Navigating climate change, disasters and displacement in Pakistan: a case study of Rahim Yar Khan

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Cover photo: Flood displaced communities in Rahim Yar Khan, Punjab, Pakistan (Photo: Sidra Khalid, IWMI Pakistan)

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Disclaimer

Acronyms and Abbreviations

AA	Anticipatory action
BISP	Benazir Income Support Program
CVI	Climate Vulnerability Index
DHS	Demographic and Health Surveys
DMA	Disaster Management Authority
DMIS	Disaster Management Information System
DRM	Disaster risk management
DRR	Disaster risk reduction
EWS	Early warning system
FAO	Food and Agriculture Organization
FCM	Fragility, conflict and migration
FFC	Federal Flood Commission
FGD	Focus group discussion
FIES	Food Insecurity Experiences Scale
FLWS	Food, land and water systems
GBV	Gender based violence
GDP	Gross domestic product
HH	Household
IDP	Internally displaced person
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
IWISE	Individual Water Insecurity Experiences
IWMI	International Water Management Institute
KII	Key informant interview
MHM	Menstrual hygiene management
NDMA	National Disaster Management Authority
NGO	Non-governmental organization
PCRWR	Pakistan Council of Research in Water Resources
PDMA	Provincial Disaster Management Authority
PMD	Pakistan Meteorological Department
RYK	Rahim Yar Khan
TDS	Total dissolved solids
WASH	Water, sanitation and hygiene

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Executive Summary

Pakistan faces a multitude of environmental, social and economic challenges that pose a serious threat to its stability and development. Natural hazards, exacerbated by climate change, have become increasingly frequent and severe in the last three decades, leading to growing extreme weather events such as floods, drought and heatwaves. Disasters strain already limited resources, disrupt livelihoods, and displace millions, further complicating the country's socio-economic landscape. These environmental challenges are compounded by socio-political tensions, economic instability and security concerns. Against this backdrop, climate-induced migration and disaster displacement (or forced migration)[1] – an understudied phenomenon in Pakistan - is becoming a growing reality that the government, humanitarian actors, donors, and both sending and receiving communities, must contend with as part of their disaster management strategies, including implementing anticipatory action (AA) measures, or proactive action to be taken before a disaster strikes, usually based on forecasts and early warnings, and including pre-arranged financing.

Additionally, Pakistan's rapid population growth and urbanization continues to increase pressure on food, land and water systems (FLWS), leading to heightened competition for these vital resources. The most marginalized groups in society, especially women, children, the elderly and people with disabilities, bear the brunt of these multidimensional crises. Governance issues, including inefficiencies in disaster management, poor implementation of policies, limited data and information in the water and climate sectors, and weak infrastructure, further exacerbate the country's vulnerabilities. Pakistan is at a crossroads and facing critical decisions that will shape its future amidst an array of interlinked pressures. At this pivotal moment, Pakistan must learn from its (mis)management of past disasters and adopt holistic strategies to advance disaster resilience, improve governance, strengthen FLWS and promote gender equitable, and socially inclusive and people-centered solutions. Implementing AA measures in Pakistan could be pivotal in mitigating the effects of climate-induced hazards and reducing the impact on migration and displacement.

Under the CGIAR Initiative on Fragility, Conflict and Migration (FCM), the International Water Management Institute (IWMI) in Pakistan conducted a comprehensive research case study in Rahim Yar Khan (RYK), a disaster-prone district (and host community to internally displaced persons (IDPs) and migrants from neighboring areas) in the Punjab province of Pakistan. Floods are a commonly reoccurring phenomenon in the district, which has experienced frequent floods and heavy rains in the past two decades (PDMA 2022). After disastrous floods in 2010, the Punjab (provincial) government even established 3 model villages (housing schemes) across the district to support flood-affected families who lost their homes, and these are still functioning today.

The focus of the current case study was the 2022 floods and the related events and response leading up to the floods, and immediately afterward. The purpose was to: i) identify the vulnerabilities of climate-displaced households; ii) assess how disasters increase stress on FLWS; and iii) synthesize recommendations for improving disaster resilience and AA in Pakistan. The study included a detailed survey covering the themes of livelihoods, water and food insecurity, migration challenges, water, sanitation and hygiene (WASH), menstrual hygiene management (MHM), and pre- and post- migration changes in wealth. The quantitative survey was supplemented with focus group discussions (FGDs) and key informant Interviews (KIIs) with relevant disaster management government, academia and humanitarian actors working on the ground (at the district, provincial and federal levels) for purposes of triangulation. Additionally, complementary biophysical data such as precipitation levels and water quality across the district were also obtained through IWMI Pakistan's research activities under the CGIAR initiative on NEXUS Gains.

[1] This report uses the terms 'climate-induced migration', 'climate migration', 'disaster-induced migration', 'disaster displacement' and 'forced migration' interchangeably when referencing the study area. The study focused specifically on Pakistani citizens (excluding refugees or asylum seekers from neighboring countries) whose primary reason for displacement or forced migration within the country was a climate-extreme event such as flooding, while acknowledging there are multiple drivers of migration. We refer to this group as 'climate migrants' or 'climate-induced migrants.' The authors recognize that current terminology does not always adequately capture the complexities and involuntary nature of migration that is driven by climate-related factors.

