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Article

Guardians of Safety: Assessing Awareness and Preparedness of Teachers along with School Initiatives for Disaster Risk Reduction

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ABSTRACT

Schools are the foundational pillars of society, shaping the future of the nation. Ensuring the safety and security of students and staff is vital; however, it has been observed that schools are among the most vulnerable institutions during disasters. The present survey aimed to explore teachers' awareness and preparedness for disaster risk reduction related to earthquakes and fire hazards in schools. Additionally, it assesses the availability of resources allocated for earthquake and firebreak preparedness in schools. The study was conducted on a sample of 553 primary and secondary school teachers from various schools in Aligarh, Uttar Pradesh, India. The findings reveal that the majority (80.39%) of teachers are familiar with the evacuation routes in the school; however, only 29.40% have received training for the "Drop, Cover, and Hold On" technique needed for earthquake risk reduction. 37.25% of teachers have received training in using fire extinguishers or fire alarms in schools. Significantly, few schools (41.09%) reported that mock drills were held regularly to train students in emergencies. A concerning gap prevailed in the training of teachers and students regarding disaster risk reduction in schools. Key findings indicate an urgent need for comprehensive, hands-on training programs for teachers at both pre-service and in-service levels. In conclusion, the survey emphasises the critical need to prioritise DRR activities in schools and teacher education institutions while also investing swiftly in the preparedness of teachers. By providing the necessary skills and resources, schools can significantly enhance teachers' capacity to protect the lives and well-being of students during unforeseen circumstances.

KEYWORDS

Disaster risk reduction; awareness; disaster preparedness; earthquake; fire hazard.

1. Introduction

Disaster can occur anywhere and at any time. Educational institutions are no exceptions. Disasters, such as hurricanes, earthquakes, and floods, disrupt campus life, interrupt classes, damage school buildings, and leave students in an emergency crisis (Jaradat, Mziu, and Ibrahim, 2015). "The occurrence of disasters is a significant concern for the education sector, considering their ever-in-



creasing intensity and frequency and the severity of their impacts on access to continuous, inclusive, quality, and safe education for vulnerable communities. Between 2000 and 2019, at least 60 major disasters disrupted education for more than 11 million children; within this timeframe, nearly 35,000 children lost their lives in schools, and over 30,000 schools were destroyed" (Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector Report, 2022).

Disaster Risk Reduction (DRR) activities are crucial for promoting sustainable development (Hoffmann & Muttarak, 2017). "Disaster risk reduction in education equips people with knowledge and skills to reduce the impact of natural hazards by lessening the number of fatalities, limiting the amount of damages, and decreasing disruption to economic, social, and cultural activities" (UNESCO, 2024). Essentially, DRR seeks to mitigate risks and vulnerabilities before a disaster occurs through prevention, risk assessment, and resilience-building. Such measures strengthen the capacity of communities and institutions to endure and recover from disasters. It includes education, training, and community involvement to enhance disaster awareness and preparedness.

Safeguarding life from disasters requires widespread awareness campaigns and thorough training. With the guidance of teachers and experts, disaster education encompasses essential measures and safety protocols to enhance preparedness before, during, and after disasters, ultimately increasing disaster awareness. According to UNESCO (2017), teachers are responsible for safeguarding students in their classrooms during emergencies. To fulfil this responsibility, teachers must ensure that all students are well-informed about safety procedures and adequately prepared for drills. Thus, at present, preparatory education is emerging as the most effective approach to prevent disasters or mitigate their harmful impacts, leveraging knowledge acquisition and practical application by utilising technological advancements (Torani et al., 2019). The role of the schools is crucial in building a sense of collective responsibility and preparedness that extends beyond the classroom, ultimately enhancing disaster resilience among people.

Disaster awareness and education are integral in shaping individuals who are environmentally sensitive and adaptable (Değirmenci & İltir, 2013). The Sendai Framework for Disaster Risk Reduction, adopted at the Third UN World Conference on Disaster Risk Reduction (March 14–18, 2015, in Sendai, Japan), reiterates the importance of public education, awareness programmes and increasing investments to strengthen the resilience of the education system (United Nations Office for Disaster Risk Reduction, 2015). Similarly, Cvetković and Šišović (2024) emphasised the importance of education in disaster risk reduction. They highlighted the need for comprehensive and continuous research on the perspectives of both formal and informal education about disasters.

Disaster awareness encompasses proactively taking precautions and preparing before disasters strike, as these are equally valuable as responses to disasters. Risk mitigation and preparatory actions conducted prior to disasters are recognised as fundamental stages of contemporary disaster management. Several countries have attempted to tackle disaster-related issues by educating the public from a young age. (Altay, 2008). It is also a pressing need of the present time to instil awareness in young children (Gökmenoğlu, Sönmez, Yavuz, and Gök, 2021), as they are the most vulnerable groups during any disaster, and a large number of them lose their lives every year. A lack of preparedness in schools is a significant reason. Students have the right to learn in a safe environment (Rajeev, 2021). Hence, ensuring the safety of students and staff in schools is crucial. Schools need to provide disaster education and training to empower students and staff, which should be integrated into their disaster management plans. Teachers' leadership role during emergencies is crucial in safeguarding the lives of students; hence, the preparedness of teachers is vital for disaster risk reduction, which can be achieved by implementing various activities in schools. Awareness among teachers of various measures that need to be taken in the event of any form of disaster is vital, and they must act as information providers for their students. However, teachers lack adequate knowledge, awareness, and practices in disaster management (Ganpatrao, 2014).

