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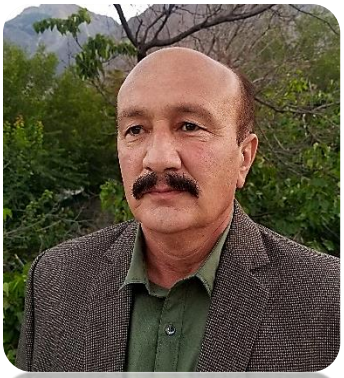

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Changes in Values and Perception of Life:

Natural Disaster Devastates a Mountain Community

Abstract

The mountain communities of Karakorum and the Himalayas in Pakistan are frequently experiencing climate change-induced natural disasters, which are inflicting irreparable losses to their generation's old value system and socio-economic life. Focusing on the value system, this small-scale study explored the change in values and perceptions of a disaster-affected mountain community about natural hazards and its implications for their future lives. Twenty participants from the affected community, including local political activists, religious leaders, teachers, and youth activists, were thoroughly interviewed. The study explored significant deviations from their traditional values of connectedness to each other and with their ancestors' land. The emergence of new values like local wisdom for disaster management and the education of their children was also noted. The fading of the values of connectedness to the region and the values of helping each other have serious implications for the breaking of generational old cultures and values that may trigger mass migrations from such regions that will result in the abandonment of mountain villages.

Introduction

The highland communities of Karakorum and the Himalayas are frequently experiencing climate change-induced natural disasters that are disrupting their lives and livelihoods in this mountain terrain. The challenges for disaster management in these mountains are markedly amplified by the lack of income generation opportunities, weak infrastructure, inadequate healthcare facilities, harsh climatic conditions, and high dependence on subsistent farming and natural resources (Pham, Nong, & Garschagen, 2020). These adverse and hostile conditions, coupled with natural disasters, have trapped these communities in a vicious circle of extreme poverty. The population in these mountains lives in houses that are vulnerable to disasters, and their houses are normally in high-risk areas. They possess fewer assets, and their savings and assets are mostly concentrated in limited possessions like homes and

livestock in the same vicinity. This makes the population more vulnerable to disaster, and the damage becomes extremely difficult for the families to repair (SAMHSA, 2017).

The current study has been carried out in a remote, isolated mountain community in the laps of the mighty Karakorum range in Gilgit-Baltistan, Pakistan. This remote community was severely affected by a Glacial Lake Outburst Flood (GLOF) in 2020, destroying their homes, agricultural land, livestock, school buildings, health dispensary, and the only access road to the external world. The mountain community of this village is solely dependent on subsistence farming and domestic livestock raising, thus falling into a low income and low socio-economic status. "People of low income and low socio-economic status are more vulnerable in the face of disasters and are more likely to suffer more serious consequences during impact, from property damage to homelessness to physical and financial impacts" (SAMHSA, 2017, p. 6). Similarly, the community under study had a few assets homes, agricultural land, and livestock that they have lost to the disaster, which has a greater financial impact on them because their savings are concentrated in their homes, livestock, and lands only, so they are struggling for their survival now.

The isolated mountain communities in this part of the world are deeply rooted in their peculiar framework of culture and values. Culture consists of values, symbols, language, norms, and behaviors that provide shared meanings and can stimulate loyalty, animosity, love, and hate. "Values are ideas that help us to evaluate people, objects, and events, such as right and wrong, good and bad, and desirable and undesirable" (Jogia et. al., 2014, p. 3). These values establish norms and behavioral expectations in the form of rules and standards against which acceptability is determined. Based on the norms and standards of acceptability, individuals are showing observable actions in society; therefore, values and culture play a significant role in determining the perception and response behavior to a natural disaster (Jogia et. al., 2014). Community values and orientations are forming their perceptions, and these perceptions have a link to vulnerability. "Since perceptions and habits determine how people will act, they inadvertently shape the nature of the response actions in the face of natural hazards or pending disasters" (Wachinger & Renn, 2010: p. 72). Therefore, research worldwide is emphasizing respect for the values and culture of the affected communities in disaster management. The strategies and plans must be tailored in such a way that they are provided help within their strong values, culture, and social dynamics rather than trying to reinvent the community with new values, culture, and socio-economic structure (Jogia et al., 2014).

