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## Assessing Secondary School Teachers' Disaster Preparedness Using the Pakistan School Safety Framework and Sustainable Development Goals

Shahid Iqbal<sup>1</sup> Saeed Ahmed Abro<sup>2</sup> Tehseen Anjum<sup>3</sup> Ishfaq Ahmed<sup>4</sup>

**Abstract:** In response to the potential risks posed by natural or human-made disasters, the Pakistan School Safety Framework (PSSF) was created to serve as a comprehensive strategy aimed at safeguarding the well-being of students, teachers, and school staff. A study was undertaken to evaluate the readiness of secondary school teachers in the face of disasters, utilizing the Sustainable Development Goals and the Pakistan School Safety Framework as guiding principles. An assessment questionnaire comprising 27 items aligned with the Sustainable Development Goals (SDGs) was meticulously developed and scrutinized by three subject matter experts before implementation for data gathering. The assessment tool encompassed four variables and a total of 27 items. Data was collected from 64 schools and 320 secondary school instructors and was subsequently analyzed using SPSS and Microsoft Excel. The results revealed that the majority of schools fell into the "Slightly Prepared" category based on the assessment outcomes. Following the study, the researcher provided recommendations to enhance disaster preparedness among secondary school teachers. These included the implementation of regular drills, provision of training sessions, and updating of emergency response plans. Moreover, the researcher emphasized the significance of collaboration with local emergency services and community organizations to bolster preparedness efforts and ensure a coordinated response in the event of a disaster.

**Key Words:** Pakistan School Safety Framework, Disaster Preparedness, Sustainable Development Goals, Secondary School Teachers, Disaster Training

### Introduction

Calamities envelop unexpected and serious events, which can be either normal or human-caused, making aggravation or annihilation of human lives and framework. The degree of the harm is affected by the recurrence and strength of the occasion. Instances of catastrophic events incorporate tremors, floods, and weighty precipitation, though man-caused debacles include bomb impacts, psychological oppressor assaults, and street mishaps (Caldera & Wirasinghe, 2021; Rosselló et al., 2020). The two classifications of fiascos can significantly affect networks, prompting death toll, dislodging, and monetary afflictions. Compelling readiness and reaction procedures are fundamental in diminishing the effect of calamities and shielding lives (Aronsson & Dahlberg, 2022). Somewhere in the range of 1995 and 2022, the Crisis Occasions Data set (EM-DAT) broadly recorded 11,360 cataclysmic events around the world. These staggering occasions brought about a striking 1,681,173 passing and 7,599,259 wounds. Asia bore the best effect of these catastrophic events, with 4,390 occasions, representing 38.6% of the total worldwide events. Shockingly, almost 50% of the fatalities (918,198, or 54.6%) and wounds (3,855,558, or 50.7%) were amassed around here. Hydrological debacles, like floods and waves, were the most well-known, including 43.7% (4,969) of generally recorded occasions. Geophysical calamities, including seismic tremors and

<sup>1</sup> PhD Scholar, Department of Education, Institute of Business Management (IoBM), Karachi, Sindh, Pakistan.

<sup>2</sup> PhD Scholar, Department of Education, Institute of Business Management (IoBM), Karachi, Sindh, Pakistan.  
Email: [saeedabro5@gmail.com](mailto:saeedabro5@gmail.com)

<sup>3</sup> Lecturer, Department of Education, Mir Chakar Khan Rind University, Sibi, Balochistan, Pakistan.  
Email: [tehseen.anjum@mckru.edu.pk](mailto:tehseen.anjum@mckru.edu.pk)

<sup>4</sup> PhD Scholar, Department of Education, Sindh Madresstul Islam University, Karachi, Sindh, Pakistan.  
Email: [ishfaqahmed2020463@yahoo.com](mailto:ishfaqahmed2020463@yahoo.com)

▪ **Corresponding Author:** Shahid Iqbal ([shahid.khattack@yahoo.com](mailto:shahid.khattack@yahoo.com))