Key Findings

A total of 826 climate-induced migrants were surveyed between December 2023 and January 2024 in RYK, comprising 322 women and 504 men. The average household size is 7.44 family members, including an average of 5 children. The surveyed households are predominantly male-headed, with only 24% reporting joint household heads. The primary driver of migration or displacement in RYK district is overwhelmingly attributed to floods (98%), with a minority citing drought or economic factors. The majority of the families had migrated from other districts in Punjab province, another town or city in RYK, and from neighboring Sindh province, with a very small minority having migrated from the Khyber Pakhtunkhwa or Balochistan provinces.

A significant proportion of respondents have never attended school, with a higher percentage of women compared to men falling into this category. Women have a lower educational attainment than men across all educational levels. In terms of occupation, the majority of the male respondents are employed as daily wage laborers, while women primarily identify as homemakers/housewives.

The reported average monthly household (HH) income is PKR 16,545 (USD 59.51)[2], about half the national minimum wage at the time of the survey.[3] Women reported a lower monthly HH income (PKR 13,423/USD 48) than men (PKR 18,539/USD 67), which indicates a gender wage gap. The primary source of monthly household income across the district is casual wage labor, followed by agriculture/crop farming, livestock, and a small/indigenous business. Notably, monthly reported expenditure averaged PKR 23,903 (USD 86), suggesting significant financial strain among households.

The data reveals the profound impact of the 2022 floods on the communities and highlights the struggles they faced and continue to endure. Many households migrated together, seeking safety and livelihood opportunities. The primary occupation of the participants is agricultural labor, and the floods damaged crops that were crucial for their sustenance. Homes were destroyed, forcing families to move, and some participants reported losing family members. Animals perished, houses collapsed, and vital documents (e.g., identity cards, and marriage certificates) were ruined. Communities generally believe life was manageable before the floods, even amid a preceding heatwave and drought that reduced water levels and stunted crop production.

RYK has always faced issues with water quality and a high prevalence of waterborne illnesses, including hepatitis, diarrheal diseases, typhoid and intestinal worms (Zubair et al. 2024). Further, water sampling conducted across the district from handpumps and tubewells shows high levels of arsenic, total dissolved solids (TDS), and other contaminants. Before the floods, handpumps were a primary water source, but many were washed away, forcing people to travel long distances for (often dirty) water, which resulted in sickness. Now, climate migrants mainly use handpumps, public taps, and occasionally tubewells. Despite some improvements, many still face challenges such as long wait times, safety concerns, and accessibility issues for those with disabilities.

Sanitation infrastructure also suffered significantly. Many households used open fields for defecation before and after the floods, facing increased danger and discomfort. The lack of adequate sanitation facilities, especially in Cholistan Desert and Sadiq Abad, where open defecation is common, poses severe health risks. Discussions revealed that women faced particular challenges, including fear of encountering dangerous animals and insects.

MHM also remains a significant concern. Water shortages and contaminated sources made it difficult for women to maintain their menstrual hygiene practices, leading to health issues like infections. Financial constraints worsened the situation as families struggled to afford sanitary products. The lack of privacy and proper facilities exacerbated these challenges, with many women resorting to inadequate methods of managing menstruation.

Health problems surged due to poor water and sanitation, with diarrhea, malaria, typhoid, and skin rashes being common. Medical facilities were damaged, forcing people to travel long distances for healthcare. The stress of these conditions also took a mental toll, leading to interpersonal disputes and, in extreme cases, tragedies such as suicides.

Food insecurity is another critical issue, with almost all those surveyed experiencing moderate to severe food insecurity, and women experiencing a higher prevalence of food insecurity than men. High inflation and disrupted

[2] The following average exchange rate is used throughout the report: 1 USD = 278 PKR

[3] The national minimum wage at the time the survey was done was PKR 32,000 (USD 115). It increased to PKR 37,000 (USD 133) in July 2024.

livelihoods forced families to reduce their meals, rely on charity, and make difficult choices about food distribution within households, with women reducing their meal intake to ensure children received food.

Living standards declined sharply post-migration, with a significant increase in households classified in the poorest wealth quintile category. Before migration or displacement, the majority of respondents were already in the poor (31%) or poorest (56%) wealth quintiles, with a 22% increase post-migration/displacement into the poorest wealth quintile (78%). Sex-disaggregated data reveals that the prevalence of men and women in the poorest wealth quintiles also increased after migration/displacement (from 57% to 85% of men and from 53% to 68% of women). This economic deterioration underscores the urgent need for long-term support and resilience-building for displaced communities. RYK's population on grew from approximately 4.8 million in 2017 to 5.56 million in 2023 (PBS 2023). Rapid population growth can strain resources, which may slow per-capita income growth and reduce overall well-being. The high population density[4] places significant pressure on available land, and as the population continues to grow, land resources become increasingly scarce. This scarcity leads to rising landlessness among households, further contributing to the incidence of poverty (PBS 2023).

Communication and coordination during the disaster were inadequate. More than half (58%) the respondents did not receive early warnings or assistance from government or non-governmental organizations (NGOs). Those who received warnings often did not have the means to evacuate or the warnings came too late for them to take any meaningful action. Government officials acknowledged gaps in preparedness and the challenges of reaching remote communities.

