Exploring The Rehabilitation Journey of Three Flood-Affected Rural Communities in Balochistan. Can Participatory Approaches Enhance Community Resilience?

Dr. M. Vaqas Ali, (PI)[1], Dr. Khadija Shakrullah (CoPI)[1], Dr. Bilal Sarwar (Co PI)[2], Dr.NabeelulHaq (Co PI)[2], Tehreem Aurangzeb (RA)[1], Jannat K. Tabri (RA)[1], Asma Farheen (RA)[2], Qurat Ul Ain (RA)[2]

[1]Forman Christian College (A Chartered University) (FCCU)

[2]Balochistan University of Information Technology, Engineering and Management Sciences (BUITEMS)

Table of Contents

Exploring the Rehabilitation Journey of the Rural Communities Affected by the 2022 Floods in Three Divisions of Balochistan. Can Participatory Approaches Strengthen Community Resilience?

Abstract

There is little information available on the rehabilitation process of the 2022 flood victims in rural Balochistan. The study aimed to explore the rehabilitation journey of the underprivileged flood-affected rural communities in Balochistan. A qualitative situation analysis and needs assessment were conducted to understand the post-flood rehabilitation challenges of the flood victims, and solutions based on the Participatory Development (PD) approach were proposed. A comparative analysis of the perspectives of flood victims, and state and NGO representatives was also conducted to identify gaps in the emergency response and rehabilitation aid mechanisms. Respondents were purposively selected from flood-stricken rural communities located in three divisions of Balochistan (Naseerabad, Sibi, and Quetta). Nine FGDs were conducted with members of flood-affected communities, including one FGD each, with women (over 25 years), young men (under 25 years) and Afghan refugees (over 25 years). Data were thematically analyzed. Framework analysis technique was used to generate a matrix for comparing findings between and across themes and cases. Findings suggest that victims' experiences during the flood emergency were exacerbated by deficiencies in disaster preparedness, chaotic evacuations, poor living conditions at the relief camps, and uncoordinated and inefficient aid delivery mechanisms, which led to serious food and water shortages and a health crisis. The post-flood rehabilitation process remains protracted and ongoing, as food survivors struggle to revive livelihoods while trying to repair their damaged homes. Receiving little help from the state and NGOs, victims

attempt to rebuild their lives relying mainly on self-support, community cohesion and informal communal and kinship networks. The study suggests that application of the Community-Based Disaster Management Model (CBDM) though the establishment of Village Disaster Management Committees (VDMCs) can provide a sustainable solution for rehabilitation of flood victims and improve disaster preparedness at the community level. Lastly, policy recommendations for implementing this initiative are embedded within the framework of Community-Led Local Governance (CLLG) policy, recently adopted by the Balochistan government in 2023.

Keywords: Rehabilitation, Rural Communities, Balochistan, Participatory Approaches, CBDM, Participatory Development

Introduction

The 2022 floods affected a total of 33 million people in Pakistan and inundated one-third of the country (UNICEF, 2022). The economic loss resulting from the flood was estimated at $30 billion (The Express Tribune, 2023). In Balochistan, 34 districts were submerged and over 360,000 people were affected (PDMA Balochistan, 2022). Over 27 thousand housing units were damaged, out of which more than seven thousand were completely destroyed (PDMA Balochistan, 2022). In rural communities, 83% of the people associated with agriculture, and 82% of the people associated with livestock-based livelihoods, reported a loss in income (PDMA Balochistan, 2022). Nationally, the cost of reconstruction and recovery was estimated at $16 billion (The Express Tribune, 2023). Pakistan has cumulatively received pledges of approximately $11 billion (The Express Tribune, 2023) from international humanitarian organizations, global financial institutions and individual countries for flood rehabilitation and reconstruction. The country has so far received $2.8 billion (Express Tribune, 2023) out of the pledged amount, from which the government of Pakistan has managed to spend only $1.45 billion (Express Tribune, 2023) on flood-related projects. Balochistan's post-flood financial progress has been the lowest among all the provinces (The News International, 2024). The provincial government in Balochistan has only spent $6.9 million on flood related projects so far (The News International, 2024). While, according to the International Organization for Migration (2023), there are almost two hundred thousand temporarily displaced people (TDP) in eight flood-stricken districts of Balochistan. A survey showed that loss of residence (74%) and loss of livelihood (67%) were two major factors preventing their return. These alarming statistics are

indicative of the structural constraints undermining the flood survivors' arduous struggle for rehabilitation, two years after the flood.

Even though the public discourse on the rehabilitation of flood victims in Balochistan continues, information about their present state is scant and scattered. The few studies that report on flood victims' present conditions rely mostly on quantitative indicators, like the cost of property damage and the loss of income and assets. Although these studies provide policy makers with tangible goals for future rehabilitation and restoration projects, their main focus is on understanding structural issues while overlooking the influence of structures on the lived experiences of flood victims. The victims experience floods through the lens of the social, political, cultural and economic hierarchies that shape their lives. Floods are life-altering events for marginalized groups because their structural vulnerabilities restrict their access to relief services during the disaster and their chances for rehabilitation afterwards. Marginalized families have low economic resilience and have a greater dependency on social capital and external support structures like the state and civil society. Poor families in flood-stricken rural communities of Balochistan experienced the flood as a catastrophic event that exposed their economic and social vulnerability, pushing them past the point of recovery and further entrenching them into the cycle of poverty. Understanding the flood from their perspective can help unfold the complex layers of social, economic, and political impediments that restrict their access to rehabilitation opportunities. Furthermore, it can unveil the adverse psychological effects of coping with the flood and its aftermath within the context of marginalization that shapes their lifeworld’s. Lastly, this approach can help highlight gaps in the safety net provided by the state and civil society to the disenfranchised communities through their flood relief and rehabilitation efforts.

It is important to also analyze the perspective of the state and civil society to carry out a thorough evaluation of the organizational and operational processes underlying emergency aid and rehabilitation support. Comparing the perspectives of the state and civil society with that of the marginalized, flood-affected farmers in Balochistan, will reveal any dissonance in how both groups conceptualize the 'needs of flood victims'. Such a comparison can help identify gaps between the 'assumed' and the 'self-perceived' needs of the flood victims. Addressing these gaps will enable the state and civil society to assist flood victims within the sustainable framework of participatory development. Participatory Development (PD) is a bottom-up approach to development that envisions community participation as "an active process by which beneficiary/client groups influence the direction and execution of a development project with a view to enhancing their well being in terms of income, personal growth, self reliance or other values they cherish" (Paul, 1987).

The present study aimed to conduct a qualitative situation analysis and needs assessment of the rehabilitation process experienced by underprivileged victims of the 2022 flood in rural communities of Balochistan. The study explored their experiences during and after the flood to understand the causes and nature of the difficulties they encountered. The study also critically examined the efficacy of the crisis assistance and rehabilitation aid mechanisms by comparing the viewpoints of the flood victims and their aid providers. Lastly, the study analyzed victims' reliance on the informal support structures, including their communal and kinship networks, both during and after the flood. The findings of the qualitative situation analysis were synthesized into a detailed needs assessment. The study draws upon the Community-Based Disaster Management Model (CBDM) to propose solutions for addressing the needs of the flood victims and enhancing

community resilience to future disasters. The proposed solutions are grounded in the recently adopted Community Led Local Governance (CLLG) policy.

A total of nine Focus Group Discussions (FGDs) and two In-Depth Interview (IDIs) were conducted with residents of flood-affected rural communities selected from six districts across three divisions of Balochistan (Quetta, Sibbi and Naseerabad). Respondents primarily consisted of males over 25 years; however, one FGD each was conducted with males under 25 years, women over 25 years and Afghan residents. Lastly, to understand the perspective of the state and the civil society, IDIs of four government officials, five NGO workers and one local political leader were also conducted. The framework analysis technique was used to analyze the data. This technique is predominantly used in applied policy research.

Findings revealed that the flood deprived victims of their residences, livelihood, and shared community resources. Mud houses were completely destroyed, showing that the poorest were the most vulnerable to the flood's devastation. The victims' conceptualized 'damage to homes' differently, compared to the government and NGO representatives, leading to an underassessment of losses. Crucial deficiencies in disaster preparedness led to chaotic and uncoordinated evacuations. The aid delivery mechanisms and the healthcare system proved inadequate and the victims were forced to suffer through unhygienic and cramped living conditions at the relief camps amid a widespread food and water and health emergency. Furthermore, aid delivery processes were undermined by bureaucratic delays, political influence, a lack of coordination among stakeholders and the exclusion of communities in decision making. Communities coped with these conditions through self-reliance, collective efficacy and support from external social networks.

The flood survivors' rehabilitation journey began when they returned to their villages after the water receded. The victims began by setting up temporary housing and clearing away the debris and mud left behind by the flood. This was a grueling experience for the flood victims, which previous studies have largely ignored. Communities lacked the necessary resources and skills, yet managed to get through this stage without receiving any substantial help from the state or NGOs. The next challenge was the revival of their livelihood and the reconstruction of their houses. The farmers struggled to re-cultivate their farms after losing their crops to the floods and lacked the necessary resources to repair agricultural implements, bear cultivation costs, and sustain their family in the meantime. Furthermore, irrigation channels were destroyed in some villages and tube-wells needed extensive repair work. Many resorted to taking out loans, initiating a debt cycle that plagues their lives to this day. Others succumbed to the financial strain and were forced to migrate.

With survival and livelihoods at stake, rebuilding their houses became a secondary concern. Some adopted a piecemeal approach, while others made make-shift temporary repairs to their houses. In Sibi, the 2024 floods wiped away these temporary and piecemeal repairs, while many residents of a village in Naseerabad were unable to raise the necessary funds to begin repairs and continued to live in tents and make-shift temporary housing. Rebuilding efforts were self-driven, supported by some help received from communal, kinship and social ties. Volunteers in some of the villages in Sibi and Pishin continue to help neighbors in rebuilding their houses but need the necessary resources and skills to make meaningful progress. Particularly, the Afghan community stood out for its strong social cohesion and resilience. External actors, like the state and NGO representatives, are aware of flood victims' circumstances but need sufficient budgetary allocations and on-ground resources to provide any substantial assistance to flood

survivors. There is also a lack of coordination between the government and the NGO network which thwarts efforts for consolidation and optimization of existing resources. Most importantly, the state's paternalistic, myopic and top-down approach towards disaster management is a major factor in its failure to support the victims in their prolonged rehabilitation.

The PD approach, specifically the CBDM, offers appropriate and sustainable solutions for the rehabilitation of flood victims in Balochistan. This approach can also help in enhancing disaster preparedness at the village level. The CBDM focuses on building community resilience by enabling communities to assume a leadership role in disaster preparedness and management at the grassroots level, while the state and NGOs take on the facilitative role of empowering communities with the necessary skills and resources. Dovetailing with the participatory governance approach adopted by the Government of Balochistan under the recently launched CLLG policy, the study proposes that Village Disaster Management Committees (VDMCs) should be established in all disaster-prone rural areas. These committees would provide a formal platform for empowering communities to lead rehabilitation efforts and grassroots disaster resilience initiatives. The study proposes policy recommendations for initiating capacity building programs, providing financial support and promoting synergies between communities and the state-NGO support structure, for successful implementation of the VDCM model.

Literature Review

When tackling disaster management, there are a wide variety of aspects to consider and this includes, but is not limited to, notions of participatory development (PD). The literature reviewed below aims to showcase the importance of PD and how it helps in improving community resilience and livelihoods. It will further discuss different approaches integrating the

principles of participatory development, such as the CLLG policy proposed by Balochistan and the community-based disaster risk management (CBDRM) model. The discussion of the CBDRM model, its international practices, inclusion of kinship networks, collective action, and local engagement in decision-making will shape the understanding of its effectiveness within the CLLG policy and our own recommendations. As we review how these different dimensions interconnect, we will be better able to understand their contribution in making a community more resilient in the face of disaster and how they may be incorporated into current efforts in disaster management.

Our proposed model of solutions and recommendations will make use of the participatory approach and CLLG policy to inform its implementation, whilst majorly integrating the framework provided by the CBDRM model. This inclusive approach can help ensure that not only are existing initiatives utilized but also align our model with international best practices and fill in any gaps left.

Participatory Development

One of the cores of successful disaster management is participatory development (PD), a principle characterized by rooting individuals at the center of their development. As Prasad (2017) states, PD is characterized by empowering people to solve their problems and engage in decision-making centered around it. In doing so, a more sustainable environment and livelihood can be created. For example, communities can highlight their appropriate set of needs and priorities (Gyawali et al., 2019) and consequently bring forth knowledge of which local resources or organizations to utilize (Kyamusugulwa, 2013) to then bring forth development. This is important as these factors can vary from area to area, depending on the population, their culture, the landscape, and its resources and limitations. To be effective, participation should be

flexible and relevant to the needs of the stakeholders. As Stringer et al. (2006) states, participation can have (a) consultation (i.e., taking the opinions of community members), (b) engagement (i.e., holding dialog with relevant parties to further understanding), and (c) devolution (i.e., empowering individuals to completely make decisions themselves).

Involving communities in disaster management is not only beneficial to drive transformational change, but also enables lesser privileged groups to "negotiate power relations and local politics within development and reconstruction" (Kyamusugulwa, 2013, p. 1271). By providing them a space to voice out their concerns, the decisions made can better reflect what gaps they want filled. A study by Elahi et al. (2015) conducted in Swat, Pakistan found participatory development to improve the socio-economic conditions of marginalized individuals by helping them gain skills, jobs and increasing participation in the local political system. It also found that PD practices done in the reconstruction and resettlement phases of a post-crisis area could improve livelihood and distribution of aid. However, Davidson (2006) notes that communities should be involved before a disaster takes place in order to encourage better decision-making.

Involvement in decision-making encourages community empowerment (Krieken & Pathirage, 2019) which, in turn, aids capacity building – another crucial aspect of participatory development (Drain et al., 2017). Capacity building can be carried out by communities self-mobilizing via community networks or groups through which they may tackle problems and solve them. This then promotes community sustainability (Hennink et al., 2012), which can be further strengthened by building resilience.

Community Resilience

Resilient communities can become active agents of change as resilience is not only pivotal in mitigating the risk disasters pose to vulnerable communities, but it helps communities to better adapt to future challenges. Community resilience is defined as 'the capacity or ability of a community to anticipate, prepare for, respond to, and recover quickly from the impacts of natural disasters' (IFRC, 2014, p. 6). Ranging from building preparedness on an individual level to a broader community scale, a disaster-resilient community is significantly better able to bounce back to pre-disaster levels of development.

A study by Khalili et al. (2018) outlined the key factors associated with community resilience that allowed for better disaster management. Of the 14 indicators identified, community participation, shared information, trust, coping styles, social support, coordination and leadership were crucial in disaster recovery efforts. Thus, communities high in these indicators are more disaster-resilient as shown by the research done on a group of New South Wales (NSW) volunteers.

The more disaster-resilient communities are, the less reliance they will have on external bodies for risk reduction (Delica-Willison, 2003). One such way to achieve this is through utilizing social capital (SC).

Social Capital

Social capital can greatly influence one's livelihood and facilitate participatory development. The more cohesive a community network is, the better the social protection and capital. Consequently, this can improve livelihood and resilience (Twigg, 2004) by generating collective action (Ruiu et al., 2017). Such social capital can include strong family networks and

ties (Salik et al., 2015). Results from a study by Zoysa and Inoue (2016) found that a community forestry program benefited people's livelihood. The program developed social capital by establishing kinship networks, developing trust, maintaining social cohesion, empowering voices, and improving communication. Conversely, communities that lack social capital post-disaster are said to experience more cognitive and psychological damage than those which are socially connected (Mayer, 2019).

By including community members in the development process, social capital can be increased. In a case study of the Sadaat Hackra village in Bahawalpur, the implementation of community and village organization and its relationship with social capital was assessed. It was found that such organizing provided the community an opportunity to be together and jointly resolve their issues. Having such memberships of groups or networks improves livelihoods (Jacobs, 2009) and leads to the development of social capital (Agha, 2015).

Research has further highlighted that connectedness between individuals can have a strong influence on people's ability to "prepare for and cope with unexpected events and reorganize" (Dade et al., 2022, p.7). Data collected from a flood-prone district in Bangladesh found that social capital improved the adaptive capacity of the people there (Azad & Pritchard, 2023). Social capital doesn't just help establish a support system, it also enables communities to better respond to disaster, adapt, and transform.

Synergies

In order to facilitate participatory development and community resilience, synergy should exist between NGOs and the government. Collaboration of the two can enable the government to understand the work of other organizations, their capabilities, and how that can be utilized to

enhance participation (Nawaz, 2013). These capabilities include encouraging capacity building in communities and advocating for inclusivity in policies, the latter of which governments can help establish (Gupta et al., 2024). For example, as a study on community forestry found, governments can provide technical and financial resources, while NGOs can guide communities to them (Gupta and Koontz, 2019). Moreover, as individuals may view NGOs to be less corrupt than the government (Elahi et al., 2015), synergies between the two could help make aid more accessible. To improve synergy between these two structures, not only should the NGO be open to being in a formal relationship with the government, but the latter should also be willing to tolerate the NGO's autonomy and decisions (Coston, 1998). Other ways to improve this relationship can be through clarifying project objectives, having space for negotiation, and adapting organizational structures (Arya, 1999).

By having a participatory approach, both the government and NGOs can better assess the needs of the disaster-struck community and understand what provision of resources is required. In addition, NGOs could help outline any existing gaps in resource allocation, so that even the needs of minority members are brought forward.

Pakistan Rural Support Program Network

One existing initiative that integrates a participative approach and showcases collaboration between the government and an NGO, is the Pakistan Rural Support Programme Network (RSPN). These programmes provide assistance in social, technical, and financial areas. While the RSPN functions independently as a not-for-profit organization, it occasionally collaborates with the government, receiving grants and support from them.

The RSPN model can be divided into three parts: (1) socially mobilizing communities, (2) linking organized communities with service providers (government and private sectors), and (3) directly supplying services where needed (Rasmussen et al., 2004).

In a paper by Rahman (2007), the role of the Aga Khan Rural Support Programme in rural development was assessed in the northern areas of Pakistan. The communities of these areas participated in the development project which led to the beneficial use of local expertise and infrastructure maintenance post-project completion. This not only saves costs but also empowers individuals by highlighting their skills and capabilities, thus making the project more sustainable. As such, this model makes effective use of a participatory approach and can be utilized for post-disaster recovery in Balochistan.

Community-Led Local Governance Policy

With the floods of Balochistan having significantly impacted the lives of the community, the Government of Balochistan (GoB) introduced the Community-Led Local Governance (CLLG) Policy in 2023, which was officially launched as of June 2023. The policy aimed to mitigate poverty, improve livelihoods, restore public services, and foster trust of the citizens with the state. To do so, the CLLG policy focused on integrating a community-led development approach and involving stakeholders such as the local governmental bodies, rural support programmes, private sector, NGOs, community institutions (CI), and community-based organizations (CBOs). As such, it not only promotes public-private partnership (PPP) but also integrates participatory approaches. Furthermore, the policy is corroborated by Section 87 of the Balochistan Local Government Act, 2010 which allows and provides guidelines on the roles that local governments can play in the development of such communities. All procedures listed in the implementation manual of the CLLG policy are to be revised every two years or as per necessity.

Moreover, it will be the 2023 policy that will remain in effect unless important changes in the model are required.

The following section aims to provide a description of the policy and will refer to the CLLG policy document throughout.

There were three main objectives of the policy: (1) to improve the responsiveness of local government systems to community needs and carry out CLLG development programmes, (2) to mobilize and empower CIs, and (3) to establish a fiscal and regulatory framework in regard to the CLLG Policy.

Firstly, the policy emphasizes inclusivity and mobilizing communities through CIs, so that they are involved in decision-making processes. This participative approach and involvement of communities is what can build capacity, resilience, and drive transformation forward. The development plan must ensure that CIs are endowed enough to achieve such goals independently, particularly focusing on the development of vulnerable groups such as women and minorities. To ensure transparency and fairness in the selection of CIs, they must meet the eligibility criteria based on the three-tier social mobilization project and be registered with a public entity.

The CIs formed must be registered at the village/ward or union council/municipal committee or corporation level. The focus should not be limited to implementing the CLLG goals and objectives, but to empower communities and endow them with the facilities required so that they may partake in decision-making, implementation, and devise investment proposals through an analysis of their requirements.

The policy includes a wide variety of interventions focused on community mobilization, including Social Mobilization (SM), Income Generating Grants (IGG), Adult Literacy Centers (ALCs), transformative capacity-building and others. The policy allows for the flexibility to amend the interventions according to changing precedents and needs such as during times of vulnerability or disasters. While these interventions are to be governed by the GoB financial rules, they still have the right to be financed by other stakeholders such as Community mobilization NGOs or local, district, or provincial governmental bodies.

Furthermore, the policy encourages a bottom-up approach by aiming for decision-making to begin at the lowest level, i.e., the community and village. As such, the CIs would decide which projects take priority, and this would then later be approved by the Joint District Development Committee (JDDC). To ensure that only the top priority needs are appraised, a pilot study will be done with approval from relevant government departments with funding from the UC or MC with a focus on infrastructure projects. Lastly, this would be looked over and guided by the CLLG Policy Coordination and Review Committee (PCRC). The PCRC must also reach out to donors and stakeholders to further the developmental goals.

To formalize the procedures of mobilization and community involvement, the GoB will utilize the Balochistan Rural Development Academy (BRDA) which will arrange capacity-building interventions for government officials to enable them to better respond to community needs and improve coordination of development plans between government, CIs, and CLLG programmes.

Lastly, to improve the responsiveness and accountability in attaining the CLLG goals, the GoB has developed the Monitoring, Evaluation, Accountability, and Learning (MEAL) framework. The MEAL framework will look over the progress of the policy goals and monitor as

well as guide any hurdles that may come. Moreover, by outlining what the best practices of CLLG are, it will pave the way for there to be replication and expansion of procedures. To increase transparency in the methods, the framework has integrated a Management Information System on the cloud which will include feedback and whistle-blower mechanisms as well as assist in streamlining the selection process of beneficiaries.

As seen from the above discussion, the CLLG Policy provides a comprehensive framework on how to integrate PPP and participatory approaches when trying to mitigate the impacts of a disaster. It engages the communities in various ways by rooting them at the center of their development, while also having a sound framework that outlines resource provision. Thus, when making further suggestions to improve relief efforts, it is pertinent to consider the CLLG Policy.

Community-Based Disaster Management

The second model of discussion is the community-based disaster management program. Community-based disaster risk management (CBDRM) is defined as the ‘inclusive, active and owned community-driven processes aimed at addressing the drivers of disaster risk creation; disaster risk reduction; and societal resilience building, within the context of local and Indigenous knowledge and wisdom’ (Niekerk, 2017, p. 5). As such, it is a model that inculcates principles of participatory development and showcases how to empower communities to be actors of change. Essentially, it provides a deeper understanding of how the involvement of flood-stricken communities in Balochistan is pertinent to improving their livelihoods, resilience, and adaptive capacity.