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volcanic emissions, caused the largest number of fatalities, totaling 770,644 (45.8%). Furthermore, natural catastrophes, representing 33.5% of wounds (2,544,177), were boundless in Africa, where they addressed 32.2% of all debacles in the area (Tin et al., 2024). Besides, from 2000 to 2024, man-made catastrophes likewise fundamentally influenced human lives and frameworks. Striking financial misfortunes included around \$60 billion from the Deep-water Skyline oil slick and an expected \$200 billion from the Fukushima atomic calamity. Human expenses were significant, too, with 70,000 fatalities ascribed to the 2003 European intensity wave and north of 1,100 passing coming about because of the 2013 Rana Court breakdown (Cvetković et al., 2024).

Pakistan is profoundly helpless to a wide assortment of normal and man-made debacles because of its geological, climatic, and financial circumstances. The nation encounters normal disasters like tremors, floods, dry seasons, tornadoes, and frigid liquefying and avalanches. The staggering 2005 Kashmir quake brought about in excess of 80,000 fatalities and broad harm to the framework. Rainstorm floods have caused critical annihilation, especially during the storm season. Dry spells in the Sindh and Baluchistan territories deteriorate water shortage issues and unfavorably affect farming. Twisters in the southeastern locale can bring about extreme flooding, solid breezes, and tempest floods. Moreover, the hilly regions are inclined to cold liquefying and avalanches, which are connected to environmental change (Khan et al., 2022). Man-caused debacles include modern mishaps, struggle and illegal intimidation, foundation disappointments, and natural corruption. Different elements add to this weakness, including assorted landscape and climatic circumstances, high populace thickness in dangerous regions, destitution, and lack of foundation. It is guessed that environmental change will build the recurrence and seriousness of cataclysmic events. Endeavors to address these weaknesses include upgrading calamity readiness and reaction, putting resources into a strong framework, and carrying out viable natural administration rehearses (Shah et al., 2020).

The significant effect of regular and man-made debacles on younger students internationally influences their schooling, security, and in general prosperity. These results incorporate death toll and wounds, interruption of instruction, mental injury, dislodging, monetary and social repercussions, and enduring consequences for instructive accomplishment and social turn of events (Seddighi et al., 2020). Fatalities, wounds, and disturbances can bring about getting through physical and mental injury in kids. School terminations and framework harm can obstruct instruction, prompting diminished scholarly execution and higher dropout rates. The monetary stress on families can restrict their capacity to manage the cost of instructive costs or focus on tutoring (Masten, 2020).

The demolition achieved by the 2010 Haiti Seismic quake influenced more than 4,000 schools, influencing the presences of 1.5 million youths. The 2014 Typhoon Haiyan achieved unpreventable damage, impacting 1.5 million students. Furthermore, the 2015 Nepal Seismic quake hurt more than 1,000 schools, slowing down the preparation of thousands of students (Crawford & Roberts, 2017).

In recent years, Pakistan has experienced a movement of destroying events, including quakes, floods, cyclones, and mental oppressor attacks, which have significantly impacted the nation's tutoring framework. The 2005 Kashmir Quake, for example, impacted more than 500,000 students and incited different fatalities. The 2013 Baluchistan Shake made serious mischief in schools, influencing countless students. The 2010 Pakistan Floods, one of the most incredibly appallingly terrible in the nation's arrangement of encounters, upset the preparation of in excess of 20 million people. Basically, the 2011 Sindh Floods and storms like the 2007 Twister Yemeni and 2010 Hurricane Phet truly hurt schools, achieving unpreventable informative unsettling influences. Besides, dread-based oppressor attacks, for instance, the 2014 Peshawar School Attack, have essentially affected the preparation region in Pakistan (Shah et al., 2023). Training and teachers play a critical part in misfortune the board by further developing preparation, reaction, and recuperation endeavors. They integrate calamity readiness into the educational program, do penetrates, and lead mindfulness crusades. Teachers are prepared for the board, including crisis reaction and mental help, and are essential during debacles for guaranteeing understudies' well-being, giving medical aid, and organizing with understudies, guardians, and crisis administrations. After a catastrophe, teachers offer psychosocial support, continue instructive exercises, and address learning



holes. They likewise team up with the local area to advance debacle readiness and add to strength endeavors (Alhadi et al., 2021).

