

Displacement of Vulnerable Households under Climate-related Shocks in 2022

The Case of the Matiari District in Pakistan

Fariya Hashmat, Tony Bradley, Ahmad Nawaz, and Asad Ghalib

Abstract

Against the backdrop of the recent 2022 floods in Pakistan, this article investigates the resilient capacity of 121 vulnerable flood-affected households in the Matiari District. It examines the role of their personal and societal capacities in preventing displacement, and it introduces a new conceptual model related to social capital theory. Based on this model, it empirically examines the situation of these households through a survey based on the Disaster Adaptation and Resilience Scale. The findings suggest that households with relatively high levels of stored capacities are less likely to be relocated and thus more likely to escape displacement. However, a few households with higher capital (gatekeeper households) did choose relocation, indicating a strategic response to mitigate their vulnerability. These findings outline policy options for mobilizing community resources to strengthen household resilience through the intervention of gatekeeper households so as to reduce vulnerabilities.

Keywords: climate change, floods, gatekeeper households, Pakistan, resilience, social capital, social quality

This article investigates the challenges faced by affected households in the aftermath of the 2022 floods in Pakistan. The discourse concerning the nexus of climate change and human mobility has been a focal point in global climate negotiations for over a decade. However, this subject is attracting increasing attention as the climate emergency deepens.

Equally, the global policy community is taking the issue of population displacement more seriously, recognizing the vulnerability of displaced communities and the various initiatives to address it (Hunter et al. 2021; Islam and Khan 2020). Governments and relevant institutions are being urged to develop strategies for preventing, minimizing, and mitigating the loss and damage caused by displacement (McDonnell 2023). In this context, policy agendas include implementing measures related to displacement, relocation, and migration. These serve as incentives for governments to prevent, reduce, and manage displacement and the associated loss and damage related to the calculation of nationally determined contributions (NDCs), which are required



by the United Nations Framework Convention on Climate Change (UNFCCC) by 2025 (Miron et al. 2023).

Pakistan is on the frontline in respect of the impact that climate change is having on global communities. It is experiencing a rise in the frequency and intensity of extreme weather events, which is affecting ecosystems, populations, settlements, and infrastructure (Ali et al. 2023; Jamshed et al. 2020; Otto et al. 2023). In many cases, this is leading to the displacement of entire populations, which are susceptible to serious impacts of climate-related catastrophes. According to the Ministry of Planning and Development and Special Initiatives (2022), the country now faces a heightened vulnerability resulting from climate change and is listed among the top-ten nations most affected by natural disasters.

There is an extensive literature on the disparities in household resilience and susceptibility to climate-related shocks (Jerin et al. 2023; Keshavarz and Moqadas 2021; Li et al. 2024; Milhorange et al. 2022). Conversely, some communities have demonstrated the ability to endure shocks, mobilize resources to develop new livelihood strategies, or leverage their circumstances to forge a better life outside their previous vulnerable locales (Ansah et al. 2019; Ensor et al. 2021).

Against this backdrop, this study was conducted by surveying 121 flood-affected households situated in the Matiari District of Sindh Province, Pakistan. The article presents a new conceptual model for interpreting the resiliency capacity of households that are subject to climate-change-related disasters and potential displacement. Its aim is to examine the extent to which sustaining networks of social resources prevent the occurrence of large-scale displacements through enhanced social empowerment. This aim is investigated through the lens of the Disaster Adaptation and Resilience Scale (DARS) (First and Houston 2021).

The article considers the potential, inherent within a few households, to mobilize and empower other vulnerable households to respond in a resilient way to climate-related disasters. It illuminates the dynamics and policy options for leveraging community resources amid environmental disasters. The research considers how different households respond to climate-induced shocks. Given the alarming surge in climate-related calamities in 2022 (IPCC 2023), this article is urgent in respect of both research and policy considerations.

We first provide background information on the scope of this investigation. Particular emphasis is placed on understanding the profound human tragedies entailed by the extensive repercussions of the floods in the affected areas. We then introduce and discuss two theoretical frameworks pivotal to our research: (1) social quality theory (Lin and Herrmann 2015; Van der Maesen and Walker 2012) and (2) social capital theory (Bourdieu [1986] 2018; Coleman 1988; Putnam 1996). We utilize various concepts derived from these theories, addressing both the collective capacities of communities and the individual attributes of the heads of the households.

Additionally, we introduce a new conceptual framework for analyzing the social dynamics of affected households. This framework facilitates the examination of how

societal networks, bolstering diverse resources through enhanced social empowerment, mitigate large-scale displacements. In the next section, we outline the methodology employed before finally presenting our study's findings in two segments: (1) the results concerning the aforementioned dynamics via a conceptual matrix; and (2) an empirical analysis of the distinct collective and personal factors using regression analysis. Lastly, we encapsulate our findings, present our conclusions, and make some policy recommendations.

Background Information

At the global level, according to the Internal Displacement Monitoring Center (IDMC 2023), disasters constituted more than 50 percent of the internal displacements observed in 2021. With the increasing frequency of extreme weather events in a dynamically changing climate, a growing number of individuals are now vulnerable to such risks. During the same year, approximately 23.7 million internal displacements were recorded in response to natural disasters out of a total of 38 million worldwide (Khater 2023). Consistent with preceding years, the preponderance of these internal displacements was attributable to weather-related calamities, with floods and storms collectively contributing to 21.6 million of them (Mach et al. 2024).

The consequences of climate change can be seen globally. Even so, its impact is more pronounced in South Asia because people in this region are increasingly vulnerable to climate-related hazards such as floods (M. Hussain et al. 2020; Khan et al. 2016). Frequent occurrences of floods in the South Asian region are typically induced by intense monsoon precipitation, leading to significant harm to people, property, crops, and infrastructure. The escalating incidence of severe floods in Bangladesh, India, and Pakistan has been recognized for more than a decade now (Mirza 2011).

According to the Notre Dame-Global Adaptation Index (ND-GAIN), Pakistan is ranked as the 39th most vulnerable and the 27th least prepared country, globally, to address the repercussions of climate change (Yalew 2020). Between June and August 2022, the country experienced an unparalleled catastrophe as torrential rains, coupled with riverine, urban, and flash flooding, wreaked havoc. According to the National Disaster Management Authority (NDMA), approximately 33 million individuals, equivalent to one in seven Pakistanis, were impacted by the floods (Adnan and Hamid 2023).