Similar to the CLLG, it also encourages a bottom-up approach, by promoting solutions which are specific to local issues, needs, and resources. For effective disaster risk reduction (DRR), a bottom-up approach helps develop a sense of ownership and drives community members to take independent action (Nkombi & Wentink, 2022). MERCY Malaysia introduced several community-based disaster risk reduction programs. By empowering communities through workshops on disaster management, and community-driven activities, and involving them in hazard mapping and plan formulation, they successfully increased local resilience, improved disaster response and recovery, and supported government initiatives in disaster preparedness in a network of countries in Asia (Zubir & Amirrol, 2011).

Furthermore, CBDRM focuses on training the local communities in disaster management and relief efforts, leading to reduced reliance on external bodies and minimizing potential human and structural losses (Allen, 2006). In the Chail Valley of District Swat, Khyber Pakhtunkhwa, Pakistan, training provided by Malteser International focused on first aid, triage, and rescue operations. These training sessions were positively received by the local community and led to significant improvements in disaster risk reduction and damage control (Zaman et al., 2016).

CMDRM is often carried out through committees linking the state and local bodies. The Indonesian government implemented the CMDRM Program involving the CBDRM committee of each participating village. The training sessions aimed to encourage community participation in DRR, address DRR's impact on livelihoods and promote effective disaster response strategies.

Emphasis on socialization activities increased community engagement and volunteerism, leading to a more disaster-resistant community (International Organization for Migration [IOM] Indonesia, 2011). As such, the use of local knowledge about strengths, vulnerabilities, and capacities in CBDRM proves effective in devising a disaster risk management plan (Mercer et

al., 2010). For instance, in Indonesia's Sumatra region, the CBDRM approach to manage flood risks incorporated traditional housing structures which – alongside the community's strong kinship ties – were pivotal in the state-sponsored rehabilitation plans (Rozi, 2017).

Abarquez and Murshad (2004) claim that the most vulnerable groups must be involved in the disaster management process to alleviate disaster risk. As research by the UNDP (2012) showed, a key aspect of the disaster management strategy involves ensuring that at least 30% of the members in disaster management committees are women and that women 'master trainers' teach other women who normally would not get the opportunity to learn.

Village Disaster Management Committees in Bangladesh

Village disaster management committees (VDMC) also make use of CBDRM principles and work to empower local communities. These committees include the local population, the villagers, the leaders and other members from sectoral organizations. Individuals are elected into the VDMC on the basis of their capacity and ability to participate (Hossain & Uddin, 2014).

The main function of VDMCs is to provide the communities with the capacity to anticipate, manage for, and consequently, prevent or cope with disasters. As such, its members are oriented on DRR, first aid, and how to respond to emergencies. This training can be provided by NGOs, government and international partners (Ahmed & Kelman, 2018). Along with community participation, the VDMC model also makes use of social networks to direct the activities of people (Mohan & Stokke, 2000). As per the practice of other countries, this approach is seen as effective and can be applied to various cultural and social contexts (Shaw et al., 2011; Yodmani, 2001).

Customary Disaster Management Approaches Used in Pacific Islands

CBDRM approaches can also be found in the customary disaster management approaches used in the Pacific Islands. The focus of this model lies on culturally endorsed leadership and culturally organized structures. As such, the development of the models arises from traditions being passed down to generations that are adaptable to each island's respective conditions.

Themes of community participation and familial relationships are prominent in this model. For example, Pacific Island societies make use of kinship ties in the face of disaster so as to mobilize resources and other forms of assistance (Hay, 2009). As these ties strengthen, a community's responsibility and reciprocity towards one another improves (Lata & Nunn, 2012).

As the communities are involved collectively in decision making, their strengths are utilized. This can include open discussions via community meetings and participatory rural assessments (Kelman et al., 2012).

The researches above show the international best practices of the CBDRM model and, as such, highlight its effectiveness for disaster management and response.

Takeaways

Natural disasters, such as the floods in Balochistan, can significantly impact communities and their livelihoods. When trying to mitigate the impact of such disasters, it is essential to adopt strategies that are effective for disaster risk reduction. Thus, by leveraging the participatory development approach and using the frameworks provided by the CBDRM model and CLLG policy, the communities are placed at the heart of their own development. This paves the way for an improved and efficient response to disaster. The in-depth exploration of literature has shown

that community-based disaster management approaches provide valuable information for the policy recommendations and structural changes that can be introduced.

When trying to facilitate recovery post-floods, it is important to engage the local communities at the different stages of disaster management, such as preparation and rehabilitation. Such participation can foster ownership among individuals which may further inculcate resilience (Nkombi & Wentink, 2022). This is why approaches like the CBDRM model and the CLLG policy integrate a bottom-up approach through involving the community, utilizing local knowledge, and encouraging leadership at the grassroots level.

One such way to improve community participation in decision-making can then be by establishing local committees in Balochistan that are representative of the different parts of the community. These committees can be trained in disaster management such as risk assessment, first-aid, and recovery response.

The framework of policies should adopt a participatory approach in which open dialogue is encouraged so that there can be a better assessment of the needs and challenges of the local population. Not only can this socially mobilize the communities but also connect them to the relevant service providers. Furthermore, this can shape policies and disaster-recovery efforts to be more culturally appropriate and better-suited as per the requirements of the area. However, while implementing participatory approaches, it is also necessary to outline any barriers that may prevent people from participating and address them accordingly.

Another important takeaway from community-based disaster management initiatives is that they should make use of social capital. It is important to encourage the strengthening of kinship networks so that communities are more resilient in the face of disaster. Furthermore, it

could possibly help in the maintenance of trust with local governance and consequently, improve communication with them.

However, for such practices to be carried out successfully, there needs to be strong coordination between NGOs and governmental bodies. For if synergy does not exist between the two, it can lead to poor resource allocation and service provision which may hinder recovery efforts. Ultimately, by encouraging participatory development in community-based disaster management and supporting capacity-building, communities can be shaped to rely less on external bodies and be more resilient and prepared in the face of future disasters.

Current Efforts

Immediately after the floods, the Government of Balochistan (GoB) responded to the disaster in cooperation with the UN agencies, civil society organizations, international NGOs, and volunteer groups. This included the building of 103 relief camps, distribution of over 94,000 food items, and cash assistance to over 30,000 individuals who were affected. The PDMA, together with the UN, also carried out emergency-relief services in which 125,000 people were rescued (*Balochistan Flood Recovery Plan*, 2022).

Additionally, the Balochistan Rural Support Programme (BRSP) conducted vulnerability assessments of affected villages and districts as well as identified immediate needs. The BRSP then conducted relief activities which included establishing coordination and information cells, providing cooked food and food packages, transport assistance for relief items, providing hygiene kits, and organizing free medical camps (RSPN, 2022).

Unfortunately, the monsoon season of 2024 has brought about floods in Balochistan again, which have led to significant damage including the loss of life, destroyed houses, and affected agricultural lands. However, similar to the relief efforts discussed above, the government has provided aid and lifesaving assistance (Pakistan Floods, 2024).

2022 Flood Recovery Plan

To address the challenges and devastation brought on by the floods, the Planning and Development Department of the GoB prepared the 2022 flood recovery plan in which a road map has been created to help identify areas which need development, how livelihoods can be improved, and how Balochistan can be made more resilient towards any future disaster.

Budget Allocation

As per the 2022 flood recovery plan of the Balochistan government, a budget of 553.79 million US dollars was allocated for rehabilitation and related activities. This budget was distributed among their four strategic recovery objectives (SRO), with SRO4 having the greatest share (68%), followed by SRO2 (21%), SRO1 (9%), and lastly, SRO 3 (2%). These SROs will be discussed further in detail below.

In addition to this, during the flood rehabilitation activities which were ongoing post-disaster, the provincial government allotted 10,108.206 million Pakistani rupees to various departments such as the PDMA, irrigation department, and health department.

Strategic Recovery Objectives

The SROs help define the goals of the flood recovery plan. The first objective aimed to improve governance and livelihoods of the people who were affected. SRO1 outlined the need for a public finance system, for there to be more accountability, establishing a proper risk communication strategy, and rehabilitating damaged forestry areas. An important aspect of SRO1 was to integrate resilience into development planning by utilizing local level organizations.

The second objective focused on restoring livelihood in terms of providing financial opportunities through agriculture, livestock, and fisheries. As such, it outlined the improvements needed in each sector and the resources that could be provided. The third objective addressed social sustainability, gender inclusivity, and preserving tourism. As such, it highlighted the need for policies to be gender-centric and inclusive of females and their needs. Furthermore, it was included for there to be a stronger DRR policy pertaining to culture, tourism, and the heritage sector. The SRO3 also emphasized the need to have awareness sessions and for medical and psychological aid to be provided to the community.

The last and final objective, SRO4, discussed improving infrastructure and the provision of services. SRO4 addressed various areas such as the educational, housing, transport, and irrigation sector. This included building dams and educational institutions, lining the irrigation channels, and reconstructing houses.

Methods

The research utilized a qualitative approach to conduct a situation analysis and needs assessment of the selected flood-affected rural communities in Balochistan. A qualitative

approach allows researchers to gather in-depth data about the subjective experiences of participants and provides insights into the context of these experiences, corresponding to the goals of the current research (Tenny et al., 2022). Furthermore, to gain insight into the affected individuals' lived experiences, a thorough investigation is required, and data from the participants themselves must be collected (Yin, 2009). Thus, the comparative case study method was used which provides rich, qualitative data that enables a thorough understanding of the studied communities' experiences with the floods and subsequent rehabilitation efforts.

The needs of each community vary according to their culture. By employing an interpretive approach, the researchers were able to highlight the specific needs of the village communities in Balochistan and their perspectives on rehabilitation efforts to contribute suggestions for future government policies and disaster management practices that are tailored to the needs of the people. The Interpretive Approach allows researchers to understand the subjective realities of individuals and communities as distinct from each other and supports flexible laws that apply to specific situations and sociocultural contexts rather than definitive, generalized ones (Alharahsheh & Pius, 2020).

Participants & Sampling

Participants were chosen from six districts across three divisions in Balochistan: Pishin from Quetta Division, Sibi from Sibi Division, and Jaffarabad, Sohbatpur, Usta Muhammad, and Dera Murad Jamali from Naseerabad Division. The diverse selection of districts enabled the researchers to have a more holistic understanding of the situation in Balochistan. Pishin from Quetta Division was selected because it was affected by the 2022 floods and hosts a significant population of Afghan refugees. Sibi from the Sibi Division was selected as it experienced floods both in 2022 and again in 2024. Lastly, Jaffarabad, Sohbatpur, Usta Muhammad, Dera Murad

Jamali from Naseerabad Division suffered extensive damage as a result of the floods, giving the researchers a thorough idea of the extent of devastation that the 2022 floods caused. The selection of these districts was further validated by declarations from the Government of Balochistan and corroborated by GIS imagery data.

Purposive sampling was employed to select the respondents from chosen districts. Purposive sampling is often used when recruiting a smaller sample size determined by the researchers based on the research objectives (Tongco, 2007). It allowed the researchers to prioritize communities with diverse demographic profiles, including age, location, and vulnerability to flooding, and ensured a comprehensive understanding of the flood impacts across different types of communities within each district.

Data Collection Procedure

Data collection included in-depth interviews (IDIs) and focus group discussions (FGDs). The Focus Group Discussions (FGDs) were organized by the research team, with 5-7 members in each FGD. The research team conducted the following:

- Two IDIs with key informants selected from the communities.
- Four IDIs with representatives of the District Administration.
- Five IDIs with representatives of relevant NGOs involved in flood relief and rehabilitation efforts.
- One IDI with a local political leader.
- FGDs with flood affectees, including:
    - An FGD with members of the Afghan community residing in flood-affected areas.
    - An FGD with women flood affectees in Sibbi.

- An FDG with young men (under 25 years) residing in a flood-affected community.
- Six FGDs with male (over 25 years) residing in flood-affected communities located in the selected divisions.

Initially, communities that were the most severely affected by the floods were identified using data from the local administration as well as the local public during the visit. The district administration assisted the team during the collection of data. The approach to the communities involved coordination with district administration representatives, including Assistant and Deputy Commissioners, as well as other government officials. The research team collaborated with tribal leaders, local authorities, and relevant NGO staff involved in flood relief efforts to facilitate entry and establish trust. Community meetings were held to explain the purpose of the study and to ensure transparency with the participants as well as to build trust.

Research Tools and Procedures

Semi-structured interviews were conducted with the participants in the chosen communities. Interviews are considered the most suitable method for qualitative studies, particularly for assessing participants' experiences and perspectives, thus making them a key research tool for an interpretive paradigm (Alsaawi, 2014). Particularly, semi-structured interviews are the most common data collection method involved in qualitative research and involve asking the participants a pre-determined set of questions, with the flexibility to allow the conversation to flow naturally, ensuring that the participants' unique perspectives and experiences are captured (Magaldi & Berler, 2020). The choice of semi-structured interviews in the current study allowed the researchers to obtain key information necessary for the research

objectives, ensuring standardization while also allowing interviewers to explore further domains that could unfold during the course of the interview.

Separate interviews were devised for various groups participating in the study, including heads of families, youth, elderly community, representatives of governments and NGOs. Interviews were administered in local languages (Urdu, Pashto, and Sindhi) with the assistance of native speakers.

The interviews for the family heads focused primarily on the participant's personal experiences during the 2022 floods, covering losses, rehabilitation, government/NGO support, and their perspective on community involvement in disaster management.

The interview devised for the FGDs largely aimed to explore community-wide experiences of the 2022 floods, the recovery process, the role of informal networks, and gathered suggestions for improving future disaster management.

Lastly, the interviews for the Representatives of Government or NGOs inquired about the role, effectiveness, and coordination of organizations in flood relief, and strategies they believed were pertinent for community resilience and disaster response.

With the participants' consent, all interviews were audio-recorded and complemented by comprehensive field notes. Verbatim transcriptions of the interviews were produced in Urdu with the assistance of local interpreters to ensure accurate representation of the respondents' words. These transcripts were subsequently translated into English for analysis by senior researchers.

Data Analysis

The translated interviews were analyzed using the Framework Analysis method. The framework analysis method has been used in qualitative research for decades, serves a key role

in research aimed at public policy formation, and is often considered the best tool for gaining insights from the affected community (Ritchie & Spencer, 1994). It involves interpreting rich, qualitative data through recognition of the main themes and patterns found within the data (Goldsmith, 2021). Framework Analysis uses a matrix as an analytical tool that allows researchers to view relationships between and within themes as well as compare the responses of the participants in the context of the themes (Gale et al., 2013).

The data was analyzed using Microsoft Excel. The first stage of the process involved the familiarization stage where the research team collaborated to become acquainted with the data through repeated reviews. Some of the themes that emerged during this stage included physical destruction caused by the floods, the involvement of NGOs/INGOs, emergency response, and government assistance. Through the process of drawing on the interview transcripts, the literature review, and the study's research questions, a thematic framework was established, which was the second stage in the process. The generation of the framework through this process allows for easier replicability and transparency in data analysis (Srivastava & Thomson, 2008).

The third stage, Indexing, applied the thematic framework by coding the data into themes and subthemes as identified in the framework analysis. The fourth stage comprised of summarizing the data coded under each major theme in a matrix format. This stage, the charting process, utilized the matrix structure as a tool to record the key findings in analytical notes. AI tools were utilized to create a 20-40-word summary for the matrix cells. According to Gale et al. (2013), a good charting process involves summarizing the data without losing the original essence of the interview, and a similar approach was adopted for the present study.

Lastly, in the mapping and interpretation phase, the themes established in the analytical notes were compared and cross-referenced to uncover relationships between and within them.

The relationships that emerged were then analyzed and explained by the theoretical frameworks of participatory development and theories of community resilience.

The output from the framework analysis was used to develop a situation analysis and assess the unmet needs of the participants in relation to the floods. The research team then used the insights to give additional recommendations on the implementation of the existing Balochistan Community-led Local Governance Policy (CLLG). The research team further incorporated the ideas of disaster management into the participatory development idea proposed in the CLLG policy.

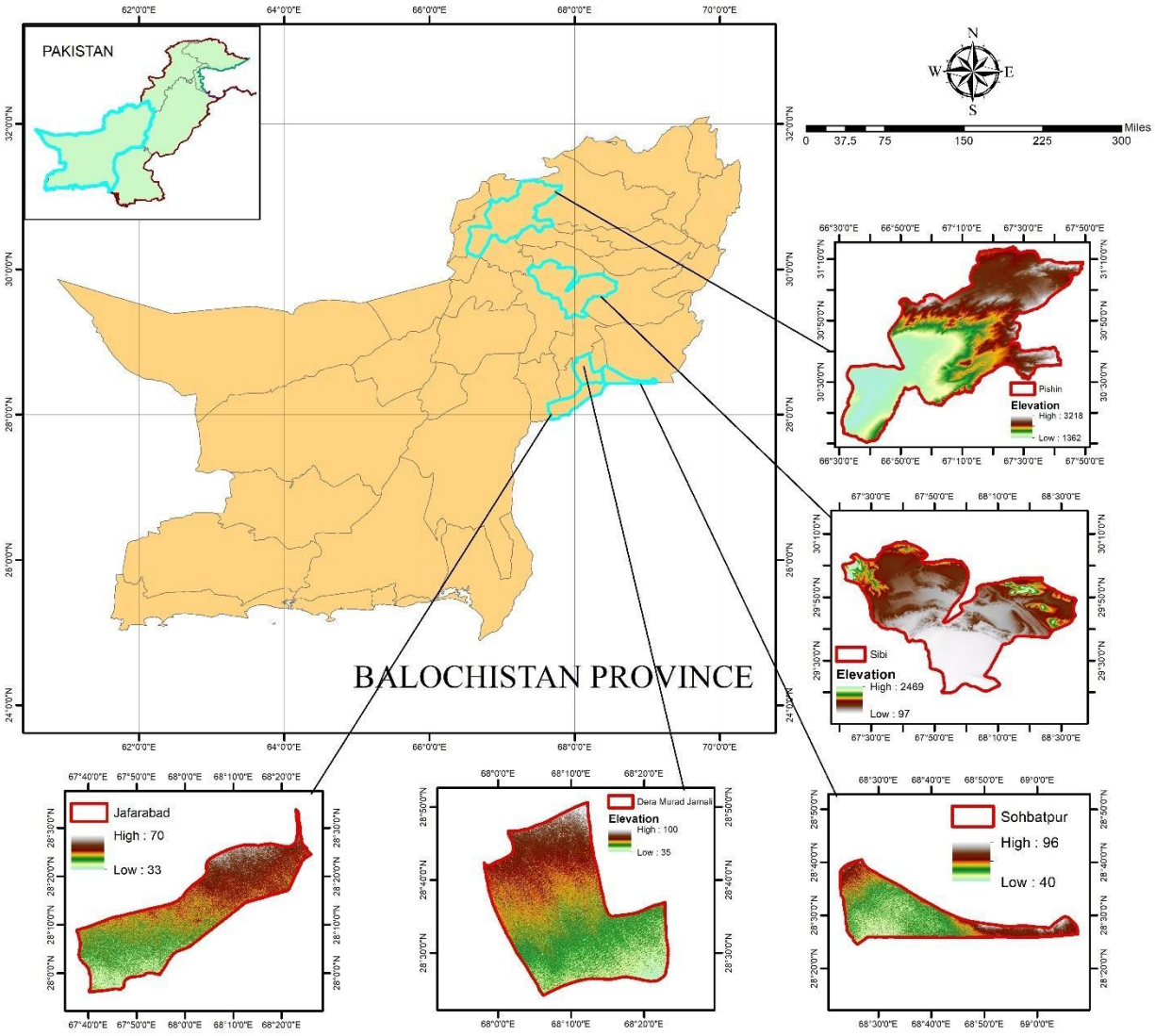
Flood Assessment of District Sibi, Pishin, and Dera Murad Jamali

Pakistan is a country with an incredibly diverse topography. As a result, there are significant seasonal and spatial variations in the climate. The country's mountain ranges in the north and west contribute to the extreme climatic variance. The majority of Pakistan is extremely vulnerable to changing rainfall patterns. According to Hanif et al. (2013), certain areas of the country are extremely susceptible to natural disasters like floods and droughts. Balochistan is a dry and mountainous province situated between 30.12N and 67.01E. Balochistan, with a land area of 347,190 km^2, is the largest province in Pakistan. It is a large plateau with basins separated by ranges that are rugged and high. It is separated geographically into four different zones i.e., plains, deserts, lower highlands, and upper highlands. The topography of the area shows significant variation over a short time. The districts of Zhob, Quetta, and Kalat are situated in the upper highlands, which rise to an elevation of 3,700 meters above mean sea level, and roughly 1,500 meters above the ground. The lower highlands of Barkhan, Nokundi, Dalbandin, Panjgur, and other parts of southeast Balochistan range in elevation from 600 to 1,200 meters, except for

the eastern portion of Kachi, the southernmost point of Dera Bugti, and the Nasirabad districts. Compared to the entire area, there is very little area consisting of plains. The terrain is mostly dominated by mountains. The districts of Kharan and Chaghi in the western portion are covered in large plains with sand dunes and black gravel surfaces. The Makran coastline is, roughly, a 760 km long strip in southern Balochistan. The narrow coastal plain is abruptly broken by several steep hills in the coastal area.

Figure 1

The Study Area-Balochistan, Pakistan



Climatic Conditions

The province has an arid to semi-arid climate. Rainfall patterns range from Monsoon to Western disturbances from the Mediterranean. Overall, there is little and inconsistent rainfall. The primary reason for the region's precipitation is the southwest monsoon, which begins in June and lasts through September. The research area experiences 23.7 C temperatures and 155 mm of rainfall on average. Precipitation is highest in the northeast and lowest in the east and south. The upper highlands experience extremely cold winter temperatures and hot summer temperatures. In the lower highlands, the temperature ranges from bitterly cold in the northern districts to moderate near the Makran coast. The districts of Chaghi and Kharan experience intense heat during the hot and dry summers.

Demography

Due to its rugged topography and lack of water, Balochistan has a low population density. The population of Balochistan, excluding the districts of Khuzdar, Kech, and Panjgur, was 13,162,222 in March 2012, according to provisional census data. This represents a 139.3% growth from 5,501,164 in 1998. The population comprised 6.85% of Pakistan's total population. This was the fastest population growth in any Pakistani province at the time, almost double the 46.9% national increase from around 7.45 million in 2003 to 7.8 million in 2005, based on government figures. The 2023 census tallied 14,894,402 individuals. Table 2 shows the study region's population statistics, including the total population according to the 2023 census, population density, and number of households.