Lack of proper Disaster risk reduction education and training can put students and teachers equally at risk. Hence, UNESCO advocates for integrating disaster risk education into the school curricula of nations prone to natural hazards, as well as for promoting the safe construction and renovation of school buildings to mitigate risks.

The Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector (GADRR-RES) advocates safety measures in schools through its Comprehensive School Safety Framework (CSSF) 2022-2030. The CSSF aims to reduce disaster risks and enhance the preparedness of school systems worldwide by emphasising safe learning facilities, disaster management, risk reduction, and resilience education in schools. The CSSF emphasises the crucial role of teachers and sector representatives in developing practical risk assessments and response plans. It advocates for their active participation to ensure comprehensive preparedness. Additionally, the framework calls for the integration of disaster risk reduction (DRR) and climate change education into both pre-service and in-service teacher training, ensuring that these programs promote inclusive and gender-responsive approaches, thereby enhancing the overall safety and resilience of educational institutions. Under the umbrella of the Global Alliance, UNESCO is fostering a safety-oriented culture among education workers and students. It emphasises various strategies that include enhancing the physical infrastructure of schools and implementing practices aimed at reducing risks and strengthening resilience among stakeholders. The Government of India has also emphasised disaster prevention education in schools and taken several initiatives to safeguard school students.

1.1 Initiatives of the Government of India

- The National Disaster Management Authority (NDMA), headed by the Prime Minister of India, serves as the apex body for Disaster Management in the country. NDMA was established under the Disaster Management Act of 2005; NDMA is responsible for creating a conducive climate for institutional frameworks at the district and state levels. It formulates policies, plans, and directives for managing disasters. The guidelines on the School Safety Policy, prepared by the NDMA in 2016, are statutory and must be complied with by institutions without deviation. “Every year, an appropriate number of teachers and students may be trained in various skills of disaster management” (NDMA Report, 2016).
- The National Institute of Disaster Management (NIDM), established under the Disaster Management Act of 2005, is a premier institute for capacity building in disaster management. Evolving from the National Centre for Disaster Management (NCDM) in 1995, NIDM plays a significant role by focusing on training, research, policy advocacy, and human resource development in disaster management across India.
- The Department of School Education and Literacy, MHRD, has instructed the States regarding the National Disaster Management Guidelines on School Safety (GOI Press Release, 2017).
- The National Curriculum Framework for School Education (2023), based on the National Education Policy 2020, suggests that schools conduct mock drills and other activities to orient students, Teachers, and other staff in disaster management.
- The Central Board of Secondary Education (CBSE) has recently developed the Guidelines for Teachers on Disaster Risk Reduction in Schools (CBSE Report, 2024), a step towards involving teachers, regardless of the subjects they teach, in the urgent task of guiding students to prevent disasters and protect them during emergencies.
- The National Council of Educational Research and Training (NCERT) has included topics related to disasters and disaster management in school textbooks for classes VI to XII through texts and visuals.

2. Review of Related Studies

The actions of individuals in addressing unexpected circumstances, such as disasters, are closely linked to their levels of awareness, preparedness, and prior experiences (İnal, Kocagöz, and Turan, 2012). While disasters are often unavoidable natural occurrences, systematic disaster awareness initiatives have the potential to mitigate their impact on educational institutions. Teachers’ knowledge of disaster risk reduction or disaster management activities is vital. As observed by Kourou et al. (2013), the level of knowledge among teachers on earthquake protection measures was very

high. Seventy-five per cent were knowledgeable about the development of emergency plans for their schools. However, Sharma, Mallaiah, Kadalur, and Verma (2016) observed that around 46% of teachers had average knowledge related to disaster management.

Gabion and Bernardino (2022) observed that teachers were highly aware of earthquakes, typhoons, and floods, irrespective of gender. Male teachers were found to be moderately aware of disasters like tsunamis, fires, and landslides. Similarly, female teachers had moderate awareness of tsunamis and fires. Similarly, a medium-level awareness of DRR techniques was observed in secondary school teachers by Mathew and Antony (2014). Contrary to the aforementioned findings, studies have also indicated that teachers lack awareness or knowledge about disasters and their mitigation strategies (Abdunnazar, 2018; Tuladhar, Yatabe, Dahal, & Bhandary, 2015). Tuladhar, Yatabe, Dahal, and Bhandary (2015) found that approximately 67% of teachers had faced disasters, but their perceptions of disaster risk reduction were unrealistic and unexpected.