This posed a major challenge for the Government of Pakistan, not only in the resettlement of affected populations, but also in providing them with essential support in adapting to new and changed environments. Almost 8 million people were displaced from their homes and more than 1,700 people died, one-third of whom were children (M. A. Hussain et al. 2023). Furthermore, the volatile and unpredictable nature of climate-induced shocks is reflected in the fact that the floods followed a severe heat wave and drought. Its severity was previously considered as a 1-in-1,000-

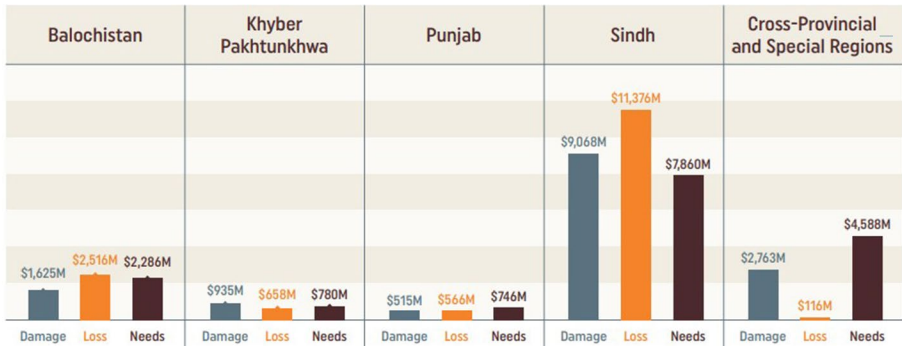


Figure 1. Damage, Loss, and Needs for Various Pakistani Regions (Source: Ministry of Planning and Development and Special Initiatives 2022).

year event, but a prolonged period of temperatures exceeding 45°C led to crop losses, power outages, and forest fires (Farooq et al. 2022; Zachariah et al. 2023).

In Figure 1, economic assessments concerning the damage, loss, and needs are presented for specific regions as are cross-provincial averages.

The entire country faced the consequences of floods, but Sindh in particular experienced widespread devastation across all its districts (Iqbal et al. 2022). Data provided by the Provincial Disaster Management Authority (PDMA) for Sindh indicated more than 89,000 internally displaced persons (IDPs) on 2 January 2023. The IDPs were distributed across ten districts, namely Dadu, Shikarpur, Matiari, Mirpur Khas, Jacobabad, Jamshoro, Tando Allahyar, Thatta, Khairpur, and Karachi (OCHA 2023). Additionally, the Post-Disaster Needs Assessment (PDNA) states that the overall damage of the 2022 floods exceeded \$US14.9 billion, while the total economic losses amounted to \$US15.2 billion (Mazari et al. 2023). The funds needed for rehabilitation and reconstruction were projected to be, at a minimum, \$US16.3 billion. Yet, even here, not all households experienced similar amounts of damage and needed similar amounts of funds for rebuilding.

There have been several studies that have considered the role of socioeconomic security in improving household incomes in rural Pakistan, with special attention being devoted to microfinance interventions in building resilience, alleviating poverty, and promoting sustainable development in disaster-prone areas (Ayuub 2013; J. Hussain et al. 2019; Kamran and Omran 2023; S. Khan and Qutub 2010; Nisar et al. 2013; Shirazi and Khan 2009; Tasos et al. 2020; Yusuf et al. 2018). Other studies have focused on the role of religious and charitable institutions that are often connected to the administration of *zakat* or other Islamic support mechanisms aiming at poverty alleviation (Abbas and Shirazi 2015; Aslam 2014; Majeed and Zainab 2017; Malik 2020; Shafique and Siddique 2020). However, in terms of considering the role of the state, financial institutions, and religious/charitable foundations, they have adopted

“top-down approaches.” The assumption is that households can only emerge from the most severe impacts of poverty-inducing crises through external interventions to support household income. Several studies indicate that disaster preparedness and societal protection ex-ante to crisis events is more beneficial than ex-post payments and micro-support packages (Ahmad and Afzal 2019; Azeem et al. 2019; Qasim et al. 2016; Shah et al. 2018).

The primary objective of this research is to investigate how personal and conditional factors contributed to household resilience in managing the effects of the 2022 floods, both before and after they occurred. Central to enhancing resilience is the process of capacity-building for families and communities. Through understanding these interactions, we aim to provide practical policy recommendations. To analyze these processes, we have drawn upon key principles from two influential theoretical frameworks elucidated in the following section.

Theoretical Considerations

The study includes a combination of conceptual models. We included various factors that are significant for our research. These are resources to strengthen the capacities of households to cope (resilience) with the disruptive impacts of the floods. We use concepts such as capacity, capital, access to resources, social empowerment, personal capacities, conditional factors, societal resources, and networks. Each of these is associated with and refers to the capacities, coping mechanisms, and household resilience of individual persons, as well as to networks and communities.

One theoretical aspect of this inquiry has opened up a debate about the relative significance of social capital theory versus social quality theory. We had not fully articulated a position in respect of these theories at the outset of our study. Nevertheless, as it progressed it became clear to us that we needed to engage with how some aspects of social capital theory could be deployed to assist in understanding the empirical findings of the study. Equally, these considerations fed into a more thoroughgoing consideration of these alternative perspectives on the development and resilience of local societal systems.

This article does not allow sufficient space to fully consider the theoretical debate that needs to be engaged in with respect to social capital and social quality. That needs to be reserved for another place, for instance a theoretically focused article. Even so, it is possible to indicate some dimensions of the shape of this discussion within the context of this article.

The concept of social capital is drawn from the theoretical assumptions of James Coleman (1988) and David Putnam (1996). Such approaches tend to consider social capital as the combination of material and immaterial capacities acquired in local social systems (often, weakly, referred to as “communities”). For a critique of the terminology surrounding “community,” see the work of Tony Bradley and Philip Lowe

(1984). In Putnam's conceptualization, social capital is a rather static collective characteristic (stored in communities) that may be assessed through a mix of positivist and interpretative scientific approaches. The concept of capital is derived from economic theory, in which it refers to the accumulated, stored financial means to achieve economic goals. The term "social" apparently refers to something other than a financial-economic phenomenon. The term "societal" is far more precise, as recognized in social quality theory.

In social capital theory, the combination of the two terms apparently refers to a determination of the strength, coping power, and resilience of societal systems, as well as to their constituent members. But a very different conceptualization, compared to that of both Coleman and Putnam, emerges from the work of the French sociologist Pierre Bourdieu ([1986] 2018). Bourdieu connects social capital with the reproduction of structural, asymmetrical power relations and patterns of social stratification in social classes, status groups, and political structures.

Bourdieu recognizes the significance of social capital in this stratification of societal networks. Equally, such capital acquisition—through the working of societal networks that either reinforce or segment power relations—serves to reinforce existing inequalities of resources and the capacities of individuals and groups in their respective social classes. In his theoretical perspective, social capital represents a main feature of societal reproduction of inequalities, involving symbolic, political, economic, and cultural expressions. In Bourdieu's theory, social capital refers to the processes and dynamics of establishing collective power to conserve existing inequalities and resist equalization, whereas in Putnam's theory it refers to the potential of communities to cope and develop.

As such, in this article we adopt a Bourdieusian perspective, which—because of its dynamical orientation—is more closely aligned with "social empowerment" as a conditional factor of social quality theory. We reject the static conceptualization of social capital reflected in the work of Coleman and Putnam. However, to understand the emergence and dynamics of the various forms of social capital, there is a theoretical need to be clear what "the social" refers to. We understand this to be concerned with the (re-)production of social relations, which arise from numerous interactive processes between personal attributes, on the one hand, and societal and environmental conditional situations, on the other. Unfortunately, most discussions of social capital focus, one-sidedly, on this core concept as an outcome variable, leading to positivist-oriented empirical studies of structural features of networks and communities.

