"Effectiveness of Rapid Needs Assessments in Enhancing Disaster Response Operation in Pakistan"

Syed Tayyab Usman Ali Bokhari [1] iD Sohail Ahmad [2] iD

[1] M.Phil, Department of Geography, Disaster Management, GC University Lahore, Punjab, Pakistan
Correspondence: mt.shah85@gmail.com
[2] M.S in Disaster Management, Riphah International University, Islamabad Pakistan
Email: sohailamd93@gmail.com

Article information

ABSTRACT

This importation of RNAs has been especially evident especially when a substantial disaster has occurred like the Kashmir Earthquake of 2005 and the 2022 Monsoon Floods. Despite this, over time, there have been methodological improvements in RNAs that include the integration of digital technologies and that is, the use of mobile-based data and Geographic Information Systems (GIS) that have improved the timeliness and accuracy of assessments. In spite of these improvements, there are still several systemic barriers that continue to affect the effectiveness of RNAs in Pakistan. These include lack of standardized evaluation systems, lack of technical capacity at the local levels, lack of community mobilization and inadequate inter-agency coordination. These limitations mainly lead to fragmentation of data, repetition of efforts and slow or poorly informed responses. In order to maximize the usefulness of RNAs in their operations, there is an urgent necessity to create and establish standardized procedures that can be used consistently under a range of disasters. The targeted training of local capacity, as well as the allocation of resources will create central solutions to increasing the reliability of the data, strategic planning, and the overall integrity of the disaster response activities in Pakistan.

Introduction

Natural disasters such as floods, earthquakes, tsunamis, and tropical cyclones are sudden phenomena of often disastrous nature and can cause massive destruction. The best reaction to this kind of occurrence will depend on a timely assessment of the immediate needs of concerned communities. Rapid Needs Assessment (RNA) can be considered an essential tool of disaster response, which allows humanitarian actors to assess damages and also set the priority on urgent needs within the first 72 hours of the post-event period (Schmidt et al., 2013). RNA implementation will play a crucial role in the rational distribution of resources and organization of the relief operation, which will help reduce the number of people killed and provide necessary help in a timely manner (McGuire et al., 2014).

Due to its physical location, Pakistan can be easily affected by a range of natural risk factors, which include floods, earthquakes, and landslides. The country is one of the most vulnerable to climate change because with the increase of temperatures and the change in the pattern of precipitation, the occurrence rate and severity of climate change increases (Ali and Raza, 2017). This weakness is also compounded by the socio-economic factors such as poverty, rapid urbanization, and inadequate infrastructure that all complicated the process of disaster management (Jalal et al., 2018). Therefore, enhancing the readiness to disaster and increasing the potential of the quick and effective reaction has become a burning issue facing Pakistani government and humanitarian stakeholders. RNA process, which usually includes a field-based data gathering, damage and needs assessment, and data processing, is a mandatory factor in producing actionable intelligence that informs the disaster response planning. The quality of the humanitarian response depends on the accuracy and promptness of an RNA that makes sure that relief is provided to those in the most need. According to Sphere Handbook (2018), an RNA that is conducted rigorously would allow the identification of the most urgent needs, including shelter, food, healthcare, and clean water, and therefore, facilitate the efficient and targeted response of international and local agencies.

Although the role of RNAs is recognized, the procedure is plagued by various issues, such as the lack of full data, delayed assessment, and the unavailability of standardized methodologies between responding agencies (Barton et al., 2017). The use of RNA in Pakistan, including post-disaster responses in 2005 to the 2005 Kashmir earthquake and in 2010 to the floods, has demonstrated that there is potential and weaknesses in the existing disaster response system. Such cases revealed operational shortcomings, including the absence of a centralized coordination mechanism and the inability to integrate the local knowledge into the assessment process (Jalal et al., 2018). In 2005, the National Disaster Management Authority (NDMA) was formed, which has played a major role in managing disaster response and management of resources at the national level. However, there are also discrepancies and inexistence of standardized RNA practices, which act as a hindrance to effective decision-making and timely relief provision (Maqbool & Zahid, 2019). The floods of 2022 where over 33 million people were affected further highlighted the challenges that are involved in carrying out effective RNA. Various humanitarian organizations (both national and international) carried out independent evaluations with the help of different tools and methodologies, which led to poor coordination of information, inconsistent estimates of needs, and delayed assistance, as agencies tried to coordinate their efforts (UN OCHA, 2022). This situation demonstrates the need to have a more integrated and streamlined RNA in Pakistan which focuses on data consistency, inter-agency coordination and using relevant innovative technologies in making such a process faster.

Among the notable innovations in recent years, it is possible to single out the introduction of digital tools, including KoBo Toolbox and Open Data Kit (ODK), which have been actively used to make needs assessments faster, more precise, and scalable (Haque and Iqbal, 2020). These tools

allow gathering real-time data, even in distant or inaccessible locations, which then enables prompt reporting and overcoming the delay in information transfer. Geographic Information Systems (GIS) were also used to map the area of disaster impact and trace of relief supplies movement. Nevertheless, the cost of implementation of these technologies in Pakistan has been limited due to the technical barriers, such as the absence of training of local responders, insufficient infrastructure, and bad internet access in disaster-impacted regions (Shaukat et al., 2020). Co-ordination of government agencies, humanitarian organizations and the local community is another important determinant of success in RNA. It has been indicated that good coordination can lead to better allocation of resources, elimination of duplication of efforts and speed in responding (Khan et al., 2016). However, in Pakistan, coordination remains to be a huge problem. Although such a platform as the Inter-Cluster Coordination Group (ICCG) or the National Emergency Operations Centre (NEOC) exists, the communication and data-sharing gaps undermine the overall quality of RNA and disaster response (Zaidi, 2022). The more integrated systems of RNA have been developed in several South Asian countries such as Nepal and Bangladesh that Pakistan may follow. Such countries have established standardized procedures of damage and needs assessment, disaster preparedness, and established better connections between the governments, non-governmental organizations (NGOs), and the international agencies (Gurung et al., 2017; UNDP, 2018). These positive case studies demonstrate the importance of becoming more collaborative, technologically based with regard to RNA that may make the disaster management system of Pakistan more responsive. The current paper aims to assess the current situation in the implementation of Rapid Needs Assessment (RNA) in Pakistan and to analyze the challenges and opportunities associated with its application in the disaster response systems. Through the examination of the importance of technology, inter-agency coordination analysis, and the identification of gaps in the currently practiced RNA, the research will offer practical recommendations on how to improve the disaster response of Pakistan. Finally, it is expected that the enhancements of RNA procedures will lead not only to the improved management of the disasters but also to the resilience of the susceptible communities.