Research has also reported that "natural disasters can affect individuals' views about the environment, especially when these events are extreme and experienced by people directly" (Pantera, Bohmelt, & Bakaki, 2023, p. 761). New experiences, new realities, events, and changes in societies produce rapid changes in values (Oyserman, 2015). This is resulting in the reshaping of their social reality about their values and perceptions of life (Van der Walt, 2020). In the case of this mountain community, the natural disaster has offered a new experience for the members to learn and has significantly changed their social interaction outlines. The disaster has socially, economically, and psychologically jolted the entire society of this mountain community; therefore, their social dynamics, including their values, culture, socio-economic priorities, and perceptions, are shaken. While struggling with multifaceted adversities, misfortunes, and hardships since 2020, their values and perceptions of hazards and their implications for their future lives are reshaping. The difficult time has also offered

ample learning opportunities for the community to tweak their values and perceptions of their future. Therefore, this small-scale study is intended to explore the change in values and perceptions of this mountain community about natural hazards and their implications for their future lives after suffering this devasting natural disaster.

Theoretical Perspectives

Studies in developing contexts have reported quite a few challenges for disaster management. The disaster responses are often reported to be feebly aligned with the broader social, cultural, and historical contexts of these communities, resulting in the creation of another layer of oppression for these marginalized communities (Jessee, 2020). In this connection, UNISDR (2014) has highlighted the challenge of poor coordination and instability among government, NGOs, and local-based volunteer organizations in a disaster context. These government authorities, aid agencies, and volunteer organizations have their own understanding of the situation and are operating in isolation, resulting in the duplication of activities and the utilization of resources. This kind of scenario not only wastes precious resources but also confuses the affected community for their long-term rehabilitation.

Planning and Execution of Disaster Response at the Grassroots Level

UNDP (2019) emphasizes careful planning and implementation of disaster management programs to prevent secondary disasters that result in increased vulnerability and risk conditions. "Disaster recovery periods are opportunities for reflecting on the root causes of a disaster and recasting development priorities to reduce human vulnerability to natural hazards. Simply reinventing pre-disaster conditions is a wasted opportunity" (UNDP, 2019, p. 12). The operational guidelines on human rights and natural disasters emphasize meaningful involvement of the affected communities to take charge of their own affairs while planning and implementing disaster responses at various stages (UN, 2006). "Community members are the immediate victims of the adverse effects of disasters, and they have the best knowledge about their local surroundings, such as demographic, social, economic, and cultural status, risky areas, water sources, roads, and health facilities. In addition, community members have information about vulnerable groups such as pregnant mothers, children, the disabled, the elderly, refugees, and patients suffering from chronic disorders. Communities represent the best target for this type of intervention since they know what works within their contexts" (WHO, 2015, p. 5). Studies are consistently reporting that the impact of natural disasters can best be mediated at the local level because the stakeholders at grassroots have an inside-out understanding of the ground realities. However, the lack of sufficient resources, knowledge, and skills required for implementing disaster management programs at the local level makes it challenging for these mountain communities (Jerolleman, 2020).

The perception of vulnerability must also be established and defined at the grass-roots level of the affected communities. In most cases, vulnerability is perceived at the levels of government authorities and aid agencies where local ownership is absent. "Most agencies tend to think on behalf of the victims, not realizing that disaster-prone communities might interpret their circumstances differently… If we want our disaster responses to be meaningful, we need to give affected communities a voice and recognize their risk perception as well as their active role in exploring strategies that ensure livelihood security in the long term" (Heijmans, 2001, p. 15). Hence, the planning and execution of disaster response at the grass-roots level and their meaningful involvement can channel the positive community attributes for creating more resilient communities against natural disasters. Madsen and O'Mullan

(2016) have reported the development of a resilient community in Queensland, Australia, who demonstrated tolerance and patience, optimistically accepted the disaster, and maintained social connections to overcome the disaster impacts.

Role of Local Knowledge and Solutions

While commenting on the coping strategies for floods, UNDP (2021) highlighted community-driven local solutions and innovation for flood adaptation and mitigation. These local solutions were found to be small-scale and irregular, depending on their economic situations. Such local solutions in communities are prevalent in most contexts, ranging from plains to mountains. The local solutions are based on their generation's long experiences, and in fact, they vary from culture to culture and context to context. Though their worth has not been scientifically proven, they are part of their culture and value system; therefore, communities have a strong trust in such local solutions. Therefore, Ngwese et al. (2018) argue that "modern scientific knowledge for DRR is invaluable; it is essential to recognize the role of traditional and local knowledge in enhancing the resilience of local communities. Lessons can be derived from the traditional and local practices that have been applied by communities over centuries to cope with disasters" (p. 15). However, it is important to ensure that such traditional wisdom and local solutions align with modern scientific knowledge.