Research on Disaster Risk Reduction (DRR) among teachers reveals that, while teachers and administrators possess a high level of disaster prevention skills, they are comparatively less proficient in preparation actions related to specific aspects of disaster prevention literacy (Chung & Yen, 2016). Rajeev (2014), in a study conducted to highlight the outcomes of a school-level campaign on disaster management, observed that teachers had an awareness of the training program regarding fire and rescue operations and also recognised the importance of integrating disaster management topics into the curriculum. Although every school had a fire extinguisher, many teachers lacked the necessary skills to operate it effectively. Additionally, emergency contact numbers and evacuation routes were not adequately displayed within schools. Furthermore, there was a shortage of task forces and disaster management committees within educational institutions. On the other hand, Santos and Arguilles (2017) found that all teachers were aware of the school's evacuation routes. Additionally, 56.25% reported having an emergency box or bag in their classrooms. Only 9.38% had discussed disaster risk reduction with students' parents or colleagues, while 34.38% were members of the school disaster management committee. Furthermore, 31.25% of teachers had conducted disaster drills at school and participated in community empowerment programs, whereas 28.12% had developed a disaster preparedness plan for their families.

Gender-based studies on teachers' awareness of disasters, disaster management, and disaster risk reduction techniques have yielded varied results. Few studies have indicated that gender does not influence teachers' disaster preparedness levels, and teachers with disaster education have higher levels of disaster preparedness beliefs (Sonmez & Gokmenoglu, 2023; Ganpatrao, 2014; Najafi et al., 2017). One study revealed that teachers' levels of earthquake awareness remained consistent regardless of their gender and age (Gür Erdoğan & Şimşek, 2023). Bulu and Avcı (2023) observed that male and female teachers shared a similar perception of disaster awareness. However, they observed a statistically significant difference in the post-disaster dimension based on gender. In a similar study, Gabion and Bernardino (2022) observed that both male and female teachers had moderate awareness of fire and tsunami disasters; however, female teachers were found to be more aware of landslides compared to their male counterparts, who had moderate awareness. A significant gender difference was observed in disaster management awareness (Sheikh, 2022) and in the awareness of disaster risk reduction (DRR) techniques among teachers (Mathew & Antony, 2014).

A review of related studies on 'awareness of students on disasters' revealed that various types of studies have been conducted. Cvetković et al. (2024) observed a significant correlation between students' age and variables related to environmental awareness and safety. Ventura and Madrigal (2020) found that students from a public high school demonstrated remarkable disaster preparedness awareness and practice before, during, and after natural disasters. In contrast, Marskole et al. (2018) compared students' awareness of disasters and their management before and after an intervention. The results indicated that more than 50% of students were unaware of earthquake preparedness prior to the intervention. Sixty-nine per cent of students knew unsafe practices related to fire. Vignesh (2021) found that only 43.9% of school students (before intervention) knew disaster management. In another study, Andespa and Fauzi (2019) found that high school students were well-prepared to handle earthquakes in terms of their knowledge, attitude, emergency planning, and resource mobilisation. However, they were less prepared regarding the warning system. As a

result, the average index value of the four earthquake disaster preparedness parameters fell into the “almost ready” category. The students’ low preparedness for earthquake disasters was also attributed to the lack of training or socialisation on the necessary steps to take during an earthquake, as well as the absence of earthquake disaster preparedness materials in the classroom curriculum.

Given the increasing frequency and unpredictability of earthquakes and fire disasters, assessing teachers’ awareness and preparedness in this regard is crucial, as they play a vital role in reducing disaster risk. A review of related literature indicated a research gap, as there is a lack of studies focusing on teacher preparedness for disaster risk reduction in schools across Aligarh. The present study aims to address the gaps in strengthening disaster preparedness in schools.

3. Objectives of the Study

1. To assess the awareness of teachers in responding to earthquakes and fire disasters
2. To compare school teachers’ awareness of Disaster risk reduction about Gender and School Board
3. To examine the capacity-building initiatives and training programs received by teachers to enhance their preparedness for disaster risk reduction in schools
4. To explore the availability of non-structural measures with the schools for disaster safety
5. To study the initiatives of schools for awareness generation and sensitisation of students

4. Methods and Materials

A descriptive research approach utilising a survey method was employed to investigate teachers’ awareness and preparedness regarding the risk reduction of earthquake and fire disasters in schools.

4.1 Sample of the study

The study was conducted on a sample of 553 school teachers from 32 schools in Aligarh, Uttar Pradesh, encompassing both primary and secondary levels. The sample included 12 schools affiliated with the Central Board of Secondary Education (CBSE), nine schools under Aligarh Muslim University (AMU), and 11 schools governed by the Uttar Pradesh (UP) board.