Material and Methods

Study Area

The study targets the disaster-prone areas in Pakistan that are mostly affected by earthquakes and floods. Regions like Azar Jammu and Kashmir and the north of Khyber Pakhtunkhwa are typified by high seismic hazards attributable to active tectonics a fact that was brought into real life by the devastating 2005 Kashmir earthquake that killed over 80,000 people. Conversely, Sindh and Balochistan have frequent monsoon induced floods which have displaced millions of people and destroyed important infrastructure and livelihoods. These conflicting hazard profiles provide a holistic look into the aspects of disaster response requirements. The paper assesses the applicability, cohesiveness, and efficiency of the RNAs in these areas that vary in the institutional strength and community strength, thus offer insights that can be useful in the strengthening of a national disaster management.

Research Problem

Disaster response in Pakistan cannot be done without Rapid Needs Assessments but is facing major implementation problems. At the local level like in Azad Jammu & Kashmir and the north of Khyber Pakhtunkhwa, evaluation is hindered by rugged terrain and local capability to conduct timely and precise evaluations. There is an overlap in interventions and lack of coordination in the flood-impacted areas such as Sindh and Balochistan. Standardisation of methodologies and real time sharing of data compromises the reliability of RNAs. This paper explores the existence of these gaps with aim of enhancing RNA efficacy at national level.

Research Objectives

1. To critically assess the efficacy of Rapid Needs Assessment carried out in case of major floods

and earthquakes in Pakistan.

2. To determine and examine the institutional barriers, technical barriers, and coordination barriers that hinder the implementation of RNAs in a timely and accurate manner.

Research Approach

This paper will take a qualitative case-study method to determine the role of RNAs in Pakistani disaster response. It focuses on two critical incidences such as the Kashmir earthquake in 2005 and the 2022 monsoon floods whereby RNAs guided humanitarian efforts. The study examines the process of RNAs in the way they informed response measures, improved coordination, and overcame implementation issues. The analysis of these cases will help the study to provide information that can be used to improve future disaster preparedness and response systems in Pakistan.

Data Collection

Primary Sources

The information used in this study was mainly obtained in official reports, needs assessment documents, humanitarian response plans and situation updates that were issued by the national and international organizations. Key sources included:

1. The Government of Pakistan with the assistance of the World Bank, Asian Development Bank (ADB), and the United Nations system prepared the Post- Disaster Needs Assessment of the 2005 earthquake.

2. Multi-Sector Rapid Needs Assessment and 2022 Flood Response Plan, which are co-produced by UNOCHA, the National Disaster Management Authority (NDMA) and the humanitarian partners.

3. Situation reports, briefings, and datasets that are publicly available and that are found on Relief Web, NDMA, UNOCHA, UN agencies, and other NGOs.

Case Studies

1. 2005 Earthquake -Post-Disaster Needs Assessment (PDNA).

2. 2022 Monsoon Floods Multi -Sector Rapid Needs Assessment (MSRNA).

Data Analysis

Qualitative content analysis was also used to analyze the data and it revealed the presence of important themes, including the timeliness and reliability of data collection, the coordination amid the stakeholders, how RNA findings were used to influence emergency planning and how they were integrated into disaster risk management frameworks. In a comparative study of the 2005 Kashmir earthquake and the 2022 monsoon floods, the trends, the lessons learned and the development of the RNA practices were traced. The difficulties which were noted were implementation gaps, problematic data interpretation, and disparities in community interaction. Thematic coding reviewed the performance of the institution, the coordination of inter-agencies, and correspondence to the international guidelines such as the Sphere Guidelines and OCHA RNA tools. The results present evidence-based ideas to improve future evaluation processes and disaster recovery effects in Pakistan.

2005 Earthquake – Post-Disaster Needs Assessment (PDNA)

A major earthquake with a magnitude of 7.6 on the Richter scale, occurred on October 8, 2005 on the North of Pakistan with Azar Jammu and Kashmir (AJK) and a section of Khyber Pakhtunkhwa (KP) bearing the maximum impact. The earthquake had disastrous effects, with a figure of over 80,000 people being killed, over 138,000 injured, and about 3.5 million displaced (World Bank & ADB, 2005).
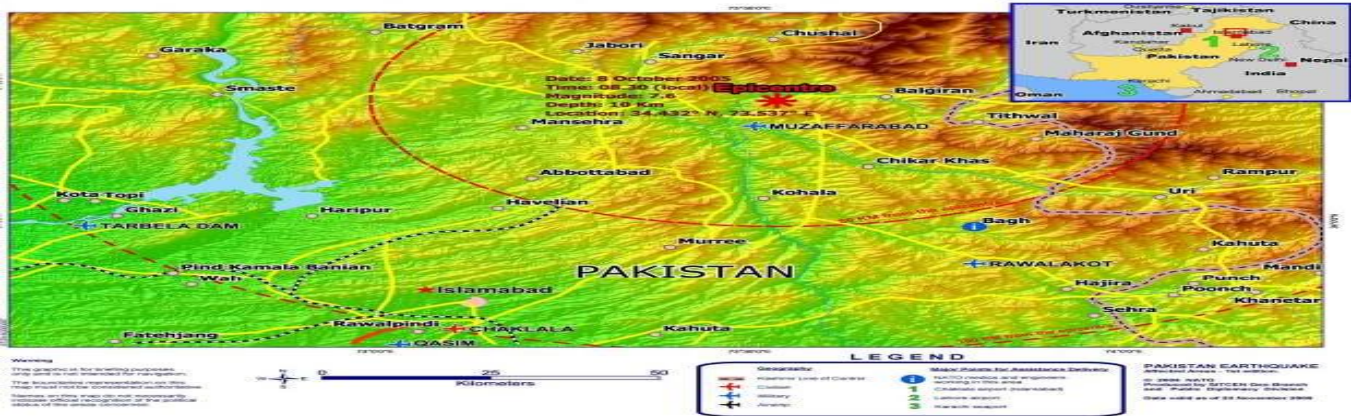
Figure 02: **The Pakistan Earthquake 2005 Source USGS**

During the immediate post-disaster of the 2005 earthquake, the Pakistan Army and UN agencies, Medecins Sans Frontieres, and local organizations mobilized with the intention to determine needs (Mustafa et al., 2015). Nevertheless, in the absence of a coherent Rapid Needs Assessment (RNA) model, the efforts were biased and yielded a piecemeal information. The first Rapid Assessments (IRAs) were not standardized and informal. The sector clusters of UNOCHA assisted to some extent although the coordination at the national level was very poor (UNISDR, 2007). In October 2005, the World Bank and ADB together with the government of Pakistan carried out a Preliminary Damage and Needs Assessment (PDNA) that estimated the losses of US 5.2 billion (World Bank & ADB, 2005). The PDNA focused on the long-term reconstruction as opposed to the short-term relief. This RNA collapse resulted in reforms that put in place NDMA, PDMAs and DDMAs to regulate RNAs in future disasters with the enactment of the 2006 National Disaster Management Ordinance and 2010 Act (GoP, 2010).

