

Decoding Interpersonal Communication Patterns among Climate Disaster Victims: A Case Study of 2024 Glacier Burst Floods in Kumrat Valley, Pakistan

Muhammad Ayoub¹, Aqeel Ahmed²

¹PhD Scholar, Department of Media & Communication Studies, National University of Modern Languages, Islamabad, Pakistan.

²Lecturer, Department of Media & Communication Studies, National University of Modern Languages, Islamabad, Pakistan.

Correspondence: aaahmed@numl.edu.pk²

ABSTRACT

Aim of the Study: This study based on interpersonal communication patterns among the climate disaster victims during and after floods induced by glacier burst during 2024 in Kumrat Valley of Khyber Pakhtunkhwa province in Pakistan. It has examined the interpersonal interactions among the directly-affected (living downstream) and indirectly-affected people (living upstream) in the region.

Methodology: The researchers adopted participant observation, a qualitative research method. The population of the study was glacier burst victims in Kumrat Valley, Khyber Pakhtunkhwa, Pakistan. The researchers adopted purposive sampling and approached the study sample in the localities of Kalkot, Doon Seri, and Thall villages in the Kumrat Valley. The researchers reached data saturation level after conducting semi-structured interviews of ten (10) individuals, who were directly affected by the glacier burst.

Findings: The study findings reflected that the directly-affected people primarily communicated to each other to ensure their safety and survival, whereas indirectly-affected individuals utilized it to rescue victims and provide them shelter, food and medicine. Post-disaster communication strategies among both type of victims included stress mitigation and emotional support, and collective conscious for recovery efforts.

Conclusion: The common patterns emphasized restoration of infrastructure, access to external markets, and fostering resilience through awareness on climate change and its mitigation. The study has also put forth its recommendations that include strengthening telecommunication infrastructure, localized early cautioning systems, communal training in emergency response, psychological wellbeing initiatives, and awareness campaigns on sustainable practices.

Keywords: Interpersonal Communication, Climate Change, Glacier Burst Floods, Kumrat Valley.

Article History

Received:
September 13, 2024

Revised:
November 21, 2024

Accepted:
December 13, 2024

Published:
December 19, 2024

1. INTRODUCTION

Interpersonal communication is a dynamic process that requires not only speaking and listening but also interpretation of emotions, attitudes, and intentions of the individuals involved in the communication process. It helps build relationships, understand others, and create shared meanings of the world (Berger, 2014). Interpersonal communication strategies assist in perception, attitude and behavioral change among the communities that carry bigger societal impact. It helps communication strategists and experts draw conclusions for various awareness and advocacy campaigns.

Climate change has emerged as a global threat to almost every aspect of life on planet (Abbass et al., 2022). Human-induced activities including the burning of fossil fuels, deforestation, and industrial processes have resulted in significant and long-lasting changes in global climate patterns over time (Rawat et al., 2024). Climate change-induced disasters, such as floods from glacier melting, have devastating effects on Pakistan, including destruction of infrastructure and heightened emotional and social challenges for communities (Adnan et al., 2024). The growing levels of atmospheric carbon dioxide (CO₂), caused by the combustion of fossil fuels for energy generation, deforestation, and agricultural practices causing global warming and impacting climate change, have been a significant environmental challenge for populace (Nunes, 2023).

Climate change has drastically affected countries like Pakistan that stands among the top five most vulnerable nations affected by the negative impacts of climate change (Bhatti et al., 2024). It has been suffering the looming danger of food and economic insecurity, land degradation and soil erosion, water scarcity and pollution, extreme weather patterns, and augmented flooding. It has witnessed extreme drought on one hand, and inundated and unusual floods during monsoon season in 2022 (Ishaque et al., 2022). Environmental scientists consider South Asian region as the worst affected part of the world by climate change, and Pakistan among the top twenty countries with catastrophic effects in the near future (Bibi, 2024). Pakistan has also been placed eighth on the list of the most vulnerable countries to weather-related disasters, Pakistan with diverse geography and climate zones is prone to temperature extremes including heat waves and cold waves (Saleem et al., 2024). The vulnerability of situation demands raising awareness among the society and calling them to action, particularly the youth to fight climate change as a nation for a secure future (Qayyum & Hameed, 2023).

