RESEARCH ARTICLE

▪ Vol. 5, No. 1 (Winter 2024)
▪ p-ISSN: 2791-0237
▪ e-ISSN: 2791-0202
▪ Pages: 64 – 70
▪ DOI: 10.55737/qjss.379718229

Open Access

QLANTIC JOURNAL OF SOCIAL SCIENCES

Assessment of School Teacher's Disaster Preparedness by Using Comprehensive School Safety Framework

Shahid Iqbal [1] Sarwat Nauman [2]

Abstract: *The Comprehensive School Safety Framework (CSSF) is a comprehensive strategy for a safe learning environment for teachers, students and school staff. This study assessed the disaster preparedness level of secondary school teachers in the public school district Attock. Three hundred twenty teachers were selected from district Attock public based on their age, gender, qualification, teaching level and teaching experience. A five-point Likert scale survey instrument using the CSS framework was used to analyze the disaster preparedness of secondary school teachers. The data was collected through Google Forms using a survey. Data was standardized on MS Excel for a smooth run on SPPS. The data revealed that the majority of the schools are prepared for disaster. There are safe learning facilities, school disaster management, disaster risk reduction and resilience education. However, no school was found to be highly prepared. At the end of the study, the researcher gives further research recommendations on school safety based on the CSS framework.*

Key Words: Comprehensive School Safety Framework, Disaster Preparedness, Secondary School Teachers, Public Schools

Introduction and Background of the Study

Disaster is a major issue and problem on a global scale (Fomby et al., 2009; (Susman et al., 2019). In recent years, numerous countries have been severely impacted by natural disasters, resulting in significant human and animal loss (Botzen et al., 2019). Disaster, defined by UNISDR, is a significant disruption of a community's functioning due to a hazard that interacts with exposure, vulnerability, and capacity, resulting in significant losses and devastating impacts(Navrud & Magnussen, 2013; McGill et al., 2023).

A natural hazard, categorized as a geologic, hydrologic, or meteorological phenomenon, can cause harm or loss. A natural disaster results in damage, loss, disruption, and fatalities, affecting communities and causing direct, indirect, and intangible losses. Direct losses involve physical damage, indirect losses involve disruption, and intangible losses involve psychological effects (Cardoso et al., 2023). These losses can have long-lasting impacts on individuals and communities, requiring extensive recovery efforts and support systems. Additionally, natural disasters can also lead to economic setbacks, as they often destroy infrastructure, businesses, and agricultural resources (French & Kousky, 2023). Natural hazards like drought, floods, and earthquakes cause thousands of casualties and billions of dollars in losses (Naoaj, 2023). The increasing frequency of natural disasters is linked to increased vulnerability, particularly in developing countries. Vulnerability, categorized into physical, psychological, social, political, and economic aspects, indicates the level of intensity and recovery potential of the affected community(Mutch, 2022; Cardoso et al., 2023).

The Global Climate Risk Index shows that between 2000 and 2020, an average of 280 million people worldwide were affected by natural disasters, resulting in an average of 80,0000 deaths and an estimated $300 billion in damage, largely due to factors like resource depletion, population growth, and agricultural activities (Drennan & Morrissey, 2018). Pakistan's geographical location, amidst the Hindu Kush mountain range and Arabian Sea, makes it vulnerable to the effects of climate change, highlighting the need for adaptation and mitigation strategies (Seddiky et al., 2020). The Hindu Kush mountain range acts as a

[1] PhD Scholar, Department of Education, Institute of Business Management, Karachi, Sindh, Pakistan.
[2] Associate Professor, Department of Education, Institute of Business Management, Karachi, Sindh, Pakistan.
Email: sarwat.nauman@iobm.edu.pk

▪ **Corresponding Author:** Shahid Iqbal (shahid.khattack@yahoo.com)
▪ **To Cite:** Iqbal, S., & Nauman, S. (2024). Assessment of School Teacher's Disaster Preparedness by Using Comprehensive School Safety Framework. *Qlantic Journal of Social Sciences*, 5(1), 64-70. https://doi.org/10.55737/qjss.379718229

barrier, influencing weather patterns and causing variations in temperature and precipitation across different regions of Pakistan. Additionally, the proximity to the Arabian Sea exposes Pakistan to the risk of rising sea levels and increased intensity of cyclones and storms, further emphasizing the urgency for effective climate change measures (Khan & Shamim, 2022).