Table 02: *RNA Financial Source World Bank/ADB*

Category	US$ (Million)
Relief	1,092
Death and Injury Compensation	205
Early Recovery	301
Restoration of Livelihoods	97
Reconstruction	3,503
Short-term Reconstruction	450
Medium/Long-term Reconstruction	3,053
Total Estimated Cost	5,198

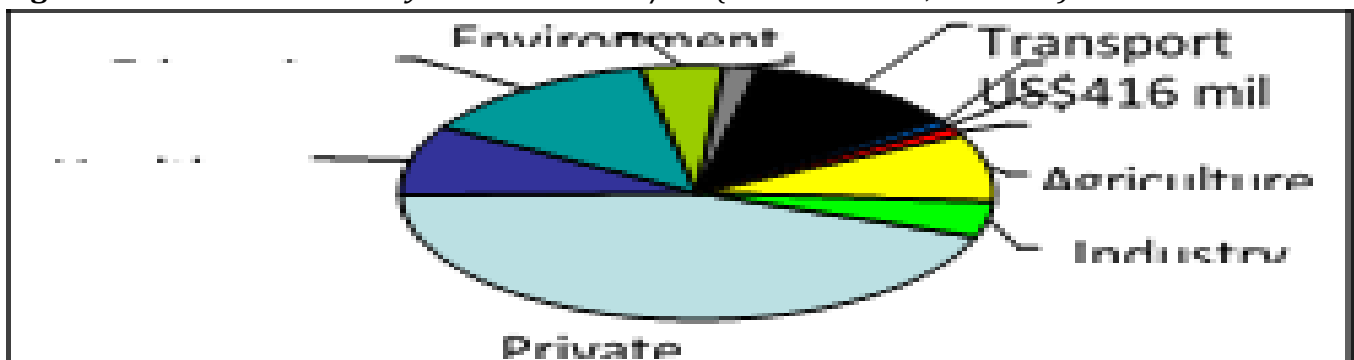**Figure 02:** *Reconstruction Cost by Sector Source ADB/WB (Total: Rs. 208 bn; US$3.5 bn)*

Table 03: *RNA Reconstruction/Rehabilitation Source World Bank/ADB*

Sector	US$ (Million)	% of Total
Private Housing	1,552	44%
Education	472	13%
Health	303	9%
Transport	416	12%
Agriculture and Livestock	300	9%
Industry and Services	155	4%
Water Supply and Sanitation	32	1%
Energy, Power, and Fuel	40	1%
Public Administration	72	2%
Environment	151	4%
Irrigation	10	1%

2022 Monsoon Floods – Multi-Sector Rapid Needs Assessment (MSRNA)

The 2022 monsoon season became one of the most devastating disasters in Pakistan caused by climate. The rainfall was almost thrice the national average and generated massive flooding in all the provinces and Sindh and Balochistan were worst affected. Over 33 million people have been affected, and more than 1,700 died, and millions displaced by August 2022 (UNOCHA, 2022a). The floods seriously impacted infrastructure, agriculture, living and housing, and even drowned almost one-third of Pakistan and aggravated already weak socio-economic conditions (UNOCHA, 2022a).

Table 05: *RNA showcase affected population Source UNOCHA/Relief Web*

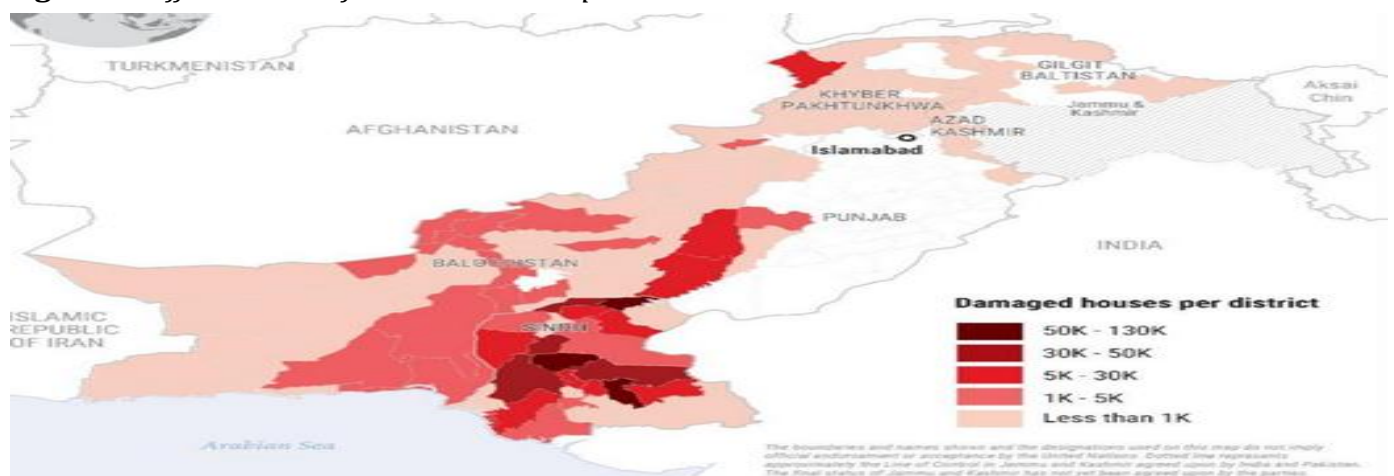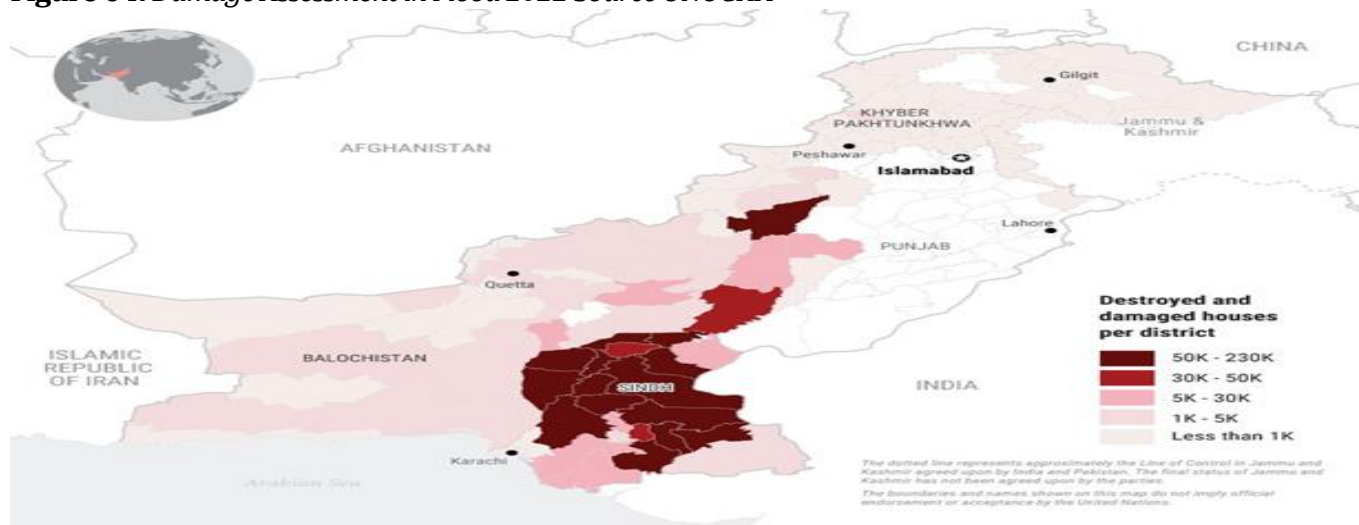| Indicator	Figure
People Affected	33 million
People in Need	20.6 million
People Targeted	9.5 million
Funding Requirements (US$)	$816 million