1.1 The Importance of Interpersonal Communication in Floods and Other Disasters

Interpersonal communication is very important in spreading information about flood risks, especially when dealing with the effects of climate change. Talking directly to the victims through face-to-face conversations, community meetings, or door-to-door visits helps make the message clear and personal. It allows people to share their concerns and get answers that fit their needs. It also helps people understand the dangers of floods caused by climate change and encourages them to take action, like changing behaviors and practices that make flooding worse. By using simple, and direct communication, communities can be assisted in flood-prone areas like Awka better prepared for floods and worked together to prevent future risks (Qayyum & Hameed, 2023).

During disasters, effective interpersonal communication is crucial to manage relief efforts and ensure safety of the victims. Relief workers must communicate clearly with victims, providing essential information such as safety guidelines and updates on developing situation. It not only helps convey crucial details but also builds trust between victims and relief teams. Studies show that relief workers with good communication skills are perceived more positively by flood victims as they deliver clear, persuasive, and empathetic messages. In addition, interpersonal communication can help reduce panic, manage expectations, and foster a cooperative environment during emergencies (Mustaffa, 2016). A study focused on the 2018 natural disasters in Central Sulawesi earthquakes, tsunamis, and liquefaction revealed that victims often shared their personal experiences with volunteers, which provided a coping mechanism for the anxiety and fear caused by these events. Interpersonal communication was found to alleviate stress, as expressing feelings helped survivors process their grief and the loss of property and

their loved ones. It is also essential for emotional recovery, as it helps victims receive empathy and rebuild a sense of stability in the aftermath of climate driven disasters (Siahaan, 2021).

Interpersonal communication and emotional intelligence are vital in disaster management, aiding rescuers in building trust and providing psychological support to victims. Research shows that effective communication skills, such as active listening and empathy, enhance responders' abilities to manage stress and connect with affected individuals. Emotional intelligence further strengthens this connection by enabling saviors to understand and regulate emotions, fostering a supportive environment. Together, these skills improve disaster response efficiency and contribute to the emotional recovery and resilience of disaster-impacted communities (Suhaimi et al., 2014). Being separated from close family or important people, even for a short time, during or post disaster can make people stressed and emotionally fragile. Having a wide range of social contacts can help people recover from a disaster (Kaniasty, 2020). Climate change impacts developing countries more severely due to limited resources and weak infrastructure, increasing vulnerability during disasters like floods. This highlights the need for better adaptation strategies and community support to enhance resilience, aligning with the focus on interpersonal communication in crises (Chinowsky et al., 2011).

In view of the studies quoted above, literature is available that advocates for rescue strategies through interpersonal communication that too by the expert teams. However, the researchers could find limited literature involving victims' interpersonal communication patterns and community-based rescue and survival efforts. This study has attempted to fill this gap and contribute to the existing body of literature.

1.2 Problem Statement

The 2024 glacier burst and subsequent inundated flooding in the Kumrat Valley of Khyber Pakhtunkhwa province of Pakistan caused significant physical, emotional, and behavioral challenges for the climate disaster victims. While the immediate physical impacts of the climate disasters are well-documented, limited literature could be found on victims' interpersonal communication during post disaster/immediate survival-phase that also include helping victims navigate the crisis, manage emotional stress, and communal recovery from the aftermath. Interpersonal communication, particularly among the family members, friends, and community members, plays a vital role in providing crucial information, ensuring safety, offering emotional support, and facilitating decision-making during and after the disaster. This study aimed to explore how interpersonal communication patterns, emotional support networks, and collaborative decision-making during and after the flood induced by glacier burst contributed to the victims' ability to cope up with stress, make informed decisions, and recover from the disaster trauma.

1.3 Research Objectives

The study was guided by the following research objectives:

1. To analyze the modes and patterns of interpersonal communication among glacier burst victims of Kumrat Valley
2. To examine the role of interpersonal communication in helping glacier burst victims deal with emotional stress
3. To identify the impact of interpersonal communication on victims' behavior during and after the glacier burst

1.4 Research Questions

RQ 1: How did glacier burst victims interact with each other during and after the flood 2024 in Kumrat Valley?

RQ2: What was the role of interpersonal communication in helping glacier burst victims deal with emotional stress?

RQ3: What was the impact of interpersonal communication on victims' behavior during and after the flood?