Overall, the findings highlight the impact of a disaster such as flooding on FLWS, and the existing vulnerabilities to which displaced populations are exposed. The results point to localized challenges across the district such as poor water and sanitation and limited access to resources, income-earning opportunities and support systems, and thus the need for targeted interventions that address region-specific vulnerabilities. Solutions must focus not only on the immediate post-displacement needs of both displaced and host communities, but also on long-term resilience among these populations. There is an urgent need for improved infrastructure, better disaster preparedness, and targeted support to address the multifaceted challenges faced by disaster-affected communities.

Key Challenges

- **Infrastructure Deficiency**: There is heavy reliance on channeled surface water of poor quality, and limited access for migrants and IDPs. Inadequate housing in flood-prone areas has led to widespread destruction, prolonged recovery and increased disaster-induced displacement risks.
- **Health and Sanitation**: Insufficient access to sanitation and health services has resulted in high rates of waterborne illnesses, especially among women and vulnerable groups. MHM remains a significant concern due to inadequate facilities.
- **Water and Food Insecurity**: Water scarcity aggravates food insecurity, requiring comprehensive interventions in terms of agriculture, sanitation, and water management. Women experience higher levels of both water and food insecurity, highlighting gender disparities.
- **Economic Vulnerability**: Displacement has pushed already impoverished households further into poverty, emphasizing the need for long-term recovery and economic stability programs.
- **Mental Health Burden**: Displacement and loss of homes have led to heightened psychosocial stress among households, communal conflict over resources, and inflation-driven difficulties in affording basic necessities.
- **Poor Disaster Response Planning**: Reactive disaster management and limited community engagement result in fragmented responses. Effective disaster management requires proactive, inclusive planning and better inter-agency coordination.

[4] Population density per sq.km increased from 404.69 in 2017 to 468.41 in 2023 (PBS, 2023).

Key Recommendations

Short-term

- **Improve access to essential services**: Ensure accessible healthcare, education, and potable water, including mobile emergency health clinics for vulnerable groups, and address menstrual hygiene needs.
- **Support climate-resilient agriculture and water management**: Collaborate with provincial agriculture and irrigation departments to implement drought-resistant crops, optimize irrigation, and develop water conservation strategies. Provide targeted training and technical support.
- **Map migration and insecurity hotspots**: Collaborate with national and international organizations to map migration patterns and water and food insecurity to inform targeted support for vulnerable populations.

Medium-term

- **Integrate migrant and IDP households into national programs**: Include displaced households in social protection programs like the Benazir Income Support Program (BISP) and Ehsaas Program (cash handout initiative) and adapt policies to address loss of documentation of displaced candidates and inflation-adjusted support.
- **Enhance shelter and camp infrastructure**: Improve temporary shelters with clear roles and responsibilities of relevant agencies and organizations for camp and shelter setup, including who will manage logistics, construction, WASH services, security, health support, food distribution, and ongoing maintenance, among others. Additionally, ensure that shelters and camps are established in areas that are safe from environmental hazards (e.g., flooding, landslides, etc.) have adequate access to essential resources like water, food, and transportation, and are built using a gender-sensitive design.
- **Improve Early Warning Systems (EWS)**: Enhance forecasting capabilities and real-time data use for accurate flood warnings, coordinated inter-agency responses, and community-based warning networks. Migrants and displaced persons must be included in these systems and know how to use them.
- **Develop a Disaster Management Information System (DMIS)**: Establish a DMIS for real-time data collection and effective coordination of disaster preparedness, response, and recovery efforts. The system should incorporate standardized data, agreed upon by relevant authorities, to serve as a harmonized platform for enhancing disaster response decision-making. By ensuring data consistency and accessibility, the DMIS will help streamline operations, avoid duplication of efforts, and improve the overall efficiency of response and relief activities. While EWS focus on forecasting and issuing warnings ahead of potential disasters, the DMIS can serve as a real-time coordination and decision-making platform during and after a disaster.

Long-term

- **Advocate for increased funding:** Push for greater federal budget allocations to support anticipatory actions (AAs) such as EWS, flood mitigation infrastructure, and community-based preparedness programs. This may also include funding for long-term initiatives like climate-resilient nature-based solutions, research on climate impacts and vulnerabilities of displaced communities, capacity-building for local governments, and the development of disaster management frameworks to ensure sustainable preparedness and response.
- **Promote integrated climate-resilient practices to tackle disasters**: Support nationwide adoption of climate-resilient practices through the Ministry of Climate Change and relevant provincial departments, to integrate these into disaster response plans in collaboration with the National Disaster Management Authority (NDMA), and provincial and district disaster management authorities (DMAs). Government departments normally work in siloes and should be incentivized to improve coordination and communication, including agriculture and irrigation, disaster management, and public health and planning departments.

- **Facilitate regional cooperation**: Implement regional planning frameworks to foster coordination with neighboring countries on disaster preparedness, response, and migration management. This includes developing cross-border EWS, sharing climate data and risk assessments, coordinating joint disaster response efforts, and aligning migration policies to address climate-induced displacement. Additionally, regional platforms should be established for knowledge exchange on best practices for climate resilience, disaster risk reduction (DRR), and adaptation strategies that are tailored to local contexts.