Table 1

Population Statistics

	Sibi	**Pishin**	**Jaffarabad**	**Dera Murad Jamali**	**Sohbatpur**
Area (sq.km)	7,121	6,218	1,643	281	802
Population All Sexes	224,148	835,482	594,558	265,882	240,106
Male	105,345	426,597	301,370	135,942	121,863
Female	86,336	408,862	293,177	129,871	118.241
Transgender	6	23	11	9	2
Sex Ratio	122.02	104.34	102.79	104.67	103.06
Population Density (sq.km)	44.47	134.37	361.87	945.99	299.38
Urban Proportion	0	29.18	27.48	40.23	6.13
Average Household Size	5.3	5.6	7.2	6.7	7.1
Population (2017)	152,952	736,903	20,717	230,775	200,426
Average annual growth (2017-2023)	1.72	2.12	5.79	2.39	3.06
Literacy Rate (%)	47.41	51.07	35.53	34.93	42.30

Source: Bureau of Statistics 2023

Methodology

Data Collection and Processing

The datasets for this study include satellite datasets taken from various sources which were further processed in a GIS environment. The elevation of the study area was acquired from the United States Geological Survey (USGS) Earth Explorer (https://earthexplorer.usgs.gov/). For post-flood assessment, the Moderate Resolution Image Spectroradiometer (MODIS) Aqua subsets were used. The images were acquired from the National Aeronautical Space Administration (NASA) Worldview (https://worldview.earthdata.nasa.gov/) for both years i.e. 2010 and 2022. Data Acquisition dates for pre and post-floods are given in Table 2. The data for land use cover was acquired from Open Street Map (OSM) open source.

Table 2

Acquisition Dates for datasets

Floods	Pre-Flood Acquisition Date	Post Flood Acquisition Date
2010	20-06-2010	29-08-2010
2022	03-06-2022	28-08-2022

Digital Elevation and Terrain mapping

Digital Elevation was used to calculate the hill shade of the area using ArcGIS 10.7.2. The hill shade method is used to represent the terrain of the area.

Drainage Pattern delineation

Image pre-processing is done by using the fill tool to increase the threshold value for minimum elevation. The next step involves the calculation of flow direction and flow accumulation to represent the drainage pattern of the study area. Image reclassification is then performed to obtain the major drainage patterns.

Surface Water Assessment

The MODIS Aqua product was further processed to delineate surface water before and after flood. Optimal thresholding for surface water was performed on Band 2 of acquired images. In order to calculate the overall flooded region with the five selected rural communities, the inundated areas were separated from unaffected areas. Land use cover was used to represent the actual commodities affected by the post-flood scenario.

Results

Drainage Pattern

The drainage pattern of all districts is shown with blue color. The hillside according to the topography of the region is shown from white to grey depending upon high and low values respectively. The dendritic drainage pattern was identified by analyzing the drainage pattern map. The presence of water channels all over the area increases the chance of channel overflow which eventually causes flooding in the region.

Figure 2

Drainage Patterns

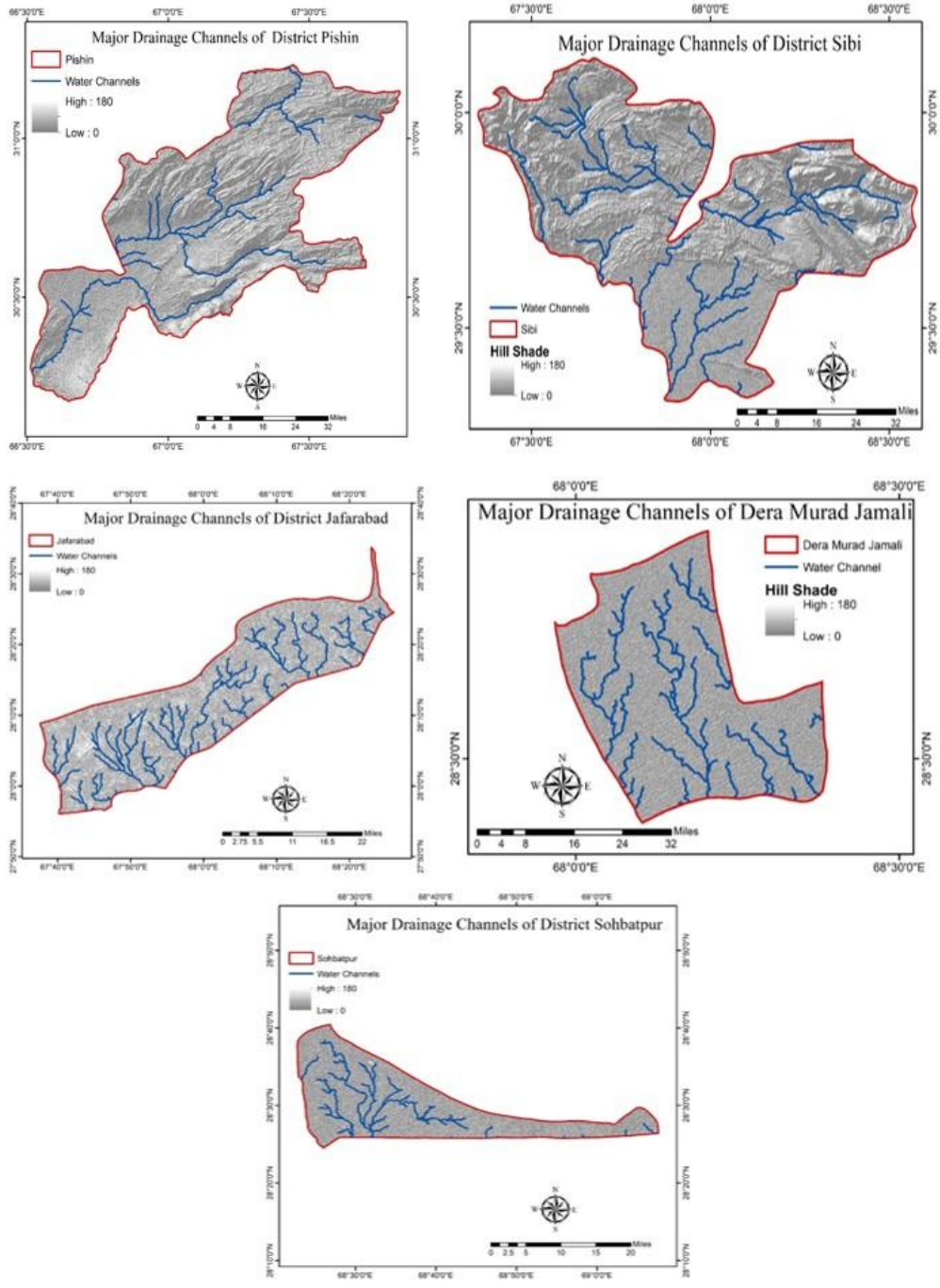
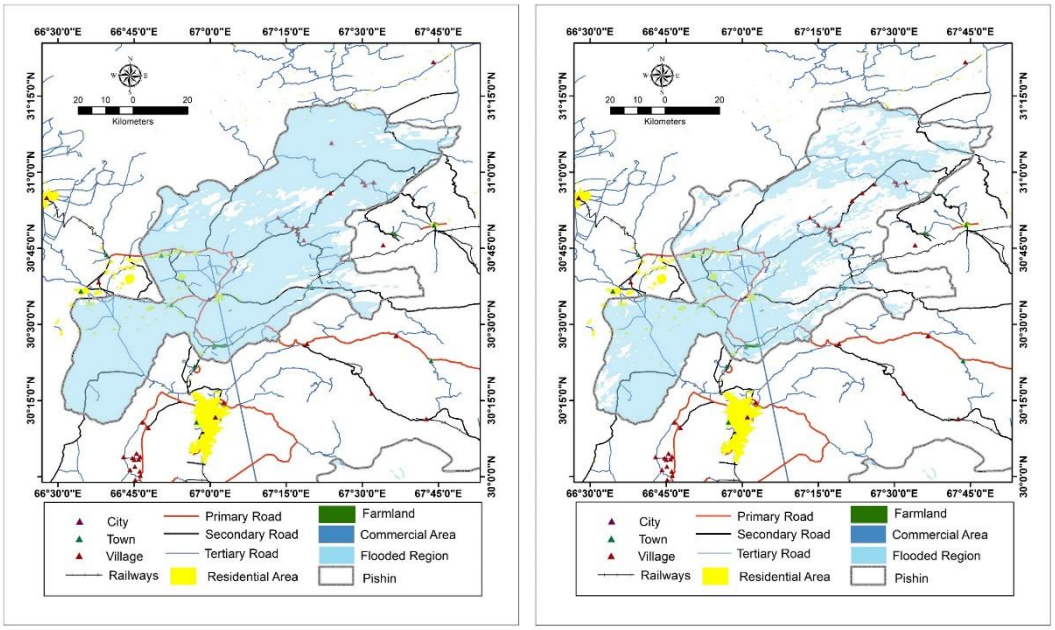


Figure 3

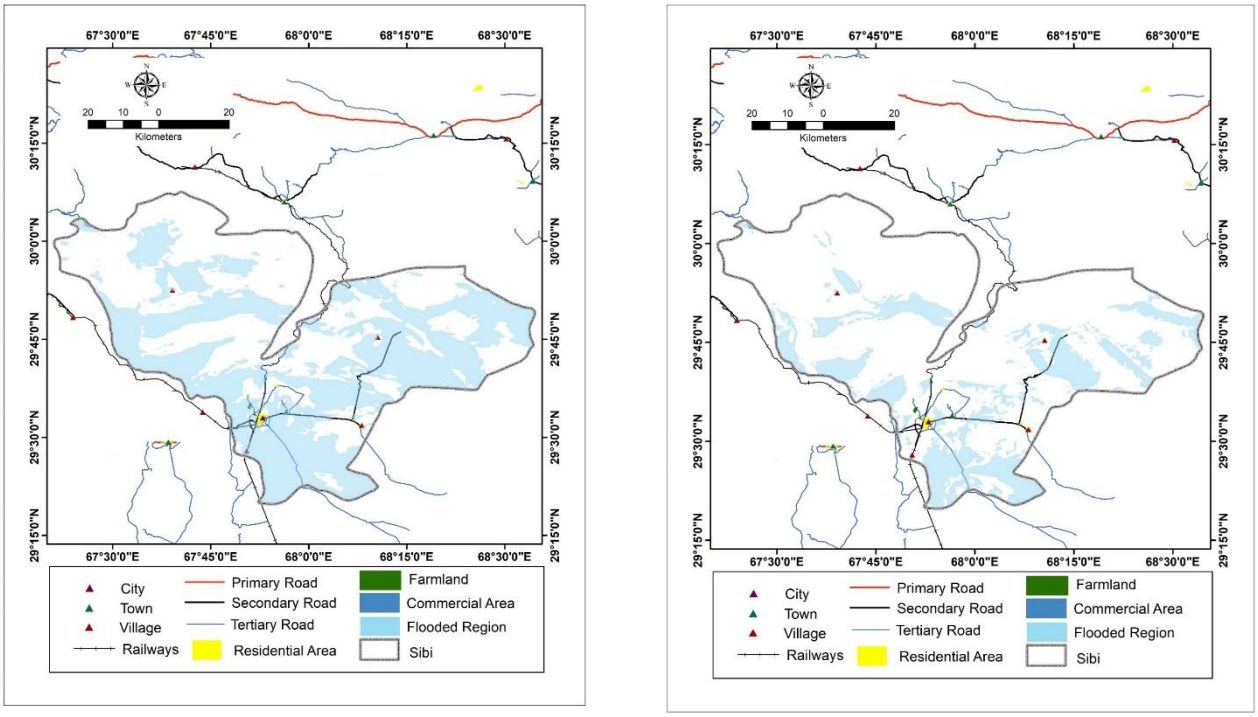
Pishin Floods (2010 & 2022)



The maps show the flooded region of the Pishin District in blue. The above analysis showed that 13 villages and 2 towns were flooded in 2010 and almost all the residential areas along with roads and infrastructure in the eastern part of the district were impacted. Due to the terrain of the region, a large area was greatly affected by the 2010 flood. Similarly, the area under flood in 2022 is shown on the map on the right which conforms with the above analysis that 11 villages and 2 towns were under flood and almost all the residential areas along with roads and infrastructure in the eastern part of the district were affected by the 2022 floods. Only some areas in the central and western parts were not affected owing to the topography of the region.

Figure 4

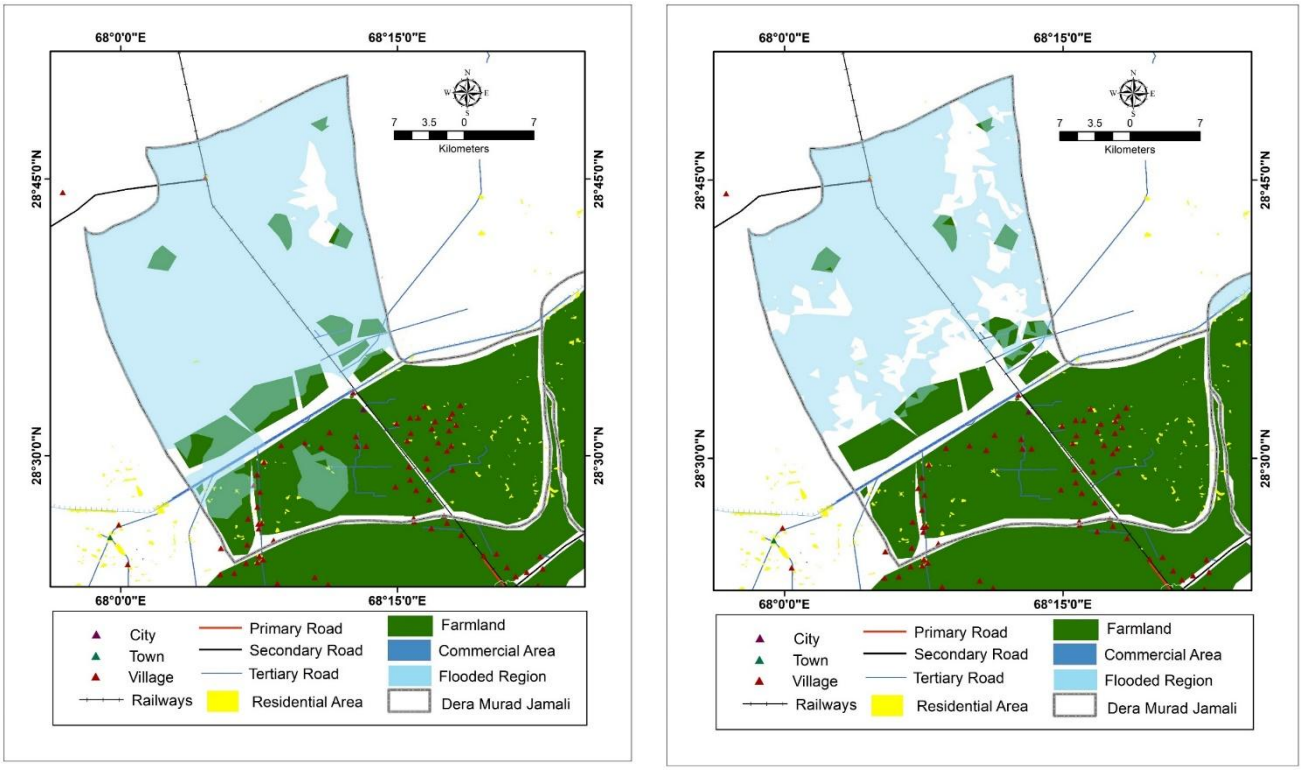
Sibi Floods (2010 & 2022)



In the Sibi District, the 2010 and 2022 floods are shown in blue color on the above map. In 2010, much of the district remained unaffected because of the region's mountains. The flood had considerable effects on the major villages and residential areas on the southern side. Villages on either side were affected by the 2010 flood. In 2022, major villages and residential areas in the southern side were affected by the flood. Due to the mountainous topography of the region, a large part of the district was not affected by either flood event.

Figure 5

Dera Murad Jamali Floods (2010 & 2022)

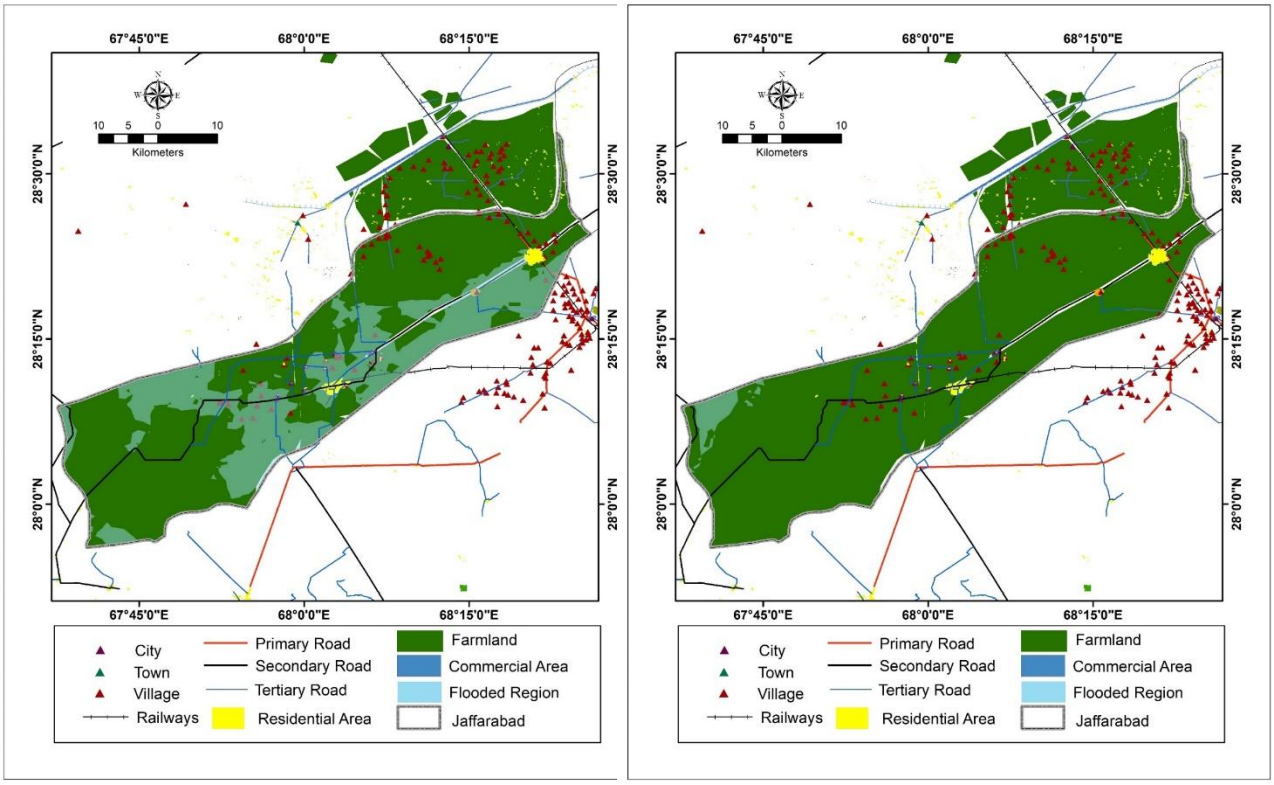


The northern part including villages and agricultural land of Dera Murad Jamali was highly affected by the 2010 flood as shown in the map with blue color. Some of the agricultural and residential areas in the south and southeast parts were also affected by the flood; even the railway lines were affected causing minimum transportation on flood days. The northern part

including villages and agricultural land of Dera Murad Jamali was highly affected by the 2022 flood. As shown in the map, the southern part was not affected by the 2022 flood.

Figure 6

Jaffarabad Floods (2010 & 2022)

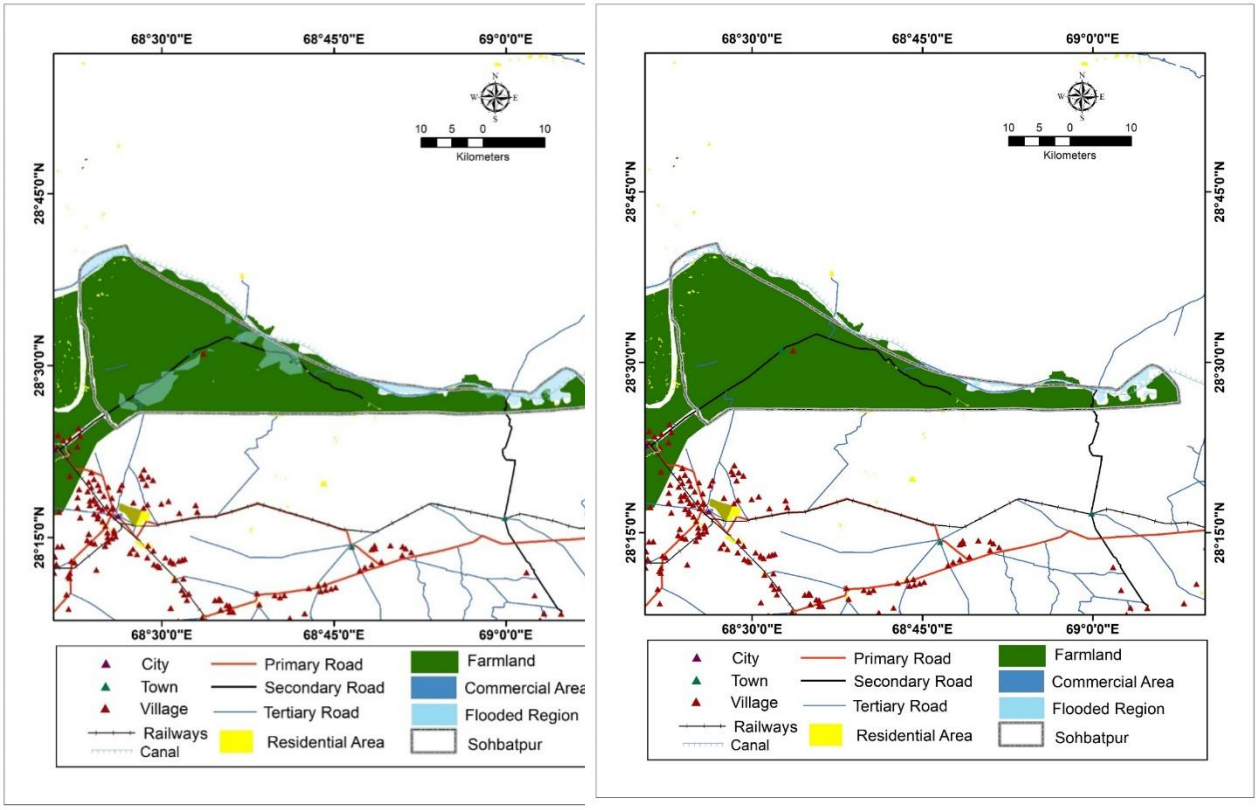


In the district of Jaffarabad, the 2010 flood affected 17 villages and residential spots. The district includes a part of agricultural land that was affected mostly in the southern and western parts of the district. Road infrastructure was also affected as shown in the above map. In 2022, the flood affected the western part of the district. Agricultural land was also affected by the 2022

flood, but the residential communities and villages present on the eastern side of the region were not affected.

Figure 7

Sohbatpur Floods (2010 & 2022)



The above map shows a flooded region with a blue color in the Sohbatpur District. The majority of the district's northern and western regions as well as a few settlements on its eastern

side were devastated by the flood. The above map shows that due to the presence of a canal on the northern side, the flood was restrained from entering major residential and agricultural lands. However, in some places canal overflows allowed the water to enter and flood the region. In 2022, the flood affected the northern and western parts majorly. Due to the presence of a canal on the northern side, the flood was prevented from causing much damage.