2. THEORETICAL FRAMEWORK

Uncertainty Reduction Theory (URT): Uncertainty Reduction Theory explains how individuals seek information and communicate to reduce uncertainty in unfamiliar and stressful situations. Natural disasters, such as floods, generate high levels of uncertainty, and victims may engage in interpersonal communication to gather information to seek out safety and resources for survival, and stay updated about the developing situations. The theory, proposed by Charles R. Berger and Richard J. Calabrese in 1975, explains interactions within the established interpersonal relationships with a focus on how an entity reacts to an ever-changing environment, particularly in critical situations. Uncertainty reduction theory offers an ideal framework to examine critically changing environment and crisis communication patterns and strategies adopted by individuals (Xing, 2023). While guided by the precepts of the uncertainty reduction theory, the researchers analyzed interpersonal communication among the victims of glacier burst-induced floods in Kumrat Valley who suffered uncertainty and stressful conditions while struggling for survival.

3. METHODOLOGY

The researchers adopted participant observation, a qualitative research method, as methodology for this study. This participant observation was highly participatory with researchers' role more visible. This approach allowed the researchers to not only carry out field observations while being among the glacier burst victims (both direct and indirect affected) but also conduct semi-structured in-depth interviews from the ones who were directly affected by the climate disaster in Kumrat Valley during 2024.

3.1 Study Population

The population of the study was glacier burst victims in Kumrat Valley, Khyber Pakhtunkhwa, Pakistan.

3.2 Sampling Technique and the Sample

The researchers adopted purposive sampling and approached the study sample in the localities of Kalkot, Doon Seri, and Thall villages in the Kumrat Valley. The researchers reached data saturation level after conducting semi-structured interviews of ten (10) individuals, who were directly affected by the glacier burst.

4. DATA ANALYSIS

The researchers applied thematic analysis technique to document their experiences as participant observers as well as insights gathered from the sample through semi-structured in-depth interviews. Thematic analysis technique is commonly adopted method by the qualitative researchers (Dawadi, 2020). This research considered six-step systematic pattern (Braun & Clarke, 2006) involving data familiarization, assigning codes, theme development, revision of themes, finalization of themes and quoting examples. This method was also adopted by (Ahmed et al., 2024) while conducting research on challenges to journalist, working on climate beat in Pakistan.

Table 1. *The Researcher's Observation on Interpersonal Communication of Glacier Burst Victims*

Main Themes
1. Nature of Communication During the Climate Disaster
2. Role of Communication in Coping Mechanisms
3. Post-Disaster Communication Dynamics
4. Emotional Tone and Behavioral Shifts

In August 2024, a glacier burst due to climate change caused severe flooding in Kumrat Valley in the Upper Dir district of Khyber Pakhtunkhwa, Pakistan. The researchers experienced the calamity as

participant observers and also documented experiences of natives who were either directly or/and indirectly affected by the flooding. The directly affected victims lived alongside downstream of the hilly riverbank whereas the indirectly affected people lived alongside the upstream of the riverbank. Being involved in participant observation that was highly participatory with researchers' role more visible, the researchers observed how the victims communicated with each other during and after the disaster to cope up with a tense situation. Based on the documented observations of the researchers, the study has identified the four themes including 'Nature of Communication During the Climate Disaster', 'Role of Communication in Coping Mechanisms', 'Post-Disaster Communication Dynamics', and 'Emotional Tone and Behavioral Shifts'. The researchers also documented their observations based on experiences of witnessing interpersonal communication both among directly and indirectly affected people.

Directly Affected People: The populace living alongside the downstream of the hilly riverbank were directly hit by the floods. Bearing the direct sufferers of calamity, they faced extremely tense situation, depression, uncertainty and mental torture as they lost their family members and almost all of their possessed property. They were in a rush to move towards safe places for survival of their lives on the one hand and worried about their properties including homes, cattle and money. Their utmost priority was to getting information about safety of their loved ones, and communicate them to move to safe places. Their worries and anxiety increased with the passage of time due to increasing intensity of flood water. They screamed to inform each other to immediately vacate their houses, and also used mobile phones to update others and get updated about the wellbeing of their loved ones living alongside upstream of the riverbanks. With shattered body language, they were hardly able to utter any word or communicated with extreme anxiety when they came to know about their drowned houses and lost valuables. With the passage of time and decreasing level of flood water, the victims, although were in pain of loss, got calmed down and communicated with ease, having peace and smiles on their faces. Their post-glacier burst communication revolved around the losses caused by the disaster including their houses, agricultural land, cattle, and monetary valuables. Many natives who were not affected by the floods reached to help the victims, trying to console them for their losses.