This research report is one of several outputs that will contribute to an improved disaster management strategy in Pakistan and support the uptake of evidence-based recommendations by the government and key partners to enhance disaster preparedness and response. A technical report on a retrospective analysis of Pakistan's 2022 flood response provides more details on Pakistan's disaster management policy landscape, and gaps in disaster management, through a closer analysis of the 2022 flood response and areas for improving AA. A companion report on Pakistan's EWS and digital ecosystems provides a deeper analysis of respondents' access to EWS and use of technology during disasters, including a gender analysis of access to information and technology after the 2022 floods. A third report (forthcoming) outlines the development of a Climate Vulnerability Index (CVI) for the RYK district.

Introduction

Climate Change is Driving Global Migration and Displacement

In its inaugural 1990 assessment report, the Intergovernmental Panel on Climate Change (IPCC) warned researchers and policymakers that the "gravest effects of climate change may be those on human migration" (IPCC 1990, 103). This warning echoes true decades later, with mounting evidence suggesting that climate change plays a complex role in driving involuntary migration and displacement, and exacerbating vulnerabilities (IPCC 2023). While environmental factors such as drought and water risk are dominant factors pushing migration in countries with high environmental stress and low adaptive capacity, various factors drive migration and displacement (Kaczan and Orgill-Meyer 2020; Niva et al. 2021). Migration patterns may be influenced by both slow and rapid onset disasters, each with distinct challenges and impacts that require unique response and mitigation strategies. Decisions to migrate (voluntarily or forcibly) are complex and depend on various drivers (social, political, economic, environmental, demographic and personal) (Nabong et al. 2023). Climate change - both a driver and a threat multiplier - interacts with these variables and produces diverse outcomes for climate migrants, host communities and even those who stay behind (CARE 2016; Goodman and Baudu 2023). Thus, migration can be considered a negative consequence of climate change or a positive adaptation strategy, depending on the context. Indeed, the ability to move (mobility) or not (immobility) is highly influenced by personal resources, social networks and external political controls, highlighting inequalities in the experiences of migration itself (Wiegel et al. 2019).

While there is no universal definition of 'climate migrants' or 'climate migration' – with implications for legal and social protection – this report uses the International Organization for Migration's (IOM) (2019) definition of climate migration, i.e.:

> The movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a State or across an international border (p.31).

This movement of people can also exacerbate conflict and social tensions in both sending and receiving communities (Abel et al. 2018). The Internal Displacement Monitoring Center's (IDMC) Global Report on Internal Displacement cites a global total of 75.9 IDPs as of 2023 - a 51% increase over the last five years (IDMC 2024). Of these, 7.7 million were internally displaced due to disasters. In South Asia alone there were 8.2 million IDPs, comprising 11% of the global total, with 2.9 million displaced specifically from disasters (IDMC 2024). Floods caused 1.2 million displacements in the region in 2023 due to El Niño conditions, with Pakistan accounting for 647,000 displacements, i.e. more than half (IDMC 2024). As of 2023, Pakistan has some 1.2 million IDPs due to disasters, the second largest in the South Asia region (IDMC 2024).

Pakistan Faces Complex Challenges Exacerbated by Climate Change

Pakistan has been grappling with the realities of climate change for decades. It ranks in the top ten countries worldwide that are most vulnerable to and affected by the impacts of climate-related extreme weather events (e.g., storms, floods, heatwaves) and witnessed 173 events between 2000-2019 alone (Eckstein et al. 2021). Climate change is expected to adversely affect agricultural livelihoods, food security and overall economic development (FAO 2018). This vulnerability poses significant problems for the world's fifth most populous country of 241.5 million, i.e. nearly 3% of the world's population (PBS 2023). Pakistan faces serious challenges due to the shortage of water in its rural and urban areas (Mumtaz et al. 2019). The country gets about 60-70% of its freshwater supply from snowmelt and glacier waters in the Hindu Kush, Karakoram, and Himalayas. Further, it is an agricultural country with more than 90% of water resources allocated to irrigation and other agricultural needs, leaving less than 10% for other uses, such as drinking water and sanitation, and industrial and environmental uses.

With one of the largest irrigation networks in the world, the economy is heavily reliant on agriculture, which employs close to 40% of the workforce and contributes about 23% to GDP (PBS 2021). Major crops include wheat, rice, cotton, maize and sugarcane, which not only sustain the local population, but are also a key part of Pakistan's

export economy. Despite its agricultural strengths, there are considerable challenges related to water and food insecurity, groundwater depletion and over abstraction, inefficient farming practices, environmental degradation, and outdated irrigation systems and infrastructure (ABD 2020). The agriculture sector is most at risk from climate variability, as changes in precipitation patterns, extreme weather events and water scarcity have led to significant declines in agricultural productivity (Aipira et al. 2017; Aryal et al. 2020), and it is estimated that production will decrease by 8 to 10& by 2040 (Cradock-Henry et al. 2020). Consequently, climate change will impact food production in the country, which will threaten food security, nutrition and overall human health (ADB 2020).