4.2. Data Collection Instrument

The researcher employed a self-constructed tool comprising 21 items, focusing on disaster risk reduction (DRR) related to earthquake and fire safety. Data collection was facilitated using Google Forms. The items have been provided with options to respond with ‘Yes’ or ‘No’. Content validity was established by giving it to 3 experts from the field of environmental sciences. The Cronbach’s alpha was observed to be 0.78, which establishes its reliability. The scale consists of 4 dimensions as follows:

- **Awareness:** Seven items have been included in this dimension to assess teachers’ familiarity with evacuation routes, awareness of resources available to assist disabled students, the ability to respond quickly and effectively to a fire breakout, the locations of emergency supplies, and their understanding of communication protocols.
- **Preparedness:** There are five items regarding the training received by teachers, including evacuation, effective communication with students, parents, and colleagues, fire safety, and the use of first aid during emergencies.
- **Availability of Nonstructural Elements:** This dimension comprises five items, including the presence of two doors per classroom, adequate window provisions, properly secured items

(to walls or floors), availability of fire extinguishers, and accessibility of first aid kits and emergency equipment.

- **Empowerment of Students:** This dimension includes four items related to school initiatives for awareness generation and student sensitisation.

4.3 Statistical Techniques

The data underwent a comprehensive analysis using statistical techniques, including Percentage analysis, ANOVA, and Tukey HSD Test, facilitated by SPSS software. Percentage analysis was utilised to ascertain the proportion and distribution of specific variables within the dataset. ANOVA was applied to assess the variance between groups. The Tukey HSD Test, a post hoc test, was used to examine significant mean differences between groups.

5. Results and Discussion

5.1 Awareness of Teachers in Responding to Earthquakes and Fire Disasters

One of the primary objectives of the study was to analyse teachers' awareness regarding various aspects necessary for taking prompt actions in the event of an earthquake and fire disaster. The findings indicate that a significant majority (80.39%) of teachers are familiar with the evacuation routes in the school, ensuring they can guide students safely in the event of an emergency. Sixty-nine per cent of teachers are aware of the resources available to assist students with disabilities, although efforts should be made to enhance inclusivity in emergency preparedness. Seventy-five per cent of teachers are aware of the locations of emergency supplies, such as first aid kits and fire extinguishers, demonstrating strong preparedness for an immediate response. However, only 44.44% of teachers reported being briefed by authorities on emergency communication protocols, highlighting a gap that needs to be addressed for effective crisis management.

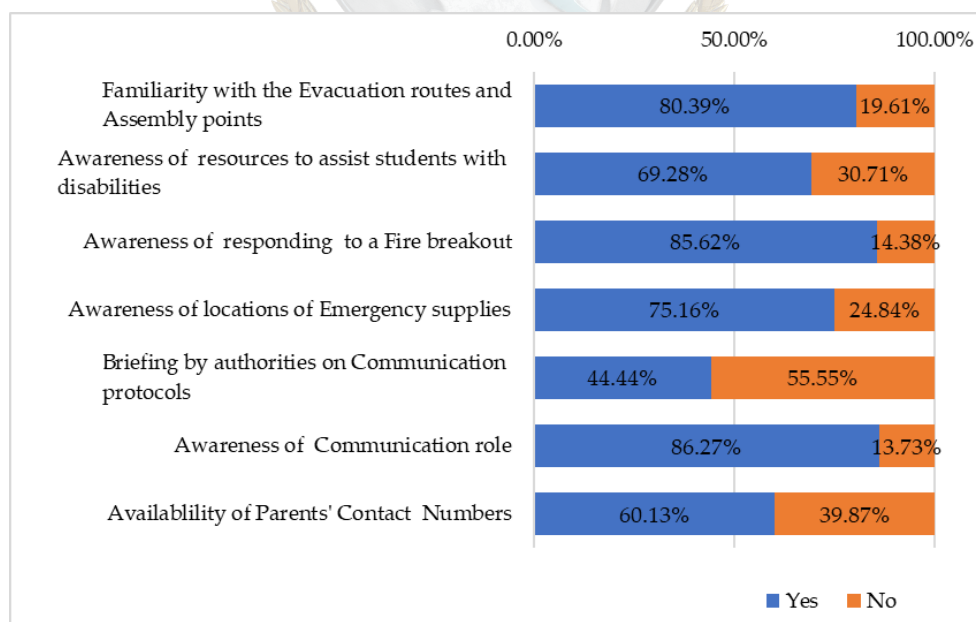


Figure 1. Awareness of Teachers in responding to Earthquakes and Fire Disasters

Findings further reveal that 86.27% of teachers understand their role in communicating with students and staff during an emergency, which is crucial for ensuring safety. Similarly, 60.13% of teachers have access to parents' contact numbers to facilitate timely communication during a disaster. Cruz and Ormilla (2022) also observed that teachers were aware of Disaster Risk Reduction and Management activities as they had attended related capacity-building programs.