Indirectly Affected People: The population living alongside the upstream of the hilly riverbank were not directly hit by the floods. Majority of them were helpless spectators who suffered anxiety and depression, and couldn't save their loved ones living alongside the downstream of the hilly riverbank were directly hit by the floods. They recorded videos of the floods causing destruction. They kept talking to each other about flood intensity and damages it caused to the fellow beings. They also were also involved in communicating with their relatives living downstream, helping victims by vacating them from flood water, and providing them food and space to live. The indirectly affected people, however, faced the flood aftermaths including road damage, inconvenience in transportation, closure of businesses, stoppage of healthcare facilities and troublesomeness in grazing the cattle. They kept demanding the government to help them in road repairs and transportation facilities to reach out to the vegetables and fruit markets in Peshawar, Islamabad, Gujranwala and Lahore, and supply medicine and food to local markets.

Table 2. *Personal Information of the Participants of In-depth Interviews*

Participants	Age	Occupation	Demographics
P1	30 years	Student	Doon Seri
P2	18 years	Student	Doon Seri
P3	45 years	Businessman	Doon Seri
P4	45 years	Farmer	Kalkot
P5	33 years	Businessman	Kalkot
P6	36 years	Businessman	Kalkot
P7	40 years	Hydro Plant Operator	Doon Seri
P8	42 years	Farmer	Thal
P9	42 years	Businessman	Thal
P10	43 years	Farmer	Thal

Although the researchers approached about 72 individuals including both the directly affected and indirectly affected people, 15 respondents agreed to be part of this study. The researchers achieved data saturation after conducting 10 interviews. Table 2 reflects the age, and occupation of the interviewees who participated in the study. Keeping in view the cultural barriers and sensitivities, all approached individuals and participants were male members of the flood affected areas, with their age ranging from 18 to 43 years. The 10 respondents comprised of two students, four businessmen, three farmers and one hydro-plant operator.

Table 3. *Themes of the Study*

Main Themes	Sub Themes
1. Glacier Burst Victims' Affectionate Interaction	1. Modes of Interaction 2. The Key Discussion Points 3. Communication Challenges 4. Narratives on Glacier Burst
2. Coping with Emotional Stress through Communication	1. Emotional Support from Close Connections 2. Building Resilience
3. Influence of Communication on Behavioral Responses	1. Decision-Making 2. Key Communication Networks and Safety 3. Trauma Recovery Through Communication 4. Collective Conscious to Mitigate Disaster

Table 3 demonstrates the themes and the subsequent sub-themes explored by the researchers through in-depth interviews of the flood victims. The data based on interviews yielded three main themes and their subsequent subthemes as mentioned against each in the Table 3. The detailed description of the themes is as follows:

Theme 1—Glacier Burst Victims' Affectionate Interaction: The first theme explored by the researchers from the data gathered through in-depth interviews was Glacier Burst Victims' Affectionate Interaction. During and post-glacier burst floods in Kumrat Valley, the victims primarily relied on interpersonal communication to navigate the crisis. Family members and relatives played a key role in the initial dissemination of information, with many victims knowing about the flood screaming calls, phone calls and social media. Mobile phones played essential role about confirmation of floods and damages, and coordinating about evacuation plans whereas face-to-face interactions became crucial with increased intensity of the floods due to loss of mobile phone during the chaotic situation. Victims were engaged in face-to-face discussions to ensure the safety of their family members, sympathize each other, and assess the ongoing situation. Post- flood communication also involved face-to-face group communication involving family, friends, and neighbors to share information, discuss the extent of the damage, and strategize to recover. These interactions also facilitated emotional support to address community needs. Similarly, mobile phone communication was central for external connectivity.