Social Cost of Disaster: Values, Culture, and Traditions

The economic cost of natural disasters is quite visible in the form of destruction of property and infrastructure. However, social and psychological costs are most of the time invisible, but deep-rooted in society. Therefore, the effective disaster management program not only focuses on the economic aspect but also accounts for social and psychological aspects of affected communities (Srivastava, 2010). The World Meteorological Organization (WMO) (2016) has touched upon a very important aspect of the social impact of disaster management. Normally, the social impact is overlooked amid cumbersome technical and technological processes and interventions while dealing with a hazard or a disaster. In the search for short-term economic and technical gains, the negative impact in terms of social and environmental degradation are often neglected. It is important to understand that the communities suffering from a disaster have their lifestyle, cultural identity, habits, obligations, values, language, religious beliefs, customs, esthetics, and community cohesion. Penetrating any aspect of their life has a social cost for them and in the long run it causes the community to suffer.

While planning and implementing a disaster mitigation program, the values and social dynamics of the affected population play a decisive role. Value-based social conflicts normally arise when authorities believe that the marginalized communities have a lack of knowledge and understanding of their future. Therefore, it is not important to take their consensus in each of the disaster mitigation initiatives. It is essential to ensure that the plans and strategies are not only well communicated but also a meaningful participatory approach to the communities has been established to address their concerns (Wachinger & Renn, 2010). This kind of approach can help to localize the disaster management program in its true spirit and can provide a fundamental basis for transformative resilience in mountain communities (Szarzynski, et al., 2023). The values, culture and traditions of the mountain communities play a significant role in disaster response because the responses and behavior of the individuals are highly influenced by communal values, cultures, and perceptions. However, for a longer period, their interaction with disaster and disaster response breeds intentional and

unintentional changes in their values, culture, and perceptions of their life. Hence, the local values, culture, and perceptions are influenced by the disaster and disaster responses over a period. Therefore, this study attempted to study the influence of disaster and disaster response initiatives on their local values and perceptions and intended to explore the change of values and perceptions of this mountain community about natural hazards and its implications for their future life.

Methodology

Cultural researchers have reported that changes in societies produce rapid changes in values (Oyserman, 2015, p.39). New experiences, events, and proceedings are forcing a change in their current perceptions of life, code of desirables, and their behavior in society. Therefore, a constructivist approach has been chosen for this study because the perceptions about life and values of the participants, which are somewhat ambiguous constructs of mind, have faced continuous fluctuations, adjustments, and transformations because of the catastrophic disaster. This is resulting in the reshaping of their social reality about the values and perceptions of life (Van der Walt, 2020). Within the constructivist paradigm, interpretivism is considered an appropriate perspective to explore how people felt, perceived, and experienced the sudden disaster event and the series of happenings that they witnessed after the disaster (Chen, Shek, & Bu, 2011). The study is predominantly banking on the interpretations of the disaster-hit community about their change in perceptions and values because of the catastrophe. Therefore, it is closely aligned with symbolic interactionism (Prasad, 2025).

The disaster-hit mountain community was taken as a case within the bounded system of its geography and social setting. The community resides in an isolated village for generations, having its own cultural, economic, and social structures within which their value system operates, and their perception of life is shaped. Within this culture and context, an extended interview of one hour was carried out with each of the participants to explore their views and perspectives on their life in these mountains before and after the disasters. They were specifically asked the following questions.

- What were the biggest losses that they have sustained as a result of a natural disaster?
- How did this disaster impact their personal health?
- How did it impact the education of their children?
- How has their socio-cultural environment changed after the disaster?
- What will they suggest to others to do before a natural disaster?
- What will be the best support at this point of time for this disaster-hit community?