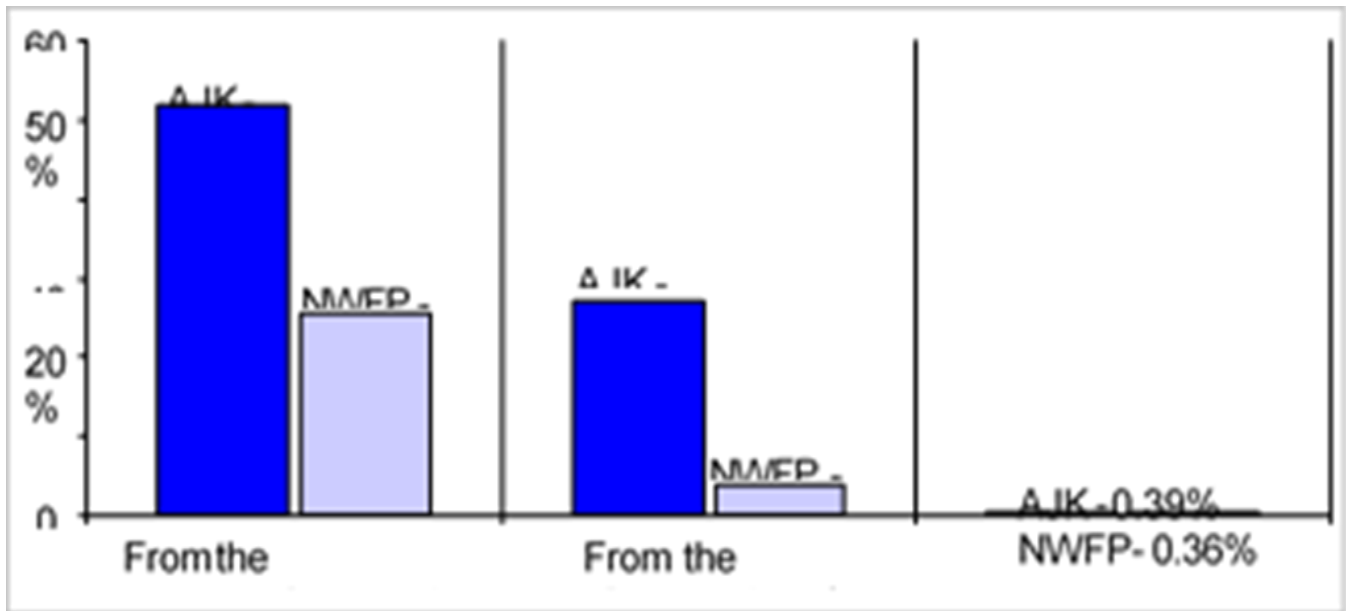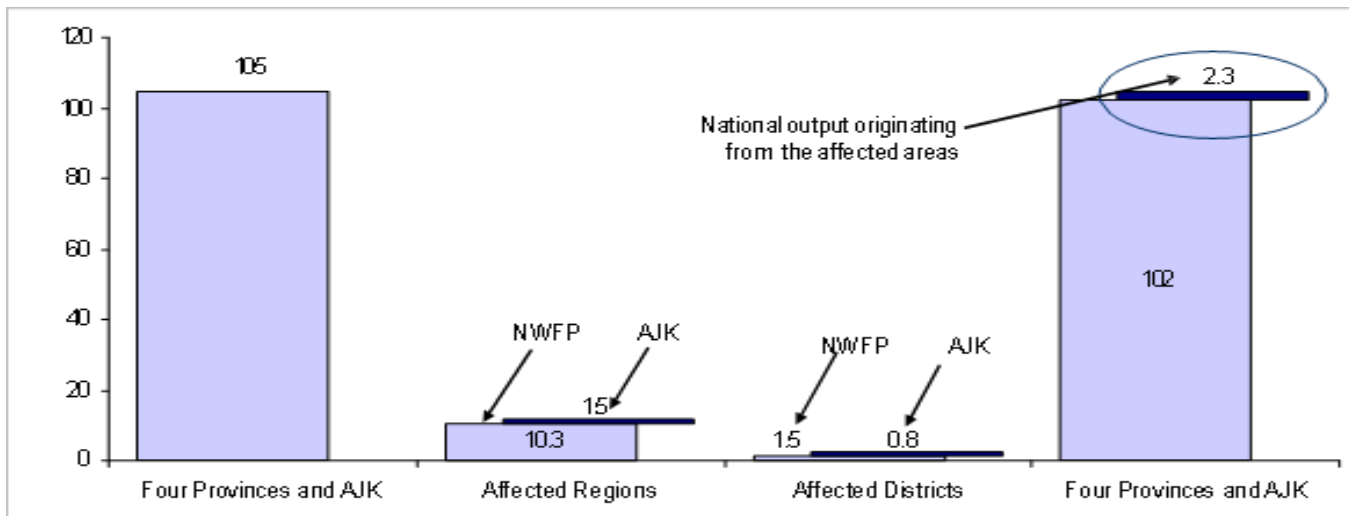**Figure 03:** *Affected Areas of Pakistan Flood Map 2022 Source UNOCHA*