Alternatively, the social quality approach is more oriented toward processes and dynamics. It is based on a more elaborated dialectical ontology of "the social." This refers to the reciprocal processes between individuals (constitutional factors) and their societal and environmental circumstances (conditional factors), in which both realize and (re)shape themselves. Moreover, social quality theory also takes the influence of societal spheres ("political, economic, and cultural dimensions") into account, in order to comprehend what happens to the social quality of lived experience. We begin

this exploration in the current article with respect to the destructive impacts of the overwhelming floods that happened in Pakistan in 2022. As such, we have sought to explicate more of an interpretive process (Weberian, in relation to social quality) than one that, simply, constructs positivist outcomes (in a neo-Cartesian approach to social capital).

That said, we have adopted a research methodology that involves statistical analysis of the quantitative data derived from survey work. We recognize that this only provides a limited picture of people's experiences and the processes that they went through before and during the flood disaster. But this research has prepared the ground for more qualitative in-depth interviews with people and policy-makers, which can produce a richer picture of what has occurred. Nevertheless, as our conclusions indicate, we have the basis for understanding the position and roles of different households in response to the floods, which can contribute to more developed future studies. And, more importantly, it should assist with the improvement of local resilience and help save lives in the future.

Social quality offers an overarching, comprehensive perspective by which to interpret the complexity of processes at stake in such disasters. Within this theoretical conception, both socioenvironmental and sustainability perspectives have become pivotal issues for the theory and approach of social quality (Fritz and Koch 2014). We deploy a social quality approach to comprehend what happened to those people and communities who were affected by the floods.

Social quality theory offers a framework for considering the interactions between constitutive (personal) attributes and conditional (societal and environmental) factors, which results in degrees of "social quality." In this study, we focus on the role of conditional factors. The conditional factors of socioeconomic security, social cohesion, social inclusion, and social empowerment play a crucial role in building resilience during times of crisis (Shah et al. 2024).

The social cohesion of community networks serves as the backbone of household resilience by fostering a sense of solidarity, shared responsibility, and mutual support. In addition, personal factors (personal security, capacities, responsiveness, and recognition) are equally important. In times of crisis, individuals within a community often turn to their societal connections for emotional support, practical assistance, vital information, and access to administrative and political resources. The bonds forged through societal connections can offer immediate assistance, as well as contributions to the long-term recovery process.

As such, they may create a foundation for sharing experiences, rebuilding community, and collectively addressing the challenges posed by the aftermath of floods. Even so, they may reinforce unequal power relations, as individuals leverage their connections to identify and assist those most in need (Maldonado 2017). Communities supported by governmental actions harbour the resources and the context for socioeconomic security, as well as the mortar of social cohesion, social empowerment, and social inclusion.

Social empowerment may be considered as an essential conditional factor to acquire the capacity to reconstruct, sustain fractured community networks, and withstand future shocks. The study sought to identify the capacities of households to transform their own situation for the better, following the environmental crisis. The so-called “core economy”—which operates outside of the finance-based capital markets—is the sphere in which families, households, and communities engage in production, distribution, and exchange without the need for money transfers. It includes the economic functions of own-use productive and domestic work, household and community support, reciprocity, gift exchanges, mutualism, and volunteering (Kelkar 2013), and is operational in households and communities (Goodwin 2018). It is considered vital for the support of disaster resilience and social empowerment.

Our hypothesis is that households and sub-communities with sufficient capacities regarding their core economy will be more resilient and will be able to recover more swiftly from crises than other households. From the identification of households that specifically possess such capacity, we considered their potential for acting as “gatekeepers” toward beneficial transformation for others.

Dynamics of (Non-)Displacement

Consequently, we sought to identify what happened to households once the impact of the floods had emerged. Figure 2 presents a matrix to schematize the nature and direction of processes after the disruptions affected households.

The central quadrant represents four distinct situations of household vulnerability and resilience. The arrows depict routes for households to escape situations of vulnerability. The x-axis distinguishes nondisplaced and displaced households. These

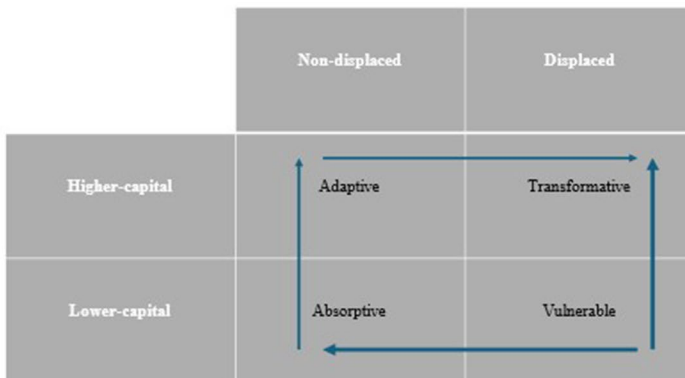


Figure 2. Conceptual Matrix of the Adaptive Capacity of Vulnerable Households to Enhanced Resilience

categories functioned as our dependent variables. The y-axis represents a combination of capacities classified as higher and lower “capital.” These functioned as independent variables.

We classified four states, represented by the cells in the two-by-two grid, as various situations of relative household vulnerability. *Vulnerability* is determined by various risk factors, such as exposure to floods, sensitivity to the impacts, and lack of absorptive capacity. Vulnerable households face challenges, such as limited access to socioeconomic resources, which amplify their susceptibility to the impacts of flooding. *Absorptive* capacity reflects the ability to absorb initial shocks and, subsequently, recover. Households with absorptive capacity are able to bounce back, repair and rebuild infrastructure, and restore livelihoods, the availability of financial resources, and support networks, and they may have access to recovery mechanisms from district administrations. *Adaptive* capacity describes the ability to learn from experiences, adjust to new conditions, and use effective coping mechanisms, such as diversifying livelihoods and incorporating local knowledge into decision-making. Finally, *transformative* capacity reflects the ability to go beyond adaptation to reevaluating and restructuring household issues, such as seeking to address the root causes of vulnerability and building a resilient foundation for the future. We hypothesized that having political connections would be a crucial asset for households that are able to transform their situation.

This matrix illustrates a pattern that alternative households go through. It hypothesizes that the most likely route to emerge as a means to go from extreme vulnerability to successful displacement follows a clockwise rotation. Initially, households can absorb the effects of severe shocks through mobilizing low levels of core economy resources. Following this, they may be able to gain access to higher levels of capital (social, economic, and technical), enabling a shift from absorptive to adaptive capacity. Through this process, households are able to effectively plan their adaptation to the impact of further disastrous events.

In this case, household recovery takes place where they first encountered the shock. Alternatively, if vulnerable households have access to resources to gain further access to higher levels of capital, their displacement can be transformative rather than leading to severe poverty and potential destitution. Various outcomes are reflected in the proportionate distribution of households across the identified fields, namely displaced and nondisplaced.