Pakistan's government is focusing on strengthening disaster risk reduction and resiliency at the national and barangay levels. The National Disaster Management Authority(NDMA) leads the effort, implementing policies like the National Disaster Risk Reduction and Management Plan, promoting community participation, and collaborating with international organizations for technical expertise and financial support (Hussain et al., 2023). The Pakistani Government has enacted a law to strengthen disaster risk reduction (DRRM) in response to the Second World Conference on Disaster Reduction's Hyogo Framework for Action (HFA), a 10-year plan aimed at enhancing disaster resiliency and promoting safety through education and innovation (Shah et al., 2023). The law includes provisions for the establishment of a national disaster management authority, which will coordinate and implement DRRM efforts across the country. It also emphasizes the importance of community participation and capacity building to respond to and recover from disasters effectively (Hussain et al., 2023).

The United Nations Framework for Disaster Risk Reduction prioritizes Child-Centered Disaster Risk Reduction for children. Countries implement school safety guidelines following global declarations and frameworks, such as the Hyogo Framework for Action and the Sendai Framework, to save children's lives and reduce infrastructure and investment costs (Ahmed, 2013). By prioritizing Child-Centered Disaster Risk Reduction, the United Nations aims to ensure that children are actively involved in decision-making processes related to disaster preparedness and response. This approach recognizes the unique vulnerabilities and needs of children during disasters, promoting their safety, well-being, and overall resilience (Waheed et al., 2023).

CSSF aims to protect students and teachers from harm, ensure consistent access to education, protect education sector investments, and enhance disaster risk reduction and resilience. It consists of three pillars: Safe Learning Facilities, School Disaster Management, and Risk Reduction and Resilience Education. The framework aligns with the Sendai Framework and Sustainable Development Goals(Anis, 2023). CSSF's Safe Learning Facilities pillar focuses on minimizing risks in schools through safety inspections, building codes, and materials. It strengthens disaster response capacity through emergency response plans and communication systems. The Risk Reduction and Resilience Education pillar integrates disaster risk reduction into the curriculum, aligning with the Sendai Framework and Sustainable Development Goals (Shah et al., 2020; Hussain et al., 2023).

Teachers are crucial in disaster management, ensuring student safety through emergency response plans, drills, and education while also providing comfort and emotional support during crises(Uhm & Oh, 2017; Hakim et al., 2023). In addition to their role in emergency preparedness, teachers play a vital role in post-disaster recovery by helping students cope with trauma and facilitating the return to a sense of normalcy. They also collaborate with other stakeholders, such as parents, community organizations, and local authorities, to ensure a coordinated and effective response in times of crisis (Khan et al., 2020).

The study evaluates CSSF's integration in schools, focusing on teacher disaster preparedness and evaluating its prioritization, development, and promotion by administrators, teachers, and DRR Coordinators. The study also examines the effectiveness of CSSF's integration in schools by assessing the implementation of disaster preparedness plans and training programs for teachers. Additionally, it investigates the level of awareness and understanding among administrators, teachers, and DRR Coordinators regarding the importance of prioritizing and promoting disaster preparedness in schools.

Purpose of the Study

The main objective of this study was to evaluate secondary school teacher's (SST) disaster preparedness by using the CSS framework.

Research Question

This study was conducted to answer the following question:

- What is the level of disaster preparedness of secondary school teachers?

Research Methodology

To investigate the disaster preparedness level of secondary school teachers, the researcher used a quantitative research methodology. Quantitative research methodology involves collecting and analyzing numerical data to answer research questions and test hypotheses. It uses surveys, experiments, or structured observations to gather large sample sizes, allowing for generalizations, statistical inferences, and systematic trend prediction (Mohajan, 2020). A study selected 320 teachers from Attock Public School using cluster sampling, collecting data through a questionnaire and a 5-point Likert scale measurement.

The data was collected through a survey using Google Forms. Once the data was collected through a survey using Google Forms, it was exported and organized in MS Excel for further analysis. Finally, the formatted data was imported into SPSS for statistical analysis and interpretation.

Data Analysis and Interpretation

Demographic Analysis of the Participants

The study involved 320 secondary school teachers, with 158 male and 162 female teachers, presented in Table 1.

