Change, Disaster Management and National Security

. There is a need for a single common strategy for disaster management and national security in India. Climate change today is not only a global problem but has become a major challenge to national security. The floods and droughts in India due to global warming have destroyed the infrastructural facilities and have caused mental and physical agony among the masses. The problems of food scarcity, health and economic deterioration have posed major threats to the people of India. In the global meetings for dealing with climate change and disaster management, it has also been stressed to deal with risk management and national security under the unified plans. For disaster management, the world's countries should work together irrespective of their military issues or border problems. The disasters, climate change, and national security are interlinked and inseparable, so the policy makers in the governments should make unified plans for climate change, disaster management and national security.

CONCLUSION

The natural and manmade disasters can be prevented and controlled with the principle of live and let live among the flora and fauna. It is necessary to preserve our ecology and the environment. Excessive human interventions with ecology and the environment will lead to disasters and destruction. For the security of the nation, the generation of skilled manpower, resources and plans and preparedness will lead to better disaster management and internal security.

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