The hypothesis of our research is that vulnerable households may gain enhanced resilience in two ways. Either they are able to mobilize resources from the core economy—these include low levels of capital stocks, which obviate the need for displacement—or, more substantially, they are able gain access to higher levels of capital stocks, whereby they can transform their livelihood in a new location. Thus, we hypothesize that household displacement is not, necessarily, associated with increased vulnerability. It can result from enhanced capacities that have been acquired through processes of social empowerment.

Seen from the social quality perspective, the nature and outcomes of social empowerment processes are determined through the dynamic interplay of various constitutional (personal) and conditional (societal) factors. Such interactions are essential for building resilience against socioenvironmental shocks, thereby enabling communities to navigate their way through challenges by recovering and developing the capacity to adapt to future events. This may involve access to education, training, and skills acquisition (social empowerment); personal intellectual capacities and innate capacities such as entrepreneurship and moral strength (personal capacity); participation in community and religious networks, shared community strategies, and social inclusion in political, governmental, and spiritual networks (social inclusion); availability and access to technical resources, including tools, and other physical resources (techno-economic capacity); and disposition of financial resources, usually in the form of microfinance credits, loans, and small amounts of cash savings (socioeconomic security).

Some households, harbouring high levels of the various forms of capital, may have easy access to political, administrative, religious, and other institutional resources that will enhance their transformative capacity. These households *may choose to become displaced*, to build a new livelihood away from their former, vulnerable location. As such, access to political resources may be utilized in order to disseminate their expertise and acquired resources to other affected vulnerable households. Our further hypothesis was that such households can become gatekeepers for others, acting to improve the conditional factors of entire communities.

Deploying the matrix we explicated above, we were not able to interpretively model all the factors that might determine the aforementioned processes or routes out of vulnerability and enforced displacement. Nevertheless, we were able to use the model to offer insights into the nature of the distribution of households occupying each of the cells, from vulnerability to transformative capacity. Consequently, we had the foundation for a range of policy options required to address capacity-building among the vulnerable households who were forced into displacement and/or increasing states of deprivation.

Methodology

The administrative subdivision of Saeedabad in the Matiari District of Sindh was chosen as the research area, which represented “the case” for our analysis and interpretations. The sample population comprised households that were directly affected by the floods in Matiari in the year 2022. The subdivision is situated in close proximity to the River Indus and is prone to continual flooding (Fig. 3).

The initial step of the empirical study involved the identification of households affected by the floods. All households in six selected villages were found to be affected. For the displaced households, addresses were randomly selected from the list provided by the District Administration Office. By contrast, nondisplaced households

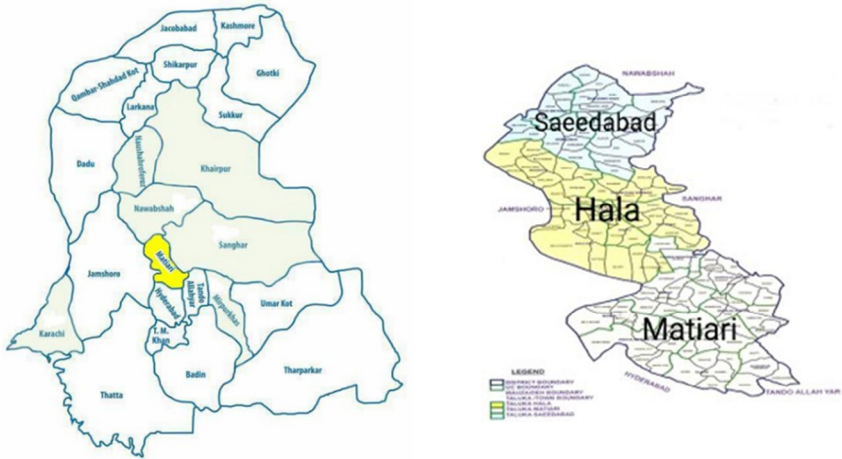


Figure 3. Geographical Map of Saeedabad, Matiari District, and Sindh Province. Image by Wajahat Rehan (2024).

were identified with the assistance of the *Village Numberdar* (Village Chief). This approach took account of the communities’ local knowledge, ensuring the inclusion of nondisplaced households in the study. Our final sample consisted of 121 households, of which 95 were displaced and 26 were nondisplaced. Survey questionnaires were administered in August 2023.

The analysis was conducted using the lens of the DARS (First and Houston 2021). The DARS instrument is structured into three categories of resources: material resources, societal resources, and adaptive behaviors and traits (ABTs). It was used to assess and categorize the distinct and total multiple capital stocks of households. Confidentiality, privacy, and consent procedures were instituted. The research prioritized the well-being and dignity of the participants involved.

The outcomes of the DARS analysis, together with the classification based on it, functioned as *independent variables*. These variables included (1) aspects of material resources (financial stability, food security, shelter, etc.); (2) societal resources (supportive interpersonal relationships, family and societal connections, etc.); and (3) adaptive behavior and traits (problem-solving, distress regulation, optimism, etc.). Displacement and nondisplacement were used as “binary” variables. They functioned as *dependent variables*.

Other *control variables*, such as sociodemographic factors and well-being, were included. Levels of well-being were assessed using the Cantril Ladder Scale (Cantril 1965). Other control variables (mostly concerning the head of the household) were age, school attendance (binary), years of education, occupation, and household size.

The analysis was conducted in two ways. First, we filled the four cells of the conceptual matrix, as explained above. These represented the qualities of resilience exhib-

ited by households as shown by the empirical findings on both the independent and dependent variables. Second, we carried out a regression analysis to investigate the impact of independent and control variables on the dependent variable of displacement. The regression analysis—on the control variables—offered valuable insights into the influence of various factors on the pathways to displacement chosen by the households.

Findings

As explained above, the matrix schematizes situations and routes that households may follow to escape vulnerability. Figure 4 shows the proportional distribution of the households in the four cells representing their capacity situations. As indicated above, the most likely route for vulnerable households to emerge from the need for displacement involved following processes represented by a clockwise rotation.

Forty-nine households were found to have lower capital resources, and high *vulnerability* leading to enforced displacement. The accumulation of disadvantageous factors forced them to move because of the floods. They appeared unable to mobilize their limited (lower levels of) capital to escape displacement. Eleven nondisplaced households had high *absorptive* capacity. These households appeared able to withstand the effects of severe shocks, remaining *in situ*. Even in the situation of having lower levels of capital resources, they were able to escape displacement. A further fifteen households could be classified as occupying the *adaptive capacity* category. They were able to utilize higher levels of capital resources to avoid displacement. Finally, forty-six households composed the *transformative* group. They had higher capital resources at their disposal, and yet they were displaced. As such, we interpreted that their

	Non-displaced	Displaced	Row N= and Percentages
Higher capital	Adaptive (N=15) 12.5%	Transformative (N=46) 38.0%	N=61 50.5
Lower capital	Absorptive (N=11) 9.0%	Vulnerable (N=49) 40.5%	N=60 49.5
Column N= and percentages	N= 26 21.5	N= 95 78.5	N=121 100

Figure 4. Conceptual Matrix Populated with Empirical Findings. Figure by authors.

displacement resulted from their own choice and request. Through utilizing societal resources, households could reduce their vulnerability by acquiring higher levels of multiple forms of capital. These households appeared able to traverse a route from *vulnerability* to *absorptive*, and, thence, to *adaptive* situations.