Most of the questions mentioned above are apparently indirect in nature. No direct question about their values and change in values has been asked. This approach provides an opportunity to probe deeper into their feelings, perceptions, and experiences of their new social reality in which their values and perceptions are reshaped. Many studies like Oyserman, (2015) have suggested that “future assessment of values may need to consider more indirect approaches, such as what services a society provides its members, what behaviors are rewarded or sanctioned and so on” (p.39). Hence, this approach has provided rich data about the context for the researchers and leverage for the participants to interpret their world view in a more comprehensive manner.

A mix of 20 community members, including male, female, young, and adult were selected to interview for this study. A purposive approach to participant selection was not only adopted to ensure the mix of demographic factors, but also to ensure the participation of members from diverse walks of life, like local political activists, religious leaders, teachers, youth activists and the involvement of people purely engaged in subsistent farming (see *Table 1*).

***Table 1*: Participant Profile**

No.	Age	Gender	Short Profile	No.	Age	Gender	Short Profile
Gf.1	68	Female	Housewife and purely involved in subsistent farming.	**Rm. 5**	64	Male	Political activist and involved in subsistent farming.
Gm.2	80	Male	Village elder, local politician involved in subsistent farming.	**Rm. 6**	38	Male	Religious leader and social activist.
Gm.3	55	Male	Local shopkeeper and involved in subsistent farming.	**Rf. 7**	25	Female	Social activist and student in a college outside the village.
Gm.4	27	Male	Teacher and social activist.	**Bf. 1**	75	Female	Housewife and traditional maternity expert.
Gf.5	40	Female	Housewife and involved in subsistent farming.	**Bm. 2**	19	Male	Social activist and student in a college outside the village.
Gm.6	30	Male	Religious leader of the village	**Bf. 3**	35	Female	Social activist
Rf. 1	20	Female	Youth activist and student.	**Bm. 4**	40	Male	Teacher and social activist
Rm. 2	45	Male	Chairperson of school management committee.	**Bm. 5**	55	Male	Purely farmer.
Rf. 3	60	Female	Housewife and purely involved in subsistent farming.	**Bm. 6**	34	Male	Religious leader and involved in subsistent farming.
Rm. 4	70	Male	Village elder and farmer.	**Bf. 7**	23	Female	Social activist and student in a college outside the village.

Data Analysis

The reading and reading of the data revealed certain broad categories and trends in the responses of participants to each question. Therefore, the response categories and trends of participants for each question have been portrayed in this section to provide a big picture of the participant's responses. The subsequent section will thoroughly share examples of accurate responses in the form of verbatims and analyze to highlight the emerging themes in the study.

Question 1: *What were the biggest losses that they have sustained because of the natural disaster?*

The responses to this question portrayed the categories of loss of houses, land, livestock, infrastructure, loss of peace and certainty, loss of peaceful life and fear for the future and loss of social culture and interactions. Most of the participants (12 out of 20) mentioned material losses such as houses, land, livestock, and basic infrastructure of the village as their biggest losses. However, other participants mentioned loss of peace, uncertainty, and fear for the

future, loss of social culture and interactions and the loss of personal and family health as their biggest losses to this natural disaster.

***Table 2*: Participant Responses (Q1)**

Sr. No	Response categories emerged from this question	Code names of responding participants
1	Material loses such as houses, land, livestock, and basic infrastructure of the village.	Gf.1, Gm.2, Gm.3, Gf.5, Rf. 1, Rm. 2, Rm. 5, Bf. 1, Bm. 2, Bf. 3, Bm. 4, Bm. 5.
2	Loss of peace, uncertainty, and fear for the future.	Gm. 4, Gm. 6, Rm. 6.
3	Loss of personal and family health.	Rf. 3.
4	Lost the social culture and interactions.	Rm. 4, Rf. 7, Bm. 6, Bf. 7.

Question 2: *How did this disaster impact their personal health?*

The responses to this question exposed the categories of psychological and physical health problems observed in the community. They also mentioned heart attacks and psychological issues in children. Most of the participants (14 out of 20) mentioned that their community members are struggling with psychological issues after this disaster. 03 participants said the physical health of the community members is deteriorating and 02 mentioned that heart attacks are getting prevalent, whereas 01 claimed that children are also facing psychological issues.