Total Area Affected in 2010 and 2022 Floods

The result shows that Pishin District was the most affected by the 2010 and 2022 floods with 88.5% and 55.4% of the area impacted respectively. This was followed by Dera Murad Jamali, with 61% in 2010 and 42.3% of the area affected in 2022. In Sibi District, 51.5% area in 2010 and 22.2% in 2022 was affected. Jaffarabad was affected 35.4% in 2010 and 2.19% in 2022 whereas for Sohbatpur it was 13% in 2010 and 2.46% in 2022 floods. Overall, the study shows that the 2010 floods greatly affected the entire region while the 2022 floods largely affected the central regions of Balochistan.

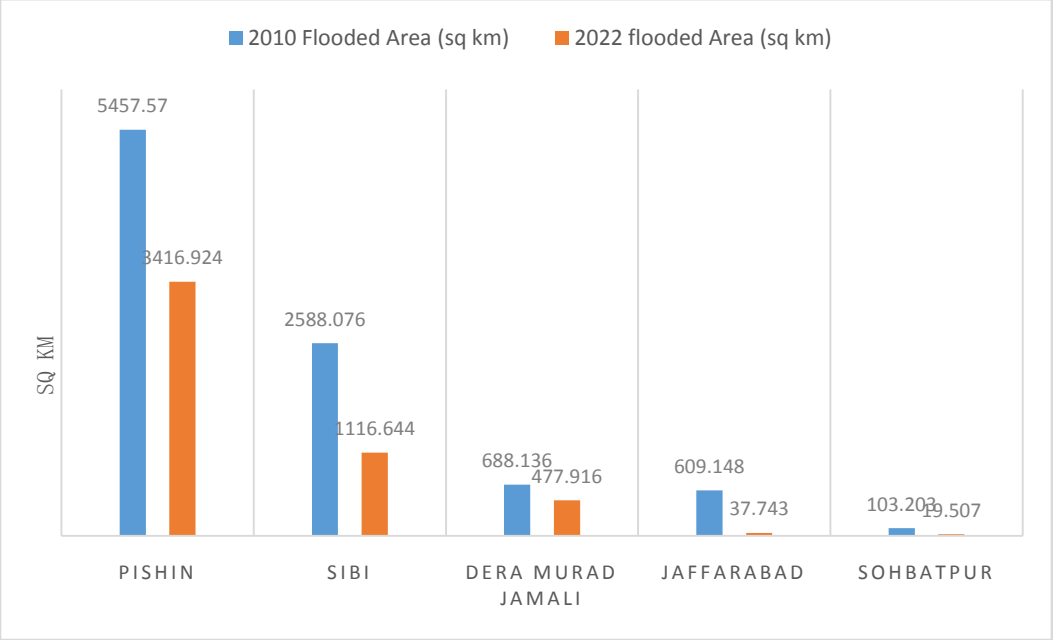
Table 3

Area of Flooded Region

	TOTAL AREA (SQ KM)	2010 FLOODED AREA (SQ KM)	2022 FLOODED AREA (SQ KM)	2010 PERCENTAGE	2022 PERCENTAGE
PISHIN	6166.691	5457.57	3416.924	88.50	55.41
SIBI	5019.385	2588.076	1116.644	51.56	22.25
DERA MURAD JAMALI	1128.029	688.136	477.916	61.00	42.37
JAFFARABAD	1720.417	609.148	37.743	35.41	2.19
SOHBATPUR	793.8671	103.203	19.507	13.00	2.46

Figure 8

Total Flooded Area



This study concludes that in 2010 districts of Balochistan were highly affected, i.e. there were significant impacts in Pishin (88.5%), Sibi (51.56%), Dera Murad Jamali (61%), Jaffarabad (35.41%), and Sohbatpur (13%). In 2022, Pishin was 55.41% affected, Sibi 22.5%, Dera Murad Jamali 42.37%, Jaffarabad 2.19%, and Sohbatpur 2.46%. The affected structures include villages, towns, residential areas, road infrastructure, and other essential assets. The complex

topography and drainage patterns over the region played a role in controlling the consequences of floods. The government should take strict measures to improve overall infrastructure that could minimize the impact of future hazards in the region.

Situation Analysis

Purpose and Scope

The situation analysis will offer a synthesized reflection into the events and aftermath of the 2022 floods in Balochistan, from the perspective of the flood victims, and representatives of the government and NGOs. This section will provide an overview of the devastation brought on by the floods in terms of the physical, economic, social, and psychological damage sustained by the victims. The analysis will examine the victims' lived experiences with the flood, from evacuation through their time in relief camps, to their return and ongoing rehabilitation. The analysis will critically assess the flood recovery and rehabilitation efforts from a comparative lens, exploring the similarities and differences in perspectives across divisions (Naseerabad, Sibi or Pishin), stakeholders (flood victim, government official or NGO representative), and ethnic groups (Baloch or Afghan). Lastly, the overall findings of the situation analysis will be fleshed out by integrating similarities and differences, leading into the Needs Assessment section.

The situation analysis will be divided into three sections covering the 1) overall physical destruction caused by the flood, 2) respondents' experiences during the flood emergency, from evacuation to their sojourns at the relief camps, and 3) their ongoing rehabilitation journey, after moving back to their villages.

The Severity of the Damage

This section will present an extensive examination of the physical destruction caused by the flood, specifically covering the damage to residences, material resources, community assets, and infrastructure. The damage assessment will also be contextualized by incorporating the

human impact of the destruction, as uprooted and dispossessed victims dealt with issues of food and water security, health, and psychological well-being. Viewpoints of stakeholders will be compared across districts, and respondents' statuses and ethnicities to grasp differences in the subjective import of the floods' destruction among different groups leading to a nuanced understanding of the flood victims needs.

The next subsection provides a detailed account of the physical destruction caused by the floods.

Physical Destruction

Most respondents from all three divisions reported that their homes were either destroyed or severely damaged by the floods. Poverty compounded vulnerability, as mud houses were the first to crumble when floodwaters rose. The overall damage to residences was extensive. Respondents in one division reported that around 90% of the adobes in their village were either severely damaged or destroyed. The flood-ravaged farms and killed off livestock, causing many to lose their livelihoods. Heavy damage to shared community assets like schools, hospitals, and wells, deprived people of essential services; and many communities continue to struggle for their restoration to this day. The flood cut off supply routes and disrupted aid delivery by washing away crucial infrastructure, like bridges and roads. As one respondent succinctly puts it,"[Nothing could] withstand the relentless rains..."

In the following sub-sections, destruction of physical assets will be unpacked into damage to residences, economic resources, and community resources and infrastructure.

Damage to Homes and Residences. Reports from all three divisions confirmed that the majority of houses located in the flooded areas were either completely destroyed or severely

damaged. However, the destruction of their houses meant much more to the victims than the mere collapse of physical structures and seemed to have left a profound impression on their psyche. Respondents recalled feeling helpless as the relentless rain continued for over 36 hours (corroborated by respondents from all divisions) and the water slowly rose up to four feet (as described by FGD participants in Naseerabad). People stood powerless watching their furniture, food reserves, clothes, valuables, and domestic livestock floating away. The mud houses were the first to crumble and their indigent residents sought refuge in mosques, school buildings, health centers, and brick-houses built on high ground. Old and rundown buildings were the next to collapse. Gradually, it became clear to everyone that no one was safe and the entire community had to evacuate.

Based on the respondents' estimates, in Naseerabad, 80-90% of the houses in their communities were damaged or destroyed, while in Sibi the damage to houses varied form 30-40% in some villages and 20-30% in other communities. In Pishin, respondents simply noted that many people in their communities had "lost their homes."

While describing the destruction of their houses, the respondents invariably included the loss of furniture, livestock, valuables, food reserves and other belongings. Review of previous studies and an analysis of the interviews of NGO and government representatives reveal that these losses are often overlooked in flood rehabilitation research, policies and projects. This suggests a fundamental difference in how the "destruction of houses" is conceptualized by the flood victims and their care-providers. Unfortunately, a top-down approach to damage assessment prioritizes the state's perspective, shifting the cost of the unaccounted loss of 'possessions' to the victims. A participatory approach to damage assessment would include the 'voices' of the victims, ensuring that the loss of their 'possessions' is both acknowledged and

addressed in rehabilitation plans. The collapse of mud houses and weak structures was also a recurring theme illustrating the need to further explore the connection between economic, social, or cultural marginalization and vulnerability to natural disasters. The intersection of marginalization and vulnerability is observed in this quote by a farmer in Naseerabab, "Our house is still crumbling...to build a new house we will have to sell a piece of land... After the flood we had to take a loan to get our utilities back on."

Another key dimension of the flood's impact was the loss or damage to assets vital for economic activity and earning livelihoods. These include damage to agricultural land, livestock, crops, and businesses. The next section will look at how the loss of these assets influenced the lives of flood survivors.

Economic impact and loss of livelihood. Given that agriculture was the primary economic activity in the visited rural communities, the impact on livelihoods was catastrophic. In Naseerabad, respondents reported the loss of crops, grain stocks, livestock and agricultural tools, along with long-term damage to their farmlands due to waterlogging. Inadequate canal networks, irrigation systems, and water drainage infrastructure intensified the flood's impact. One FGD participant in Naseerabad emphasized, "...the silt build up in the canal led to more water entering our village and farms..." The quote indicates that the post-flood waterlogging of the farms could have been minimized by preemptively addressing the silt buildup in the canals. Similar losses in terms of agriculture and livestock were reported in Sibi and Pishin. The situation in Sibi was especially dreadful because of the recurrence of flash-floods in 2024. One FDG participant in Sibi commented, "...the recent floods of 2024 made the situation worse, especially with the lost crops [in 2022] and the already damaged houses." This quote provides insight into how losses of poor farmers living in disaster prone areas are compound with each flood, pulling them deeper

into the cycle of poverty. Struggling to survive at a sustenance level and lacking any long-term support from the state or civil society (a consistent finding across all three divisions), they are compelled rely only on their meager and diminishing resources to navigate through repeated phases of destruction and reconstruction. Each subsequent flood pushes them closer to complete financial breakdown, to a point that maintaining even a subsistence-level lifestyle becomes unachievable. For many families, selling off their remaining assets and relocating to urban areas is the only reasonable option. As one IDI respondent stated, "After the flood, there was not enough help to rebuild houses and get utilities back on. A number of people, especially related to agriculture, migrated to other areas due to multiple floods in the area." A farm owner in Pishin also mentioned that many agricultural workers in his village were forced to migrate after the flood. According to the International Organization for Migration (IOM, 2023), the number of Temporarily Displaces People (TDP) in Balochistan was estimated at 1.3 million individuals as of October 2023. Many of these people would never return to their native communities and were planning to permanently migrate to urban areas (IOM, 2023).

In Sibi and Pishin, particularly within the Afghan community, respondents also reported the loss of small businesses and jobs. Given that this disenfranchised diaspora has already endured decades of institutional discrimination, along with social, political, and economic marginalization in Pakistan, the full extent of the flood's impact on livelihood loss within the Afghan community requires further investigation.

Overall, the economic consequences brought on by the floods are characterized by a total or partial loss of agricultural resources, farms, livestock, businesses, and jobs. Many residents were unable to bear financial burdens resulting from the flood's devastation and were forced to migrate. Those that remained endured severe hardships and economic pressures forcing them to

compromise on their traditional life styles. One female FDG participant in Sibi referred to this struggle in following quote, "We lost most of our food and animals, which are very important to our way of life."

Damage to infrastructure and community assets. The damage to shared assets and infrastructure was massive. Respondents from the three divisions revealed that schools and health facilities sustained severe damage and the process of restoration took months, while in some communities these facilities were still only partially restored. One FDG participant in Naseerabad stated, "Our schools and basic health units were flooded and damaged, leaving many of us with no facilities." Similarly, a farmer in Pishin mentioned, "it (the flood) badly damaged our community's gathering place and the school, which made it hard for the kids to keep learning." Public spaces, essential for bringing residents together for communal gatherings and festivals suffered severe damage in most villages. Restoration of these spaces was neglected because the state offered no assistance and the community members were pre-occupied with rebuilding homes and cultivating farms. A respondent in Pishin remarked, "the mosque and the building where the community used to gather still need a lot of repair work but everyone in our community is still busy repairing their own houses." Shared resources and services were also badly affected. FGD participants in Sibi stated that the community was cut off from, "basic services like electricity, clean water, and communication..." for months after the flood in 2022. Similarly, a respondent in Pishin stated that, “Tube wells were flooded, making it impossible for many farmers, including us, to farm our lands.”

Infrastructure, particularly roads and bridges, were largely demolished during the floods, creating serious logistical challenges for aid delivery and evacuation. The Balochistan government is still working to restore infrastructure, while communities continue to face daily challenges with

transportation and the delivery of goods. In some cases the delays in the repair of critical infrastructure exacerbated the vulnerability of communities to future floods, leading to disastrous consequences. For instance, according to a NGO worker in Sibi, the impact of the 2024 floods in some communities was "even worse because the repairs of the protective dam that was severely damaged in the 2022 floods had not yet been completed."

In summary, the flood destroyed essential infrastructure and community assets. The destruction of schools and health facilities deprived residents of essential services for months, and in some communities, these services have still only been partially restored. Community spaces that are critical for communal interactions remained in ruins across many villages. The government shows little interest in restoring these assets and residents are burdened with rebuilding houses and restoring livelihoods. The slow and ongoing repair of vital infrastructure hampers the daily lives of residents and increases their vulnerability to future disasters.

Human Impact

The physical damage caused by the flood can only be understood in the context of the human suffering it brought to the flood victims. The flood's catastrophic impact destroyed infrastructure, disrupted essential services and pushed victims into crises of food, water and healthcare. Many were forced to evacuate to higher ground and live in tents, and makeshift camps. It would be weeks or months before they would see their homes again. The destruction of roads and bridges severely affected access and families faced critical food and water shortages. Many suffered from dehydration. The elderly and children were especially vulnerable. In one division, displaced flood victims had to walk for miles to fetch drinking water. The unsanitary living conditions and direct exposure to the elements led to a surge in cases of diarrhea and malaria, among other illnesses. After experiencing the flood, along with the loss of homes and

livelihoods, and facing survival challenges with an uncertain future, many have developed mental health issues. Victims suffered from symptoms of anxiety, depression, and psychological trauma but have not received any psychological or psychiatric help. This section will analyze the impact of the floods on the lives of victims, focusing on four critical dimensions: 1) food and water security, 2) health issues, 3) loss of essential services, and 3) psychological challenges.

Food and Water Security. Respondents from all three divisions shared that there was a severe shortage of food and water immediately after the flood. The floodwater destroyed most of the villagers' supplies, and a chaotic and unplanned evacuation did not afford them the opportunity to carry adequate provisions with them. People were forced to move towards higher ground with whatever supplies they could carry (in Naseerabad and Pishin) or load onto their boats (in Sibi). The data clearly shows that none of the communities in the three divisions had made any preparations in terms of storing emergency supplies or having a rudimentary evacuation plan. This point is noteworthy because all three divisions are classified as flood-prone areas. With the exception of one village in Sibi, communities received the flood-warning too late and evacuated without adequate emergency supplies. Many people were separated from their families in the chaos of the evacuation. A female FGD participant in Pishin described the ordeal of the evacuation after her village received a state issued warning just before the flood hit, as follows: "Evacuation was a challenge. We were advised to flee with a lot of force [sic], and I remember many of the families got split."

Displaced to inhospitable environments, living in makeshift tents unprotected from the elements, and experiencing extreme food and water shortages, many flood victims suffered from symptoms of malnutrition and dehydration. The children and the elderly were the first to fall victim, as one FDG participant in Naseerabad recounted, "People had very little food and it

caused [the] elderly and children to faint." The communities in Naseerabad were hit the hardest. One FGD participant remembered that when their community's water reserves nearly ran out, people were compelled to walk miles to the nearest water source and carried plastic receptacles filled with water back to their families. He said that, "Even though it was hard, the search for other sources had to be done. We fetched water from 5 kilometers away."

The role of the state in providing assistance to the displaced families remains unclear. ONly one community in Pishin evacuated directly to a relief camp that was set up by the district management. Communities in Sibi and Naseerabad evacuated on their and found sanctuary on high ground usually near some main road. Upon reaching safety, they fended for themselves by setting up temporary housing and organizing essential needs like food and water. A FGD participant in Naseerabad recalled: "We had to leave without police or other official help, and we had to get to roads and higher land on our own." One FGD respondent in Naseerabad acknowledged that the state officials brought relief supplies to his community when they were temporarily settled near the roadside. However, according to the respondent, the distribution of the aid was mismanaged. He stated that, "A good number of people did not have access to enough food because the aid supplies that were sent from the government were not spread out evenly."

Social networks played a crucial role at this stage. The communities relied on help from neighbors, relatives and friends. Aid resources often flowed through preexisting social/kinship connections and hierarchies. The following comment from a Naseerabad FGD respondent illustrates how communal hierarchies provided a mechanism of support for the residents: "Our food and water supplies were very limited, and we had to rely on donations from better-off locals." The role of communal ties as conduits of help and assistance during and after the flood

was observed to be the strongest within the Afghan community. Although structural hierarchies played an important role in the Afghan community (discussed later), members were largely driven by strong social identity, community cohesion, and a shared sense of survival to support one another. An Afghan respondent noted, "We got by [the flood], by sharing what we had and coming up with our own answers [to problems]."

To sum up, communities faced severe food and water crises following the flood, which deteriorated further due to a lack of preparedness and external support (particularly from the state). Informal community networks emerged as reliable sources of support. Findings underscore the need for improved disaster preparedness and further exploration of the role of informal networks in disaster relief efforts.

Health Issues. This section will look at the various health issues that emerged after the disaster, especially with reference to vulnerable groups, (including children and the elderly). Most medical facilities were damaged or destroyed after the flood. Furthermore, the rising number of the sick and injured overwhelmed the healthcare system and flood survivors struggled for medical treatment and medicines.

The narratives surrounding the health and healthcare issues that were collected from the three districts revealed a consistent pattern. The victims had to escape to safety immediately after the flood, finding refuge in makeshift camps and tents (in Naseerabad and Sibi), or in relief camps set up by the government (in Pishin). In either case, there was a critical shortage of food and water, and living conditions were unhygienic. The weather oscillated between extremely hot and humid and there was no protection against insect bites and animal attacks. Cases of illnesses such as dehydration, diarrhea, malaria, fever, and skin infections spread rapidly. As one respondent (from Naseerabad) recalled, "...sickness spread quickly in the filthy conditions..."

Another respondent (in Naseerabad) corroborated, "...the situation got worse after the disease spread." In Naseerabad, snakebites presented an imminent threat, as the victims had limited access to anti-venom. Children were among the most severely affects, with all three divisions reporting emergencies like children fainting, or suffering from acute diarrhea, vomiting, and high fever. Comorbidities were a significant concern for the elderly in Sibi, as they struggled with malnutrition and infections in their already weakened conditions.

Access to medicine and treatment was limited. Emergency medical services were by and large not available because the health centers and BHUs in most areas were damaged or destroyed. Families transported their sick either to the few temporary emergency medical facilities set up by the district government and health department, or to the private or public health facilities in nearby non-flooded areas. The rising number of patients with illnesses and injuries overwhelmed the health system creating a major shortage of medicines, doctors and paramedical staff. The health crisis sent shockwaves across the healthcare system, and two years after the flood, its effects are still felt as government health facilities in some areas are still struggling to provide essential services to local communities due to depleted resources. This ongoing strain on the healthcare system suggests that, unless adequate resources are poured in, the short-term healthcare crisis could escalate into a full-blown, long-term public health challenge. A FGD participant in Naseerabad explained, "Even though healthcare centers are currently full, they [still] can't get to enough resources." Bottlenecks in the state healthcare system drove up the demand for the more expensive private healthcare services. As one farmer in Naseerabad explained, "Because the hospitals were not working, we had to get medical care from private doctors, even though they charged too much."

Treatment of injuries and first aid became another urgent concern. People suffered from a myriad of injuries and vied for access to limited first aid services. In Naseerabad, people reported waiting for hours in front of health centers to receive first aid. The government health facilities in Sibi were completely chocked up and patient seeking first aid services turned to the emergency medical camps that were set up by the NGOs. However, due to lack of resources the NGO medical camps could not cater to the influx of patients. In Pishin, when communities "found it tough" (FGD Participant) to receive assistance from government facilities and local BHUs, they developed coping strategies grounded in mutual support. An FGD participant explained, "We had to rely on each other and some local volunteers for first aid." This example illustrates how local capacity building can improve communities' resilience to deal with health crises in emergency situations.

Timely preparation and preventive measures could have reduced the impact of the severe health crisis that followed the flood. Local healthcare units should be equipped to a) establish and relocate to temporary health-care facilities during floods, b) stockpile life saving drugs in preparation for the rainy season, and b) train local volunteers to assist in emergency situations.

Loss of services. Loss of essential services like electricity, water, mobile signals, and the internet was reported in all three divisions. Some communities in Naseerabad were deprived of water and electricity for weeks after the floods; however these services were restored within a few days in Pishin and Sibi communities. To meet their essential needs, communities devised innovative solutions. For instance, one community in Sibi used the power from solar panels and batteries for essential lighting and charging mobile batteries.

The breakdown in mobile and communication services persisted for weeks. This occurred during the crucial period when communities and families were planning their evacuation, and

later when they were planning their return. This essentially cut communities off from reaching out to the state or their friends and relatives for help during evacuation. One respondent in Pishin recalled, "This [lack of communication services] made it hard to stay in touch with anyone outside the community. Similarly a FGD participant in Pishin shared that," During the evacuation, families were unable to keep in touch with each other and some families were separated for weeks." Similarly, communities and families found it difficult to plan their return after the flood water had receded. Loss of communication also intensified the sense of isolation among communities. A respondent from Sibi elaborated, "Without a way to call for help, we felt abandoned. We had to rely on whoever was near us."

Findings underscore the need to furnish communities with alternative communication systems like satellite phones and radio communication systems, to ensure there is uninterrupted communication during emergencies. Furthermore, the example from Sibi demonstrates that investing in solar power can offer a clean and sustainable energy solution for remote communities, providing them with an uninterrupted supply of electricity for their daily needs and during disaster emergencies.

Psychological challenges.

"The entire flood was literally like a nightmare!"

(FGD respondent in Pishin)

The flood's psychological impact was as severe as its physical destruction. Most respondents reported that they or their families had experienced extreme psychological and emotional distress during and after the flood. However, none of the respondents or their family members had ever discussed their mental or emotional health with a mental health provider.

These two facts provide a basic framework within which the psychological trauma of the flood victims and their coping strategies can be understood. Respondents were remarkably lucid in describing the negative feelings they experienced during and after the flood. There were several issues that caused both short and long-term mental discomfort to the victims. These included the trauma of the loss of homes and livelihoods, concerns over family safety and survival, and apprehension towards an uncertain future. Some differences between the three divisions, and between Baloch and Afghan participants were also observed, which will be discussed later in this section. Although flood victims employed various coping mechanisms to manage psychological distress, reliance on communal support emerged as the most common strategy.