Figure 04: *Damage Assessment in Flood 2022 Source UNOCHA*

Rapid Needs Assessment (RNA) proved crucial in the replying to the floods in 2022, to identify urgent needs and direct emergency work. On 8 September 2022, the Multi-Sector Initial Rapid Needs Assessment (MSRNA) organized by UNOCHA in collaboration with NGOs and UN agencies alongside provincial governments was launched (NDMA & UNOCHA, 2022). It included 94 flood-impacted districts in Sindh, Balochistan, Punjab, and Khyber Pakhtunkhwa and the data was taken between 9 and 19 September 2022 (UNOCHA, 2022b). KoBo Toolbox was used to collect data with structured questionnaires and mobile data collection devices, including household interviews, key informant interviews and direct field observations. Its approach to methodology complies with the internationally accepted norms, such as the Inter-Agency Standing Committee (IASC) principles and Sphere Standards (UNOCHA, 2022b). Enumerate was trained to gather disaggregated, sector specific data on meeting the urgent needs in shelter, food security, health, water, sanitation and hygiene (WASH), protection, education and livelihoods. The MSRNA which encompassed over 12,000 households gave statistically sound data to inform humanitarian priorities and resource mobilization (NDMA & UNOCHA, 2022).

Results & Discussions

Results:

Earthquake in Pakistan on October 8, 2005 generated a huge humanitarian crisis in the country (north). One of the earliest large-scale assessments in the country was the Post-Disaster Needs Assessment (PDNA)which was facilitated by the Government of Pakistan, the UNDP, World Bank, and ADB. Although the RNA process was faced with the difficulties of lack of structures, coordination, and standardized tools, the process adopted the significance of local data merging, quick deployment of trained teams, and centralized coordination. The results of PDNA played an important role in the strategy of the Earthquake Reconstruction and Rehabilitation Authority (ERRA) and in organizing the international aid (PDNA, 2005). The sectoral damage graph demonstrates that housing was the worst hit with more than PKR 200 billion losses, education PKR 103 billion damages and health had minimum impacts. This highlights the extreme destruction of homes and the dire necessity of rebuilding that had to lead the international aid and recovery efforts by ERRA (PDNA, 2005).
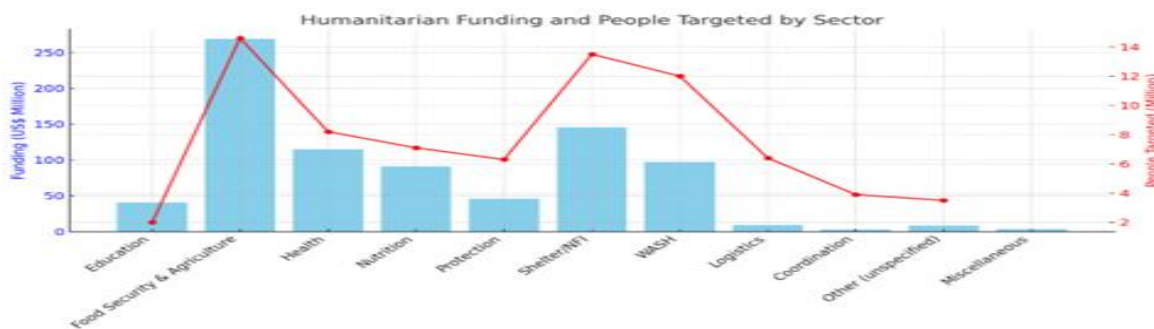
Figure 05: *Output Originating from the Affected Regions and Districts, billions of $US*

Figure 06: *Output Losses at the National and Sub-National Level*

The graph illustrates sector-based financial destruction and recovery of the 2005 Pakistan earthquake. Housing was the most affected with damages and recovery costs being very high compared to other sectors. That was followed by education which showed a lot of devastation of schools and infrastructure. There was lesser but significant destruction of health and governance that had to be rehabilitated. The findings of this PDNA informed the strategic decisions of ERRA so that it could focus on allocation of resources to effectively claim the critical infrastructure. In the year 2022, the Sindh, Balochistan, and South Punjab were hit by monsoon floods affecting more than 33 million people. This was reacted to with a Multi-Sector Initial Rapid Needs Assessment (MSRNA) by UN OCHA and Pakistan NGOs and partners. This evaluation offered gender- and vulnerability-disaggregated information on the priority needs on WASH, shelter, food, and protection. Although there were better approaches and digitalized tools such as KoBo Toolbox, there were also issues such as duplication of data, minimal community involvement and slow sharing (UNOCHA, 2022). However, the MSRNA made a great contribution to the 2022 Floods Response Plan and enhanced coordination.

Table 06: *RNA showcase sectoral funding requirement Source UNOCHA/Relief Web*

Sector	Funding (US$ Million)	People Targeted (Million)
Education	40.6	2.0
Food Security & Agriculture	269.4	14.6
Health	114.5	8.2
Nutrition	91.0	7.1
Protection	45.9	6.3
Shelter/NFI	145.5	13.5
WASH	97.2	12.0
Logistics	9.2	6.4
Coordination	3.0	3.9
Other (unspecified)	8.5	3.5
Miscellaneous	3.4	-

Figure 07: *Sectoral Need Source UNOCHA/Relief Web*

The graph indicates funding and target population of humanitarian funds and sectors. Food Security & Agriculture had the greatest funding of 269.4M and it is aimed at 14.6 million people, which indicates its severity. Shelter/NFI and WASH also received significant funding to meet the emergency shelter and sanitation requirements. The sector of Health and Nutrition was sufficiently financed to take care of the populace. Education and Protection was also less funded and had fewer people in focus, meaning that it was given lower priority in the immediate response. There was little funding of Logistics and Coordination's and millions were being assisted in terms of operations. In general, the priorities of funding were given to life-saving interventions rather than long-ter