Pakistan's water scarcity and vulnerability to climate change highlights the urgent need to better manage climate-related risks and adaptation planning for improving water use at federal, provincial and district levels. Finding solutions to Pakistan's growing water scarcity in the face of climate change will be a major challenge for years to come at multiple levels, from local to national. The poor performance is attributed to poor management of water resources, inappropriate delivery of water services, poor cross-sectoral coordination, and failure to mitigate water-related risks (ABD 2020). The current architecture of the water sector in Pakistan has failed to achieve positive economic, social, and environmental outcomes. Water availability has already fallen from 5,237 cubic meters (m^3) per capita in 1962 to just 1,188 m^3 per capita in 2017 (Habib and Wahaj 2021). Pakistan became water stressed in 1990, crossed the threshold into water scarcity in 2005 and, based on current trends, will face absolute water scarcity by 2025, when less than 500 cubic meters will be available per person (Ashraf 2018). Currently, the country ranks in the bottom 3 out of 49 Asia and Pacific countries in terms of water security (ADB 2020).

At the same time, rapid urbanization and population growth are exerting further pressure on FLWS (FLWS) and accelerating existing climate vulnerabilities. With a high population density of 303.35 people per square kilometer and approximately 38.8% of the population residing in urban areas (PBS 2023), the burden on infrastructure and social services intensifies as rural-to-urban migration grows. Estimates suggest that contaminated water is responsible for 40% of the country's deaths (Daud et al. 2017). Industrialization is also growing, resulting in additional water demand requirements, and industrial effluent polluting rivers, lakes, public water supply and sanitation systems (Ahmed et al. 2020; Qamar et al. 2022). Across the RYK district, water is highly contaminated and waterborne diseases are rife (Zubair et al. 2024). Health risks are exacerbated by climate extreme events such as floods or drought, with women, particularly women farmers, being most vulnerable (ADBI 2024).

A provincial comparison also highlights unplanned development and the expansion of informal settlements as contributing to poor living conditions and heightened risks during disasters. Punjab has the highest population density (621.8 people per square kilometer (km^2)), followed by Khyber Pakhtunkhwa (401.6 people per km^2), Sindh (395.3 people per km^2), and Balochistan (42.9 people per km^2). IDPs tend to settle in informal settlements, which have inadequate access to municipal services, and thus face more vulnerability. These factors, along with socio-political instability and economic challenges, create a complex landscape where development is frequently hindered by human-induced stresses and natural hazards. Further, climatic events have impacted Pakistan's vulnerability ranking (37 out of 191), which is influenced by high rates of multidimensional poverty (World Bank and Asian Development Bank 2021). About 22% of households in Pakistan are multidimensionally poor in terms of health, education, living standards and monetary poverty, with the highest concentration seen in Balochistan (39%), followed by Sindh (26%), Khyber Pakhtunkhwa (23%) and Punjab (16%) (Saddique et al. 2023). Vulnerable communities confront the compounded difficulties of climate change, unsustainable resource utilization, governance deficits and social fragmentation. The situation is further exacerbated by disaster-induced migration and conflicts, which not only stem from these difficulties but also aggravate them, so trapping communities in cycles of vulnerability and deprivation.

Disasters will Drive Increased Climate Migration and Displacement in Pakistan

Devasting floods followed by droughts have been a recurring phenomenon in Pakistan, which scores poorly on water-related disaster security indicators (ADB 2020). Climate change has already caused Pakistan significant socio-economic damage, especially during the last two decades. The flood events between 2011 and 2014, for example, caused an economic loss of USD 18 billion, destroyed standing crops covering approximately 4.3 million hectares, and affected about 38 million people. The most recent 2022 floods in Pakistan left about a third of its land under water, impacted four of the country's provinces, killed over 1,700 people, and impacted 33 million more through the loss of homes, livelihoods, livestock and crops (Government of Pakistan et al. 2022). The Government of Pakistan estimated that the flood caused some USD 15 billion in damages and USD 15 billion in losses and resulted in a USD 16 billion needs estimate (Government of Pakistan et al. 2022).

Climate migration or displacement in Pakistan has become an increasingly pressing issue, as the country struggles with the adverse impacts of changing weather patterns. Across Pakistan, rising temperatures, erratic rainfall, and extreme weather events compel communities to migrate in search of more sustainable livelihoods and safety. Sudden or unplanned migration and displacement - often triggered by complex disasters and conflicts - not only presents problems for climate-induced migrants and internally displaced persons (IDPs), but also places significant stress on FLWS and leads to potential tensions in host communities.

Currently, links between climate change and migration are missing from governmental policies and planning in Pakistan (Ishfaq et al. 2018). While labor emigration is highly promoted in policy frameworks, internal migration remains unplanned at both the national and provincial levels, with no specific policy in place. There is a general consensus of wanting to curb rural-to-urban migration, as it is seen as straining resources in urban areas, which are ill-equipped to handle a growing influx of new inhabitants. This has also led to the expansion of urban slums and peri-urban areas across Pakistan, blurring the line between rural and urban localities.