The respondents used many words and phrases to describe their experiences during and after the flood which reflected negative psychological states. Some examples are provided here. Participants in Naseerabad used phrases like "anxiety and stress" and "chaos and exhaustion". In Sibi, one participant used the phrase, "constant fear", while in Pishin a respondent used the word "nightmare" to describe his experiences during the flood. A phenomenological examination of these words and phrases would suggests that trauma of the flood had permanently altered the victims' 'lifeworlds'. It was an event that brought extreme physical and psychological stress leading to emotional states like fear, anxiety, depression, uncertainty, and apprehension. The intensity of these experiences became deeply ingrained in their consciousness, leading to psychological trauma. Furthermore, the 'flood' was recurring event, making it essential for the victims to be cognizant of its looming threat.

Another approach to understand the how the respondents made sense of the 'flood' event, and its impact on their life worlds, is to understanding its perceived connection with their past, present and future. In Naseerabad, a FGD respondent experienced "fear and anxiety" when his

family was facing the prospect of "leaving their homes [in an emergency] and living in [unprotected] tents." In Sibi, one FGD respondent shared deep concerns about the safety of his "family and home" during evacuation, while another expressed a lurking fear of "another catastrophe." This fear was of course realized, as Sibi was hit by flash floods in 2024. In Pishin, an FGD participant felt "anxiety" while "facing an uncertain future." An Afghan FGD participant believed that the experiences at the relief camp "affected everyone's mental health." Interestingly, none of the respondents had been assessed by a mental health profession even though the flood had probably negatively impacted their mental health.

While discussing the impact physical and psychological challenges of the flood, the respondents also mentioned some positive influences or sources of support. In Naseerabad, respondents identified relatives, neighbors, and kind strangers, as a major source of support. One FGD respondent shared an anecdote about a doctor who used to visit his village and voluntarily helped the community members. Another FGD participant from Naseerabad stated, "We had to rely on kindness of others to survive." Relying on their community was a common coping mechanism for dealing with physical and psychological challenges. A farmer in Naseerabad described his community's journey though the hardships of the flood, as follows, "Even though it was hard, we made the best of the tools we had and got through it." The use of the collective 'we' to signify the community, and the cohesion reflected in the phrase 'made the best of the tools we had', underscores a strong social identity further reinforced by the experience of working together.

Only one community in Sibi received a timely warning of the 2022 floods, offering a comparison case to assess whether the initial psychological impact of the disaster can be mitigated by dispatching a timely warning to communities. According to participants, receiving

an early warning of the flood had the overall impact of allowing the community the time to mentally and physically prepare for the flood and prompted them to action rather than plunging them into panic. One respondent from that community said, "...knowing that the flood was coming helped us prepare... The respondents shared that the community immediately sprang into action, with many villagers working tirelessly to increase the height of the protection wall and closely monitoring the rising water levels." Comparatively, the other communities that were visited shared that receiving the warning late led to a "haphazard and chaotic" evacuation (a FGD respondent in Naseerabad). Many people could not gather essential supplies and faced severe food and water shortages later. The experience of evacuation after the floodwaters had inundated their villages and without essential supplies left many with feelings of fear, helplessness and anxiety.

Flood victims faced numerous emotional challenges that stemmed from different sources. The flood victims exhibited signs of long-term psychological trauma which needs further investigation. Neighbors, community members and volunteers were a reliable source of psychological, physical, and economic support. Lastly, effective relief and rehabilitation of the flood victims is not possible without a thorough assessment of their psychological needs. These needs are often overlooked and ignored in state-designed flood rehabilitation plans.

Emergency Response: Evacuation and Experiences at the Relief Camps

Building on the findings of the previous section, this section will focus on flood victims' experiences during the emergency response phase. The section follows their experiences from the time they became aware of the flood's threat, to their evacuation and stay at the relief camps. The section highlights the challenges during this phase, including delayed and ineffective flood warnings, insufficient logistical support during evacuations, shortages of essentials such as food

and water, and unlivable conditions at the relief camps. The significance of informal kinship and communal networks as an ubiquitous source support for flood victims is discussed.

Early Warning System and Evacuation

As the news of the flood spread, the response varied significantly across divisions, indicating an overall lack of effective emergency preparedness. There were significant lapses in threat communication, evacuation operations, and relief efforts. Rather than receiving the flood warning from one authentic source, communities in Naseerabad, Sibi and Pishin received first news of the flood from different sources; ranging from formal government announcements, to grapevine received from neighboring villages. Moreover, in many cases the warning was communicated late, giving communities little or no time to prepare. Communities were unable to gauge the magnitude of the threat until the flood water had crept into their villages. The evacuation process was chaotic and most communities either found their own way to the relief camps or pitched their tents by the roadside on high ground. Relief camps were mismanaged, unhygienic, and lacked resources. Communities survived through self-reliance and support from communal and kinship networks. This section will provide an overview of the emergency response phase comparing the perspective of multiple stakeholders to identify critical gaps.

The communities included in the study received the flood warning from different sources. In Naseerabad, members of one community received the warning directly from the Deputy Commissioner’s Office (DCO). However, in another community in the same district, participants learned about the flood from the local leaders through "word of mouth". One participant reported receiving the warning through a local news channel. In Sibi, one community received the warning via an announcement from the local mosque. The community elders learned from a neighboring village that the flood was approaching and voluntarily issues a warning over the

mosque loudspeaker. Incidentally, this was the only community among the three divisions to receive the news in time and had the opportunity to prepare for an evacuation. Another community in Sibi received the warning directly from the DC Office and Levies (a local law enforcement agency) just before the floodwater engulfed their village. In Pishin, one community got the news through social media, while another received the warning form a DC office team that arrived in their village to reinforce the protective wall. In one case, a community in Naseerabad received the information from an authentic government source but because there were no prearranged protocols for threat-level communication, they misunderstood the severity of the threat. One participant noted, "The Deputy Commissioner's office told us about the flood, and at first we did not think it was that bad."

With the exception of one community in Sibi (mentioned above), all the other communities began evacuation after the floodwaters had reached their villages. Similar reports from the three divisions describe a surge panic sweeping through the communities followed by a disorganized and haphazard evacuation. In a Naseerabad community, families grabbed whatever emergency supplies they could carry and rushed together to the safety of the high ground. In Pishin, a community evacuated late in the evening and had to stop, because families could not travel on foot during the night. They took refuge in a nearby school building situated on high ground. As the rain fell relentlessly, the entire community had to huddle into the small school building throughout the night. A respondent from Pishin recounted this harrowing experience: "It rained, and we now had to leave our houses. We went to a nearby school that accommodated all of us. It was overly crowded as we shared a room with many families. Males spent the night under the roof and females were inside the building.... we have 250 families in our village, and the school had only four rooms."

Only one community in Sibi received the warning in time from a neighboring village which allowed them to move to a safer area before their village was flooded. A participant from this community explained, "Luckily, people moved to safer places in time as we took the news of flood seriously." This example illustrates the vital role that early warning systems can play in enabling communities to evacuate safely before the disaster strikes.

After leaving their villages, the communities marched on in the rain to find dry ground. The local administration did not provide them any help or information at this stage. A respondent in Naseerabad described the situation in which his community trudged on to safety: "...there was no help at hand. We had to leave without police or other official help, and we had to get to the roads and higher ground on our own."

Only one community in Sibi reported receiving emergency supplies from the District Administration after they had reached a safe place for setting up their camps, but the aid was distributed in a disorganized and biased manner. One respondent stated that, "Some people got more than others, and many people did not get anything at all... distribution of relief goods was ineffective .... [and] far too slow." None of the other communities received any help from the time they left their villages, to the time they reached the relief camps. In some cases, the relief camps were too far and communities were forced to set up makeshift camps on the roadsides and wait out the rains. As communities waited for the government and NGOs to reach out, assistance came from neighbors and nearby relatives (one respondent from Naseerabad). Communities with strong solidarity and effective leadership were able to navigate through the crisis more efficiently. The Afghan community's evacuation story illustrates this. The community received the news of the flood late and had to evacuate immediately. In the midst of the chaos, the community came together and the leaders took charge. The evacuation procession was organized

and the leader made sure that no one was lost or left behind. Upon reaching high ground, temporary shelters were set up for the entire community by volunteers. An Afghan respondent recalled, "The evacuation was chaotic but the solidarity in the community really helped."

The importance of efficient early warning systems emergency response cannot be over-emphasized. The analysis shows that the existing early warning systems in Naseerabad, Sibi and Pishin were inefficient and inadequate. Furthermore, the absence of pre-formulated plans prevented organized evacuations. The district government or local government must: a) set up reliable emergency communication systems, and b) collaborated with the communities to develop strategies for emergency management and disaster preparedness. Communities need vital resources and training to organize and mobilize under threat of disaster. These are essential steps for strengthening community resilience to withstand disaster.

Experiences in the Relief Camps

The next challenge after evacuation was to reach the relief camps. These relief camps were primarily set up by the government, while NGOs had established some camps either independently or in collaboration with the District Administration. Most communities made their way to the relief camps utilizing their own meager resources. Upon reaching their destinations, survivors found the camps overcrowded, unsanitary, and short on essential supplies. One FGD participant in Naseerabad summed up, "The relief camps were overcrowded and the [living] conditions ... [were] pathetic." This section will examine the experiences of the communities in the relief camps. , comparing their perspective with other stakeholders such as representatives of the government and NGOs. Juxtaposing the viewpoints of different stakeholders the adequacy of the relief efforts will be evaluated and gaps will be identified.

Respondents described relief camps as overcrowded, unsanitary, lacking basic services, and short on supplies. A participant from Naseerabad said, "The relief camps were cramped with very basic facilities. We also had to suffer through horrible sanitation and insufficient resources." Another respondent recalled that the tents provided little protection against the rain and his family had to cover themselves with plastic sheets to remain dry. Similarly, in Sibi, the camps were overcrowded, cramped, and unhygienic. A participant in Sibi said, "The camps were packed, and keeping them clean proved [to be] tough." In Pishin, the flood survivors also found the camps overcrowded and short on provisions. One respondent reported that the food was of low quality and rationing was insufficient. Despite being under the care of the state the communities had to rely on mutual support to survive, as the following example illustrates. The Afghan community observed a severe shortage of food and space at their relief camp. Adopting a communitarian approach, the Afghans organized their space and resources to safeguard the well-being of all members. One Afghan participant explained, "Cooking and sleeping areas were arranged, medical care [was assured] and everybody looked after each other."

The perspective of the state and NGO representatives was different from that of the flood survivors. According to the representative of the DC office in Sibi, the district administration took the lead in rescue and relief operations and coordinated with the local governments and NGOs to centrally manage the distribution of aid. According to him:

> "We developed a distribution plan involving UCs, tehsils, sub-Divisions and appointed special officers to coordinate efforts. Each officer was heading a team of different government employees. All the relief items were centrally monitored and stored, and issued by a single Team so that transparency could be ensured."

He further explained that some communities, especially those located in remote areas, did not receive aid because of limited resources and blocked access. While commenting on transparency, he emphasized that the fairness of aid distribution was compromised because of community factionalism and local political interference. According to him, transparency was undermined because of, "Political interference, greed of the elements who [sic] didn't deserve any aid or relief. Political parties, pressure groups also created issues in relief efforts."

The NGO workers' perspective added a new dimension to this discourse. The NGO representatives believed that their approach toward relief work was more hands-on and proactive. According to one NGO representative in Sibi, his organization conducted self-funded surveys of the areas to map out locations of flood-stricken communities. The organization provided food, water, and life-saving drugs to displaced communities temporarily settled in relief camps or encampments. There was a general feeling among NGO representatives that the local administration sometimes created bureaucratic hurdles and cumbersome procedures that caused undue delays in aid delivery. One NGO worker made the following comment about the DC office's initiative for centrally controlled distribution of aid in Sibi (discussed above):

> "However, the distribution was hampered when the Deputy Commissioner (DC) office got involved. They mandated that we distribute relief supplies only with their permission to ensure fairness. Unfortunately, this process slowed down the relief efforts and led to selective distribution."

This comment, when compared with the quote from the DC office representative shows a lack of shared vision and perhaps conflicting interests that may have potentially contributed to ineffective and uncoordinated relief efforts. From a rational choice perspective, centralization of aid distribution may facilitate transparency but it may also create administrative barriers and

delays. Decentralized distribution may improve operational efficiency but may raise concerns over transparency. Both approaches have costs and benefits attached to them and stakeholders have different views on which is most appropriate. Conversely, from a power-relationship perspective, a struggle over control of relief activities among stakeholders is evident. The government centralized distribution of the relief efforts because it gave them control over all aid-related activities and resources. While the NGOs criticized centralization of aid distribution because it undermined their control over the distribution of aid resources that they had gathered through their donor network. Lastly, from an operational perspective, both stakeholders are partners in a complex post-disaster relief operation that requires singularity of purpose and streamlined procedures to achieve shared goals. Even though, it remains unclear whether the rational choice or power relationship perspective explains stakeholders' disagreement over centralization of aid delivery, the example clearly shows shortcomings in joint relief efforts from an operational standpoint. This fact was repeatedly pointed out by the flood survivors.

The next section will explore into stakeholders' narratives about the flood victims' ongoing rehabilitation journey.

The Return: The Condition of Communities and the Current State of Reconstruction and Rehabilitation

The displaced communities stayed at relief camps for 10 to 15 days. Most communities wanted to leave the overcrowded relief camps as soon as the rains stopped but had to wait for government's permission. In some cases, the villages were still submerged when the residents returned. In other cases, the water had receded leaving the villages buried under a thick layer of mud and debris. Communities quickly organized and began setting up temporary housing and clearing away the debris. They labored through the cleanup phase lacking essential machinery,

skills, and resources. After clearing away the mud and wreckage, the communities discovered the true extent of the devastation. Their houses, barns, wells, schools and health facilities, stood in ruins. Thus, began the process of restoration and reconstruction, which remains ongoing two years after the flood.

None of the families included in the study stayed for more than 15 days at the relief camps. Many wished to go back earlier but they awaited government approval as many areas were still inundated. They left the camps without receiving any help or guidance from the camp administration, district management, local government or NGOs. Two villages (one in Naseerabad and another in Sibi) were still submerged when the residents returned. Without any assistance from the government, both communities pooled their resources to rent machinery for pumping the water out. The water had receded in the other villages included in the study, and residents found everything engulfed in layers of flood sediment. This spectacle was the harbinger of the immense challenges that lay ahead. As one FGD respondent in Sibi put it, "...the damage was not only physical but also emotional." Previous literature has often ignored the cleanup ordeal preceding the reconstruction of flood-stricken communities. Whereas, the respondents in the present study shared that erecting temporary housing and clearing out the debris required weeks grueling labor. One FGD respondent exclaimed, "the cleanup work was exhausting!"

The villagers saw the true state of damage to buildings and structures after removing the mud, rubble, and wreckage. In Naseerabad, the mud houses had been completely destroyed and most brick structures had suffered extensive damage. Many flood survivors were unable to start rebuilding immediately after the clean up because they prioritized using their diminishing resources to replace damaged farming tools, restore crop harvesting, and survive until the next harvest season. Many farmers are still struggling to rebuild their houses as they continue to work

on their farms and manage limited resources. One farmer stated, "Every single one of us is having a rough time right now, and we all want someone to help us soon." Another farmer said this about the current state of the village, "The village is still a complete mess...most of us have been living in the same temporary shelters since 2022. No major reconstruction has taken place." Residents shared a sense of alienation from the state's support mechanisms believing that they had been abandoned by the very system that protected them. "The government and local leaders have not given us the support or resources we need", remarked one respondent. Even the NGOs have not provided any substantial assistance to the community. One respondent recalled that only one family in his village had received help from an NGO to rebuild their house.

The plight of the villagers in Sibi was similar, with the added challenge of the 2024flash floods. After the 2022 flood, the farmers had lost their livestock and crops and the pressure of re-cultivation left them with little resources to rebuild their homes. Some adopted a piecemeal approach to repairing houses. One respondent shared his story: "Personally, I managed to rebuild only one room out of the four that were damaged, and even that room is still under construction...the recent rains have damaged the already weakened structure." Others found 'makeshift' and more traditional solutions, such as using bamboo shoots and bushes of thatch to repair damaged walls and roofs. In both cases, these repairs were undone by the recent 2024 floods.

Community solidarity provided a consistent source of support. As one NGO worker in Sibi observed, "We observed that people in some communities helped each other in fixing their homes; they worked together to build walls and dump stones on the edges of canals." The comment reflects that communities possessed the basic social framework for collective action and mutual support which enabled them to pool resources and labor to rebuild.

Respondents in Pishin also shared examples of community collaboration in rebuilding houses, restoring communal spaces, and reinforcing flood-protection structures. A group of young men in a Pishin village volunteered to repair the houses of the elderly and the needy in their community. However, they felt that they needed more resources and training to construct sustainable structures. One respondent shared his discontent as follows, " We need more materials and financial help to finish the repairs and rebuild the damages caused by floods... we need continued support from the government to get everything back to normal." The common goal of getting "everything back to normal" drives these communities to become more resilient. The state could leverage this as an opportunity to establish a trust-based relationship with local communities by providing them with essential resources and training, and in the process, lay the foundation for long-term collaboration and participatory development. An Afghan respondent also echoed this, "We had some resources and knowledge, but we lack tools and materials for rebuilding. More training on disaster management and recovery would be helpful."

Examining the issue of communities needing the support and cooperation of the state and civil society to rebuild from the perspective of the government and NGO representatives, adds another layer to this complex issue. Firstly, some state and NGO representatives were satisfied with the success of their efforts to rehabilitate communities. A Benazir Income Support Program (BISP) employee in Naseerabad, reported that the organization worked directly with community leaders to identify and provide financial assistance to indigent families in the area. He further stated that BISP conducted and delivered free financial literacy training in communities. However, the respondents from Naseerabad did not reported receiving any help or training from the BISP.

Similarly, one NGO worker in Sibi stated that his organization was actively helping a community rebuild their houses. However, residents from that community noted that the NGO assisted in repairing only one house in their community. Both the BISP employee and the NGO representatives believed that communities positively viewed their rehabilitation efforts. In contrast, none of the interviewed community members appreciated the state or the NGOs for their relief efforts. The difference in the views of the community members and their relief providers indicates that flood relief and rehabilitation operations lack proper feedback mechanisms.

Secondly, the issue of misplaced priorities by the government and NGOs emerged as another significant challenge. A political local leader in Pishin openly admitted that his party only contributed to the emergency relief efforts and did not follow through by assisting in reconstruction and rehabilitation projects. A DC Office representative in Naseerabad opined that critical delays in rehabilitation efforts were due to a "lack of government interest and funds." All interviewed government officers agreed that rebuilding houses and restoring livelihoods should be state's top priority, but did not mention any ongoing or upcoming village reconstruction programs. While aware of the on-ground needs of the survivor communities, line-level bureaucrats were confined by the policies and budgets of their departments. The district administration and local governments could not provide any meaningful assistance to communities without creating space in state policies and budget allocations for community reconstruction projects.

Thirdly, the top-down approach taken by some state and civil society representatives presented another potential challenge. Government and NGO representatives all agreed that local populations had unique knowledge of floods due to their past experiences which could both

inform and help improve flood-relief operations. However, the government consulted locals solely to identify alternative routes to villages that were cut off due to destruction of main roads. Community members repeatedly shared that local populations were rarely invited by the state or NGOs to participate in the decision-making process during relief operations. Some of the government and NGO representatives shared the belief that local population should not be involved in operational decision making. One government employee even went on to say that "if any of [the] community members are given any significant role [in decision making], they start blackmailing." In this quote, the government employee takes a paternalistic stance by presenting the state as a protector that not only supports communities but also saves them from their supposed inability to manage their own affair. One NGO worker in Pishin echoed a similar sentiment in a euphemistic manner, by stating that, "Local communities have knowledge and the will, but lack the training and skill to make decisions."

Besides the destruction of their homes, some of the other challenges that the communities faced included disruption of basic services, destruction of communal spaces and infrastructure, and the loss of livelihoods. These themes have been covered previously in this paper, however, a brief overview of the present state of affairs will be provided in this section. Lastly, the section will provide an examination of the disruption in social life and its psychological impact on the communities.

Lastly, disruption of social life was a seeming minor issue that may have long-tem detrimental effect on communities. Respondents from all three districts reported a sharp decline in social gatherings and cultural events, which had been an integral aspect of their pre-flood life. People focused on rebuilding their lives, leaving little opportunity for socialization and maintaining communal bonds. As one FGD respondent in Naseerabad noted, "We barely have

time or energy for social events because we are constantly struggling to meet our daily needs and when there are not enough resources [sic]." The dwindling opportunities for social interaction in through gatherings and festivals were weakening social ties and adding to residents' sense of alienation. One respondent from Sibi explained, "No one has time to listen to [anyone's] problems... community spirit and trust amongst people is low." There was a general lack of trust as the neighbors competed for scarce resources to survive. As one FDG participant in Naseerabad noted, "Neighbour interactions have grown tense".

Social isolation added to the psychological stress. One respondent in Sibi noted, "The floods brought about a sense of depression and concern within our community." The residents grew increasingly insular to cope with the emotional strain of personal loss and an uncertain future, which was weakening community solidarity. One respondent in Pishin explained the emotional toll of the floods in the following way: "The flood made us feel a lot of different things. We were worried, stressed, and stunned by the damage. It was hard on our emotions to deal with losing our home and things..."

Conversely, respondents from two communities in Pishin believed that sharing the experience of the flood and supporting each other through the ordeal that followed, fostered a sense of camaraderie and solidarity among the residents. A young FGD participant in Pishin stated that, "The flood has brought us closer in some ways. We're more involved in each other's lives and more supportive of each other." The Afghan community in particular felt that the flood had strengthened their communal bonds, and post-flood social gatherings further bolstered unity and social cohesion. One Afghan respondent shared, "Social gatherings have become more about mutual support and how to collaborate for rehabilitation."

The flood exerted considerable social and psychological pressures on the communities. Community members were emotionally vulnerable and experienced depression, alienation, disempowerment, and mistrust. Residents' lifewords were consumed by with the struggle for survival and communal bonds were weakening. The gradual erosion of social cohesion could potentially divest residents of the social capital which was essential to their survival during the 2022 floods.

Conclusion

The destruction caused by the 2022 flood went beyond the physical destruction of property and jeopardized survivors' livelihoods, physical health, and mental well-being. The flood engulfed houses, destroyed community assets, inundated farms, drowned livestock, and swept away infrastructure. The loss of livelihood was devastating for farming communities as they lost their animals, ripe crops, and farming implements. People endured the experience of the flood and the challenges of rehabilitation with a reticent resolve but inevitably faced the psychological cost. They suffered emotional strain, anxiety, and depression, but no mental health support was ever offered.

The true impact of the flood and its aftermath can best be understood through the lived experiences of the flood victims. The news of the flood came too late for many communities due to an unreliable early warning system. In the absence of any pre-set plans to guide them and with the floodwaters surging in, communities made haphazard evacuations to safety carrying scant supplies. Groups made their way to the relief camps with little or no help or guidance from the local authorities, relying primarily on social cohesion and social capital. The relief camps were overcrowded, unhygienic, and short on food, water, and medical supplies. Communities that showed solidarity were able to optimize their limited resources and ensure the well-being of all

members (Ex. the Afghan community). After spending almost two weeks at the camp the communities were allowed to go back to their villages.