The transformative group of households was able to adopt an alternative strategy to cope with the physical and human impacts of the floods. Because of their capacity to exercise influence, we refer to these as “gatekeeper households” (Benevolenza and DeRigne 2019). These households appear to have had access to resources of capital, so they could choose displacement and to cope with their new situation. They represent 38 percent of all households in the sample, and three times the number of higher-capital households who were nondisplaced, *adaptive* households. Equally, we regard these latter households as having been on a journey toward the *transformative* gatekeeper status. As such, half of all households could be considered to be potential gatekeepers to a more resilient future for the more disadvantaged and vulnerable households.

In social quality terms, the outcomes of the interplay between personal and conditional factors in the lives of *transformative* households is strong enough to sustain a higher level of social quality. Their high degree of social inclusion and other capacities allowed them to communicate effectively with policy-makers and advocate for a transformative change to their situation. We had some evidence that their involvement in political spheres could have empowered them to contribute to the postcrisis effort beyond their own recovery and resilience-building. They can become valuable in the future as gatekeepers to power and recovery for the flood-affected community at large. Gatekeepers typically possess specific characteristics and access to resources that enable them to play a prominent role in coordinating relief efforts or advocating for the needs of more marginalized, vulnerable, and displaced households within the community.

Other Determinants of (Non-)Displacement

The regression analysis was aligned with our conceptual framework. We used a logit regression technique (Table 1). This reveals specific relationships between the identified independent variables (characteristics of the study households) and the dependent variable (displacement/nondisplacement).

Results reveal that a combination of constitutional and personal, together with conditional, factors determines whether or not households are displaced. In the first place, aspects of *societal resources* were found to be important. Being part of and having access to supportive societal networks appears to be decisive for households to be able to remain at their residence and avoid displacement. Also, cementing linkages with communities is an important supportive condition. These aspects of social cohesion seem to be more important than other conditional factors—that is, access to economic, material, and physical resources. We consider this finding to be significant in

Table 1. Results of the Logit Regression Analysis on the Identified Independent and Dependent Study Variables

<i>Variables</i>	The dependent variable is binary (displacement = 1, nondisplacement = 0)		
	<i>Independent</i> (i)	(ii)	(iii)
Material resources	0.522 (0.408)	0.524 (0.410)	0.731* (0.413)
Adaptive behaviors and traits		0.209 (0.341)	0.986** (0.478)
Societal resources			-1.703*** (0.627)
Well-being	-0.412*** (0.130)	-0.442*** (0.147)	-0.481*** (0.161)
Age	0.0463* (0.0242)	0.0461* (0.0246)	0.0430* (0.0259)
School attended	1.451 (0.965)	1.409 (0.958)	2.261** (1.112)
Level of education	-0.175 (0.112)	-0.170 (0.109)	-0.269** (0.132)
Household members	0.347*** (0.128)	0.345*** (0.128)	0.343** (0.147)
Income	-8.23e-05 (6.42e-05)	-9.03e-05 (6.38e-05)	-5.43e-05 (7.08e-05)
Occupation	-2.990** (1.521)	-2.955* (1.522)	-2.540* (1.457)
Constant	1.778 (2.208)	1.396 (2.327)	2.671 (2.322)
Observations	121	121	121

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

respect of social quality theory, as it points beyond “social capital” acquisition to the powerful role of social cohesion within crisis-affected communities. This interpretation is reinforced by the fact that adaptive behavior and traits seem to be less significant.

These findings indicate that those displaced households, which have a higher form of political capital as part of their societal resources, may choose to be displaced to get the best bargain from the district administration during the rehabilitation processes. Although we do not have direct survey evidence of this process taking place, it does explain the significant proportion of higher-capital households that are displaced. Equally, we obtained anecdotal evidence, during the survey phase, of this process in action.

We came across several displaced households that, explicitly, mentioned the fact that they chose to be voluntarily displaced in order to extract maximum compensation through utilizing their strong political networks. For these households, displacement appears to be a matter of choice as they have the ability to “game the system.” On this basis, as mentioned above, we considered that these households have the potential to act as “gatekeeper households” (Benevolenza and DeRigne 2019), as suggested by our theoretical model. Additionally, we found that a small proportion of displaced households exhibit higher levels of *well-being* through their use of political capital empowerment.

As was expected, heads of households were older and more likely to be displaced. This suggests that younger heads tend to make households more resilient to the shocks of floods, thereby avoiding displacement. Correspondingly, households with a higher level of *education* are less likely to be displaced compared to those who are less educated. This finding highlights the pivotal role of education in increasing the capabilities of households in catastrophic situations.

Even so, this finding contrasts with the conventional assumption that higher education and intellectual capital may strengthen the capacity to transform existing situations. Rather, it indicates that coping strategies other than educational capacity were being deployed to seek displacement. Access to political networks, more so than education, appears to play a significant role in enabling household transformation processes. The perspective of Bourdieu ([1986] 2018) on political social capital influences—which is in line with social quality theory—would expect this, as compared with the network capacity understandings of social capital from Coleman (1988) and Putnam (1996). This was an important empirical finding, indicating the superior power of social quality theory to explain household behaviour, under conditions of vulnerability and potential resilience, compared to social capital theory.

Furthermore, in respect of *household size*, we found that larger households faced more pronounced economic constraints. Such households are more likely to be displaced. Once again, as would be expected, because of ties to property capital, farmers are less likely to be displaced compared to laborers. The income of laborers, mostly employed as day workers or self-employed as street vendors, significantly declined as one of the impacts of the floods, meaning that they represented some of the most vulnerable household heads. With no access to property, little other capital endowment,

and without political connections, such marginal groups were desperately in need of assistance from gatekeepers who could advocate on their behalf.

Conclusion

As pointed out above, our study has raised quite relevant and significant questions concerning the distinct natures and potentialities of the social capital and the social quality theories. We would like to recommend that these issues be taken up in another relevant context—for instance, in a forthcoming article of the *International Journal of Social Quality*.

Our empirical research sheds light on the dynamics of the disastrous impacts, in particular household displacement, of the 2022 Indus Valley floods for people and households living in the rural Matiari District of Pakistan's Sindh Province. The floods stemmed from intense monsoon precipitation and the melting of glaciers in the Himalayas, both of which were evidently caused by climate change (Wang et al. 2023). Concluding our study, we, first and foremost, would like to launch a penetrating appeal for global action to drastically reduce carbon dioxide emissions to prevent future disasters like the one caused by the 2022 floods in Pakistan. During the 28th Conference of the Parties (COP28) of the UNFCCC in Dubai in 2023, the impact of climate change on population migration became a central theme (Biehler et al. 2023).

Enforced population migration was regarded as one of the foremost impacts of climate change on individuals, localities, and regions. We hope that the story of what has happened to households in Matiari may help to create or reawaken an awareness across the world, particularly in the major carbon-dioxide-emitting nations, that radical measures are needed to relieve the burdens on those mostly affected by the anthropogenic global climate emergency.