Figure 08: *Need Assessment Sector wise in Flood 2022 Source UNOCHA*

Discussions

The comparative case study of the 2005 Earthquake and the 2022 Monsoon Floods reduces to the development of the capabilities of Rapid Needs Assessment (RNA) in Pakistan, which not only shows development, but also continues to face certain challenges. The 2005 Earthquake was a critical point in time with a strong demonstration of how lacking preparedness, coordination, and technical capacity can be. The institutional groundwork of the subsequent response mechanisms was the Post-Disaster Needs Assessment (PDNA) which was spearheaded mainly by international actors, such as the UNDP, ADB, and World Bank. Despite significant weaknesses in the PDNA including disjointed field activities, lack of unified tools and lack of knowledge integration on local scale, the PDNA played a key role in the establishment of the Earthquake Reconstruction and Rehabilitation Authority (ERRA) and obtaining an international backing (PDNA, 2005). On the contrary, the 2022 Monsoon Floods brought about significant gains in the RNA framework in Pakistan. The Multi-Sector Initial Rapid Needs Assessment (MSRNA) which was jointly operated by UN OCHA and NDMA utilized disaggregated information and addressed major sectors such as WASH, shelter, food security, and protection. Such digital tools as KoBo Toolbox have greatly contributed to data collection being faster and more reliable (UNOCHA, 2022). However, such problems as lack of timeliness in data sharing, the lack of community-level engagement, and data redundancy in rural Sindh and Balochistan remained concerns that were also reflected by the Humanitarian Advisory Group (HAG, 2023) and emphasized the issue of timeliness and data usability. Graphical data of the 2005 earthquake created the result that recovery requirements were unevenly distributed with greater than 65 percent of the total focus on the harm to fundamental framework and deficiency of previous resilience planning. The PDNA though informative in regard to long term recovery was not inclusive (PDNA, 2005). Unlike this, the 2022 MSRNA had a more sectoral approach that was more balanced and considered vulnerability mapping. The RNA path of Pakistan can also be further put into context in terms of international experiences. The response of Nepal to the 2015 earthquake, based on the established RNA systems, allowed quick, coordinated response (Bastola et al., 2016), and the focus on the community voices allowed the Bangladesh to promote equity and relevance in cyclone assessments (Ainul et al., 2021). In Pakistan, the situation is not as inclusive and both assessments do not include women, persons with disabilities, and the minority in the field data. Although compliance with international guidelines on RNA, such as the Sphere Handbook and the ALNAP guidelines, has increased the RNA quality, there are still major obstacles in the implementation of these guidelines at the local level. The 2022 MSRNA adhered to many tenets of accountability and prioritization in Sphere (2018), but it did not have efficient feedback and community engagement. According to ALNAP (2021), context-based, transparent RNAs are the components of successful programming criteria that do not consistently depend on the situation in Pakistan. The efficacy of RNAs is still faced with coordination problems. Despite NDMA as the head of the RNA management, PDMAs and DDMAs differ significantly in their capacities, which results in the lags in the delivery of relief, particularly in remote or difficult locations. The use of technological tools, such as GIS and KoBo Toolbox, has enhanced the methods of data visualization and real-time tracking in the 2022 MSRNA, but these technologies are not easily accessible to local NGOs and community-based organizations because of digital capacity disparities. Consequently, local actors are not utilised in spite of their role in increasing the accuracy and participation (Sphere, 2018). On the whole, although Pakistan has achieved much in terms of enhancing its RNA frameworks in 2005-2022, there are still important problems. To make the disaster response even more meaningful, the inclusivity, decentralized coordination, and better adherence to international standards should be promoted to make sure that RNAs are more efficient, fair, and responsive.

Conclusion

The study concludes that Rapid Needs Assessment (RNAs) is a key to successful disaster response in Pakistan. The 2005 earthquake and the 2022 floods show the importance of RNAs in determining the urgent needs and directing humanitarian interventions. Pakistan has over the years enhanced its RNA procedures by integrating digital data collection apparatus and creating more formidable institutional models, including the National Disaster Management Authority (NDMA). Although these advances have been made, there remain major problems. The issue of coordination between different agencies and disparities in the capacity of various provinces and districts still helps to undermine the timely and accurate assessment. The discrepancy of data and lagging in the dissemination of findings and inadequate participation of vulnerable groups such as women, persons with disabilities and minorities are acute barriers. RNAs are effective depending on their accuracy, timeliness and inclusiveness. To be more effective, Pakistan should focus on reinforcing inter agency coordination and development of community level capacities. Moreover, the concept of incorporating RNAs in the larger Disaster Risk Reduction (DRR) plans has the potential to enhance the resilience of nations to future disasters. The use of new technologies and the active involvement of the community will enhance the quality and applicability of assessments. Finally, RNAs must go beyond being an operation tool and transform to a strategic tool that will guarantee equitable, responsive and timely humanitarian response to situations of varying disasters in Pakistan.

Recommendations

Based on the comparative study of the 2005 Earthquake and the 2022 Monsoon Floods, it can be noted that although Pakistan has done a great deal in terms of applying Rapid Needs Assessments (RNAs), there are still areas that require critical focus and are noted in terms of standardization, coordination, and local capacity. To empower institutional structures, to combine technological creativity, and to improve the involvement of people living in a community inclusive of the community, the following recommendations are suggested to be followed in accordance with the international best practices.

1. A coherent, countrywide supported RNA structure ought to be created and coordinated with the global standards, e.g. Sphere Guidelines, MSIRA, as well as MSRNA tools. This structure should be included in the national and provincial policy on disaster response and should be compulsory to all agencies in case of an emergency. Standardization will enhance comparability of data and remove inconsistency witnessed in case of large-scale disasters such as the 2022 floods.

2. The RNA system of Pakistan needs to embrace a digitally integrated model that is collaborative in nature. To prevent duplication, real-time data sharing, tracking the progress, and mapping should be established on centralized platforms managed by both NDMA, PDMAs, UN OCHA and cluster leads. These platforms should also be interoperable and have easily accessible dashboards to all humanitarian stakeholders. The joint assessment teams will be pre-established and have clear SOPs to facilitate easier coordination during the disaster phases.

3. The training programs of the national and provincial RNA should be institutionalized at the NDMA training arm and Humanitarian Response Centers. This should be trained to the district officials, CBOs and first responders with the emphasis on mobile data tools, ethical data handling and regional context. These can be maintained through partnerships with academic centers as the knowledge on RNA can be incorporated into university education and local training facilities.