***Table 3*: Participant Responses (Q2)**

Sr. No	Response categories emerged from this question	Code names of responding participants
1	Community members are struggling with psychological issues after this disaster.	Gm.2, Gm. 4, Gf. 5, Gm. 6, Rm. 2, Rm. 5, Rm. 6, Rf. 7, Bm. 2, Bf. 3, Bm. 4, Bm. 5, Bm. 6, Bf. 7.
2	The physical health of the community members is deteriorating.	Gf. 1, Gm. 3, Rm. 4.
3	Heart attacks are becoming prevalent.	Rf. 3, Bf. 1.
4	Children are facing psychological issues.	Rf. 1.

Question 3: *How did it impact the education of their children?*

The responses to this question portrayed the categories of the importance of education for their children to rescue them from this valley, accepting the importance of education but not having resources for the educational expenses, students have left education and are laboring now, and education is the only way through which their children can have a good life somewhere. The responses were almost equally spread across the four emerging categories. 06 participants mentioned that education is important because their children can rescue them from this valley in such situations and 07 participants mentioned that education is important, but they do not have resources for the educational expenses now. 03 participants mentioned that many students have left education and are laboring now, and 04 participants mentioned that education is the only way through which their children can have a good life somewhere.

***Table 4*: Participant Responses (Q3)**

Sr. No	Response categories emerged from this question	Code names of responding participants

1	Education is important because their children can rescue them from this valley in such situations.	Gf. 1, Rf. 1, Rm. 2, Bf.1, Bm. 4, Bm. 5.
2	Education is important, but they do not have resources for the educational expenses now.	Gm. 2. Gm. 3, Gm. 6, Rf. 3, Bf. 3, Bm. 6, Bf. 7.
3	Some students have left education and are laboring now.	Gm. 4, Rm. 4, Rm. 5.
4	Education is the only way through which our children can have a good life somewhere.	Gf. 5, Rm. 6, Rf. 7, Bm. 2.

Question 4: *How has their socio-cultural environment changed after the disaster?*

The responses to this question raised the categories of losing oneness of society and emergence of individualism, loss of unity and non-cooperative attitude, loss of social culture and interaction, people leaving and trying to leave the valley and uncertainty for the future. In response to the question about socio-cultural changes, 09 out of 20 participants mentioned that they had a sense of oneness, people cared for each other. After the disaster, individualism rapidly prevailed in society. 01 participants stated that they have lost social interaction in society and the other 01 believed that they lost their unity in society and people are non-cooperative now. 01 participant mentioned that people have lost their interest in everything and are uncertain about their future and the remaining 07 mentioned that people are leaving and trying to leave the valley.

***Table 5*: Participant Responses (Q4)**

Sr. No	Response categories emerged from this question	Code names of responding participants
1	We had a sense of oneness, people cared for each other. After the disaster, individualism rapidly prevailed in society.	Gf.1, Gf.5, Rf. 1, Rm. 2, Rf. 3, Rm. 5, Bm. 2, Bf. 3, Bm. 4.
2	Lost the social interaction in society.	Gm. 6,
3	People have lost their interest in everything and are uncertain about their future.	Rm. 4.
4	People are leaving and trying to leave the valley.	Gm. 3, Gm. 4, Bf.1. Bm. 5, Bf. 7. Rf. 7. Rm. 6, BM. 6.
5	We had unity in our society and now people are non-cooperative.	Gm. 2.

Question 5*: What will they suggest to others to do before a natural disaster?*

The responses to this question portrayed the categories of suggesting using local wisdom before and after the disaster, focusing on the education of their children who will help them out, not invest in risky areas and save some money, taking care of human life, finding out safer places before the disaster and helping organizations not to spread fear in society. Out of the 20 participants, 03 suggested using local wisdom before and after the disaster, 04 participants recommended focusing on the education of their children who will help them out, 04 advised not to invest in risky areas and save some money. 03 participants proposed taking care of human life and 03 suggested finding safer places before the disaster. The remaining 03 emphasized helping organizations not to spread fear in society.

***Table 6*: Participant Responses (Q5)**

Sr. No	Response categories emerged from this question	Code names of responding participants

1	Must use local wisdom before and after the disaster	Gf. 1, Bf. 1, Bm. 5.
2	Focus on the education of children before disaster, who will in turn help in these days.	Gm. 2. Gm. 6, Rm. 4, Bm. 2.
3	Avoid investing in risky areas and save money.	Gm. 3, Gm. 4, Rm. 6, Bf. 7.
4	Give priority to human life.	Gf. 5, Rf. 1, Bm. 4.
5	Find safer places before the disaster.	Rm. 2, Rf. 3, Bm. 6.
6	Helping organizations must not spread fear in society.	Rm. 5, Rf. 7, Bf. 3.