Resilience and Societal Resources

Summarizing our findings, we conclude that flood-affected displaced households, which are productively embedded in the “core (household production) economy” with other favorable societal conditions, are relatively resilient to shock impacts. They are more able to recover in a swifter and agile way from the crises in which they are embedded. Our model indicates how these households, having been able to navigate and adapt to the challenges posed by the floods, have entered a transformative situation.

These households have the capability to develop strategies to bolster their resilience over time. The strategic utilization of political-administrative resources and active participation in political processes enables these households to play a significant role in recovery and the strengthening of their resilience. Our regression analysis—identifying the variations between the displaced and nondisplaced households—indicates that, in general, access to favorable societal resources significantly mitigate the adverse impacts

of the floods. Additionally, the positive impact of societal resources compensates for lower levels of material resources and adaptive behaviors and traits.

Gatekeeper Households

A significant proportion of households with higher-level access to societal resources were also displaced. But we conclude that, for these households, their displacement was a matter of choice. Apparently, they preferred to leave their location of residence, which was proven to be vulnerable to flooding, in favor of relocation to a more advantageous situation. This finding has important social quality policy ramifications. It may be possible for such households to be persuaded, or incentivized, by (local, state, and federal) governments and other institutions to utilize their political capital expertise to empower others. They could perfectly act and be used as gatekeeper households (Benevolenza and DeRigne 2019).

Gatekeepers usually have extensive societal networks within communities. Their close relationships with neighbours, local leaders, and community organizations enable them to disseminate information quickly and efficiently. Their social ties can be leveraged to mobilize resources, share knowledge, and coordinate collective actions. These functions could be deployed to provide greater resilience among entire communities when facing future catastrophic climate-related shocks. As such, we consider that investigating the role of gatekeeper households constitutes an important research agenda. Such research will enable a more coherent policy framework to be constructed in respect of future community rebuilding following devastating disasters.

Acknowledgments

We are thankful to the Assistant Commissioner of Saeedabad Tehsil for providing assistance in the administration of this survey.

Fariya Hashmat is a Research Associate at the Graduate Institute of Development Studies (GIDS), Lahore School of Economics. Her mainstream area of research is population displacement in Pakistan and its intersection with urbanization, climate change, social capital networks, and land acquisition. Her research agenda centers on the complexities of population displacement that occur due to (1) the construction of infrastructure projects; and (2) the impacts of climate-change-induced disasters. She has also contributed to academic discourse through her research paper publications. Moreover, she is an active member of the Development Studies Association, UK, since 2020, and has consistently contributed to scholarly discussions and networking opportunities through participating in convening panels and presenting her work. Email: fariyahashmat01@gmail.com

Tony Bradley is the Director of SEARCH (Sustainable Economy Action Research Centre at Hope) and Senior Lecturer in Business Sustainability, Entrepreneurship and Social Economy at Liverpool Hope University Business School, where he co-leads the Greening Markets Research Group. He is a sociologist and political economist specializing in interpreting the impact of the green movement on localities, businesses, and the wider economy. He is the author of eleven books and several journal articles, reviews, and reports, and he is currently completing two books on business sustainability. He lives in the English Lake District with his wife and two dogs.
Email: bradlet@hope.ac.uk

Ahmad Nawaz is an Associate Professor at the Faculty of Economics and the Graduate Institute of Development Studies (GIDS), Lahore School of Economics. His research interests include poverty and equity, gender, and institutions. Email: anawaz@gwdg.de

Asad Ghalib has an academic background in international development and public policy. He has researched and written on areas relating to social and economic development, international management, and the socioeconomic assessment of various social protection models and interventions. He has been part of a number of research projects that involved designing, developing, and conducting household surveys. His research relates to capturing a range of socioeconomic characteristics and developing models to gauge the social impact on the well-being of individuals, households, and communities. Email: ghaliba@hope.ac.uk

References

- Abbas, K., and N. Shirazi. 2015. "The Key Players' Perception on the Role of Islamic Microfinance in Poverty Alleviation: The Case of Pakistan." *Journal of Islamic Accounting and Business Research* 6 (2): 244–267. <https://doi.org/10.1108/JIABR-06-2013-0017>.
- Adnan, M., and R. Hamid. 2023. "The Aftermath of Floods in Pakistan: An Eco-Humanitarian Crisis." *Pakistan Languages and Humanities Review* 7 (2): 740–753. [https://doi.org/10.47205/plhr.2023\(7-II\)66](https://doi.org/10.47205/plhr.2023(7-II)66).
- Ahmad, D., and M. Afzal. 2019. "Household Vulnerability and Resilience in Flood Hazards from Disaster-Prone Areas of Punjab, Pakistan." *Natural Hazards* 99 (1): 337–354. <https://doi.org/10.1007/s11069-019-03743-9>.
- Ali, N., A. Majeed, . . . , and M. J. Ashraf. 2023. "Climate Change in Pakistan and Its Resilience Efforts." *Al-Qantara* 9 (4). <https://alqantarajournal.com/index.php/Journal/article/view/392>.
- Ansah, I. G. K., C. Gardebreek, and R. Ihle. 2019. "Resilience and Household Food Security: A Review of Concepts, Methodological Approaches and Empirical Evidence." *Food Security* 11 (6): 1187–1203. <https://doi.org/10.1007/s12571-019-00968-1>.
- Aslam, M. N. 2014. "Role of Islamic Microfinance in Poverty Alleviation in Pakistan: An Empirical Approach." *International Journal of Academic Research in Accounting, Finance and Management Sciences* 4 (4). <http://dx.doi.org/10.6007/IJARAFMS/v4-i4/1288>.