4. Digital tools should be used to a greater extent like KoBo Toolbox, ODK, and GIS. The out of reach regions can be evaluated by drone and satellite imagery and combined with early warning systems to take proactive measures.

Mobile applications that are offline enabled and cloud-based dashboards need to be implemented to facilitate real-time visualization particularly in the remote areas or when connectivity is problematic.

5. RNAs need to represent the views of various groups in the society. The tools must gather gender-disaggregated data and must not exclude women, children, old age, people with disabilities and marginalized communities. Both the data collection process and the response design should be led by participatory techniques such as rural appraisals, local enumerators, and community consultations that would build trust and legitimacy.

6. Provincial contingency frameworks and District Disaster Management Plans (DDMPs) should have RNAs integrated into them. This will involve ensuring that vulnerability profiles are kept up to date, baseline testing is carried out and regular mock exercises. Regular drills and simulations will enhance the institutional preparedness and speed up the implementation of RNA teams in a real crisis.

7. There should be a centralized RNA repository that is headed by NDMA to house assessment reports and datasets as well as best practices. Such a publicly available platform must also contain comparison-based dashboards and tools. Policy briefs, training manuals, and national guidelines should rely on the lessons learned in the past, such as the one in 2005 during the earthquake and the 2022 floods, in order to allow the continuous learning and creation of evidence-based policies.

References

Gunn, S. (1990). Multilingual dictionary of disaster medicine and international relief. Boston: Kluwer Academic Publisher. pp. 23-24.

Government of Pakistan. (2021). Updated Nationally Determined Contributions 2021.

Pakistan Post-Disaster Needs Assessment (PDNA) Main Report – Final. file:///D:/GC%20DM/Sem%202/Emergency%20Response/References/Pakistan%20PDNA%20Main%20Report%20-%20Final.pdf.

ACAPS. (2022). ACAPS Technical Brief: Rapid Needs Assessments. https://www.acaps.org

Asian Development Bank (ADB). (2023). Post-Disaster Needs Assessment Guidelines.

ALNAP. (2023). Improving Humanitarian Coordination: Lessons from Recent Emergencies.

Humanitarian Advisory Group. (2023). Inclusion in Needs Assessments in Pakistan: Lessons from 2022 Floods.

International Federation of Red Cross and Red Crescent Societies (IFRC). (2021). Needs Assessment for Effective Response Toolkit.

International Committee of the Red Cross (ICRC). (2021). Technology in Humanitarian Action: Enhancing Rapid Assessments.

National Disaster Management Authority (NDMA), Pakistan. (2022). Annual Report 2022.

United Nations Development Programme (UNDP). (2020). Pakistan Disaster Risk Management Framework.

United Nations Office for Disaster Risk Reduction (UNDRR). (2015). Sendai Framework for Disaster Risk Reduction 2015–2030.

United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA). (2021). Needs Assessment and Analysis Project (NAAS). https://reliefweb.int

UNOCHA. (2022). Pakistan Floods Situation Reports. https://reliefweb.int

World Bank. (2022). Resilient Recovery Framework: Building Back Better after Disasters.

ACAPS. (2020). Multi-Sector Initial Rapid Assessment (MSIRA) Guidance. https://www.acaps.org

ALNAP. (2015). Assessing Humanitarian Action: A Review of Methods and Practice. ALNAP/ODI.

Inter-Agency Standing Committee (IASC). (2015). Guidance on Rapid Needs Assessments. https://interagencystandingcommittee.org

IFRC. (2018). Rapid Needs Assessments in Emergencies: Operational Guide. International Federation of Red Cross and Red Crescent Societies.

Maxwell, D., Hailey, P., Spain, A., & Mock, N. (2013). Constraints and complexities of information and analysis in humanitarian emergencies: Evidence from Haiti. Disasters, 37(s1), S26–S53. https://doi.org/10.1111/disa.12020

Rao, S., D'Souza, M., & Das, S. (2020). Use of mobile data collection tools for rapid assessments in disaster settings. International Journal of Disaster Risk Reduction, 50, 101784. https://doi.org/10.1016/j.ijdrr.2020.101784

Sphere Project. (2018). The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response. https://spherestandards.org

UN OCHA. (2019). Humanitarian Needs Assessment Guidance. United Nations Office for the Coordination of Humanitarian Affairs. https://www.unocha.org

UN OCHA. (2021). Multi-Cluster/Sector Initial Rapid Needs Assessment (MIRA) Process.

Winder-Rossi, N., & Maxwell, D. (2018). Information and analysis in emergencies: Rapid needs assessment. Humanitarian Practice Network Paper 63. ODI.

ACAPS. (2020). The ACAPS Technical Brief: Needs Assessments. https://www.acaps.org

ADB. (2023). Pakistan: Post-Earthquake Recovery and Reconstruction Program – Lessons Learned.

IASC. (2015). Multi-Sector Initial Rapid Assessment (MIRA) Manual. https://interagencystandingcommittee.org

IFRC. (2018). Rapid Needs Assessments in Emergencies: A Guide for Practitioners.

NDMA. (2019). National Disaster Management Plan 2012–2022. National Disaster Management Authority, Government of Pakistan.

UNDP. (2020). Strengthening Institutional Capacity for Disaster Risk Management in Pakistan.

UN OCHA. (2021). Humanitarian Programmed Cycle Tools and Services. https://www.unocha.org

UNOCHA. (2022). Pakistan 2022 Floods Response Plan (Revised). https://reliefweb.int/report/pakistan/pakistan-2022-floods-response-plan-august-2022-may-2023

World Bank. (2022). Building Resilient Recovery in Fragile Settings: Lessons from Disaster Response.

ACAPS. (2020). Technical Brief: Improving Needs Assessments in Crisis. https://www.acaps.org

ALNAP. (2023). The State of the Humanitarian System: Pakistan Case Study.

Humanitarian Advisory Group. (2023). Lessons from Pakistan: Strengthening Rapid Assessments in Flood Emergencies.

IFRC. (2021). Rapid Needs Assessment Guide for National Societies.

NDMA. (2020). National Disaster Response Plan.

NDMA. (2021). Annual Report on Disaster Risk Management in Pakistan.

UNDP. (2021). Strengthening Disaster Management Capacities in Pakistan.

UNDRR. (2015). Sendai Framework for Disaster Risk Reduction 2015–2030.