The influx of migrants and IDPs strains already weak local infrastructure, increases the risk of public health diseases, and places additional pressure on natural resources such as water and arable land. Host communities often find it challenging to balance the needs of their existing residents with the well-being of migrants. Further, current disaster response is predominantly reactive rather than proactive, resulting in poor implementation of AA measures, such as developing trigger systems to better monitor incoming hazards and responses, reinforcing infrastructure, utilizing pre-planned AA budgets, organizing evacuation points and shelters, and leveraging EWS (including the use of digital ecosystems to better prepare at-risk communities). This was reflected in the weak national response during the 2022 floods.

The 2022 Floods Highlight Pakistan's Climate and Socio-Economic Vulnerabilities

The record-breaking rainfall (averaging 103 millimeters) and flash flooding that hit Pakistan from June to September 2022 caused the highest displacement of people in the country in a decade (IDMC 2023). Approximately 8.2 million people were internally displaced, with more than 70% of IDPs lacking proper shelter (IDMC 2023). Notably, less than 8% of these individuals found refuge in official relief camps, and instead sought temporary sanctuary near roadways and high-ground areas (IDMC 2023). Projections indicated that the number of individuals facing acute food insecurity would increase from 10.5 million to 11.8 million by the end of 2023 across the provinces, doubling the pre-flood levels (IPC 2023). The agricultural sector suffered greatly, with a reported reduction in crop area of 9.4 million acres, resulting in a 15% decrease in rice production and a 40% decline in cotton production (CDP 2023). Additionally, 1.2 million livestock perished, disrupting the income of those reliant on livestock for economic sustenance (OCHA 2022).

Pakistan already faces significant malnutrition challenges. Among women of reproductive age (15 to -49), 42.6% are anemic, and 79.7% suffer from Vitamin D deficiency, with higher rates seen in rural areas. This poor maternal nutrition problem has direct implications for child health, as 4 out of 10 children under 5 are stunted, nearly 1 in 3 are underweight, and 17.7% experience wasting (Government of Pakistan and UNICEF 2020). The situation is equally concerning for adolescents (10-19 years old): nearly one in five boys and one in eight girls underweight, and more than half (54.7%) of adolescent girls are anemic (Government of Pakistan & UNICEF 2020). In Punjab province specifically, about one-third of children under five are stunted (33.5%), and a little more than one-fifth are underweight (21.2%) - the second highest rate in RYK (33%) (Burki 2023; PBS and UNICEF 2018).

The floods worsened the already precarious situation. Water contamination and inadequate sanitation infrastructure led to disease outbreaks, particularly diarrhea and cholera, among displaced communities. A rapid survey conducted by UNICEF (2023a) in 15 flood-affected districts across the country found that 14% of children aged 6 to 23 months in flood-affected areas were acutely malnourished, with severe malnutrition levels.

Infrastructure was also severely affected, with about 13,000 kilometers of road and 410 bridges damaged (OCHA 2022). Only 36% of water supply systems were deemed safe for consumption, which highlights significant water safety concerns (UNICEF 2023b). It was projected that approximately 12.1 million individuals will fall into a cycle of poverty (Government of Pakistan et al. 2022). As of February 2023, the Pakistan Education Sector Working Group (2023) estimated that the floods had destroyed 34,204 educational institutions in 126 districts across the country, including RYK, which impacts children's education, particularly for girls.

At-risk groups like women (and female-headed households), children, elderly and disabled persons are disproportionately affected in the aftermath of disasters. Women and girls in particular face increased risks of gender-based violence (GBV), food and water insecurity, exploitation and poor access to essential services and resources (UN Women and UNICEF 2019). During the floods, approximately 640,000 adolescent girls were at risk of forced marriage and GBV, while more than 600,000 pregnant women had no access to maternal health services and faced poor birthing conditions (Government of Pakistan et al. 2022).

While Sindh and Balochistan provinces were hard hit, certain districts of Punjab province were also significantly affected, particularly southern districts like Rajanpur and RYK. This study focuses on RYK district as a case study area to further examine the impacts of climate change on FLWS and disaster response, particularly during the 2022 floods.

Study Rationale and Objectives

Currently, there is a large gap in the climate migration literature with regard to impacts on both migrants and host communities, particularly in Asia and specifically in Pakistan (Ghosh and Orchiston 2022). The intersection of climate-induced migration and its repercussions on FLWS calls for comprehensive research, stakeholder engagement, AA and policy initiatives to address vulnerabilities faced by host communities and climate migrants in Pakistan. IWMI is co-leading the CGIAR initiative on fragility, conflict and migration (FCM). The FCM Initiative aims to address the challenges arising from climate-induced migration or displacement on both migrant or displaced communities and receiving communities, with a specific focus on identifying common risks to FLWSs. The initiative seeks to understand prevailing responses to increased stress on FLWSs and produce policy recommendations supporting the development of AA strategies, integrating them into disaster risk management (DRM), environmental protection, and climate adaptation efforts in collaboration with governments, humanitarian organizations and development partners.

As part of the FCM initiative, Pakistan was selected as a case study country due to its climate vulnerability and growing phenomenon of climate-induced migration. Based on expert opinion and stakeholder consultations, the specific district chosen for the in-depth case study was RYK. This report presents detailed results of a field survey done with climate migrants and IDP communities in the district and qualitative interviews done with key informants. It is one of several outputs that contribute to Pakistan's overall case study, with a specific focus on RYK.