- Ayuub, S. 2013. "Impact of Microfinance on Poverty Alleviation: A Case Study of NRSP in Bahawalpur of Pakistan." *International Journal of Academic Research in Accounting, Finance and Management Sciences* 3 (1): 119–135. <http://dx.doi.org/10.6007/IJARAFMS/v3-i1/10306>.
- Azeem, M. M., A. W. Muger, and S. Schilizzi. 2019. "Do Social Protection Transfers Reduce Poverty and Vulnerability to Poverty in Pakistan? Household Level Evidence from Punjab." *The Journal of Development Studies* 55 (8): 1757–1783. <https://doi.org/10.1080/00220388.2018.1448068>.
- Benevolenza, M. A., and L. DeRigne. 2019. "The Impact of Climate Change and Natural Disasters on Vulnerable Populations: A Systematic Review of Literature." *Journal of Human Behaviour in the Social Environment* 29 (2): 266–281. <https://doi.org/10.1080/10911359.2018.1527739>.
- Biehler, N., N. Knapp, and A. Koch. 2023. *Displacement and Migration in the International Climate Negotiations: Loss and Damage Debate Offers New Scope for Action*. Social Science Open Access Repository. <https://doi.org/10.18449/2023C56>.
- Bourdieu, P. 1986. The forms of capital. In J. Richardson (Ed.) *Handbook of Theory and Research for the Sociology of Education*, pp 241–58. New York: Greenwood.
- Bradley, T., and P. D. Lowe. 1984. "Locality, Rurality and Social Theory." In *Locality and Rurality: Economy and Society in Rural Regions*, ed. T. Bradley and P. D. Lowe, 1–24. Norwich: Geo Books.
- Cantril, H. 1965. *The Pattern of Human Concerns*. New Brunswick, NJ: Rutgers University Press.
- Coleman, J. S. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94: 95–120. <https://doi.org/10.1086/228943>.
- Ensor, J. E., T. Mohan, . . . , and P. Howley. 2021. "Opening Space for Equity and Justice in Resilience: A Subjective Approach to Household Resilience Assessment." *Global Environmental Change* 68: 102251. <https://doi.org/10.1016/j.gloenvcha.2021.102251>.
- Farooq, M. S., M. Uzair, . . . , and M. R. Khan. 2022. "Uncovering the Research Gaps to Alleviate the Negative Impacts of Climate Change on Food Security: A Review." *Frontiers in Plant Science* 13: 927535. <https://doi.org/10.3389/fpls.2022.927535>.
- First, J. M., and J. B. Houston. 2021. "The Disaster Adaptation and Resilience Scale: Development and Validation of an Individual-Level Protection Measure." *Disasters* 45 (4): 939–967. <https://doi.org/10.1111/disa.12452>.
- Fritz, M., and M. Koch. 2014. "Potentials for Prosperity without Growth: Ecological Sustainability, Social Inclusion and the Quality of Life in 38 Countries." *Ecological Economics* 108: 191–199. <https://doi.org/10.1016/j.ecolecon.2014.10.021>.
- Goodwin, N. 2018. "There Is More Than One Economy." *Real-World Economics Review* 84: 16–35. <https://www.paecon.net/PAERReview/issue84/Goodwin84.pdf>.
- Hunter, L. M., S. Koning, . . . , and J. Van Den Hoek. 2021. "Scales and Sensitivities in Climate Vulnerability, Displacement, and Health." *Population and Environment* 43: 61–81. <https://doi.org/10.1007/s11111-021-00377-7>.
- Hussain, J., S. Mahmood, and J. Scott. 2019. "Gender, Microcredit and Poverty Alleviation in a Developing Country: The Case of Women Entrepreneurs in Pakistan." *Journal of International Development* 31 (3): 247–270. <https://doi.org/10.1002/jid.3403>.
- Hussain, M., A. R. Butt, F., . . . , and B. Yousaf. 2020. "A Comprehensive Review of Climate Change Impacts, Adaptation, and Mitigation on Environmental and Natural Calamities in Pakistan." *Environmental Monitoring and Assessment* 192: 48. <https://doi.org/10.1007/s10661-019-7956-4>.

- Hussain, M. A., Z. Shuai, . . . , and M. Muneer. 2023. "A Review of Spatial Variations of Multiple Natural Hazards and Risk Management Strategies in Pakistan." *Water* 15 (3): 407. <https://doi.org/10.3390/w15030407>.
- IDMC (Internal Displacement Monitoring Centre). 2023. "Overview." <https://www.internal-displacement.org/countries/pakistan/> (accessed 17th November 2023).
- IPCC (Intergovernmental Panel on Climate Change). 2023: *Climate Change 2023: Synthesis Report*. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC, Geneva.
- Iqbal, M., A. Rabbani, F. Haq, and S. Bhimani. 2022. "The Floods of 2022: Economic and Health Crisis Hits Pakistan." *Annals of Medicine and Surgery* 84: 104800. <https://doi.org/10.1016/j.amsu.2022.104800>.
- Islam, M. R., and N. A. Khan. 2020. "Threats, Vulnerability, Resilience and Displacement among the Climate Change and Natural Disaster-Affected People in South-East Asia: An Overview." In *Climate Change Mitigation and Sustainable Development*, ed. R. Rasiyah, F. Kari, Y. Sadoi, and N. Mintz-Habib, 111–138. London: Routledge.
- Jamshed, A., J. Birkmann, . . . and H. Lauer. 2020. "The Impact of Extreme Floods on Rural Communities: Evidence from Pakistan." In *Climate Change, Hazards and Adaptation Options: Handling the Impacts of a Changing Climate*, ed. W. L. Filho et al., 585–613. Cham, Switzerland: Springer.
- Jerin, T., M. A. K. Azad, and M. N. Khan. 2023. "Climate Change-Triggered Vulnerability Assessment of the Flood-Prone Communities in Bangladesh: A Gender Perspective." *International Journal of Disaster Risk Reduction* 95: 103851. <https://doi.org/10.1016/j.ijdrr.2023.103851>.
- Kamran, H. W., and A. Omran. 2023. "Role of Microfinance in Mitigating Disasters in Pakistan." *Journal of Environmental Management & Tourism* 14 (1): 150–159. [http://dx.doi.org/10.14505/jemt.14.1\(65\).14](http://dx.doi.org/10.14505/jemt.14.1(65).14).
- Kelkar, G. 2013. *At the Threshold of Economic Empowerment: Women, Work and Gender Regimes in Asia*. New Delhi: International Labour Organization.
- Keshavarz, M., and R. S. Moqadas. 2021. "Assessing Rural Households' Resilience and Adaptation Strategies to Climate Variability and Change." *Journal of Arid Environments* 184: 1104323. <https://doi.org/10.1016/j.jaridenv.2020.104323>.
- Khan, M. A., J. A. Khan, . . . , and M. N. Ahmad. 2016. "The Challenge of Climate Change and Policy Response in Pakistan." *Environmental Earth Sciences* 75: 412. <https://doi.org/10.1007/s12665-015-5127-7>.
- Khan, S. N., and S. Qutub. 2010. *The Benazir Income Support Programme and the Zakat Programme: A Political Economy Analysis of Gender*. Overseas Development Institute, London. <https://odi.org/en/publications/the-benazir-income-support-programme-and-the-zakat-programme-a-political-economy-analysis-of-gender/>.
- Khater, M. 2023. "Humanitarian Assistance in Cases of Natural Disasters and the 2023 Earthquake in Turkey and Syria." *Environment Conservation Journal* 24 (2): 423–433. <https://doi.org/10.36953/ECJ.22842584>.
- Li, H., M. Liu, and Q. Lu. 2024. "Impact of Climate Change on Household Development Resilience: Evidence from Rural China." *Journal of Cleaner Production* 434: 139689. <https://doi.org/10.1016/j.jclepro.2023.139689>.
- Lin, K., and P. Herrmann, eds. 2015. *Social Quality Theory: A New Perspective on Development*. New York: Berghahn Books.