The Pakistan School Wellbeing System is created to fortify the strength of instructive foundations within the sight of regular and man-made catastrophes. It incorporates public rules for school security and calamity the board, complete well-being plans, catastrophe-strong structures, and safe learning conditions. The system likewise focuses on instruction and preparation, including coordinating the educational plan, preparing for educators, normal drills, emergency supervisory crews, and psychosocial support. Moreover, it focuses on the meaning of local area investment and organizations to guarantee a planned reaction during crises. By supporting a culture of well-being and readiness inside schools, the system means to safeguard understudies, educators, and staff from expected perils (Azhar, 2022).

The Pakistan School safety framework is a complete arrangement aimed toward upgrading catastrophe versatility, instructive quality, and local area prosperity in accordance with the Sustainable Development Goals (SDGs). It centers around establishing safe learning conditions, coordinating catastrophe readiness into the educational plan, advancing a strong foundation, and guaranteeing secure school areas. The system additionally focuses on advancing great well-being and prosperity, offering psychosocial support, and getting ready for crises while pushing for fair admittance to training to forestall potential interruptions that could demolish neediness. Furthermore, the system highlights environmental activity, with an accentuation on calamity readiness and reaction, and energizes collaboration among networks and state-run administrations to encourage worldwide associations for supportable turn of events. Instances of execution incorporate coordinating school wellbeing measures into catastrophe risk decrease strategies and giving preparation and limit building programs for instructors and staff. This system tends to prompt debacle gambles as well as adds to more extensive economic advancement objectives (Khan et al., 2022).

### Objective of the Study

The main objective of the study was to investigate the level of disaster preparedness of secondary school educators by using a self-constructed tool based on PSSF.

### Research Question

What is the level of disaster preparedness of secondary school educators who use a self-constructed tool based on PSSF?

### Research Methodology

The research methodology in this study was quantitative, using different statistical tools like frequency, mean, and KMO tests. Data was collected through a survey questionnaire.

### Findings of the Study

The disaster preparedness level of secondary school educators was assessed through the Comprehensive Disaster Preparedness Assessment (CDPA) and Risk Reduction tool. The schools were categorized into three parts:

#### Assessment of Comprehensive Disaster Preparedness (CDPA) and Risk Reduction Level of Schools

The CPDA and Risk Reduction levels of schools are distributed into three categories. Every category school is described below with their achieving values in CPDA and Risk Reduction.

#### Comprehensive Disaster Preparedness (CDPA) and Risk Reduction “Prepared-Level Schools”

Table 1

Comprehensive disaster preparedness (CDPA) and risk reduction “prepared-level schools.”

No of Schools	CDPA and Risk Reduction value	Category
02	7.15	Prepared

The noteworthy Comprehensive Disaster Preparedness (CDPA) and Risk Reduction Level scores of 7.15 for the two schools in the table above demonstrate areas of strength for dynamic learning and fiasco preparing, showing that the two educators and understudies are good to go to deal with crises. The "No Problem at All School Foundation" class got a remarkable score of 8.22, accentuating the schools' obligation to guarantee security for everybody nearby. Moreover, the score of 8.16 for "Consciousness of Neighborhood Dangers" shows that the educators have a thorough comprehension of the expected weaknesses and effects of fiascos in the district. With an honorable CDPA and Hazard Decrease score of 7.15, as well as areas of strength for, as in other urgent classifications, these two schools act as models for catastrophe readiness and chance moderation. Their proactive methodology and commitment to somewhere safe set an exclusive requirement for different foundations. By focusing on catastrophe readiness and understanding neighborhood gambles, these schools are really safeguarding the prosperity of their understudies and staff, situating themselves as pioneers in crisis status.