UNOCHA. (2022). Pakistan Floods Response Plan 2022.

ACAPS. (2021). Technical Brief: Mobile Data Collection Tools in Humanitarian Settings. https://www.acaps.org

Humanitarian Data Exchange. (2020). KoBoToolbox and ODK Use in Emergency Assessments. https://data.humdata.org

NDMA. (2022). Pakistan Flood Response Dashboard.

UNOCHA. (2022). Pakistan Floods Situation Report.

UNOSAT. (2022). Satellite-Derived Flood Analysis for Pakistan.

ACAPS. (2022). Humanitarian Needs Assessments: Practical Guide. https://www.acaps.org

ALNAP. (2023). Improving the Quality of Humanitarian Needs Assessments.

Humanitarian Advisory Group. (2023). Localising Needs Assessments: Evidence from South Asia.

NDMA. (2020). National Disaster Management Plan Review Report.

Global Shelter Cluster. (2016). Nepal Earthquake Response: Shelter Cluster Lessons Learned.

Government of the Philippines. (2022). DROMIC Disaster Response Operations Monitoring and Information Center Guidelines.

ISCG Bangladesh. (2020). Joint Multi-Sector Needs Assessment Manual.

REACH Initiative. (2019). Mozambique: Cyclone Idai Situation Overview.

UNOCHA. (2011). MIRA: Multi-Cluster/Sector Initial Rapid Assessment Guidance.

ALNAP. (2023). Coordinating Humanitarian Needs Assessments: Lessons from Global Practice.

IASC. (2021). Inter-Agency Standing Committee Cluster Coordination Reference Module Version 3.

ICRC. (2019). Guidelines on Civil-Military Coordination in Humanitarian Action.

Rashid, H., & Irshad, M. (2020). Decentralization and disaster governance in Pakistan: Gaps and recommendations. *Journal of Disaster Risk Studies, 12*(1).

UNOCHA. (2022). Pakistan Floods: Situation Report No. 12.

Government of Pakistan & UNDP. (2007). Lessons Learned from the 2005 Earthquake Response.

IRIN. (2022). Pakistan flood response hampered by inaccessibility and coordination gaps.

Mustafa, D., Ahmed, S., & Saroch, E. (2015). Disaster governance in Pakistan: Policy gaps and institutional disconnect. *Natural Hazards, 75*(3), 2041–2066.

NDMA & UNHCR. (2022). Pakistan Floods 2022: Multi-Sector Initial Rapid Needs Assessment Report.

Ainul, S., Ehsan, I., Haque, E., Rob, U., & Reichenbach, L. (2021). Strengthening rapid needs assessment in climate-induced disasters in Bangladesh: Community participation and localization in humanitarian response. *Journal of Humanitarian Affairs, 3*(2), 45–59. https://doi.org/10.7227/JHA.032

ALNAP. (2021). ALNAP Lessons Paper: Strengthening the Quality of Needs Assessments. https://www.alnap.org/help-library/strengthening-the-quality-of-needs-assessments

Bastola, A., Chaulagain, D., & Adhikari, M. (2016). Lessons learned from rapid needs assessment and disaster responses after the 2015 Nepal Earthquake. *Journal of Nepal Health Research Council, 14*(33), 1–5. https://doi.org/10.33314/jnhrc.v14i33.732

Humanitarian Advisory Group (HAG). (2023). Independent Review: Pakistan 2022 Flood Response. https://humanitarianadvisorygroup.org/wp-content/uploads/2023/05/Pakistan-Floods-Review-HAG.pdf

Post-Disaster Needs Assessment (PDNA). (2005). Pakistan 2005 Earthquake: Preliminary Damage and Needs Assessment. Government of Pakistan, World Bank, UNDP, ADB. https://www.gfdrr.org/sites/default/files/publication/pakistan.pdf

Sphere Association. (2018). The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response (4th ed.). Geneva, Switzerland. https://spherestandards.org/handbook/

UN OCHA. (2022). Pakistan: 2022 Floods Response Plan (August 2022 - May 2023). https://reliefweb.int/report/pakistan/pakistan-2022-floods-response-plan-august-2022-may-2023

Guha-Sapir, D. (1991). Rapid assessment of health needs in mass emergencies: Review of current concepts and methods. *World Health Stat Q, 44*(3), 171–181.

Ali, S., & Raza, M. (2017). Climate change and its implications for disaster risk reduction in Pakistan. *International Journal of Environmental Science and Technology, 14*(7), 1407-1418.

Barton, M., Li, J., & Fisher, L. (2017). Standardizing rapid needs assessments for humanitarian response: A critical review. *Disaster Prevention and Management, 26*(2), 161-178.

Gurung, R., Lall, R., & Shrestha, P. (2017). Lessons from Nepal: Institutionalizing rapid needs assessments in disaster management. *Disaster Risk Reduction Journal, 12*(3), 24-34.

Haq, A., & Iqbal, M. (2020). Enhancing disaster response: The role of technology and capacity-building in Pakistan. *International Journal of Disaster Management, 10*(2), 49-61.

Jalal, U., Khan, A., & Rahim, A. (2018). Disaster preparedness in Pakistan: A framework for building resilience. International *Journal of Disaster Risk Reduction*, 31, 1-9.

Khan, M., Ali, M., & Raza, H. (2016). Coordinating disaster response in Pakistan: An analysis of institutional challenges. *Journal of Public Administration, 18*(4), 235-250.

Maqbool, M., & Zahid, A. (2019). Improving coordination in Pakistan's disaster management: Challenges and recommendations. *Journal of Humanitarian Affairs, 3*(1), 44-59.

McGuire, A., Williams, S., & Stone, R. (2014). Rapid needs assessments in disaster management: Best practices and tools. *Journal of International Disaster Risk Science, 5*(2), 87-98.

Schmidt, D., Wenzel, J., & Schumacher, M. (2013). Rapid needs assessment in humanitarian emergencies: A review of methods and tools. *Journal of Humanitarian Logistics and Supply Chain Management, 3*(3), 113-127.

Shaukat, S., Khan, Z., & Rizvi, A. (2020). Challenges in the use of technology for disaster response in Pakistan: A case study of the 2010 floods. *Information Technology for Development, 26*(2), 261-275.

Zaidi, S. (2022). The impact of flood disasters on rapid needs assessments in Pakistan: Challenges and opportunities. *Journal of Emergency Management, 15*(1), 103-115.

Declaration of Conflicting Interest

The author declared no potential conflicts of interest with respect to research.

Funding Statement