The survivors encountered multiple challenges when they returned to their villages. The destruction brought on by the flood was immense. Houses and community assets like schools, health facilities, wells, and mosques had been laid to waste. Basic services had been disrupted and in some cases were not restored for months. There was a general shortage of food and water. Communities survived in temporary encampments and families had to choose between restoring their livelihoods and rebuilding their houses. They slowly set about clearing up the debris and rebuilding their houses, while they mainly concentrated their resources and efforts toward recultivating their farms. For the last two years, the flood survivors have struggled to rebuild their houses and restore their livelihoods. They hope for help from the state and civil society but no substantial help has been offered as yet. Local and district government administrators are aware of these ground realities but have not been given the explicit mandate and budgetary allocations to proactively offer any assistance to communities. Meanwhile, the communities survive through solidarity and resilience, and volunteers continue to work tirelessly to assist their neighbors but lack the necessary skills and resources. The unresolved trauma of the flood and constant struggle for survival is alienating people and the social fabric is stretched thin. Many have been forced to migrate, adding to the growing sense of isolation within communities. The situation demands an immediate solution otherwise these communities will be robbed of the one asset that saw them through this ordeal: each other.

Needs Assessment

Overall, the situation analysis extensively covers the various shortcomings in the flood response and rehabilitation framework and underscores the urgent needs of the flood survivors. The purpose of the needs assessment is to propose solutions to issues identified in the situation analysis. The solutions are rooted in the Community-Based Disaster Management model (CBDM) and the participatory development paradigm. They align with the CLLG policy guidelines, aiming to integrate the CBDM model into the Balochistan government's timely initiative for achieving sustainable development through decentralized governance.

This section will be divided into three sub-sections. The first sub-section will focus on the needs related to disaster preparedness at the community level. The second sub-section will highlight the needs of the flood victims during the emergency response stage. The last sub-section will underscore the needs of the flood victims during the reconstruction and rehabilitation stage. The needs assessments for each of the above-mentioned themes are summarized in a table at the beginning of each sub-section. A model illustrating the implementation framework of the needs assessment will be presented at the end of each sub-section.

Key Needs for Disaster Preparedness

Table 4
Needs Assessment Matrix for Disaster Preparedness

Theme	Needs	Proposed Solutions	Stakeholders
Organizing communities for DM	Lack of formal structures within communities for DM	Setting up Village Disaster Management Committees (VDMCs)	Local Government, Village Elders
Capacity Building	Lack of knowledge about early warning systems, evacuation plans & emergency survival	Provide TOT to members of VDMC and LG on disaster preparedness & management, & provide funds to VDMCs to provide community-wide trainings	BRDA, LGs & VDMCs
Infrastructure	Repair dams, reinforce canal banks & sediment removal & reinforcement of community protective structures	Raising funds, damage assessment at community level & community led infrastructure repairs though local labor	Provincial Govt., Local /District Government & VDMC
Disaster preparedness	Lack of evacuation plans	Developing evacuation plans, & organizing bi-annual drills	PDMA, LGs & VDMCs
	Inefficient early warning systems	Developing efficient early warning system & provide early warning Com. devices & training to villages	PDMA, District Admin., LGs and VDMCs
	Need for alternative power & Com. systems	Solar power solution through PPP, & install backup Com. devices	Private companies, District Admin. & VDMCs
	Need for emergency food, water & medical supplies	Establish secure storage facilities for emergency supplies	LGs, BHUs & VDMCs

- The communities relied heavily on informal community and kinship networks for survival. To optimize the potential of these networks, there is a need to formalize their role in relief operations. Establishing VDMCs at the village level can both help formalize the role of community networks in relief efforts and ensure inclusive decision-making,

especially in aid and resource distribution. VDMCs are community-based groups that sensitize, organize and mobilize rural communities to strengthen local disaster preparedness and management (Karim & Theil, 2017; Patel, 2017). These committees offer platforms for implementing grassroots and sustainable solutions for disaster management by building up community resilience (Karim & Theil, 2017; Patel, 2017). Several countries, including India and Bangladesh, have adopted the idea of VDMCs (Karim & Theil, 2017; Patel, 2017). VDMCs have also been established in some disaster-prone areas in Sindh (Hussain, 2013).

The process of selection of VDMCs in rural Balochistan should be democratic and representative. The Local Government (LG) and village elders could conduct surveys in each village to understand how communities are organized into networks based on caste, class, ethnicity, and kinship. Based on this information, the LG could devise criteria for dividing the communities into smaller groups that align with the actual composition of the local populations. The basis for establishing a criterion should be that each family within a community should be represented by one group. The LG could present the selected criterion with residents in a community meeting for feedback and refinement. After finalizing the grouping criteria in a village, the LG could request each group to select one person out of their group as their VDMC representative. The selection could be made either through nomination or election, depending upon the general consensusamong the members in each group. Each VDMC should consist of at least eight to ten members, with a minimum tenure of two years. The LG could convene the first meeting of the VDMC with an agenda of electing a chairman through majority vote. The VDMC could then be registered as Community Institutions (CIs) which would bring them under the

purview of the CLLG Policy (2023). Under the CLLG policy (2023), registered CIs can represent their communities in development and capacity building initiatives undertaken in partnership with the government or private sector entities.

- Village-level capacity building is essential. Communities lack basic training in emergency management and survival skills, including first aid and emergency resource management. Furthermore, community residents are in dire need of training and skill development for construction and project management to effectively lead the project of restoration of houses and community assets. With the help of the VDMCs, the district governments and partners should collaborate with the Baloch Rural Development Academy (BRDA) to develop trainings on flood preparedness and management, and post-disaster rehabilitation and reconstruction (CLLG, 2023). Some recommended trainings include disaster risk awareness, early warning systems, first aid, emergency resource management, search and rescue, infrastructure resilience, community planning for disaster resilience, evacuation plans and drills, disaster damage assessment, debris removal and waste management, reconstruction and repair, water sanitation and hygiene, post-disaster mental health and psychological support, financial management and livelihood restoration. These trainings could be delivered by the BRDA as Training of Trainers (TOT) programs to selected representatives of the LG and the nominated members of the VDMC (CLLG, 2023; Karim & Theil, 2017; Patel, 2017). The VDMCs could then be allocated resources to facilitate their trained members to deliver these trainings to community members in their respective villages (Karim & Theil, 2017; Patel, 2017). The LG could assist in organizing, delivering and auditing the trainings.

- The flood protection infrastructure needs revitalization. Dams in certain areas are still damaged or need reinforcement and canals need both bank-reinforcement and sediment removal. Community protective structures, like protection walls, in most villages are in dire need of repair. The government needs to raise emergency funds to complete the infrastructure repairs. As per the Balochistan Flood Recovery Plan, the Government of Balochistan (GoB) should design projects for restoring infrastructure and community protective structures, and collaborate with the UNDP for technical assistance, program coordination and developing partnerships with other international organizations like the World Bank and the Islamic Relief UK, to raise funds (United Nations Development Programme [UNDP], 2023).

  Furthermore, the district and local governments should work with the community leaders to conduct damage assessments of protective structures at the village level. The BoG should allocate emergency funds to the district governments for launching a program for restoring flood-protection structures in villages located within disaster prone areas. The BoG could enter into long-term agreements with local or international construction companies for restoration of critical infrastructure, utilizing strategies like the 4P model, which will be described later in this section (Zhang, Zou, & Kumaraswamy, 2015). Leveraging the CLLG (2023) policy framework, the TORs of the project could require district governments to work in partnership with local VDMCs to hire local labor.

  The 'Cash for Work' initiative (Nagamatsu, 2013), which provides financial support to disaster victims by hiring them for reconstruction projects, has been successfully

implemented as a short-term rehabilitation strategy in some disaster-prone areas of Japan (Ona, 2014; Nagamatsu, 2013).

- Most villages do not have an emergency evacuation plan. To address this issue, the LG and the district management could collaborate with the Provincial Disaster Management Authority (PDMA), Balochistan. The PDMA and district administration could engage with the LGs and the VDMCs to prepare evacuation plans for all villages in disaster-prone areas. Once the plans are developed, the VDMCs with the help of the LG could organize community-wide events for sharing the evacuation plans with residents. The VDMC could continue to train community members in emergency evacuation procedures by annually holding at least two evacuation drills in their villages. Evacuation plans usually divide community members into smaller groups, with one person leading each group. This division enables communities to evacuate in an efficient and organized manner, while minimizing the risk of anyone getting lost or left behind. A kinship-based division strategy is proposed below.
    - A study in Fiji found that when a rural community was struck by a cyclone, the residents successfully evacuated by naturally organizing themselves into small groups based on kinship ties (Senimoli,Tabe & Jacot Des Combes, 2020). Similarly, studies in Bangladesh (Zaman, 2019) and Philippines (Oracion, 2015) observed that kinship-based groups instinctively collaborated to survive disaster-related emergencies successfully. Furthermore, disaster evacuees often find temporary sanctuary in the homes of their relatives. Respondents in Naseerabad and Sibi shared that several evacuee families found short-term refuge in their relatives' or friends' houses. According to one study, the majority of the families

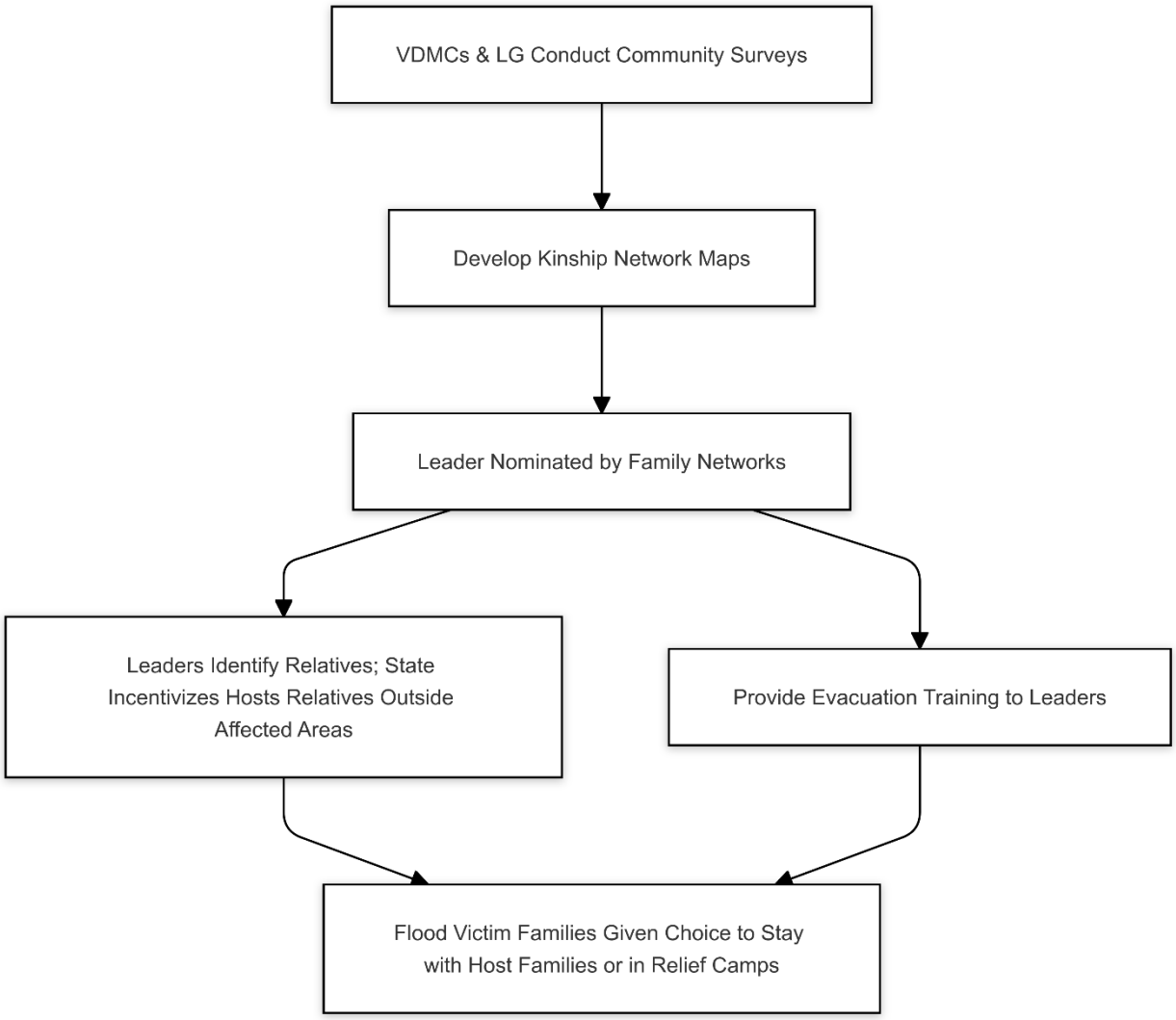
that were displaced during the conflict in northwest Pakistan, between 2009 - 2011, were placed with host families, including families of relatives or friends, as part of a refugee support program (Caron, 2019). These observations suggest that cohesion in kinship networks can be potentially harnessed to develop efficient evacuation plans and provide shelter to displaced families during flood emergencies.

The VDMCs and LGs could initiate the process by conducting a survey in their villages for mapping out the existing kinship networks within their communities. Kinship networks can be defined as a, "group of interconnected social relationships among people who are considered to be kin, or family, which may be established through biology, adoption, marriage, partnership, or other close social relationships" (Mair, 2021). Kinship networks are a form of a social structure in society that can facilitate support to individuals (Mair, 2021). In village communities, there is a high likelihood that many families are related to each other through blood or marriage. The VDMCs and the LGs could identify these familial networks which constitute a community. This could be done by directly asking family heads to identify families of relatives in the community that they have a close relationship with. Based on this information, kinship network maps of families that are related and have close relationships with each other could be developed. The VDMCs could later hold meetings with each of the identified kinship networks and ask them to nominate one individual as their leader. The VDMCs could provide basic training to the leaders in evacuation management and require them to prepare an evacuation plan for their kinship

network. Furthermore, the leaders, in consultation with the other members in the kinship networks, could compile a list of relatives that live outside their village who would be willing to provide shelter to one or more families in case of an emergency. The VDMCs and LGs could maintain a record of the lists of the potential host families that are connected to each kinship network in their village. If a village community has to evacuate due to floods or other natural or man-made disasters, then the displaced families would have the choice of either staying with their nominated host families or at a relief camp. The state could incentivize the host families by fully or partially reimbursing the cost of providing refuge to displaced families (Caron, 2019). The suggestion for organizing communities by kinship networks for emergency evacuations will require pilot testing before implementation. Theoretically, this approach can potentially leverage cohesion within kinship networks to provide a sustainable solution for evacuation management.

Figure 9

Organizing Communities by Kinship Networks

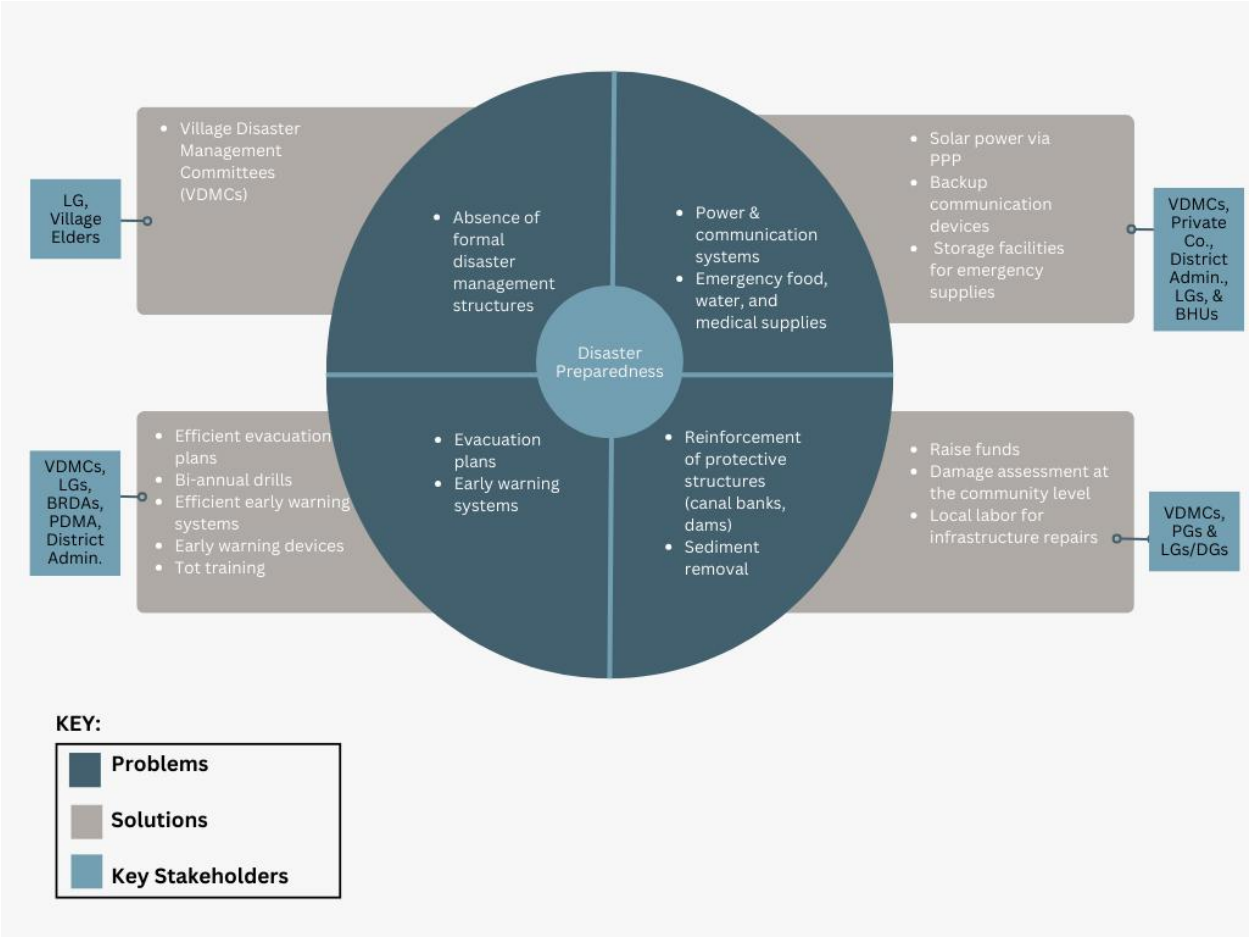


- The early warning system proved to be inefficient and ineffective. The Balochistan Provincial Government, with the help of the PDMA, should develop an efficient and precise early warning system. The BoG could mandate the district administration to coordinate with the LGs to install early-warning communication devices in communities. The VDMCs and the LGs should conduct community-wide training sessions on how to interpret and respond to disaster warnings received through the early warning system.

- The villages need alternative power and communication backup systems for emergency situations. Under the CLLG Policy (2023), CIs can form partnerships with private companies for undertaking community development projects. The district administration could facilitate in fostering public-private partnerships (PPP) between solar power companies and local VDMCs. Solar power companies could provide villages with solar panels at concessional rates as part of their Corporate Social Responsibility (CSR) initiatives. Alternatively, the government could introduce a cost-sharing model for solar panel installation in villages. Under this model, the government could cover a percentage of the cost of installing solar panels. Furthermore, the BoG could allocate funds to district administrations to install radio communication equipment and satellite phones in all villages located in disaster-prone areas.
- Communities faced a food and health crisis after evacuation as most of the supplies and local medical facilities were destroyed. The VDMCs should coordinate with the LGs and Basic Health Units (BHUs) to set up storage facilities stocked with emergency food, water, and medical supplies. The equipment required to set up the temporary medical camps should also be kept in the storage facilities.

Figure 10

Key Needs Related to Disaster Preparedness



Key Needs Related to Emergency Response and Relief Efforts

Table 5
Needs Assessment Matrix for Emergency Response and Relief Efforts

Theme	Needs	Proposed Solutions	Stakeholders
Emergency Response	Relief camps overcrowded, unsanitary & short on supplies	Mandatory minimum standards & independent inspection teams for relief camps	Provincial Government, District Admin., NGOs
Emergency response & management	Health crisis after flood & prolonged disruption of medical services in villages	Provide mobile health units & take inventory of BHUs & send procurement recommendations to health ministry	Health ministry, LGs, BHUs, VDMCs
Relief efforts	Bureaucratic hurdles, political interference & delays in aid distribution	Decentralization of aid distribution through NGOs & VDMCs & public accountability	District. Admin, JDDCs, LGs, VDMCs,
	Lack of coordination between District Admin. and NGOs in aid delivery	District Admin. to create Joint Disaster Management Taskforce, involvement of VDMCs in aid delivery	Deputy commissioner, NGOs & relevant departments

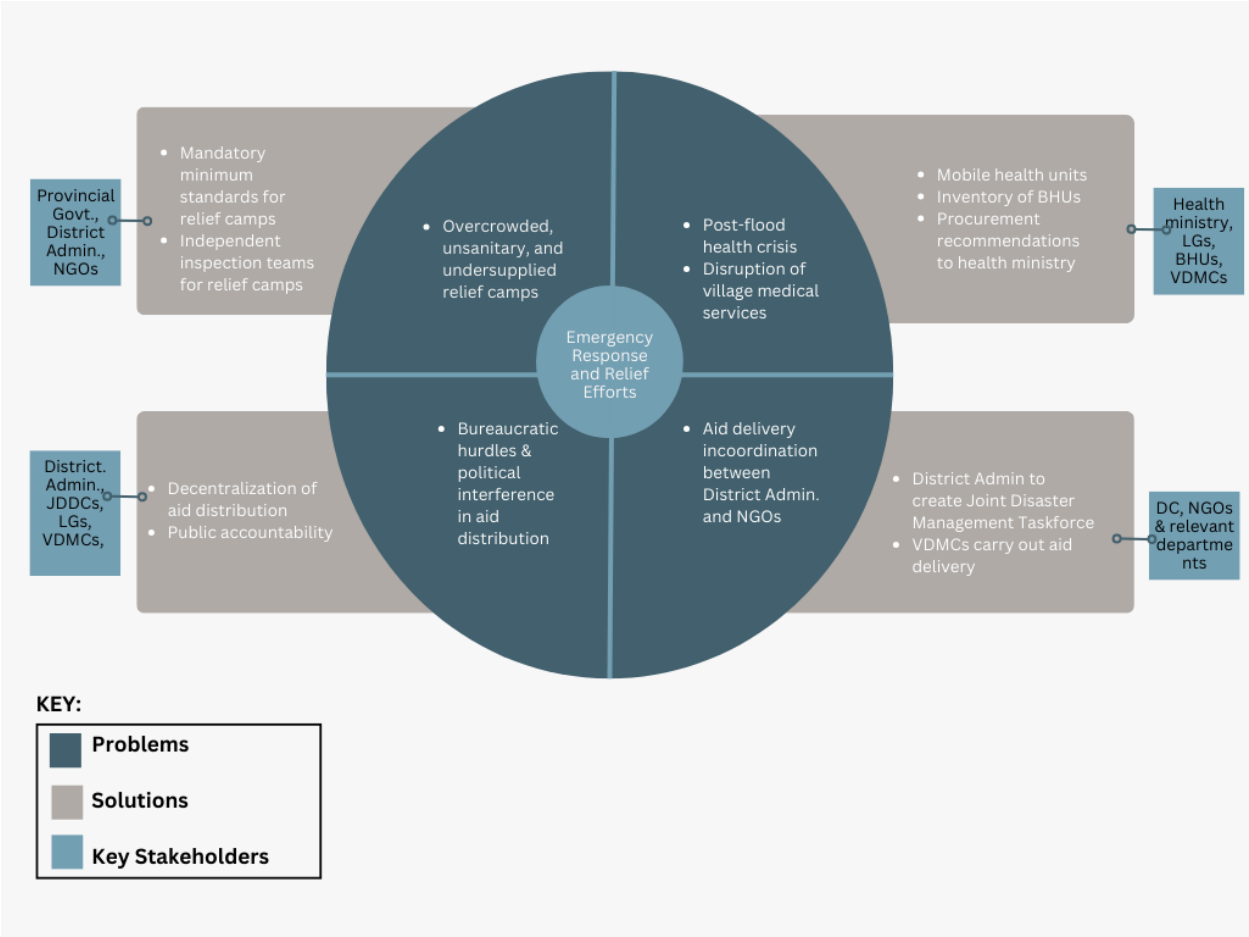
- The relief camps were overcrowded, unsanitary, and short on essential supplies. The BoG should set the Sphere standards (Griekspoor & Collins, 2001; Irfan et al., 2011; Patel & Chadhuri, 2019) as the mandatory minimum benchmark to ensure that relief camps are safe, sanitary and adequately supplied. The BoG should constitute an independent inspection team that should randomly inspect relief camps. The team should report directly to the Chief Minister (CM) office. The members of the team should include representatives from the relevant government departments, civil society, and communities. Moreover, the district government should set protocols for collaborating with NGOs to streamline the distribution of aid and other resources. This point will be further elaborated later in this section.