Question 6: *What will be the best support at this point of time for this disaster-hit community?*

The responses against this question portrayed the categories of suggesting improving the road access to the valley and basic infrastructure, using local wisdom for dealing with disasters, and proposing focusing on education and health as a long-term solution. 05 participants out of 20 suggested improving the road access to the valley and basic infrastructure and 09 participants advised focusing on education and health as a long-term solution. 06 participants recommended giving due importance to local wisdom for dealing with disasters.

***Table 7*: Participant Responses (Q6)**

Sr. No	Response categories emerged from this question	Code names of responding participants
1	Improve the road access to the valley and basic infrastructure.	Gf. 1. Gm. 2, Bm. 4, Bm. 5, Bf. 7
2	Focus on education and health as a long-term solution.	Gm. 6, Rf. 1, Rm. 2, Rf. 3, Bm. 6, Rm. 5, Rm. 6, Bf. 1. Bf. 3.
3	Due importance must be given to local wisdom for dealing with disasters.	Gf. 5, Rm. 4. Gm. 4, Gm. 3, Rf. 7, Bm. 2.

Discussions and Findings

Shifting from the value of social connectedness to the valuing of individualism

Most of the participants (09 out of 20) pointed to the emergence of individualism among the community members and the deterioration of collectivism and social connectedness which was a distinguishing feature of this community before this disaster. For example, participant Bm.4 stated:

> *We have not faced only a physical disaster. We have faced a social and cultural disaster which is more damaging. People have lost their sense of unity, care, and connectedness with each other. After this disaster, people are now thinking only for themselves and for their own families. They do not care what is happening to others"* (Interview 05/10/2023).

Participant Gf.1 shared alike observations in her interview, but she believes that the community cannot be blamed for this shifting of values rather the intensity of the disaster has created a chaos in the society and people are diverging from their values for their survival. According to her,

> *No doubt people are now not caring for the value of social connectedness. Everyone is trying to do something for him/herself to improve his family's conditions. Everyone is in isolation and struggling to give some comfort to his/her family. However, we cannot blame them for all this. You see there is chaos in society and people are uncertain of their future. In this situation it is natural that people are becoming individualists* (Interview, 10/10/2023).

The statement above points to the fluid nature of the values which are changing over a period under the influence of the change in interactions of the population inside their society and the change of interactions with the external world. This view was indirectly endorsed by participant Rm.5 in the following words:

> *Yes, people are inclined towards individualism, but there are certain reasons. Material help from the external world is a reason. People have started to think about getting more and more external help for themselves, not caring for others. Secondly, the conditions, priorities and situations have been changed and people are trying to cope with these changes. Therefore, they are thinking only for themselves and their families* (Interview, 19/10/2023).

Community is a complex arrangement which is difficult for the outsiders to understand and, in a situation of uncertainty and changing circumstances, the community members do not understand the happenings around them and the influences that are being inserted by the outsiders (Julie, 2009). In crisis situations, it cannot be assumed that the existing values and norms automatically determine behaviors. However, people in these circumstances re-interpret their values and norms in the light of the current situation (Jogia, et al., (2014) and deviate from the value of connectedness and get inclined toward individualism. Symbolic integrationists believe that people are consistently modifying their values and norms to cope with the newly emerging challenges they face (Herman-Kinney & Reynolds, 2003). The views of the participants are partially aligned with Albrecht (2017) who found that disaster-affected communities are bound to experience a decrease in social trust. However, Albrecht also states that this decrease in social trust is temporary and for a longer period, it is unlikely to persist. The community understudy is in the middle of the disaster management process. Therefore, the latter part of Albrecht's views is yet to be explored.

Shifting from the Value of Connectedness to the Land of Their Ancestors to the Valuing of Searching for a Better Future Outside the Valley

A good number of the participants (08 out of 20) claimed that members of this disaster-affected community have lost their interest in the area and, therefore, some people have left the valley and others are trying to leave for the better future of their younger generation. The responses of the participants reveal that the emotional attachment of people to the land is gradually replaced by the economic attractions outside the valley. While commenting on economic opportunities, participant Gm.3 shared her views in the following words:

> *You see, even before the disaster we were having a hard life in these mountains, but our history and the graveyards of our ancestors have kept us connected with this valley. Now, after this disaster, the hardship of life is almost double. Now we are thinking about why we should not shift to a city and have a comfortable life* (Interview, 11/10/2023).