5.2. School Teachers' Awareness of Disaster Risk Reduction about Gender and School Board

Table 1 reveals that the f-value for the main effect of Gender is insignificant at the 0.05 level, i.e., [$f(2,553) = 0.686, p > 0.05$]. The study indicates that gender differences do not exist among teachers related to awareness related to earthquake or fire disaster risk reduction, similar to the findings of Gür Erdoğan and Şimşek, 2023; Bulu and Avci (2023) and contradicts the findings of Mathew and Antony, 2014 who observed that male secondary school teachers had better awareness of Disaster Risk Reduction.

Table 1: Tests of Between-Subjects Effects

Dependent Variable: Awareness of Teachers					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	111.720 ^a	6	18.620	6.274	.000
Intercept	450.057	1	450.057	151.655	.000
Gender	4.069	2	2.034	0.686	.505
Board	97.526	2	48.763	16.432*	.000
Gender * Board	2.689	2	1.345	.453	.637
Error	433.274	546	2.968		
Total	4380.000	553			
Corrected Total	544.993	552			

a. R Squared = .205 (Adjusted R Squared = .172)

Table 1.1: Significance of difference between means

(Disaster Management Awareness among School Teachers of Different Board)

Tukey HSD Test

School Board	Mean Difference (I-J)	Sig.
CBSE vs UP Board	1.844*	.000
CBSE vs AMU Board	0.332	.613
UP Board vs AMU Board	-1.512*	.000

* significant at 0.05 level.

On the other hand, the f-value was found to be significant for the main effect of school boards [$F(2,553) = 16.432, p < 0.05$], indicating that differences exist among schools based on different school boards.

Furthermore, the Tukey HSD test (Table 1.1) reveals a significant mean difference (1.844) between the school teachers of CBSE schools and those of UP Board Schools. CBSE School teachers have a higher awareness of disaster risk reduction compared to UP Board teachers. There is no significant mean difference (0.332) between teachers of CBSE schools and AMU Schools. There is a significant mean difference (1.512) between the school teachers of UP Board and AMU Schools. AMU School teachers have obtained a higher mean score compared to UP Board teachers. This requires schools to allocate more resources towards professional development opportunities, including workshops and seminars on disaster management, thereby enhancing teacher awareness and competency in this area. The observed differences underscore the importance of targeted training and support mechanisms for teachers.

5.3 Capacity-building Initiatives and Training Programs received by Teachers to enhance their Preparedness

There are five items regarding the training received by the teachers for fire breakout and earthquake preparedness.

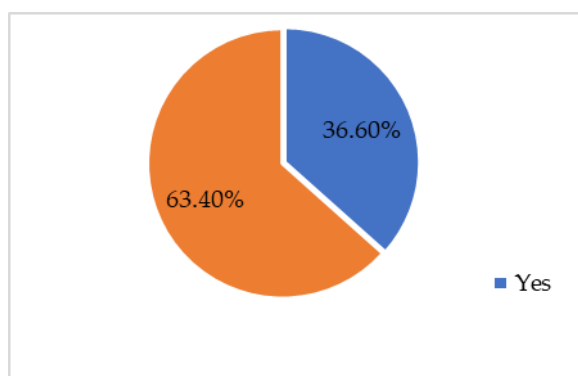


Figure 2. Training received to guide and lead students safely during evacuation

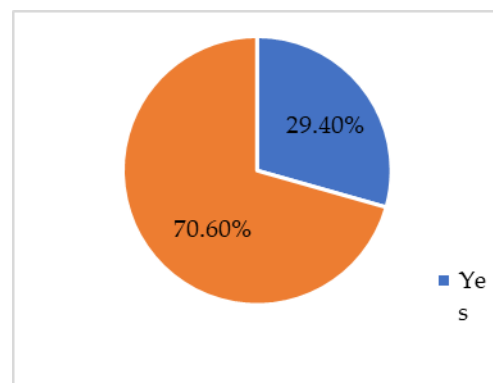


Figure 3. Training received by Teachers for the "Drop, Cover and Hold on" Technique

Figure 2 indicates that only 36.60% of teachers responded positively, and the remaining 63.40% denied receiving any training from schools to guide and lead students safely during evacuation. The findings reveal that a concerning gap exists in the training and preparedness of teachers regarding disaster risk reduction in schools. It can also be observed that only 29.40% of teachers have received training for the "Drop, Cover, and Hold On" technique required for earthquake disaster risk reduction. In comparison, the remaining 70.60% have not received training (Fig. 3). This finding contrasts with those of Santos and Arguilles (2017). These results showed that 59% of the teachers had attended seminars and training related to Disaster Risk Reduction (DRR).