Sub-theme 1.1—Modes of Interaction: The glacier burst victims mostly interacted face-to-face as well as through mobile phones during and after the glacier burst-induced flood. The flood victims in Kumrat Valley were primarily on each other (family, friends and neighbors) to know the developing situation. Most of the respondents received news of the flood for first time through phone calls from their relatives and friends and instant social media updates before the flood approached them. Screaming calls in the neighborhood actively played a role to sensitize each other when the flood approached. As the situation unfolded, face-to-face interactions (communication with people in immediate vicinity) became crucial among family members to discuss safety measures and respond to the evolving situation. After the flood,

face-to-face communication emerged as the dominant mode, as people gathered to talk with family, friends, and neighbors about the damage and impact. Overall, victims prioritized direct interpersonal communication through mobile calls and face-to-face discussions for both information and emotional support before, during, and after the flood.

Sub-theme 1.2—The Key Discussion Points: During and after the calamity, the key discussion points among the victims centered on glacier burst and potential, safety, evacuation, and damage assessment. The victims (respondents) emphasized relocation of the natives to safer zones. They told of using interpersonal communication, particularly mobile calls, to alert family members and coordinate evacuation efforts. Post-flood conversations shifted to the damage assessments including infrastructure destruction (roads, power facilities, and homes) and the challenges recovery efforts. The respondents expressed concerns about access to markets in Peshawar, Islamabad and Punjab for fruit and vegetable transportation. They demonstrated concerns about glacier burst tried to understand the underlying causes of the glacier, leading to disaster.

Sub-theme 1.3—Communication Challenges: The respondents commonly faced confusion and challenges in accessing accurate information about the flood. Only those having possession of mobile and smartphones could know about the approaching of flood. The others remained in dark. During the disaster, misinformation and disinformation, and delayed limited information also prevailed, causing uncertainty and anxiety among the victims. The floods also destroyed telecommunication networks, causing dysconnectivity of telephony and internet services, lack of electricity, and mobilization hindrances due to damaged road infrastructure.

Sub-theme 1.4—Narratives on Glacier Burst: The respondents expressed various narratives (personal beliefs) about the potential causes of glacier burst leading to floods. They attributed it to environmental degradation and climate change. Some of them also attributed it as Act of God and divine punishment (religious perspective) due to displeasure because of human sins. Majority of the respondents, however, were cognizant of increased population and pollution, and deforestation as underlying causes of the disaster. Respondents emphasized the need for afforestation and government action to preserve forests. Another narrative interpreted the flood as an impact of increased and unchecked tourism in Kumrat Valley, characterized by human-built concrete/cemented hotels that intensified the heat in the mountains.

Theme 2—Coping with Emotional Stress through Communication: The second theme identified by the researchers while analyzing data of in-depth interviews was “Coping with Emotional Stress through Communication”. Interpersonal communication played a pivotal role in helping victims cope up with the emotional stress caused by the glacier burst flooding. Victims heavily relied on face-to-face interactions with family members, friends, and community members, particularly to alleviate feelings of fear, anxiety, and trauma. The indirectly affected people living upstream of the riverbank came to rescue their fellow being, many of them relatives to each other, living downstream of the riverbank. These emotional exchanges provided comfort, mental peace, and a sense of security during the crisis. Victims shared their fears, sought reassurance, and discussed evacuation plans, the safety of loved ones, and recovery efforts and strategies. The support these conversations offered helped victims feel emotionally supported and confident in managing the overwhelming situation.

Sub-theme 2.1—Emotional Support from Close Connections: The respondents described interpersonal communication with family members, relatives and friends as a vital source of emotional support to cope with the stress and fear caused by the glacier burst and flood. Many participants relied heavily on face-to-face interactions with family members and close relatives who were nearby, drawing comfort from these in-person conversations. Respondents acknowledged that without the support from and direct communication with their relatives and friends, it would have been challenging to handle the crisis situation. They received emotional strength from relatives and community that proved vital to recovery from the loss. The communal interaction fostered resilience, with interpersonal communication emerging as a fundamental means to ease out the psychological burden caused by the disaster.

Sub-theme 2.2—Building Resilience: The respondents acknowledged interpersonal discussions being the support system to collect courage and build resilience in the hour of despair. Victims prioritized evacuation plans and relocation to safer zones with necessary valuables to be taken care of. With decreasing flood water levels helped, the encouragement from fellow being lit-up the light at the end of the tunnel. People mitigated damages by repairing road infrastructure, housing and restoration of community services. The discussions also revolved around the climate change mitigation strategies at the individual and community level to avoid any such disasters in the future.