Table 1

Gender of the Study

Gender	Frequency	Mean
Male	158	49.4
Female	162	50.6
Total	320	100

Table 2

Categorical Description of Mean Rating

Description	Mean Rating
Highly prepared	4.51-5.00
Prepared	3.51-4.50
Moderately prepared	2.51-3.50
Slightly prepared	1.51-2.50
Not prepared	1.00-1.50

Result and Discussion

Table 3

Pillar .1 Safe Learning Facilities

Indicators	Mean	SD	Description
My school location is safe against climate-related extreme events and disasters	2.38	.78	Slightly prepared
Flash floods may occur without warning in my school area	3.10	.82	Moderately prepared
There are industrial facilities adjacent to my school area	3.79	.96	Prepared
There are multi-story buildings adjacent to my school area	3.95	1.18	Prepared
There is protection from physical threats like terrorist attacks, traffic accidents, violence, and crime in my school area	3.11	1.23	Moderately prepared
There is protection from environmental threats like heavy rain, extreme heat, and cold in my school area	3.84	1.11	Prepared

The majority of teachers are prepared because they feel their school is secure from natural and man-made calamities. There is no nearby multistory structure that has quickly become a hazard on Earth; the schools have physical risks, such as traffic accidents and terrorist attacks, as well as natural hazards, such as severe rain and excessive heat. Flash floods are also not a threat to the schools. Based on these characteristics, the school is secure and safe for learning, which contributes to the teacher's level of disaster readiness. The condition of school facilities significantly impacts the teaching and learning process, requiring assessment to recommend strategies for improvement. The Comprehensive School Safety Framework emphasizes the importance of a safe environment for learners, as a conducive learning environment boosts student motivation and interest in learning (Kibriya & Jones, 2020).

Table 4

Pillar 2.School Disaster Management

Indicators	Mean	SD	Description
My school regularly updates and revises its SOPs and contingency plans.	2.68	.89	Moderately prepared
Responsibility has been assigned regarding disaster management in the school	3.38	.84	Moderately prepared
The school regularly conduct disaster risk reduction assessment	3.88	.92	Prepared
Emergency teams are formed, trained and active for disaster situation	3.84	1.11	Prepared
My school is online learning management for long-term disaster	3.32	1.12	Moderately prepared
Online learning management system is regularly updated for natural or man-made disaster	3.20	.97	Moderately prepared

The school disaster management strategy is shown in Table 4. The results showed that the bulk of the school disaster management plan is frequently updated, roles have been allocated in the school, and disaster risk assessments are conducted regularly. All of the catastrophe response teams have been constituted and trained. Whether or not the schools have online learning management is a good indicator of a long-term catastrophe. The learning management system is updated regularly. The teacher's disaster readiness level is prepared for disaster risk reduction and management based on these variables.

School disaster management is crucial for disaster preparedness and response, involving creating plans, protocols, and educating students about potential hazards and appropriate emergency responses(Wang et al., 2020; Shiwaku, 2014). It also involves training teachers and staff members on evacuation procedures and conducting regular drills to ensure everyone is well-prepared. Additionally, school disaster management includes establishing communication systems to quickly notify parents and guardians during emergencies, as well as coordinating with local authorities and emergency services for effective response coordination(Kalogiannidis et al., 2022).

Table 5

Pillar 3. Disaster Risk Reduction and Resilience Education

Indicators	Mean	SD	Description
The school has a regular program of DRR (Disaster Risk Reduction) awareness-raising activities for students	2.51	.81	Moderately prepared
Learning materials on disaster preparedness and risk reduction are available for students	3.27	.87	Moderately prepared
Extra-curricular activities and events are conducted for students to provide active learning about disaster preparedness and risk reduction.	3.81	.91	Prepared

Indicators	Mean	SD	Description
The school has a regular program of DRR (Disaster Risk Reduction) awareness-raising activities for students	3.80	1.13	Prepared
The school regularly conduct disaster preparedness drills and training in collaboration with Rescue 1122, NDMA (National Disaster Management Authority), NGOs, and CSOs (Civil Society Organizations).	3.35	1.02	Moderately prepared

Table 5 presents the schools' disaster risk reduction and resilience education programs. The DRR programs and learning materials are well-prepared for use in the school. To prepare students for disasters, DRR training and activities are also offered. The school also runs a DRR awareness program that raises instructors' and students' awareness. Furthermore, the schools routinely carried out training courses in compliance with catastrophe risk reduction and management. We may conclude that educators are ready for catastrophe risk reduction and management based on these indications. These indications suggest that the educators are proactive in their approach to catastrophe risk reduction and management. By offering DRR training and activities, as well as running awareness programs, the schools are ensuring that both instructors and students are well-prepared for potential disasters. This comprehensive approach demonstrates a commitment to promoting resilience and safety within the school community.