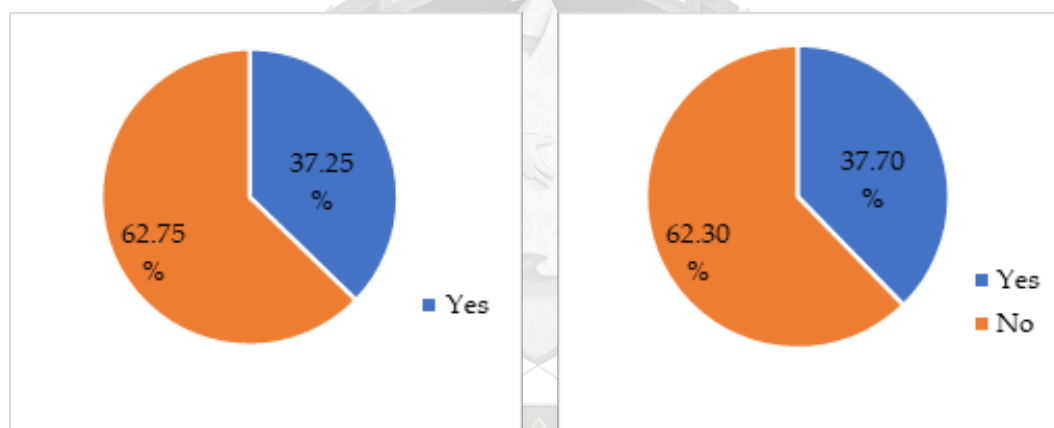


Figure 4. Training received by Teachers for using Fire Extinguishers or Fire Alarms

Figure 5. Preservice Training Received

Figure 4 indicates that 37.25% of teachers have received training on using fire extinguishers or fire alarms in schools, while 62.75% have not. Similarly, 62.30% of teachers have not received any preservice training on disaster management during their B.Ed or M.Ed course. It is also evident from Figure 5 that only 37.70% of teachers have received training on Disaster management activities during their Teacher education program.

Figure 6 indicates that only a few teachers (37.7%) have received guidance on addressing students' potential anxiety or fear related to earthquakes or other emergencies in a calm and reassuring manner. In contrast, 62.3% of teachers have not received any guidance from school authorities, which is a matter of grave concern. Chung and Yen (2016) had a similar observation that teachers were comparatively less proficient in preparation actions related to specific aspects of disaster prevention literacy.

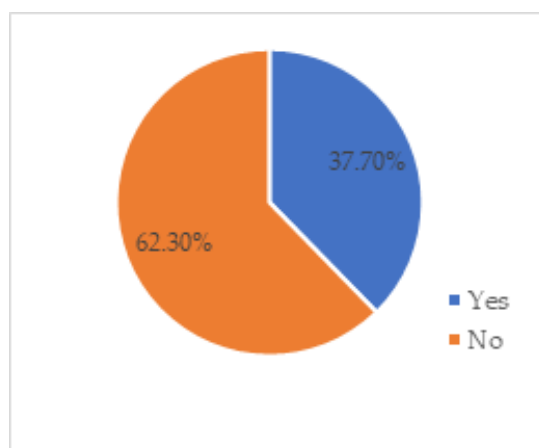


Figure 6. Guidance received by Teachers to address Students' potential Anxiety or Fear

With the unpredictability of natural disasters and emergencies, it becomes imperative for schools to prioritise comprehensive training for teachers, ensuring they possess the necessary skills and knowledge to provide comfort, reassurance, and guidance to students when faced with such challenges. By addressing this gap, schools can foster a safer and more supportive learning environment, promoting resilience and well-being among students in times of crisis. As viewed in prior studies, "the conduct of different trainings regarding DRR, drills, first aid, fire safety, search and rescue, swimming, and evacuation and emergency shelter is necessary" (Ahmedabad Action Agenda for School Safety, 2007 as cited in Mamogale, 2011). This will deepen teachers' understanding of different hazards and risks, empowering them to respond in establishing a disaster-resilient and safe school community.

5.4 Availability of Non-Structural Measures with the Schools for Disaster Risk Reduction

The study aimed to explore the availability of non-structural measures in schools for disaster safety. The easy evacuation of students from classrooms during emergencies is vital. It is evident from Fig. 7 that only 44.4% of schools have implemented the provision of two doors for easy evacuation during earthquakes or any such emergencies, indicating a proactive approach to safety measures. In contrast, 55.6% of schools lack this facility, indicating a need for improvement.

All the schools (100%) have adequate openings in their classrooms for ventilation and lighting, ensuring a conducive learning environment. However, while 84.31% of schools have secured fixtures, such as almirahs, shelves, and ceiling fans, properly to the walls or floor, 15.69% lack this crucial safety measure, potentially posing hazards during emergencies. Furthermore, the majority of schools (91.5%) have properly positioned pots or planters in corridors or playgrounds to facilitate smooth evacuation during disasters, highlighting a positive safety initiative.