Theme 3—Influence of Communication on Behavioral Responses: The third theme explored by the researchers was the “Influence of Communication on Behavioral Responses”. According to the respondents, interpersonal communication significantly impacted the behavior of glacier burst victims in terms of their decision-making, coping strategies, and recovery efforts. Respondents acknowledged that communication with family, friends, and community members was becoming a support system and helped in informed decision making. It not only helped victims cope up with the emotional and psychological trauma during post-disaster phase, but also built a sense of reassurance to life and collective strength, motivating victims to work together towards rebuilding and recovery.

Sub-theme 3.1—Decision Making: Interpersonal communication helped victims in decision making process during and after the glacier burst. Discussions with family, friends, and relatives provided emotional reinforcement and clear guidance on immediate actions needed for safety. Communication with people having access to correct information was seen as critical, as it helped victims in informed and timely decision-making during evacuation, relocation and recovery. Without such communication, some respondents felt they and their families would have been at significant risk.

Sub-theme 3.2—Key Communication Networks and Safety: Interpersonal communication among family, relatives and friends was key to evacuation and safety of the victims. The respondents acknowledged that their family members and relatives were the first to advise them about evacuation, relocation and safety as the ones in safer zones guided the affected ones to prioritize leaving home and securing important belongings.

Sub-theme 3.3—Trauma Recovery Through Communication: Interpersonal communication played a significant role in helping flood victims cope up with stress and trauma both during and after the disaster. The respondents attributed 70% of the trauma recovery because of interpersonal interactions and conversations with loved ones that provided the victims a sense of confidence, reassurance, and hope.

Sub-theme 3.4—Collective Conscious to Mitigate Disaster: Communication with family, friends, and community members built a collective conscious to mitigate the damages of disaster. This led the whole community to unite together in the efforts of recovering infrastructure by rebuilding houses, roads, and reinstating community services, alleviating mental pressure, fear, and stress caused by the flood. The collective conscious developed highlighted the need to keep a check on unnecessary and illegal infrastructure development of high-rise hotels, countering deforestation, and raising awareness about climate change.

5. DISCUSSION

The researchers’ observations during the 2024 glacier burst in Kumrat Valley in the Khyber Pakhtunkhwa province of Pakistan revealed significant patterns of interpersonal communication among the climate disaster victims. The directly affected individuals exhibited urgent and anxious communication, prioritizing evacuation and safety updates, aligning with Berger's Uncertainty Reduction Theory, which emphasizes the role of communication in reducing stress and enabling informed and coordinated decisions during crises (Mustaffa & Rahaman, 2021; Xing, 2023). The panic created by the crisis shifted to relief with reduced flood water level. The indirectly affected people, living in safer zones, took up the task of assisting relatives, providing shelter, and discussing the flood’s intensity, reflecting findings that supportive communication fosters collaboration and empathy in disaster contexts (Siahaan, 2021). Post-

disaster, both groups faced shared challenges like damaged infrastructure including housing, roads, telecommunications, business closure and inconvenience in accessing medical facilities. It underscored the role of interpersonal communication in managing stress, fostering resilience, and enabling collective recovery (Kaniasty, 2020). These observations confirmed that communication is not only a survival tool but also a critical component of recovery and resilience-building. This study also identified the role of interpersonal communication in addressing the challenges faced by victims of the 2024 glacier burst and floods in Kumrat Valley. Interpersonal communication was crucial during the disaster, with victims relying on mobile phones for immediate updates and face-to-face interactions for evacuation and safety planning. These modes align with findings by (Okoli & Chiaghana, 2020) who emphasized that interpersonal communication effectively spread flood-related information and prompted action. The researchers observed that those directly affected by the flood prioritized safety-focused communication, while those in safer areas facilitated evacuation and offered assistance. Victims relied on family and community discussions to alleviate stress, as observed by the researchers, particularly in consoling those who suffered significant losses, the finding falling in conformity with the findings as evidenced by (Kaniasty, 2020), who identified social support as a critical factor in reducing psychological distress and fostering resilience during natural disasters. Similarly, (Siahaan, 2021) noted that sharing experiences with others helps victims mitigate grief and rebuild a sense of stability, reinforcing the role of communication in emotional recovery. Communication significantly influenced victims' behaviors, guiding their decisions during the flood and shaping their recovery afterwards. Interpersonal discussions enabled timely evacuation, resource prioritization, and collaborative recovery efforts, as observed in this study, garnering support from (Xing, 2023). Additionally, the collective conscious for recovery and mitigation efforts observed in Kumrat Valley also garners literature support from the study of (Kaniasty, 2020).