The Hyogo Framework and Sendai Framework emphasize the importance of education in disaster preparedness (Prasad & Nigam, 2023). Education helps people manage risk before a disaster occurs, developing knowledge, skills, and attitudes for disaster risk reduction and resilience. Pillar 3 of the Hyogo Framework involves integrating disaster risk reduction and resilience education across the curriculum, focusing on local community management (Wanner, 2020). Key responsibilities include immersing students and school personnel in disaster risk reduction activities, developing competencies in the formal curriculum, addressing DRRM through quality teaching materials, and creating strategies for integrating DRRM in non-formal approaches. DRRM is integrated into school curriculums and co-curricular activities, covering topics such as science, social science, Earth and Life Science, and Disaster Risk Reduction and Readiness (Mutasa & Coetzee, 2019).

Conclusion and Recommendation

The CSS framework is used to ensure a safe learning environment, and a study analyzing Pakistani schools found they are prepared, but improvements are needed. Limitations include sample size, time constraints, and data accessibility. Despite these limitations, the study highlighted several areas where Pakistani schools have made progress. For example, the implementation of the CSS framework has helped create a more structured and organized learning environment. However, it is crucial to address the identified improvements to further enhance the educational experience for students in these schools.

There are limited studies in Pakistan regarding the disaster preparedness of school teachers, so the researcher recommends that further research be conducted to explore the specific challenges and needs of school teachers in disaster preparedness. Additionally, the researcher suggests that this research should also focus on identifying effective strategies and interventions that can enhance the disaster preparedness skills and knowledge of school teachers, ultimately improving their ability to protect and support students during emergencies. Further research in the field of comprehensive school safety is highly appreciated.

References

Ahmed, Z. (2013). Disaster risks and disaster management policies and practices in Pakistan: A critical analysis of Disaster Management Act 2010 of Pakistan. *International Journal of Disaster Risk Reduction*, *4*, 15–20. https://doi.org/10.1016/j.ijdrr.2013.03.003

Anis, F. (2023). Role of Digital Media in Disaster Management: A Case of Khyber Pakhtunkhwa Pakistan. *Journal of Development and Social Sciences*, *4*(I). https://doi.org/10.47205/jdss.2023(4-i)48

Botzen, W. J. W., Deschenes, O., & Sanders, M. (2019). The Economic Impacts of Natural Disasters: A Review of Models and Empirical Studies. *Review of Environmental Economics and Policy*, *13*(2), 167–188. https://doi.org/10.1093/reep/rez004

Cardoso, B. D., Fontainha, T. C., & Leiras, A. (2023). Looking back and forward to disaster readiness of supply chains: A systematic literature review. *International Journal of Logistics Research and Applications*, 1-27. https://doi.org/10.1080/13675567.2023.2165052

Drennan, L., & Morrissey, L. (2018). Resilience policy in practice — Surveying the role of community based organisations in local disaster management. *Local Government Studies*, *45*(3), 328–349. https://doi.org/10.1080/03003930.2018.1541795

Fomby, T., Ikeda, Y., & Loayza, N. (2009). The growth aftermath of natural disasters. *Policy Research Working Papers*. https://doi.org/10.1596/1813-9450-5002

French, K., & Kousky, C. (2023). The effect of disaster insurance on community resilience: a research agenda for local policy. *Climate Policy*, *23*(5), 662–670. https://doi.org/10.1080/14693062.2023.2170313

Hakim, A., Hayati, F., Marwah, H., & Afifah, H. (2023). The Role of the Teacher in Reducing Post Disaster Trauma in Early Childhood. *KnE Social Sciences*. https://doi.org/10.18502/kss.v8i18.14243

Hussain, M. A., Shuai, Z., Moawwez, M. A., Umar, T., Iqbal, M. R., Kamran, M., & Muneer, M. (2023). A Review of Spatial Variations of Multiple Natural Hazards and Risk Management Strategies in Pakistan. *Water*, *15*(3), 407. https://doi.org/10.3390/w15030407

Kalogiannidis, S., Toska, E., Chatzitheodoridis, F., & Kalfas, D. (2022). Using School Systems as a Hub for Risk and Disaster Management: A Case Study of Greece. *Risks*, *10*(5), 89. https://doi.org/10.3390/risks10050089

Khan, A. A., Rana, I. A., Nawaz, A., & Waheed, A. (2020). Gender-based emergency preparedness and awareness: empirical evidences from high-school students of Gilgit, Pakistan. *Environmental Hazards*, *20*(4), 416–431. https://doi.org/10.1080/17477891.2020.1839375

Khan, N., & Shamim, S. K. (2022). Building Resilience and Management of Vulnerability: Solution for Reduction of Risk of Disasters. *Springer Natural Hazards*, 347–360. https://doi.org/10.1007/978-981-19-3567-1_21