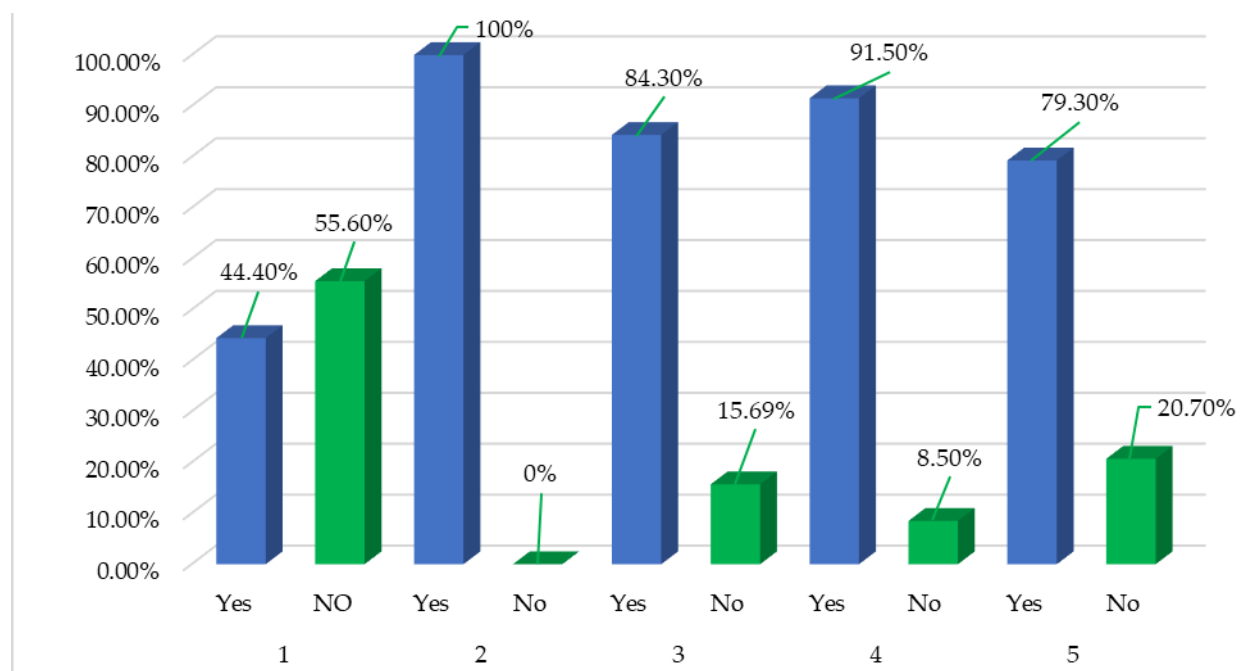


Figure 7. Availability of Non-Structural Measures with the Schools for DRR. Notes: 1) Availability of two doors in the classroom for easy evacuation; 2) Availability of adequate openings in the classroom for ventilation and lighting; 3) School fixtures properly secured; 4) Safe placement of pots for easy evacuation; 5) Regular maintenance of emergency equipment.

However, it is a matter of concern that 8.5% of schools still have not prioritised this aspect of safety. Moreover, while 79.43% of schools have procured and maintained emergency equipment, such as fire extinguishers and first aid kits, 20.70% have not, indicating a significant gap in emergency preparedness. Schools need to recognise the importance of comprehensive safety protocols to ensure the well-being of students and staff during emergencies and continue to address existing gaps in safety measures. Similar to the present finding, Gajbhiye (2014) also observed that safety norms were not given priority in most schools and were often violated due to ignorance and a lack of knowledge. The researcher also observed that exit routes were blocked in most schools by placing all the extra storage and broken furniture. Fire extinguishers were outdated, and schools were unaware of this fact. Contrary to the above findings, Acierto, Robas, and Monte (2023) observed that elementary schools in the Philippines have fully implemented safe learning facilities and partially implemented enabling environment and school disaster risk reduction management criteria.

5.5 Initiatives of Schools for Awareness Generation and Sensitization of Students

It is also vital for the school to take initiatives regularly to generate awareness and sensitise students. The findings indicated a mixed picture regarding the implementation of disaster preparedness activities in schools. It is clear from Figure 8 that very few schools (41.09%) reported holding mock drills regularly to train students for emergencies, indicating a lack of a proactive approach to safety. A notable portion of schools (58.91%) still lack this essential practice. Similar results were obtained by Balu (2020), who observed that 43% of schools had conducted safety drills at least once a year.