- Mach, E., M. T. Chazalnoël, and D. Ionesco. 2024. "Climate Action and Human Mobility: How Can the Transition toward Clean Energy in Displacement Settings Help Address the Climate Crisis?" In *Living with Climate Change*, ed. T. M. Letcher, 243–248. Amsterdam: Elsevier.
- Majeed, M. T., and A. Zainab. 2017. "How Islamic Is Islamic Banking in Pakistan?" *International Journal of Islamic and Middle Eastern Finance and Management* 10 (4): 470–483. <https://doi.org/10.1108/IMEFM-03-2017-0083>.
- Maldonado, J. K. 2017. "The Practical and Policy Relevance of Social Network Analysis for Disaster Response, Recovery, and Adaptation." In *Social Network Analysis of Disaster Response, Recovery, and Adaptation*, ed. E. C. Jones and A. J. Faas, 255–267. Kidlington, UK: Butterworth-Heinemann.
- Malik, A. 2020. "Integral So(u)lidity Economy: Mawakhat Finance: East." In *Integral to Islamic Finance: A Semiotic Approach*, ed. T. Bradley, R. Lessem, A. Malik, and B. Oshodi, 123–154. Manchester: Beacon Academic.
- Mazari, H., I. Baloch, . . . , and F. Perry. 2023. *Learning Continuity in Response to Climate Emergencies: Pakistan's 2022 Floods*. EdTech Hub. <https://doi.org/10.53832/edtechhub.0135>.
- McDonnell, S. 2023. "The COP27 Decision and Future Directions for Loss and Damage Finance: Addressing Vulnerability and Non-Economic Loss and Damage." *Review of European, Comparative & International Environmental Law* 32 (3): 416–427. <https://doi.org/10.1111/reel.12521>.
- Milhorance, C., J. F. Le Coq, . . . , and D. Nogueira. 2022. "A Policy Mix Approach for Assessing Rural Household Resilience to Climate Shocks: Insights from Northeast Brazil." *International Journal of Agricultural Sustainability* 20 (4): 675–691. <https://doi.org/10.1080/14735903.2021.1968683>.
- Ministry of Planning and Development and Special Initiatives. 2022. "Resilient Recovery, Rehabilitation, and Reconstruction Framework Pakistan (4RF)." <https://www.undp.org/pakistan/publications/pakistan-floods-2022-resilient-recovery-rehabilitation-and-reconstruction-framework-4rf> (accessed 9 February 2024).
- Miron, S., A. Thomas, . . . , and C. Bartlett. 2023. *Loss and Damage and Displacement: Key Messages for the Road to COP 28*. UNU-EHS Policy Briefs. Loss and Damage Collaboration and Researching Internal Displacement. <https://www.preventionweb.net/publication/loss-and-damage-and-displacement-key-messages-road-cop-28>.
- Mirza, M. M. Q. 2011. "Climate Change, Flooding in South Asia and Implications." *Regional Environmental Change* 11: 95–107. <https://doi.org/10.1007/s10113-010-0184-7>.
- Nisar, R., S. Anwar, Z. Hussain, and W. Akram. 2013. "An Investigation of Poverty, Income Inequality and Their Shifters at Household Level in Pakistan." *Journal of Finance and Economics* 1 (4): 90–94. <https://doi.org/10.12691/jfe-1-4-5>.
- OCHA. 2023. *Pakistan: 2022 Monsoon Floods Situation Report No. 13*. United Nations Office for the Coordination of Humanitarian Affairs, New York. <https://reliefweb.int/report/pakistan/pakistan-2022-monsoon-floods-situation-report-no-13-6-january-2023>.
- Otto, F. E., M. Zachariah, . . . , and S. Philip. 2023. "Climate Change Increased Extreme Monsoon Rainfall, Flooding Highly Vulnerable Communities in Pakistan." *Environmental Research: Climate* 2 (2): 025001. <https://doi.org/10.1088/2752-5295/acbfd5>.
- Putnam, R. D. 1996. "Renewing Social Capital: Bowling Alone, Revisited." *Essays on Civil Society: An American Conversation on Civic Virtue*, 2, 1, 1–7.

- Qasim, S., M. Qasim, . . . , and M. Ashraf. 2016. "Community Resilience to Flood Hazards in Khyber Pukhthunkhwa Province of Pakistan." *International Journal of Disaster Risk Reduction* 18: 100–106. <https://doi.org/10.1016/j.ijdr.2016.03.009>.
- Shafique, O., and N. Siddique. 2020. "The Impact of Microcredit Financing on Poverty Alleviation and Women Empowerment: An Empirical Study on Akhuwat Islamic Microfinance." *PalArch's Journal of Archaeology of Egypt/Egyptology* 17 (8): 548–562. https://www.researchgate.net/publication/354477387_THE_IMPACT_OF_MICROCREDIT_FINANCING_ON_POVERTY_ALLEVIATION_AND_WOMEN_EMPOWERMENT_AN_EMPIRICAL_STUDY_ON_AKHUWAT_ISLAMIC_MICROFINANCE.
- Shah, A. A., A. Khan, . . . , and B. A. Alotaibi. 2024. "The Role of Social Capital as a Key Player in Disaster Risk Comprehension and Dissemination: Lived Experience of Rural Communities in Pakistan." *Natural Hazards* 120: 1–27. <https://doi.org/10.1007/s11069-023-06372-5>.
- Shah, A. A., J. Ye, . . . , and S. M. Amir. 2018. "Flood Hazards: Household Vulnerability and Resilience in Disaster-Prone Districts of Khyber Pakhtunkhwa Province, Pakistan." *Natural hazards* 93: 147–165. <https://doi.org/10.1007/s11069-018-3293-0>.
- Shirazi, N. S., and A. U. Khan. 2009. "Role of Pakistan Poverty Alleviation Fund's Microcredit in Poverty Alleviation: A Case of Pakistan." *Pakistan Economic and Social Review* 47 (2): 215–228. <https://www.jstor.org/stable/25825353>.
- Tasos, S., M. I. Amjad, M. S. Awan, and M. Waqas. 2020. "Poverty Alleviation and Microfinance for the Economy of Pakistan: A Case Study of Khushhali Bank in Sargodha." *Economies* 8 (3): 63. <https://doi.org/10.3390/economies8030063>.
- Van der Maesen, L. J. G., and A. Walker. 2012. *Social Quality: From Theory to Indicators*. London: Palgrave Macmillan.
- Wang, Y., P. Cui, . . . , and L. Wang. 2023. "Antecedent Snowmelt and Orographic Precipitation Contributions to Water Supply of Pakistan Disastrous Floods, 2022." *Advances in Climate Change Research* 15 (3): 419–430. <https://doi.org/10.1016/j.accre.2023.12.002>.
- Yalew, A. W. 2020. *Economic Development under Climate Change: Economy-Wide and Regional Analysis for Ethiopia*. Wiesbaden: Springer VS.
- Yusuf, F., A. Yousaf, and A. Saeed. 2018. "Rethinking Agency Theory in Developing Countries: A Case Study of Pakistan." *Accounting Forum* 42 (4): 281–292. <https://doi.org/10.1016/j.accfor.2018.10.002>.
- Zachariah, M., T. Arulalan, . . . , and S. Kew. 2023. "Attribution of 2022 Early-Spring Heatwave in India and Pakistan to Climate Change: Lessons in Assessing Vulnerability and Preparedness in Reducing Impacts." *Environmental Research: Climate* 2 (4): 045005. <https://doi.org/10.1088/2752-5295/acf4b6>.