Kibriya, S., & Jones, G. (2020). The impact of a safe learning environment in schools on students' learning outcomes: evidence from Tanzania. *Quality Assurance in Education*, *29*(1), 15–28. https://doi.org/10.1108/qae-11-2019-0124

McGill, N., Verdon, S., Curtin, M., Crockett, J., Parnell, T., & Hodgins, G. (2023). The impact of climate-related disasters on children's communication and wellbeing: Addressing Sustainable Development Goals. *International Journal of Speech-Language Pathology*, *25*(1), 20–26. https://doi.org/10.1080/17549507.2022.2156613

Mohajan, H. K. (2020). Quantitative research: A successful investigation in natural and social sciences. *Journal of Economic Development, Environment and People*, *9*(4). https://doi.org/10.26458/jedep.v9i4.679

Mutasa, S., & Coetzee, C. (2019). Exploring the use of experiential learning in promoting the integration of disaster risk reduction into primary school curriculum: A case of Botswana. *Jàmbá Journal of Disaster Risk Studies*, *11*(1). https://doi.org/10.4102/jamba.v11i1.416

Mutch, C. (2022). Overcoming adversity from large-scale crises and disasters. *Routledge EBooks*, 89–101. https://doi.org/10.4324/9781003180029-9

Naoaj, M. S. (2023). From Catastrophe to Recovery: The Impact of Natural Disasters on Economic Growth in Developed and Developing Countries. *European Journal of Development Studies*, *3*(2), 17–22. https://doi.org/10.24018/ejdevelop.2023.3.2.237

Navrud, S., & Magnussen, K. (2013). Valuing the Impacts of Natural Disasters and the Economic Benefits of Preventing Them. *The Economic Impacts of Natural Disasters*, 57–79. https://doi.org/10.1093/acprof:oso/9780199841936.003.0004

Prasad, V., & Nigam, B. (2023). Role of Traditional and Indigenous Knowledge in Disaster Management. *Springer EBooks*, 19–34. https://doi.org/10.1007/978-3-031-26143-5_2

Seddiky, M., Giggins, H., & Gajendran, T. (2020). International principles of disaster risk reduction informing NGOs strategies for community-based DRR mainstreaming: The Bangladesh context.

International Journal of Disaster Risk Reduction, 48, 101580. https://doi.org/10.1016/j.ijdrr.2020.101580

Shah, A. A., Gong, Z., Ali, M., Sun, R., Naqvi, S. A. A., & Arif, M. (2020). Looking through the Lens of schools: Children perception, knowledge, and preparedness of flood disaster risk management in Pakistan. *International Journal of Disaster Risk Reduction*, *50*, 101907. https://doi.org/10.1016/j.ijdrr.2020.101907

Shah, A. A., Ullah, A., Khan, N. A., Shah, M. H., Ahmed, R., Hassan, S. T., Tariq, M. A. U. R., & Xu, C. (2023). Identifying obstacles encountered at different stages of the disaster management cycle (DMC) and its implications for rural flooding in Pakistan. *Frontiers in Environmental Science*, *11*. https://doi.org/10.3389/fenvs.2023.1088126

Shiwaku, K. (2014). Comparative study on teacher training for school disaster management in Armenia and Japan. *Disaster Prevention and Management: An International Journal*, *23*(2), 197–211. https://doi.org/10.1108/dpm-12-2012-0144

Susman, P., O'Keefe, P., & Wisner, B. (2019). Global disasters, a radical interpretation. *Interpretations of Calamity*, 263–283. https://doi.org/10.4324/9780429329579-14

Uhm, D., & Oh, H. S. (2017). Disaster Preparedness of Child Care Teachers: A Cross-Sectional Study in South Korea. *Disaster Medicine and Public Health Preparedness*, *12*(3), 321–328. https://doi.org/10.1017/dmp.2017.68

Waheed, A., Fischer, T. B., Kousar, S., & Khan, M. I. (2023). Disaster management and environmental policy integration in Pakistan — an evaluation with particular reference to the China–Pakistan Economic Corridor Plan. *Environmental Science and Pollution Research*, *30*(48), 105700–105731. https://doi.org/10.1007/s11356-023-29310-1

Wang, Y.-C., Lin, S.-W., & Lee, C.-H. (2020). Conducting an Evaluation Framework for Disaster Management under Adaptive Organization Change in a School System. *Sustainability*, *12*(16), 6615. https://doi.org/10.3390/su12166615

Wanner, M. S. T. (2020). Drivers of Change in National Disaster Governance under the Hyogo Framework for Action. *Politics and Governance*, *8*(4), 256–269. https://doi.org/10.17645/pag.v8i4.3062