- The flood triggered a health crisis with widespread illnesses (including dehydration, diarrhea, and malaria) and injuries which was exacerbated by harsh living conditions at the relief camps. Moreover, due to the lack of resources, the medical services were not properly restored for months in some villages. The provincial government could provide mobile health units, MHUs, (Maghfiroh & Hanaoka, 2022; Sheerazi, Awad, & von Schreeb, 2022; Awad, Sheerazi, & von Schreeb, 2022) to BHUs to enable them to provide emergency services during floods. A scoping review of 13 studies that looked at the benefits and concerns related to MHUs during disasters found that MHUs enhance victims' access to medical services, especially in cases of injuries and non-communicable diseases (Sheerazi, Awad, & von Schreeb, 2022). However, MHU service delivery in disaster areas presented challenges related to communication, coordination, and access, which can be addressed through superior logistical planning, fostering partnerships with local authorities and communities, and investing in state-of-the-art tracking and communication systems (Sheerazi, Awad, & von Schreeb, 2022). Overall, MHUs can help ensure timely medical assistance in remote areas (Maghfiroh & Hanaoka, 2022; Sheerazi, Awad, & von Schreeb, 2022; Awad, Sheerazi, & von Schreeb, 2022).
  The health department, in coordination with the LG and VDMCs, should conduct assessments of all BHUs and submit necessary procurement recommendations for medicines, equipment, and personnel to the health ministry. The BHUs with the help of VDMCs should provide first-aid training to local volunteers. This training should enable volunteers with basic medical skills to provide first aid services to their communities during emergencies.

- The distribution of aid was inadequate and inefficient, with bureaucratic hurdles causing delays in the process. There were also complaints of political interference in aid distribution. There is a need to streamline aid delivery and ensure transparency in the distribution process. The option of implementing a decentralized aid distribution model that involves local communities (through their VDMCs), LGs and NGOs could be considered. Studies show that logistic challenges and transparency related issues in aid delivery can be mitigated by adopting a decentralized approach (Dolinskaya, Shi, Smilowitz, & Ross, 2011). Furthermore, the District Council (DC) or, under the CLLG Policy (2023), the Joint District Development Committee (JDDC) could be mandated to ensure transparency in aid distribution at the district level.
- Lack of coordination between the district administration and NGOs further delayed aid delivery. The NGO-state collaboration needs to be improved at the grassroots level. To facilitate coordination in disaster-relief operations the deputy commissioner should constitute a joint disaster management taskforce. The members of the task force should include representatives of key government departments, NGOs, and district councils. The task force should establish clear protocols for collaboration, resource sharing, and dispute resolution among stakeholders. The protocols should include mechanisms that ensure community-led on-ground aid delivery through the involvement of VDMCs. Additionally, the VDMCs could serve as formal platforms for pooling community resources and delivering coordinated support to families during emergencies.

Figure 11

Key Needs Related to Emergency Response and Relief Efforts



Key Needs Related to Rehabilitation

Table 6
Needs Assessment Matrix for Flood Victims' Rehabilitation

Theme	Needs	Proposed Solutions	Stakeholders
Damage assessment	Differences in damage assessment by victims & other stakeholders	With assistance of other stakeholders, VDMCs to conduct damage assessment and needs assessment of materials etc.	District. Admin., LGs, NGOs, VDMCs
Reconstruction	Many victims have been unable repair/reconstruct their homes	Establish PPPs between VDCMs and local construction companies for subsidized materials and expertise. Government to offer tax incentives to construction companies	LGs, Provincial Government, construction companies & VDMCs
	Need for manpower to rebuild houses & many locals needing temporary jobs	With assistance of District Admin. and LG, VDCMs to take charge of reconstruction projects & hire local labor	District Admin. LGs & VDMCs
Financial assistance	Financial challenges in balancing livelihood & reconstruction	Initiate livelihood programs, offering financial aid, interest free loans & farming subsidies	Provincial Government, JDDC, District Admin., LGs & VDMCs
	Financial challenges related to revival of livelihoods	Launch 'Sponsor a Farmer Program' to connect donors directly to victims & raise awareness	Provincial government, NGOs, private donors
	Need for short term cash loans	Government to act as guarantor for personal loans acquired from informal networks	Provincial government, Bank of Balochistan & NGOs
Mental health assistance	Flood victims suffering from stress & mental health issues	Establish community support group through VDMCs & health department to hire psychologists for making weekly visits to BHUs	Health dept., LG, BRDA, JDDC, VDMCs
	Need for mental health evaluation of flood victims	Incorporate mental health evaluation in disaster management	Health dept., BHUs, VDMCs
	Need for free mental health consultation sessions for victims	Reach out to hospitals and clinics to generate a list of practitioners offering free consultations. Arrange online sessions with professionals.	Health dept., hospitals, mental health clinics, BHUs

- There was a significant disparity in the communities' and state's conceptualization of the damage to residences, resulting in underassessment of the real losses sustained by the flood victims. The VDMCs should conduct a detailed damage assessment in villages with the assistance of the LGs, district administration, and NGOs. They should also conduct a needs assessment of the materials and machinery required to repair all the damaged structures in the village.
- The LG and district administration, with the support of the GoB, should establish public-private partnerships (PPPs) with the VDMCs, and construction and building material companies. The Public-Private-People Partnership (4P) model could provide the framework for collaboration between stakeholders (Seddighi, Seddighi, Salmani, & Sedeh, 2021; Zhang, Zou, & Kumaraswamy, 2015; Bowen, 2015). The model posits that post-disaster reconstruction projects should a) involve local communities during the planning stage, and b) build long-term partnerships between private and public actors through 'framework agreements' (Zhang, Zou, & Kumaraswamy, 2015). Framework agreements outline the general terms and principles of cooperation between two parties, which serve as a foundation for negotiating and signing multiple project-specific contracts (Zhang, Zou, & Kumaraswamy, 2015). Using the 4P approach, the government could offer framework agreements based on the cost-sharing model to construction companies. Construction companies could provide expertise and construction materials to communities at subsidized rates, with the government covering the remaining cost. The government could incentivize companies by allowing them to classify project expenditures as part of their tax-exempt CSR portfolio.

  Local flood victims should be employed in reconstruction projects to support livelihoods

and promote community involvement. Following the CBDM model, construction projects could be managed by the VDMCs, with the LGs and district administration playing a facilitative role (Ona, 2014; Nagamatsu, 2013). The GoB could make the necessary budgetary allocations to the district administration to cover the daily work allowance of the labor-force hired for reconstruction projects. The district administration could coordinate with the VDMCs to hire local workers (Nagamatsu, 2013). This strategy could encourage local communities to take full ownership of the reconstruction of their villages, while allowing the state to reinvest part of the project funds back into the local economy (Ona, 2014; Nagamatsu, 2013).

Flood victims face severe financial challenges as they juggle with reviving their livelihoods, repairing their houses, and providing for their families. Overwhelmed by these crushing financial burdens, many have been forced to leave their homes and migrate in search of better opportunities. The provincial government should initiate a livelihood revival program that offers financial aid, interest-free loans, and subsidies for farming. The LGs could offer these services to communities through the VDMCs. To maintain transparency, the JDDC and district administration should monitor the VDMCs and local governments in implementing the livelihood revival programs. Studies show that community administered post-disaster financial assistance programs remain vulnerable to local social and political pressures without proper third-party oversight. A study conducted after the 2005 floods in Northern Pakistan, on the impact of village-level livelihood revival programs that were administered through Village Development Committees (VDCs) and local NGOs, found that VDCs' decision-making processes for selecting beneficiaries were susceptible to members' personal biases and local political

pressures, and external supervision was necessary for transparency (Khan, Shanmugaratnam, & Nyborg, 2015).

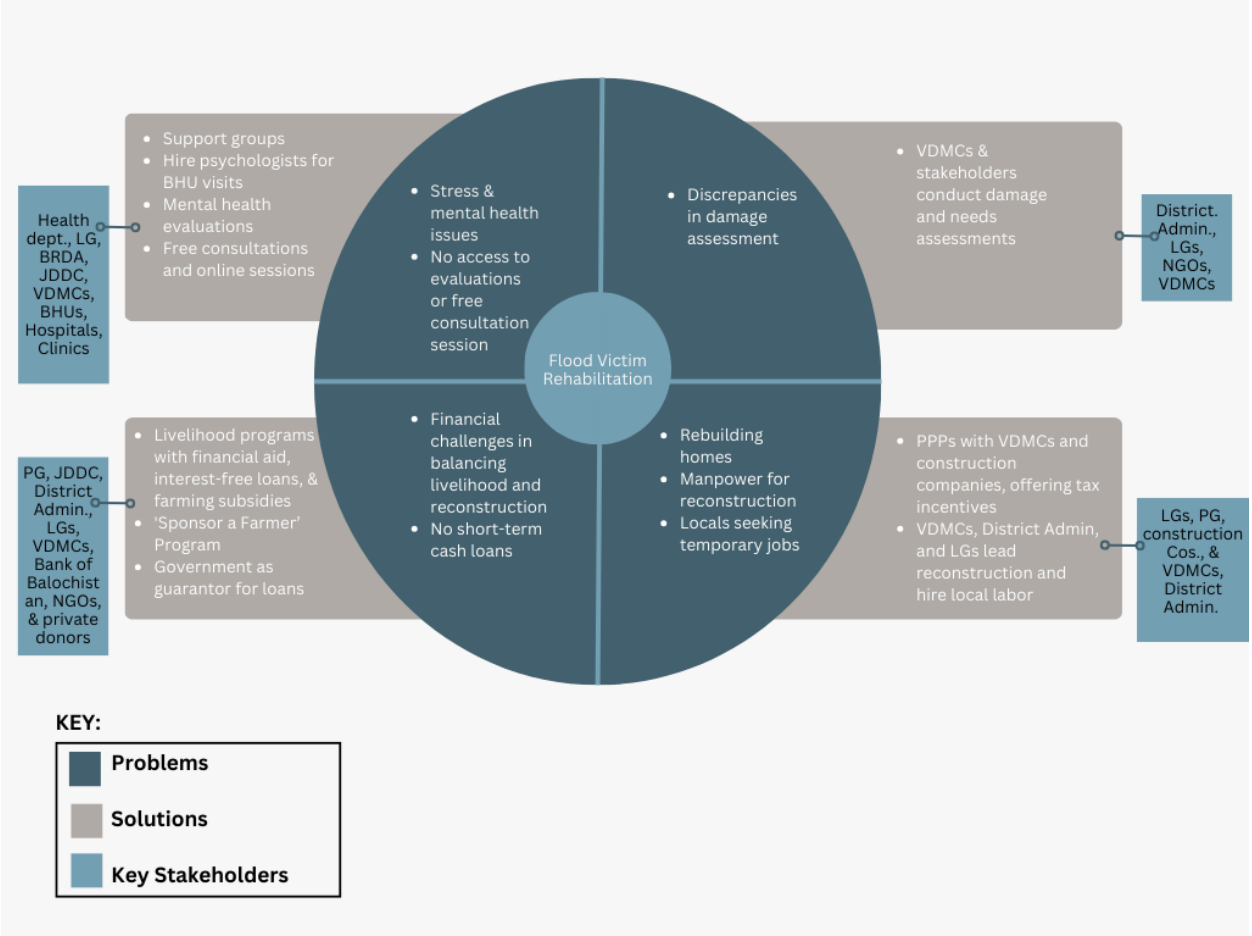
- The district and provincial government could collaborate with NGOs to start a 'Sponsor a Farmer' program. The program could connect private donors in Pakistan or abroad, who are interested in sponsoring the rehabilitation of one farming family, directly in touch with the flood victims. This program could improve transparency for donors, and also help raise awareness about the urgent financial needs of flood survivors. This suggestion is based on the analysis of the Heifer International (Heifer International, 2019) and Kiva's micro-lending (Kiva, n.d.) models.
- The government could act as a guarantor for the personal loans that the flood victims acquire from their informal social, communal, or kinship-based networks. The provincial government of Balochistan could collaborate with the Bank of Balochistan and NGOs, like the Akhuwat Foundation, to implement this initiative. Given the government's limited financial resources, it may not be capable of providing loans to all flood victims. Instead, the government could offer a guarantee through the Bank of Balochistan or NGOs, on behalf of the farmers, enabling them to acquire short-term, installment-based micro-loans from individuals in their social or kinship networks. Under the terms of the guarantee, the government would reimburse the creditor if the debtor fails to meet installments. This idea has been developed by taking inspiration from the Kiva microloan model (Kiva, n.d.).
- The victims endured significant psychological distress including fear, anxiety, and depression owing to the trauma of the flood, the loss of their homes and livelihoods, and the drawn-out rehabilitation process. The flood has also disrupted social life in the

villages. The government should incorporate mental health evaluation in disaster management programs. The district administration, the BRDA, and the JDDC should provide training to selected VDMC members, LG, and BHU personnel in mental first aid and for establishing village community support groups. Training locals to provide mental health first aid has been shown to be highly effective (Jogia et al., 2014). The trained VDMC members should set up support groups within their communities with the help of LG and BHUs. The provincial government should allocate funds to the health department to hire mental health practitioners who should make weekly visits to all BHUs within a district.

- The health department should reach out to government and private hospitals, and mental health clinics in the province, and generate a list of mental health practitioners willing to provide free consultation sessions to flood victims. The BHUs could arrange online consultation sessions of flood victims with volunteer mental health professionals. Most importantly, the provincial government, with the help of international donor agencies, should work in collaboration with local universities to conduct an in-depth research study on the long-term psychological impact of the flood on the victims. Lastly, the BRDA and the JDDC should train LG personnel and VDMC members in community engagement. The trained individuals should apply their skills to revive social activities and improve social cohesion within their communities (Marenco-Escuderos et al., 2020).

Figure 12

Key Needs Related to Flood Victim Rehabilitation



Conclusion

The needs assessment presents an overview of the complex difficulties resulting from shortcomings in disaster preparedness, emergency response, and rehabilitation mechanisms that the flood survivors in Balochistan are forced to negotiate. Delays in restoration of damaged infrastructure and services, misaligned coordination between the government and the NGOs, bureaucratic hurdles, deficiencies in disaster preparedness, and inadequate support from state and civil society intensify their challenges. Rehabilitation efforts are insufficient and flood victims are struggling with subsistence challenges, economic hardship, and psychological stresses. Most importantly, the existing approach prevents victims from meaningfully participating in decision-

making related to crucial issues like aid distribution, damage assessment, and reconstruction strategies, further alienating them from the process of 'their' rehabilitation. The problems highlighted in this study require a transformation of vision. The participatory approach, specifically the CBDM model, presents a sustainable approach to disaster management by empowering communities with leadership roles and enhancing local capacities. It facilitates partnerships between communities and other stakeholders (like the state, civil society, and the private sector), while focusing on the goal of achieving sustainable development through community resilience. Lastly, this approach leverages solidarity embedded in kinship and communal networks to instill community ownership of a sense of ownership of disaster management and rehabilitation. Dovetailing the CBDM approach with the recent CLLG policy, the VDMCs offer an appropriate village-level platform for building community resilience and fostering synergies between the communities, civil society, and the state.

Policy Recommendations

The proposed recommendations outline the essential policy changes required to address the needs of the flood victims utilizing the CBDM Model. These recommendations are rooted within the implementation framework of the Community-Led Local Governance Disaster Management (CLLG) policy.

Disaster Preparedness

- The provincial government should conduct an updated survey of damage to infrastructure (including roads, bridges, dams, canals, and protective structures) in flood-affected areas and allocate funds for its complete restoration. These projects should be implemented in partnership with local communities, and local labor from flood-stricken areas should be

hired. This is a top priority and the state should involve foreign donors to raise capital for completing these projects.

- The state should mandate the PDMA to collaborate with the Baloch Rural Development Academy (BRDA) in developing TOT programs on disaster risk awareness, evacuation and emergency management, first aid, disaster rehabilitation, and other related areas. The provincial government should release necessary funds to the district administration and require them to partner with the District Councils to select candidates from the UCs and rural communities located in disaster-prone areas. The BRDA should provide trainings to the selected individuals. The trained community members should then be allocated funds and other resources needed to further deliver the said trainings within their communities, under the guidance and supervision of the LG.
- The PDMA should work closely with the district administration, the district councils, the union councils, and community leaders, (or VDMCs), to develop evacuation plans for rural communities in flood-prone areas across Balochistan. The kinship-based evacuation strategy proposed above could be considered by the government as an effective strategy for organizing communities during disaster situations.
- There is a pressing need for developing a centralized early warning system. The PDMA should be given the task of developing an effective and straightforward early warning system. The district administration and LG should be given the task of providing satellite phones, solar panels, and radio equipment to all villages to ensure timely communication of disaster warnings.

Emergency Response and Relief Efforts

- The provincial government should enforce minimum standards for flood relief camps. The provincial government should create an independent inspection taskforce composed of representatives of government, NGOs, and communities to monitor relief camps during disasters and report their findings directly to the CM office.
- The BHUs should be equipped with mobile health units for providing emergency medical services. The BHUs in collaboration with the VDMCs should provide first-aid training to volunteers in all rural communities.
- Existing policies and protocols should be revised to ensure that aid delivery during disaster situations is decentralized. The aid delivery process should directly involve the VDMCs and the local government. Conversely, the accountability system for monitoring aid delivery should be centralized to establish transparency and prevent local political interference.
- The district administration should be required to constitute a joint task force for disaster management comprising representatives from relevant government departments, district and union councils, NGOs, and VDMCs to improve coordination in emergency management, and relief and rescue operations during floods. As per the CLLG policy, clear protocols for mutual cooperation, resource sharing, and dispute resolution should be devised to streamline task force operations.

Rehabilitation and Reconstruction

- The local and provincial governments should establish partnerships with construction companies, which would enable VDMCs to procure materials needed to restore damaged

buildings at subsidized rates. The government should offer tax incentives to the companies that engage in these projects as part of their CSR initiatives.

- The VDMCs should lead the reconstruction project, with oversight from the LG, District Councils, and district administration. The VDMCs should be allocated funds to hire local labor, thereby creating temporary jobs for flood victims and injecting part of the project funds into the village economy.
- The state should offer financial aid, interest-free loans, and farming subsidies to help flood-affected families in reviving their livelihoods. The provincial government should start "Sponsor a Farmer" program to connect local and international donors directly with flood-stricken families.
- The provincial government should introduce a loan guarantee scheme, in collaboration with the Bank of Balochistan and NGOs. This scheme should enable flood victims to obtain short-term micro-loans through their kinship or social network. The state should act as a guarantor in these loans on behalf of the flood victims.

Psychological Support and Social Cohesion

- Mental health assessments should be included in disaster management plans. Selected representatives from the LG, BHUs, and VDMCs should be provided trainings in mental health first aid and establishing community support groups in their villages.
- The provincial government should allocate funds to the health department for hiring mental health practitioners. These mental health practitioners should make weekly visits to BHUs to help flood victims.
- The provincial government should collaborate with local universities to conduct a province-wide study on the long-term psychological effects of the flood on survivors.

Conclusion

The flood victims in rural Balochistan faced a myriad of challenges during and after the 2022 floods. While the destruction caused by the flood was inevitable, the difficulties that the flood survivors encountered during the emergency response and rehabilitation stage could have been attenuated through effective planning, efficacious resources allocation, streamlined emergency response procedures, better coordination between stakeholders, and fostering community resilience. The situation analysis and needs assessment showed that lack of community-level preparation forced residents into disorganized evacuations. Lack of state-level responsiveness resulted in failure to preemptively stockpile necessary resources, delays in emergency response, uneven aid distribution, and poor coordination with NGOs in relief operations. As a result the flood-refugees experienced abysmal living condition in the relief camps and shortages of food and water, with limited access to medicines and healthcare amid a full blown health crisis. The flood victims' rehabilitation journey involved stretching their meager economic resource to revive their livelihoods, rebuilding their homes and simply surviving. The state and civil society offered minimal help and the victims were left with a pervasive sense of abandonment. The concomitant social and psychological challenges included social fragmentation, anxiety and depression. The sense of alienation deepened among communities as many of their neighbors migrated. Two years after the flood, the survivors' difficulties have only compounded. There is a necessity to adopt a holistic rehabilitation strategy that concurrently addresses their economic, social and psychological needs. The Community-Based Disaster Management Model (CBDM) envisions a grassroots approach to disaster management by building local capacities, empowering communities in decision making, and strengthening partnerships between state and communities. The formation of Village Disaster

Management Committees (VDMCs) can provide the structural framework for implementing the CBDM within rural communities in Balochistan. These committees can be established within the purview of the Community-Led Local Governance (CLLG) policy, and can serve as conduits for state-citizen collaboration for building resilient communities.

References

Abarquez, I & Murshed, Z. (2004). Course Material: Course on Disaster Risk Communication at Community Level, Asian Disaster Preparedness Center (ADPC)

Agha, A. (2015). A Case Study on Social Capital in Village Organization. Rural Support Programmes Network. https://www.rspn.org/wp-content/uploads/2015/05/Case-study-Sadaat-Hackra.pdf

Alharahsheh, H. H., & Pius, A. (2020). A review of key paradigms: Positivism vs interpretivism. Global Academic Journal of Humanities and Social Sciences, 2(3), 39-43. https://doi.org/10.36348/gajhss.2020.v02i03.001

Allen K. M. (2006). Community-based disaster preparedness and climate adaptation: local capacity-building in the Philippines. Disasters, 30(1), 81–101. https://doi.org/10.1111/j.1467-9523.2006.00308.x

Alsaawi, Ali, A Critical Review of Qualitative Interviews (2014). European Journal of Business and Social Sciences, 2014, Vol. 3, No. 4, Available at SSRN: https://ssrn.com/abstract=2819536 or http://dx.doi.org/10.2139/ssrn.2819536

Aris, MM. (2003). GIS modeling for river and tidal flood hazards in waterfront city: Case study in Semarang City, Java, Indonesia. ITC, Netherlands.