6. CONCLUSION

This study, based on participant observations, decoded the interpersonal communication patterns among climate disaster victims during 2024 floods in Kumrat Valley of Khyber Pakhtunkhwa province of Pakistan. It explored two types of natives affected of glacier burst floods; the directly affected people who lived downstream alongside the riverbank and indirectly affected people who live upstream of the riverbank. Both of them used different interpersonal communication patterns soon as they came across the news about glacier burst and flood. The directly affected people used interpersonal communication for safety and survival whereas the indirectly affected individuals used the same to rescue the direct victims and provide them with aid through shelter, food and medicine. Their post-disaster strategies involved consoling the victims for their losses and mitigating stress and despair. However, common interpersonal communication patterns emerged during post disaster phase including communication on immediate recovery of housing, road and telecommunication infrastructure, access to other part of the country, especially the markets for supply of fruit and vegetables and getting medicine and other necessary for life goods back to the flood affected areas, building collective conscious to mitigate the future disasters by acknowledging climate change as the root cause for the existing calamity. The research identified three main themes: Glacier Burst Victims' Affectionate Interaction, Coping with Emotional Stress through Communication, Influence of Communication on Behavioral Responses. The researchers acknowledged the importance of interpersonal communication that was the main source of communication for the flood victims which helped them mitigate the crisis.

Limitations of the Study: It was a coincidence that the researchers were stuck in Kumrat valley due to inundated floods and damaged road infrastructure that led them to decide conducting this study. Managing special arrangements to conduct such studies, otherwise, may pose limitations of resources, access and communication. Furthermore, it was qualitative research that yielded in-depth understanding of the particular case and the findings may not be as generalizable as is the case with quantitative research. Keeping in view the crisis situation, the researchers, other than field observations, could reach out to a limited number of potential respondents as per their convenience.

Policy Recommendations: Based on the findings, this study has proposed the following policy recommendations:

1. There is a dire need to strengthen the existing communication infrastructure, with more telecommunication network reliability. The government should also establish emergency communication outlets in all climate disaster-prone areas to guarantee timely and accurate information dissemination.
2. The native communities in climate disaster-prone areas should develop localized early warning mechanisms leveraging reliable community networks and interpersonal communication to countercheck misinformation and disinformation.
3. Youth and the community leaders should be trained in operative (interpersonal) communication and emergency response in the climate disaster-prone areas to improve coordination and rescue strategies.
4. The government should launch mental-health support initiatives, stressing interpersonal communication (psychological counsellors) to foster post-disaster trauma recovery and resilience.
5. Government and community should join hands in launching education/awareness campaigns, linking climate change and disasters to deforestation and destruction of natural habitats to promote community-driven climate sustainable practices.

Acknowledgements

None.


Conflict of Interest


Authors declared NO conflict of interest.

Funding Source

The authors received NO funding to conduct this study.

ORCID iDs

Muhammad Ayoub¹  <https://orcid.org/0009-0009-0064-6809>

Aqeel Ahmed²  <https://orcid.org/0009-0009-5407-560X>

REFERENCES

- Abbass, K., Zeeshan, M., Huaming, Q., Muntasir, S., & Mahmood, H. (2022). A review of the global climate change impacts , adaptation , and sustainable mitigation measures. *Environmental Science and Pollution Research*, 29, 42539–42559. <https://doi.org/10.1007/s11356-022-19718-6>
- Adnan, M., Xiao, B., Bibi, S., Xiao, P., Zhao, P., & Wang, H. (2024). Addressing current climate issues in Pakistan : An opportunity for a sustainable future. *Environmental Challenges*, 15(December 2023), 100887. <https://doi.org/10.1016/j.envc.2024.100887>
- Ahmed, A., Kashif, M., & Mansoor, S. (2024). Exploring Journalists ' Narratives on Challenges to Climate Journalism in Pakistan. *Human Nature Journal of Social Sciences*, 5(1), 286–294.
- Berger, J. (2014). Word of mouth and interpersonal communication: A review and directions for future research. *Journal of Consumer Psychology*, 24(4), 586–607.