Damage to their houses, livestock, and basic infrastructure seems to be a driving force behind their motivation for leaving the valley and finding a better future in the cities. In this regard, participant Bm. 6 argued:

> *We are humans, and we need food and shelter and a good life for our children. We have lost our land and livestock, even the road to this valley remains blocked. How should we survive here? Naturally, we must leave this valley* (Interview, 6/10/2023).

Similar views were shared by participant Rm. 6 about the hardships they were facing and uncertainty about the future in the valley. According to him:

After this disaster, we are not sure what will happen to us in the next few years. There could be another disaster which could destroy the remaining things that we have. There is no guarantee of a good life in these mountains. Therefore, the only option is to leave the valley and secure the future of our next generation (Interview, 10/20/2023).

Though the size of the affected population is small, there is a visible tendency to shift from valuing connectedness to the land of their ancestors to the valuing of migration from the valley for a batter future outside. Studies like Biella, Hoffmann, and Upadhyay (2022) have noted that "younger people increasingly migrate, home communities are left with an aging population, and this undermines the sustainability of rural agriculture, which relies on family labor" (p. 19). This kind of situation creates a new life reality for the leftover aging populations in the mountains which makes their life more difficult and more challenging (Speck, 2017). This trend of migration does not only reduce agricultural productivity but also results in the loss of traditional values and norms of the community (Speck 2017; Joshi 2018). This unplanned migration exposes them to multiple challenges in the new places where they are trying to settle. Migration to a new place has a far-reaching impact on their existing service infrastructure, their political power as a community, size and rights over new land, rights over other resources like water and pastures, their state of physical, mental, social, and spiritual well-being, and their perception of security and fears (World Meteorological Organization (WMO), 2016).

Valuing Local Wisdom for Disaster Management

Valuing local wisdom for disaster management emerged as a prominent theme in this study. Almost 09 out of the 20 participants emphasized focusing on local wisdom and local solutions for disaster management. Participants mentioned the use of local wisdom in these mountains for better prevention, mitigation, preparedness, response, and recovery of disasters. In this regard, participant Gm.4 explained his views in the following words:

As locals, we know that our forefathers have survived in these mountains without any external help. They used their local wisdom to deal with such disasters. Our history has many stories of such disasters. Why cannot we give due importance to this (local wisdom)? This local wisdom can be of great help (Interview, 14/10/2023).

In this connection, participant Bm. 2 mentioned some of the technical aspects of local wisdom that she had learned from her grandfather. She said:

I remember when I was young my grandfather used to tell me old stories about this region. Once he told me about the outburst of a glacier. A few weeks before the burst, strange sounds came from the glacier and the local people knew that there was a disaster ready, so they shifted to a safer place. According to the local wisdom, the glaciers give strange sounds before the outburst (Interview, 8/10/2023).

Participant Bm.5 was critical of not giving importance to local wisdom, not only by the government and non-government organizations, but also by the local inhabitants of this generation. In this regard, he said:

No one is giving importance to the local wisdom for dealing with this disaster. Even our younger generation are mostly unaware of this wisdom. Because they are not in a written form, they are orally present with few remaining elderly people in the region (Interview, 9/10/2023).

The most important aspect here is to identify, recognize, and give due importance to the local knowledge and the people who possess this knowledge. Local knowledge can be used in the climate-change and disaster-risk management process (Straza, Lui, & Burfitt, 2018). Therefore, the indigenous knowledge of disaster management is in the process of documentation in many of the neighboring countries of Pakistan, like Nepal (Timilsena & Devkota, 2022; Indonesia Anwar, 2021) and others. So far, studies have explored significant contributions of indigenous knowledge to disaster management in different parts of the world. For example, Langenbach (2010) argued that, in the Marmara earthquake in Turkey, the timber and masonry houses were found to be more resistant structures as compared to modern buildings. Similarly, Rumbach and Foley (2014) noted that the Samoa culture has a community-based system of volunteer organization in which young and unmarried men under the village chief rendered exceptional services during the tsunami. Likewise, in Bangladesh, Hasan (2008) explored the ways in which natural disasters (cyclones) are perceived, predicted, and responded to by the local people for many generations. In the context of Pakistan, studying and getting benefits from local wisdom for disaster management in this mountainous terrain is critical. However, it is one of most ignored areas in the country.