Pakistan's case study has three primary objectives: 1) to identify vulnerabilities among climate-displaced households in RYK; 2) to assess the impact of disasters on FLWS; and 3) to formulate recommendations for improving disaster resilience and AA in Pakistan.

This research report aims to answer the overall question: **What challenges and barriers do climate-induced migrants and displaced persons face in Pakistan, and how can we improve AA to enhance disaster management and climate resilience?**

Methodology

Study Area

The study area for the case study was the RYK district, which is on the eastern side of the Indus River. It is situated at the southern border of Punjab province in Pakistan, bordering Sindh province and India to the south, district Rajanpur to the west, district Muzaffargarh to the north, and district Bahawalpur to the east (**Figure 1**). The district is the fifth largest in the province, with an estimated 827,525 households, an average household size of 6.72, and a population of 5.56 million (PBS 2023). RYK is geographically divided into four *tehsils* (administrative divisions) called Sadiq Abad, RYK, Khanpur, Liaquatpur, and Cholistan Desert. It is classified as having a low socio-economic status due to unfavorable social, cultural, and economic conditions (PBS 2023). RYK has an arid, dry climate characterized by extremely hot, dry summers, and cool, pleasant winters. Temperatures range from a low of 5°C and maximum temperatures reach up to 40°C. Annual rainfall in the district is about 101 mm (PMD 2023). See **Box 1** for historical temperature and precipitation trends.