- Bhatti, O. S., Mujahid, S., & Mughal, N. I. (2024). Unveiling Climate Consciousness: Assessing Perceptions based on Social Media and Mass Communication Strategies among Balochistan University Students. *Journal of Development and Social Sciences*, 5(2), 33–44.
- Bibi, A. (2024). Media Influence on Climate Change Discourse in Pakistan. *Journalism, Politics and Society*, 2(2), 87–99. <https://doi.org/10.63067/ym5tma40>
- Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 2(3), 77–101. <https://doi.org/https://doi.org/10.1191/1478088706qp063oa>
- Chinowsky, P., Hayles, C., Schweikert, A., Strzepek, N., Strzepek, K., & Schlosser, C. A. (2011). Climate change: comparative impact on developing and developed countries. *Engineering Project Organization Journal*, 1(1), 67–80. <https://doi.org/10.1080/21573727.2010.549608>
- Dawadi, S. (2020). Thematic Analysis Approach : A Step by Step Guide for ELT Research Practitioners. *Journal of NELTA*, 25(1-2), 62-71.
- Ishaque, W., Tanvir, R., & Mukhtar, M. (2022). Climate Change and Water Crises in Pakistan: Implications on Water Quality and Health Risks. *Journal of Environmental and Public Health*, 2022, 5484561. <https://doi.org/10.1155/2022/5484561>
- Kaniasty, K. (2020). Social support, interpersonal, and community dynamics following disasters caused by natural hazards. *Current Opinion in Psychology*, 22, 105–109.
- Mustaffa, C. S. (2016). *Assessing Communication Competence of Flood Relief Workers in Malaysia*. September 2016, 1–10. <https://doi.org/10.15405/epsbs.2016.08.48>
- Mustaffa, C. S., & Rahaman, N. H. (2021). Assessing Communication Competence of Flood Relief Workers in Malaysia. *The European Proceedings of Social and Behavioural Sciences*, September 2016. <https://doi.org/10.15405/epsbs.2016.08.48>
- Nunes, L. J. R. (2023). The Rising Threat of Atmospheric CO₂: A Review on the Causes, Impacts, and Mitigation Strategies. *Environments - MDPI*, 10(4), 66. <https://doi.org/10.3390/environments10040066>
- Okoli, O., & Chiaghana, C. (2020). Analyzing the Communicative Imperative in Awka. *Nnamdi Azikiwe University Journal of Communication and Media Studies*, 2(1), 1–14.
- Qayyoom, H., & Hameed, A. (2023). Role of Media in enhancing Pro-Environmental Knowledge, Attitude and Behavior. *Journal of Development and Social Sciences*, 4(I), 214–223.
- Rawat, A., Kumar, D., & Khati, B. S. (2024). A review on climate change impacts , models , and its consequences on different sectors : a systematic approach. *Journal of Water and Climate Change*, 15(1), 104–126. <https://doi.org/10.2166/wcc.2023.536>
- Saleem, A., Anwar, S., Nawaz, T., Fahad, S., Saud, S., & Ur, T. (2024). Securing a sustainable future : the climate change threat to agriculture , food security , and sustainable development goals. *Journal of Umm Al-Qura University for Applied Sciences*. <https://doi.org/10.1007/s43994-024-00177-3>
- Siahaan, C. (2021). Interpersonal Communication Of Natural Disaster Victims To Volunteers In Central Sulawesi. ... *Journal of Multi Science*, 2(1), 21–27.
- Suhaimi, A. W., Marzuki, N. A., & Mustaffa, C. S. (2014). The Relationship between Emotional Intelligence and Interpersonal Communication Skills in Disaster Management Context: A Proposed Framework. *Procedia - Social and Behavioral Sciences*, 155(October), 110 – 114. <https://doi.org/10.1016/j.sbspro.2014.10.265>
- Xing, Y. (2023). The Use of Uncertainty Reduction Theory in Communication. *Journal of Education, Humanities and Social Sciences*, 22, 321–327. <https://doi.org/10.54097/ehss.v22i.12457>