Arya, V. (1999). Towards a relationship of significance: Lessons from a decade of collaboration between government and NGOs in Rajasthan, India. Agricultural Research & Extension Network.

Awad, S., Sheerazi, S., & von Schreeb, J. (2022). Use of Mobile Health Units for Primary Health Care in Disasters. Prehospital and Disaster Medicine, 37(S2), s87-s87.

Azad, M. J., & Pritchard, B. (2023). Bonding, bridging, linking social capital as mutually reinforcing elements in adaptive capacity development to flood hazard: Insights from rural Bangladesh. Climate Risk Management, 40, 100498. https://doi.org/10.1016/j.crm.2023.100498

Bowen, T. (2015). Social protection and disaster risk management in the Philippines: The case of Typhoon Yolanda (Haiyan). World Bank Policy Research Working Paper (7482).

Campbell, J. R. (2006). Traditional disaster reduction in Pacific Island communities. University of Waikato

Caron, C. (2019). Ten aspects that shape the hosting environment and its associated support programs. Journal of International Humanitarian Action, 4(5).

Connell, J. (2013). Islands at risk? Environments, economies and contemporary change. Edward Elgar Publishing.

Coston, J. M. (1998). A Model and Typology of Government-NGO Relationships. Nonprofit and Voluntary Sector Quarterly, 27(3), 358–382. https://doi.org/10.1177/0899764098273006

Dade, M., Downing, A., Benessaiah, K., Falardeau, M., Lin, M., Rieb, J., & Rocha, J. (2022). Inequalities in the adaptive cycle: reorganizing after disasters in an unequal world. Ecology and Society, 27(4). https://doi.org/10.5751/es-13456-270410

Davidson, C. H., Johnson, C., Lizarralde, G., Dikmen, N., & Sliwinski, A. (2007). Truths and myths about community participation in post-disaster housing projects. Habitat International, 31(1), 100–115. https://doi.org/10.1016/j.habitatint.2006.08.003

Delica-Willison, Z. (2003). Community-based disaster risk management: Gaining ground in hazard-prone communities in Asia. Philippine Sociological Review, 51, 49–64. https://www.jstor.org/stable/4424307

Dilley, Chen RS, Deichmann U (2005) Natural disaster hotspots: a global risk analysis.International Bank for Reconstruction and Development/The World Bank and Columbia University, Washington.

Dolinskaya, I. S., Shi, Z. E., Smilowitz, K. R., & Ross, M. (2011). Decentralized approaches to logistics coordination in humanitarian relief. In IIE Annual Conference. Proceedings (p. 1). Institute of Industrial and Systems Engineers (IISE).

Drain, A., Shekar, A., & Grigg, N. (2017). “Involve me and I’ll understand”: creative capacity building for participatory design with rural Cambodian farmers. CoDesign, 15(1), 1–18. https://doi.org/10.1080/15710882.2017.1399147

Elahi, N., Nyborg, I. L. P., & Nawab, B. (2015). Participatory Development Practices: A Critical Analysis of Gender Empowerment and Development in Pre- and Post-crises Swat, Pakistan. Forum for Development Studies, 42(2), 333–356. https://doi.org/10.1080/08039410.2015.1025828

Gaillard, J. C., & Mercer, J. (2013). From knowledge to action: Bridging gaps in disaster risk reduction. Progress in Human Geography, 37(1), 93-114.

Gale, N. K., Heath, G., Cameron, E., & others. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC Medical Research Methodology, 13, 117. https://doi.org/10.1186/1471-2288-13-117

Goldsmith, L. J. (2021). Using Framework Analysis in Applied Qualitative Research. Qualitative report, 26(6).

Griekspoor, A., & Collins, S. (2001). Raising standards in emergency relief: How useful are Sphere minimum standards for humanitarian assistance? BMJ, 323(7315), 740-742.

Gupta, D., & Koontz, T. M. (2019). Working together? Synergies in government and NGO roles for community forestry in the Indian Himalayas. World Development, 114, 326–340. https://doi.org/10.1016/j.worlddev.2018.09.016

Gyawali, S., Tiwari, S. R., Bajracharya, S. B., & Skotte, H. N. (2019). Promoting sustainable livelihoods: An approach to postdisaster reconstruction. Sustainable Development, 28(4). https://doi.org/10.1002/sd.2013

Halgamuge, M. N., & Nirmalathas, A. (2017). Analysis of large flood events: Based on flood data during 1985–2016 in Australia and India. International journal of disaster risk reduction, 24, 1-11.

Hashmi, H. N., Siddiqui, Q. T. M., Ghumman, A. R., Kamal, M. A., & Mughal, H. U. R. (2012). A critical analysis of 2010 floods in Pakistan. African Journal of Agricultural Research, 7(7), 1054-1067.

Hay, J. E. (2009). Institutional and policy frameworks for risk reduction. In Climate Change and Small Island States: Power, Knowledge and the South Pacific (pp. 210-236). Edward Elgar Publishing.

Hay, J. E. (2009). Institutional and policy frameworks for risk reduction. In Climate Change and Small Island States: Power, Knowledge and the South Pacific (pp. 210-236). Edward Elgar Publishing.

Hennink, M., Kiiti, N., Pillinger, M., &Jayakaran, R. (2012). Defining empowerment: perspectives from international development organisations. Development in Practice, 22(2), 202–215. https://doi.org/10.1080/09614524.2012.640987

Ho, M., Wasko, C., O'Shea, D., Nathan, R., Vogel, E., & Sharma, A. (2023). Changes in flood-associated rainfall losses under climate change. Journal of Hydrology, 625, 129950.

Hussain, U. (2013). Tahafuz: Building resilience through community-based disaster risk management in the Sindh province of Pakistan. Rural Support Programmes Network (RSPN). Sponsored by the United States Agency for International Development (USAID).

International Federation of Red Cross and Red Crescent Societies [IFRC] (2014). IFRC Framework for Community Resilience.

International Organization for Migration (IOM) Indonesia. (2011). Community-based disaster risk management: Experiences from Indonesia. International Organization for Migration.

Ionno, A., Arsenault, R., Troin, M., Martel, J. L., & Brissette, F. (2024). Impacts of climate change on flood volumes over North American catchments. Journal of Hydrology, 630, 130688.

Irfan, M., Anwar, S., Raza, U. A., & Qayum, M. (2011). Assessing the psychosocial support services for displaced persons in Pakistan based on Sphere standards and indicators. Journal of Postgraduate Medical Institute, 25(2), 118-126.

Jacobs, C. (2009). The Role of Social Capital in the Creation of Sustainable Livelihoods: A Case Study of the Siyazama Community Allotment Gardening Association (SCAGA).

Jogia, J., Kulatunga, U., Yates, G. P., &Wedawatta, G. (2014). Culture and the psychological impacts of natural disasters: Implications for disaster management and disaster mental health. Built and human environment review, 7(1), 1.

Jonkman, S. N. (2009). Flood risks and climate change. Boss Magazine, 35, 16-21.

Kale, V. S. (2014). Is flooding in S outh A sia getting worse and more frequent? Singapore Journal of Tropical Geography, 35(2), 161-178.

Karim, M. R., & Thiel, A. (2017). Role of community-based local institutions for climate change adaptation in the Teesta riverine area of Bangladesh. Climate Risk Management, 17, 92-103.

Kelman, I., Mercer, J., & Gaillard, J. C. (2012). Indigenous knowledge and disaster risk reduction. Geography, 97(1), 12-21.

Khalid, S., Arif, M., Altawaha, A. R., Fahad, S., & Adnan, M. (2022). Climate Change: A Global Perspective. In Climate Change and Ecosystems (pp. 229-244). CRC Press.

Khalili, S., Harre, M. & Morley, P. A temporal social resilience framework of communities to disasters in Australia. Geoenviron Disasters 5, 23 (2018). https://doi.org/10.1186/s40677-018-0114-4

Khan, A. N. (2013). Analysis of 2010-flood causes, nature and magnitude in the Khyber Pakhtunkhwa, Pakistan. Natural hazards, 66(2), 887-904.

Khan, K. S., Shanmugaratnam, N., & Nyborg, I. L. (2015). Recovering from disasters: A study of livelihoods in post- quake villages in northern Pakistan. Disasters, 39(2), 339-361.

Kiva. (n.d.). Microfinance 101: What it is and how to get involved. Kiva. https://www.kiva.org

Krieken, T. V., & Pathirage, C. (2019). Factors Affecting Community Empowerment During Disaster Recovery. International Journal of Disaster Response and Emergency Management, 2(1), 15–32. https://doi.org/10.4018/ijdrem.2019010102

Kyamusugulwa, P. M. (2013). Participatory Development and Reconstruction: a literature review. Third World Quarterly, 34(7), 1265–1278. https://doi.org/10.1080/01436597.2013.824653

Lal, P. N., Mitchell, T., & Holland, P. (2012). National systems for managing the risks from climate extremes and disasters: Fiji country assessment. United Nations University Institute for Environment and Human Security (UNU-EHS).

Lan, H., Zhao, Z., Li, L., Li, J., Fu, B., Tian, N., ... & Clague, J. J. (2024). Climate change drives flooding risk increases in the Yellow River Basin. Geography and Sustainability, 5(2), 193-199.

Lata, S., & Nunn, P. (2012). Misperceptions of climate-change risk as barriers to climate-change adaptation: A case study from the Rewa Delta, Fiji. Climatic Change, 110(1-2), 169-186.

Lehner, B., Döll, P., Alcamo, J., Henrichs, T., & Kaspar, F. (2006). Estimating the impact of global change on flood and drought risks in Europe: a continental, integrated analysis. Climatic Change, 75, 273-299.

Magaldi, D., Berler, M. (2020). Semi-structured Interviews. In: Zeigler-Hill, V., Shackelford, T.K. (eds) Encyclopedia of Personality and Individual Differences. Springer, Cham. https://doi.org/10.1007/978-3-319-24612-3_857

Maghfiroh, M., & Hanaoka, S. (2022). Mobile clinics: Medical service strategy for disaster healthcare response operation. Journal of Industrial Engineering and Management, 15(3), 470-483.

Mahmood, R., Jia, S., & Babel, M. S. (2016). Potential impacts of climate change on water resources in the Kunhar River Basin, Pakistan. Water, 8(1), 23.

Mahmood, S., & Rahman, A. U. (2019). Flash flood susceptibility modeling using geo-morphometric and hydrological approaches in Panjkora Basin, Eastern Hindu Kush, Pakistan. Environmental earth sciences, 78, 1-16.

Mair, C. A. (2021). Kinship networks. In D. Gu & M. E. Dupre (Eds.), Encyclopedia of Gerontology and Population Aging. Springer, Cham.

Marenco-Escuderos, A. D., Ramos-Vidal, I., Palacio-Sañudo, J. E., &Rambal-Rivaldo, L. I. (2020). Community participation and empowerment in a post-disaster environment:

differences tied to age and personal networks of social support. Frontiers in psychology, 11, 1802.

Mayer, B. (2019). A review of the literature on community resilience and disaster recovery. Current Environmental Health Reports, 6(3), 167–173. https://doi.org/10.1007/s40572-019-00239-3

McAdoo, B. G., Moore, A., &Baumwoll, J. (2009). Indigenous knowledge and the near field population response during the 2007 Solomon Islands tsunami. Natural Hazards, 48(1), 73-82.

McNamara, K. E., & Prasad, S. S. (2014). Coping with extreme weather: Communities in Fiji and Vanuatu share their experiences and knowledge. Climatic Change, 123(2), 121-132.

Mercer, J. (2010). Disaster risk reduction or climate change adaptation: Are we reinventing the wheel? Journal of International Development, 22(2), 247-264.

Mercer J, Kelman I, Taranis L, Suchet-Pearson S. Framework for integrating indigenous and scientific knowledge for disaster risk reduction. Disasters. 2010 Jan;34(1):214-39. doi: 10.1111/j.1467-7717.2009.01126.x. PMID: 19793324.

Mirza, M. M. Q. (2011). Climate change, flooding in South Asia and implications. Regional environmental change, 11(Suppl 1), 95-107.

Nagamatsu, S. (2011). Cash for work: A new mechanism for disaster reconstruction. Iwanami Shoten. (Iwanami Booklet No. 817).

Nakashima, D., McLean, K. G., Thulstrup, H. D., Castillo, A. R., & Rubis, J. T. (2012). Weathering uncertainty: Traditional knowledge for climate change assessment and adaptation. UNESCO.

Nawaz, F. (2013). Power, Empowerment and Participatory Development: Conceptual Linkages. Open Journal of Social Science Research, 1(2), 26–30. https://doi.org/10.12966/ojssr.05.03.2013

Niekerk, Dewald &Nemakonde, Livhuwani & Kruger, Leandri &Genade, Kylah. (2017). Community-Based Disaster Risk Management. 10.1007/978-3-319-63254-4_20.

Nkombi, Z., & Wentink, G. J. (2022). The role of public participation in disaster risk reduction initiatives: The case of Katlehong township. Jamba (Potchefstroom, South Africa), 14(1), 1203. https://doi.org/10.4102/jamba.v14i1.1203

Ono, A. (2014). Employment of disaster victims supporting the reconstruction: The role played by the emergency job creation program in emergency temporary housing support. JILPT Report, 13, 119-144.

Oracion, E. G. (2015). Kinship networks and resiliency to flooding of Pagatban riverside communities in Negros Oriental. Philippine Sociological Review, 63(Special Issue: Sociology of Disasters), 27-51. Philippine Sociological Society.

Pakistan Floods 2024 Situation Report . (2024). In ReliefWeb. Islamic Relief. https://reliefweb.int/report/pakistan/pakistan-floods-2024-situation-report-september-03-2024

Patel, J. K. (2017). Knowledge and preparedness of Village Level Disaster Management Committee (VDMC) members regarding community-based disaster preparedness for flood (Doctoral dissertation, Maharaja Sayajirao University of Baroda (India)).

Patel, R. B., & Chadhuri, J. (2019). Revisiting the Sphere standards: Comparing the revised Sphere standards to living standards in three urban informal settlements in Nairobi, Kenya. Journal of International Humanitarian Action, 4(1), 1-10.

Paul, S. (1987). Community Participation in Development Projects. World Bank Discussion Paper, No. 6, 35 pp.

Prasad, R. R. (2017). Participatory Development: An Overview. In Participatory Urban Development (pp. 5–27). IGNOU.

Provincial Disaster Management Authority Balochistan. (2022). Rapid needs assessment report: 2022 monsoon floods, Balochistan, Pakistan. Provincial Disaster Management Authority.

Qasim, S., Qasim, M., Shrestha, R. P., Khan, A. N., Tun, K., & Ashraf, M. (2016). Community resilience to flood hazards in Khyber Pukhthunkhwa province of Pakistan. International Journal of Disaster Risk Reduction, 18, 100-106.

Rahman, F. (2007). The role of Aga Khan Rural Support Programme in rural development in the Karakorum, Hindu Kush & Himalayan region: Examples from the northern mountainous belt of Pakistan. Journal of Mountain Science, 4(4), 331–343. https://doi.org/10.1007/s11629-007-0331-x

Rasmussen, S., Mujtaba, M., Rashid Bajwa, P., Malik, A., & Mansoor, A. (2004). Pakistan: Scaling Up Rural Support Programs . The World Bank.

https://documents1.worldbank.org/curated/en/975091468758336640/pdf/308330PAK0rur%20al0support01see0also0307591.pdf

Ritchie, J. and Spencer, L. (1994) Qualitative Data Analysis for Applied Policy Research. In: Bryman, A. and Burgess, R., Eds., Anal. Qual. Data, Routledge, London, 173-194. https://doi.org/10.4324/9780203413081_chapter_9

RSPN. (2022). RURAL SUPPORT PROGRAMMES (RSPs) RESPONSE TO 2022 FLOODS IN PAKISTAN. In Rural Support Programmes Network. https://rspn.org/wp-content/uploads/2022/12/RSP-Response-To-2022-Flood-in-Pakistan-Fourth-Update-30th-Sep-2022.pdf

Ruiu, M. L., Seddaiu, G., & Roggero, P. P. (2017). Developing adaptive responses to contextual changes for sustainable agricultural management: The role of social capital in the Arborea district (Sardinia, Italy). Journal of Rural Studies, 49, 162–170. https://doi.org/10.1016/j.jrurstud.2016.11.017

Sajjad, H., & Ghaffar, A. (2019). Observed, simulated and projected extreme climate indices over Pakistan in changing climate. Theoretical and Applied Climatology, 137, 255-281.

Sajjad, M., Lin, N., & Chan, J. C. (2020). Spatial heterogeneities of current and future hurricane flood risk along the US Atlantic and Gulf coasts. Science of the total environment, 713, 136704.

Salik, K. M., Jahangir, S., Zahdi, W. ul Z., & Hasson, S. ul. (2015). Climate change vulnerability and adaptation options for the coastal communities of Pakistan. Ocean & Coastal Management, 112, 61–73. https://doi.org/10.1016/j.ocecoaman.2015.05.006

Sanyal J, Lu XX (2005) Remote sensing and GIS-based flood vulnerability assessment of human settlements: a case study of Gangetic West Bengal, India. Hydrol process.

Seddighi, H., Seddighi, S., Salmani, I., & Sedeh, M. S. (2021). Public-private-people partnerships (4P) for improving the response to COVID-19 in Iran. Disaster Medicine and Public Health Preparedness, 15(1), e44-e49.

Senimoli, A. N., Tabe, T., & Jacot Des Combes, H. (2020). Influence of socio-cultural factors on community disaster response during TC Winston: A case study of Burenitu Village, Fiji. International Journal of Safety and Security Engineering, 10(3), 343-350.

Shaw, R. (2015). Flood risk and reduction approaches in Pakistan. Disaster Risk Reduction Approaches in Pakistan, 77-100.

Sheerazi, S., Awad, S., & von Schreeb, J. (2022). Use of Mobile Health Units in Natural Disasters–A Scoping Review. Prehospital and Disaster Medicine, 37(S2), s88-s88.

Shehzad, K. (2023). Extreme flood in Pakistan: Is Pakistan paying the cost of climate change? A short communication. Science of The Total Environment, 880, 162973.

Srivastava, A and Thomson, S. (2008). Framework Analysis: A Qualitative Methodology for Applied Policy Research. JOAAG. 4.

Stringer, L. C., Dougill, A. J., Fraser, E., Hubacek, K., Prell, C., & Reed, M. S. (2006). Unpacking "Participation" in the Adaptive Management of Social–ecological Systems: a Critical Review. Ecology and Society, 11(2). https://doi.org/10.5751/es-01896-110239

Syvitski, J. P., & Brakenridge, G. R. (2013). Causation and avoidance of catastrophic flooding along the Indus River, Pakistan. GsA today, 23(1), 4-10.

Tariq, M. A. U. R., & Van De Giesen, N. (2012). Floods and flood management in Pakistan. Physics and Chemistry of the Earth, Parts A/B/C, 47, 11-20.

Tenny, S., Brannan, J. M., & Brannan, G. D. (2022). Qualitative study. In StatPearls [Internet]. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK470395/

Teo, Melissa & Goonetilleke, Ashantha&Ziyath, Abdul M. (2013). An integrated framework for assessing community resilience in disaster management. Proceedings of the 9th Annual International Conference of the International Institute for Infrastructure Renewal and Reconstruction, Risk-informed Disaster Management: Planning for Response, Recovery and Resilience.

The Express Tribune. (2023, June 22). Pakistan receives $2.8b in flood relief so far. The Express Tribune. https://tribune.com.pk/story/2469793/pakistan-receives-28b-in-flood-relief-so-far

The Express Tribune. (2023, September 5). Pakistan faces $30b loss after floods. The Express Tribune. https://tribune.com.pk/story/2494863/pakistan-faces-30b-loss-after-floods

The News International. (2024, June 5). Pakistan utilised only 29% of funds pledged after 2022 floods. The News International. https://www.thenews.com.pk/print/1197027-pakistan-utilised-only-29pc-of-funds-pledged-after-2022-floods

Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection. Ethnobotany Research & Applications, 5, 147-158. University of Hawaii at Manoa. http://hdl.handle.net/10125/227

UN/ISDR (2009) UNISDR Terminology on Disaster Risk Reduction. United Nations, New York and Geneva.

UNICEF. (2022). Devastating floods in Pakistan: 2022. UNICEF. https://www.unicef.org/emergencies/devastating-floods-pakistan-2022

United Nations Development Program. (2012). Good practices in community-based disaster risk management (CBDRM). https://www.undp.org/india/publications/good-practices-community-based-disaster-risk-management

United Nations Development Programme. (2023). Balochistan flood recovery plan 2022. UNDP.

United Nations Office for Disaster Risk Reduction. (2023, May 17). Our work: History. https://www.undrr.org/our-work/history

Vincent (1997) Fundamentals of Geological and Environmental Remote Sensing, Prentice Hall, Englewood Cliffs, NJ.

Walshe, R. A., & Nunn, P. D. (2012). Integration of indigenous knowledge and disaster risk reduction: A case study from Baie Martelli, Pentecost Island, Vanuatu. International Journal of Disaster Risk Science, 3(4), 185-194.

Xu, K., Zhuang, Y., Bin, L., Wang, C., & Tian, F. (2023). Impact assessment of climate change on compound flooding in a coastal city. Journal of Hydrology, 617, 129166.Balochistan Flood Recovery Plan 2022. (2022). In UNDP. The Planning and Development Department, Government of Balochistan. https://www.undp.org/sites/g/files/zskgke326/files/2023-10/balochistan_flood_recovery_plan_2022.pdf

Yin, R. K. (2009). Case study research: Design and methods (4th ed.). SAGE Publications.

Zaman, Lal & Naz, Arab & Daud, Maria & Iqbal, Khurshid & Akbar, Fazal & Khan, Qaisar. (2016). The Impact of Training Provided by Malteser International through Community Based Disaster Risk Management Committees (Cbdrmc) to Local People in Chail Valley District Swat. Journal of Applied Environmental and Biological Sciences. 6. 48-55.

Zhang, J., Zou, W., & Kumaraswamy, M. (2015). Developing public private people partnership (4P) for post disaster infrastructure procurement. International Journal of Disaster Resilience in the Built Environment, 6(4), 468-484.

Zoysa, M. D., & Inoue, M. (2016). Farmers' Woodlots Management and Sustainable Livelihood Development: A Case Study in Southern Sri Lanka. Environment and Ecology Research, 4(2), 88–98. https://doi.org/10.13189/eer.2016.040206

Zubir, S. & Amirrol, H. (2011). Disaster risk reduction through community participation. WIT Transactions on Ecology and the Environment. 148. 195-206. 10.2495/RAV110191.