### Comprehensive Disaster Preparedness (CDPA) and Risk Reduction “Moderately Prepared –Level Schools”

Table 2

Comprehensive disaster preparedness (CDPA) and risk reduction are "moderately prepared–level schools."

No of Schools	CDPA and Risk Reduction Value	Category
10	5-6	Moderately- Prepared

Ten schools have a moderate degree of calamity readiness, as found in their CDPA and risk reduction scores falling somewhere in the range of 5 and 6. In any case, there are holes in certain areas, like web-based learning and crisis readiness, actual well-being and foundation, and web-based showing preparation, with scores demonstrating fractional or no readiness. One school stands apart for its outstanding exhibition in actual security and framework, procuring a score of 8.23. This school shows serious areas of strength for calamity gambles and a quick crisis reaction, with an overall mindfulness and prompt reaction score of 7.75. Furthermore, one school accomplishes a 7.52 in dynamic learning and calamity preparation, mirroring its proactive way of dealing with catastrophe readiness training. One more school shows a strong obligation to decrease calamity risk, and the executives scored 6.74 in a hierarchical fiasco on the board. Two schools succeed in web-based learning and crisis readiness, accomplishing scores of 8.67 and 8.52, respectively, while their scores in actual security and framework range between 7.85, 7.20, and 6.53. By and large, these schools show significant qualities in key regions like actual security, neighborhood risk mindfulness, and convenient crisis reaction. Their fluctuated exhibitions feature a wide range of readiness, for certain schools succeeding in unambiguous spaces of calamity the executives.

### Comprehensive Disaster Preparedness (CDPA) and Risk Reduction “Slightly Prepared –Level Schools”

Table 3

Comprehensive disaster preparedness (CDPA) and risk reduction are "slightly prepared–level schools."

No of Schools	CDPA and Risk Reduction value	Category
52	2-4	Slightly -Prepared

The examination assesses 64 schools' calamity of the board preparation utilizing the Extensive Debacle Readiness and Hazard Decrease apparatus. Most of the schools got a "Marginally Ready" rating, demonstrating shortcomings in catastrophe in the executive's regions like nearby gamble mindfulness, actual security, and framework. While certain schools succeed in unambiguous regions like framework wellbeing, general mindfulness, and authoritative fiasco the board, they actually battle in web-based showing status and calamity preparing. No school was sorted as "Not Ready" or "Exceptionally Ready," recommending the requirement for constant improvement in all parts of catastrophe readiness and hazard decrease. Designated upgrades are important to accomplish more significant levels of productivity in calamity for the executives, lining up with the targets of the Pakistan School Wellbeing System and Practical Advancement Objectives.



## Discussion

The examination stresses the significance of the CSS system for guaranteeing school security and distinguishes the requirement for a device to assess educators' calamity readiness. An instrument was created in view of the CSS system markers to evaluate safe learning offices, fiasco the board, calamity risk schooling, and educators' readiness levels. Seven fundamental elements for educators' catastrophe readiness and chance decrease were recognized, featuring the preparation of certain schools in crisis readiness, web-based learning, nearby gamble mindfulness, fiasco preparing, and school debacle the executives. Be that as it may, most schools were found to have just a slight readiness for catastrophe, and the board and chance decreased. The concentrate likewise highlights the negligible endeavors made by the instruction area in advancing DRR training and desires dire government activity to upgrade calamity readiness in schools through better framework, educator preparation, and joint effort with nearby organizations.

## Recommendations

The proposals introduced a plan to enable instructors to get ready for normal and man-made fiascos. They incorporate carrying out improved fiasco risk decrease preparing programs, coordinating calamity the board into the educational plan, working together with neighborhood specialists, laying out school-based debacle reaction groups, directing customary crisis drills, reinforcing foundation and wellbeing measures, progressing to web-based learning stages, giving psychosocial support preparing to teachers, guaranteeing clear correspondence systems, and including families and the more extensive local area in catastrophe readiness drives. These actions focus on the security and prosperity of understudies and the school's local area.

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