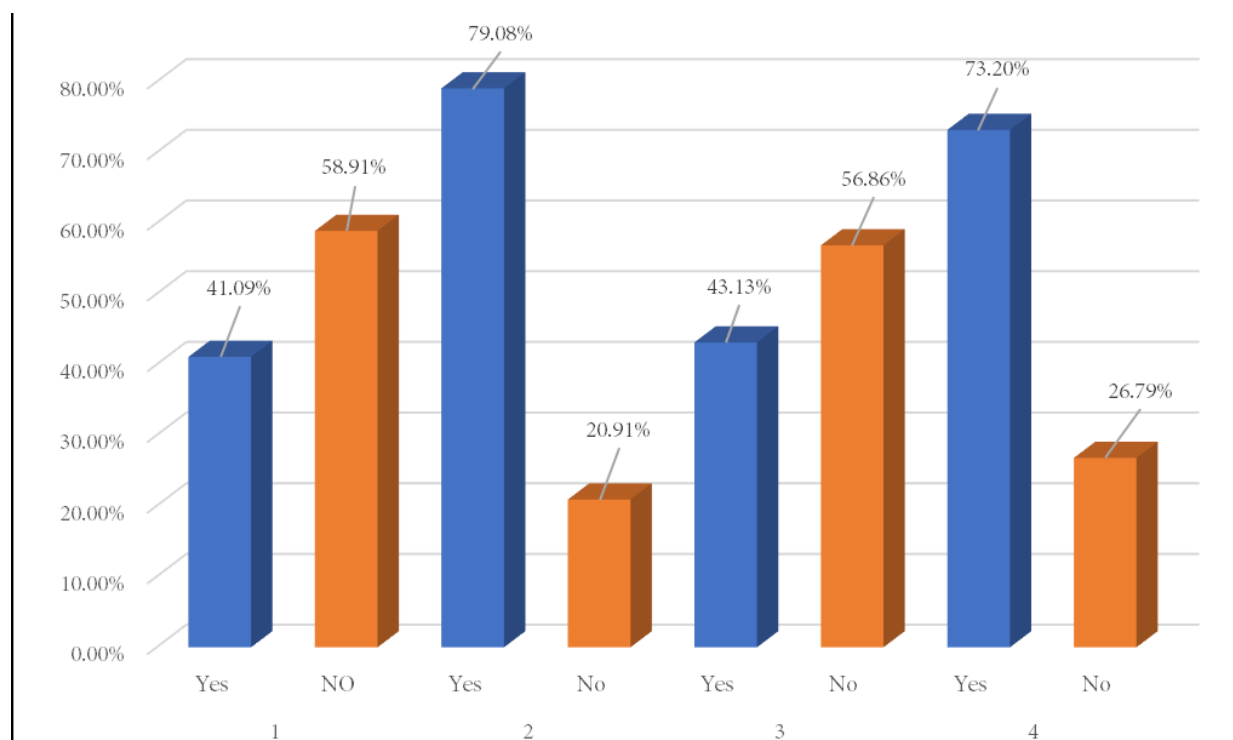


Figure 8. School Initiatives for Awareness Generation and Student Sensitisation. Note: 1 Mock drill was conducted; 2 Students trained for Fire Safety Protocols; 3 Experts were invited to empower students and teachers; 4 Extracurricular activities

The fact that 79.08% of schools have taught students about fire safety protocols demonstrates a positive step towards raising awareness among students. However, a significant portion of schools have not yet implemented such training, highlighting potential gaps in safety education. 43.13% of schools regularly invite experts to empower students and teachers regarding disaster management activities, while a considerable number of schools have not utilised external resources to enhance disaster preparedness. It is also evident from Fig 8 that 73.20% of schools have conducted extracurricular activities to educate students about disasters and their commendable management, indicating a holistic approach to disaster preparedness education. In a similar study, Cvetković, V. (2016) concluded that it is vital to encourage individuals to take preventive measures and familiarise themselves with safety procedures. The researcher emphasised that a vital step in enhancing preparedness is the careful design and implementation of specific disaster-related topics, along with imparting practical skills at both the primary and secondary stages of education to empower students.

6. Conclusion and Recommendations

Schools and teachers play a crucial role in disaster risk reduction by adopting effective mitigation strategies and preparing for emergencies. Often, a lack of awareness exacerbates the impact of disasters, complicating emergency management efforts for authorities. Disaster education is fundamental to transforming the concept of disaster management in the country. The Ministry of Human Resource Development, in collaboration with the National Disaster Management Authority (NDMA), should undertake significant nationwide initiatives periodically, as well as establish effective monitoring mechanisms to empower all stakeholders, ensuring they are equipped to manage disasters effectively.

Teachers play a crucial role in disaster preparedness, serving as the first line of defence in schools during emergencies. Therefore, regular training is necessary to equip them with the knowledge and skills required to protect students effectively. Enhanced awareness programs and comprehensive preparedness plans should be implemented to foster a culture of safety within the school community.

Schools, as vital platforms for imparting knowledge, skills, and attitudes necessary for disaster preparedness, have a critical role in raising disaster awareness among students. Similarly, training students in disaster preparedness is crucial to ensure they can respond effectively in the event of an emergency. Hence, integrating Disaster Risk Reduction (DRR) into the educational framework, along with an experience-based curriculum, is not just an option but a necessity. It should be incorporated not only in schools but also in teacher education programs to equip prospective teachers.

The National Council for Teacher Education (NCTE), as a regulatory body, should take a proactive role in promoting disaster preparedness by mandating Disaster Risk Reduction (DRR) training as an essential component of teacher education programs in India. This directive can ensure that prospective teachers are equipped not only with pedagogical skills but also with the practical abilities needed to respond effectively during emergencies. Additionally, certification programs that assess and validate teachers' disaster readiness can be introduced. Ultimately, prioritising and investing in robust safety measures in educational institutions is crucial for mitigating the impact of potential disasters. By doing so, we can create safer and more resilient learning environments for teachers and students.

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