Shifting from Valuing Subsistent Farming to the Valuing of Educating for Their Next Generation

Valuing the education of their children was one of the frequent responses that were received from the interview participants. Almost all the participants (18 out of 20) valued the education of their young children and hoped they would help them out of this crisis by evacuating them from the valley and settling in a safer place. In this regard, participant Rm.5 expressed his views in the following words:

> *You see we had agricultural lands and livestock which were destroyed by the disaster. Whatever we saved, we invested that in improving our living conditions. We improved our homes and shards. That is all gone now. If we had invested in the education of our children, it would have saved us today. They would have had jobs outside the valley, and we could have shifted easily* (Interview, 18/10/2023).

Similar responses were shared by the participant Gm.2, highlighting his previous lifestyle, and realizing his slip-ups of not prioritizing the education of his children.

> *I had yaks and every year I used to take them to the pastureland in summers. I was proud of my yaks. When I became old, I divided my yaks among my children. After this disaster, my children could not manage, and we do not have a single yak. I realize it was my mistake. If I had sold at least one yak and educated a son, our family life would have been far better than today* (interview, 13/10/20230).

Likewise, Rf.3 tried to show a comparison between families who have invested in the education of their children and families who have failed to do so. In this regard, she said:

> *After the disaster, we felt the difference between families with educated children and families without education. Those who had educated children are settled in safer places. Because their children have jobs and small businesses in cities. Families who have no educated children are suffering here* (Interview, 20/10/2023).

This finding is aligned with Frankenberg, et al., (2013) who conclude that "better educated are better placed to mitigate the deleterious consequences and to embrace new opportunities in the aftermath of even a major large-scale and unanticipated disaster" (p. 3). It also affirms

the ideas of Muttarak, and Lutz, (2014) who believed that educated people are more aware, adaptive, and empowered while facing natural hazards and climate changes in terms of preparation for, and recovery from disaster. In this study, interview participants are indirectly mentioning the diversification of economic opportunities and activities beyond traditional farming. The education of their children can make them less dependent on climatic and environmental factors (van der Land & Hummel, 2013). Families who had educated members utilized their skills and knowledge to take new jobs and became more dependent on their existing jobs for their family income and even shifted their families to safer places (Wamsler et al., 2012).

Realization and Valuing of Mental Health

Mental health is often neglected by these mountain communities and people hesitate to accept and report such cases because it is still considered a social taboo. In the event of natural disasters, in these developing contexts, it is considered a temporary effect, believing that it will recover with the passage of time. However, in this study, the mental health issues were openly discussed and reported by most participants. In their interviews, 15 out of 20 participants mentioned the mental health issues being faced by the community and their effects on their well-being.

The positive aspect is that, after the disasters, people have started openly discussing mental health issues prevailing in the community and the negative aspect is the absence of wide-ranging corrective intervention. Natural disasters are not only destroying physical properties, but rather they inflect damaging psychological effects including post-traumatic stress disorders, fears, suicide, and other mental health problems (Novia, Hariyanti, & Yuliatun, 2020). In the remote context of Asia, including the Karakorum Mountain range, little attention is paid to the mental health aspect of disaster management (Kokai, et al., 2004). Therefore, in these remote contexts, it is important to "to go further, as it should be more active in prevention, during and after disasters, ensuring integral care to all people involved" (Rafaloski, et al., 2020, p. 230). In these difficult contexts, health care professionals need to come out of the traditional clinical approach and reach out to the population at grassroots level (Srivastava, 2010).

Conclusion

This study concludes that disaster risk reduction and disaster management measures must be culturally embedded in the daily lives of these communities to improve their conditions to cope with disaster events. In this regard, the local wisdom may help culturalization and improve the interventions both before and after disasters. In addition, the fading of connectedness to the region and the sense of helping each other have serious implications for the infringement of generation old cultures and values and mass migrations from such regions that may result in the abandoning of mountain villages. Therefore, connectedness to the region and the sense of helping each other must be strengthened in the overall disaster management programs for these isolated mountain communities where an immediate repose from the external world is bound to be late due to connections with weak infrastructure. The social capital among these communities can be strengthened and utilized for disaster response and management.

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