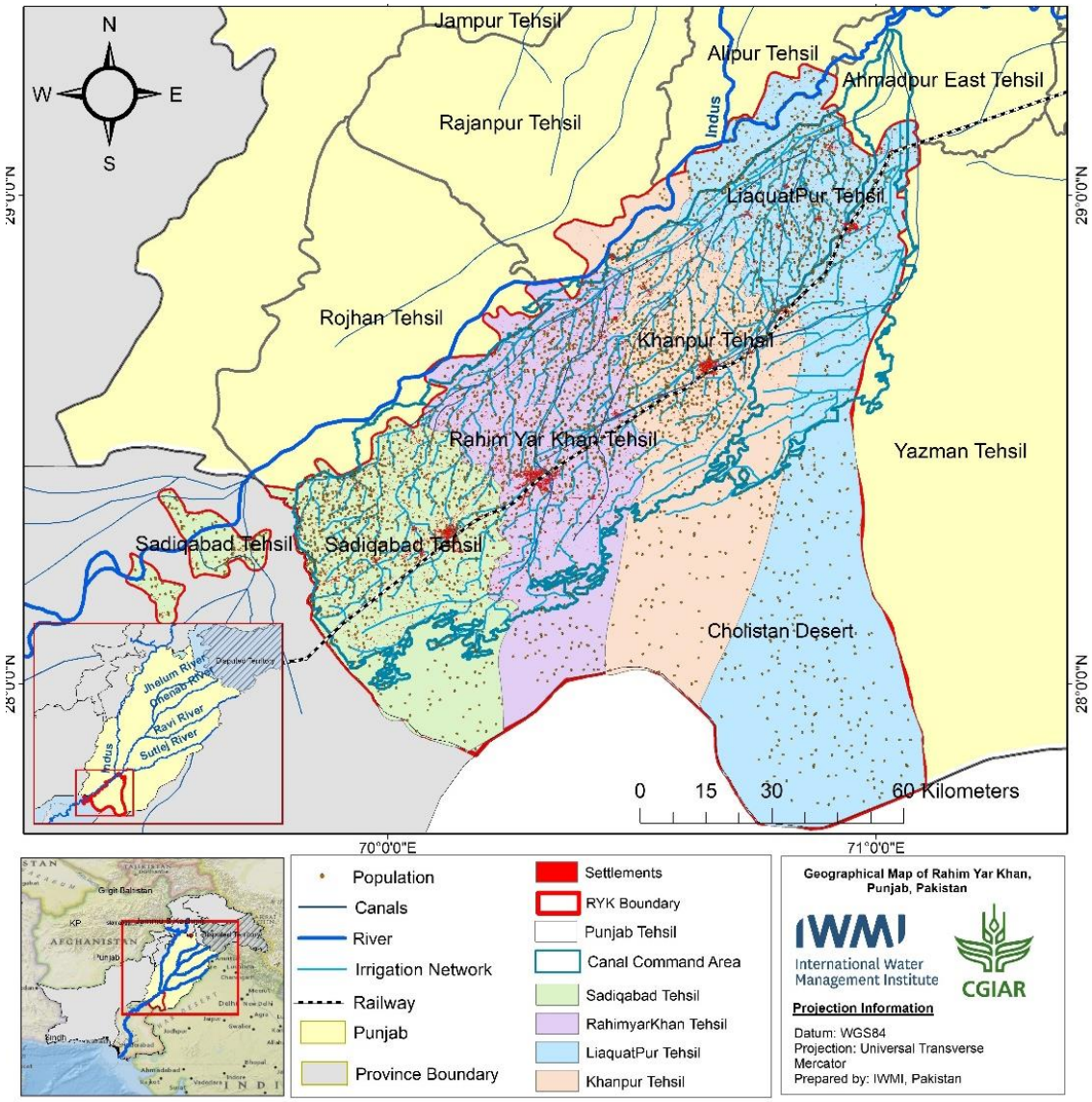

Figure 1. Administrative map of RYK, Punjab, Pakistan
Source: IWMI Pakistan

Box 1. Historical Temperatures and Annual Precipitation Patterns in RYK

Annual precipitation data at the tehsil level reveals notable patterns and peaks (**Figure 2**). Each tehsil recorded significant rainfall events during key years, with the highest precipitation peaks observed in RYK (279 mm) and Khanpur (252 mm) in 2010 during the floods in August. The year before the 2022 floods was the driest across the district, with the lowest yearly average recorded in Liaquatpur (4.3 mm). The district also faced significant precipitation peaks in 2020, with the highest levels observed in RYK (201 mm), underscoring its generally wetter conditions compared to the other tehsils.

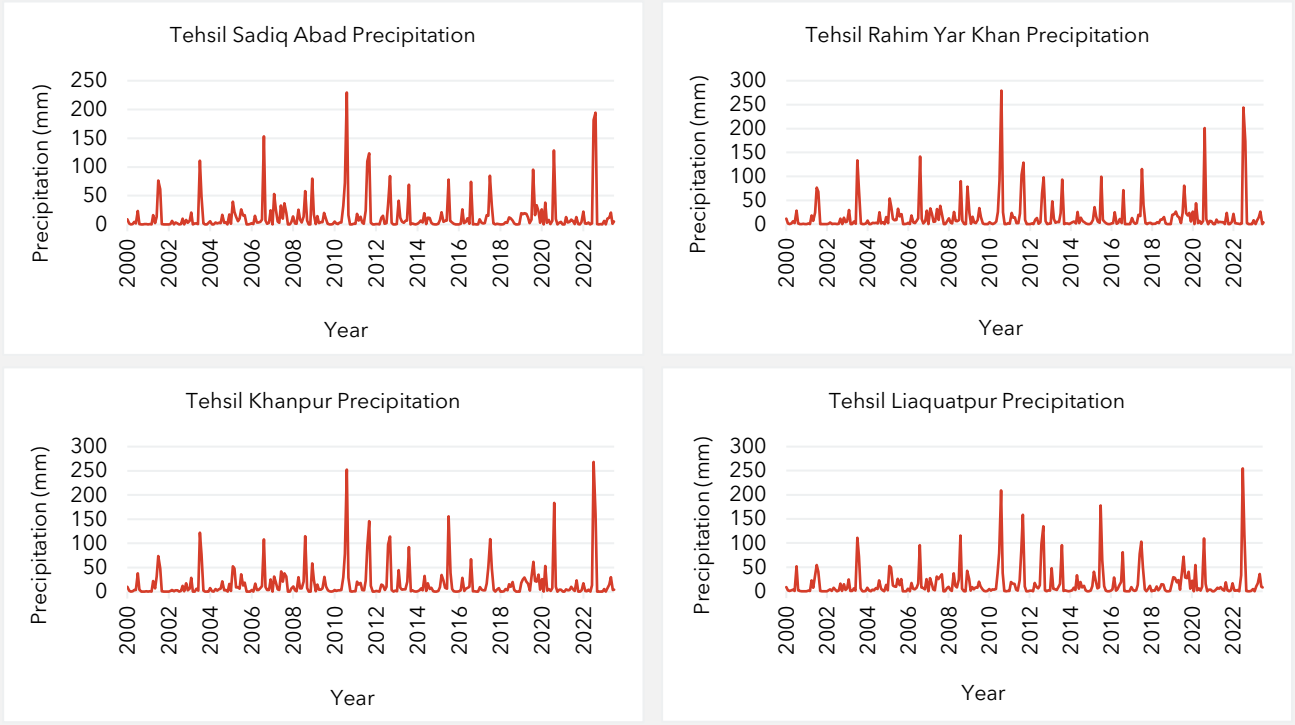

Figure 2. Annual precipitation patterns across the RYK district tehsils from 2000 to 2023
Source: IWMI Pakistan

Temperature trends across the RYK district tehsils also show significant seasonal variations (**Figure 3**). In Khanpur, average monthly temperatures range from 14°C in winter to over 40°C in summer, with notable peaks seen in June 2005 and June 2006. In 2023, temperatures remained consistent with historical patterns, reaching 34.1°C in July. Liaquatpur shows a similar pattern, with temperatures rising from 15.8°C in January to a peak of 40.2°C in May. July 2023 recorded 34.8°C, aligning with past trends. The RYK tehsil also exhibits marked temperature fluctuations, with hot summers peaking above 30°C and milder winters ranging from 12°C to 17°C. The highest recorded temperature was 37.2°C in May 2000, with a notable high of 33.9°C in June 2020. Sadiq Abad experiences similar variations, with a winter low of 7.1°C in January 2008 and recent summer peaks, such as 31.1°C in May 2022. Overall, these tehsils exhibit typical patterns of hot summers and cooler winters, reflecting broader regional climatic conditions.

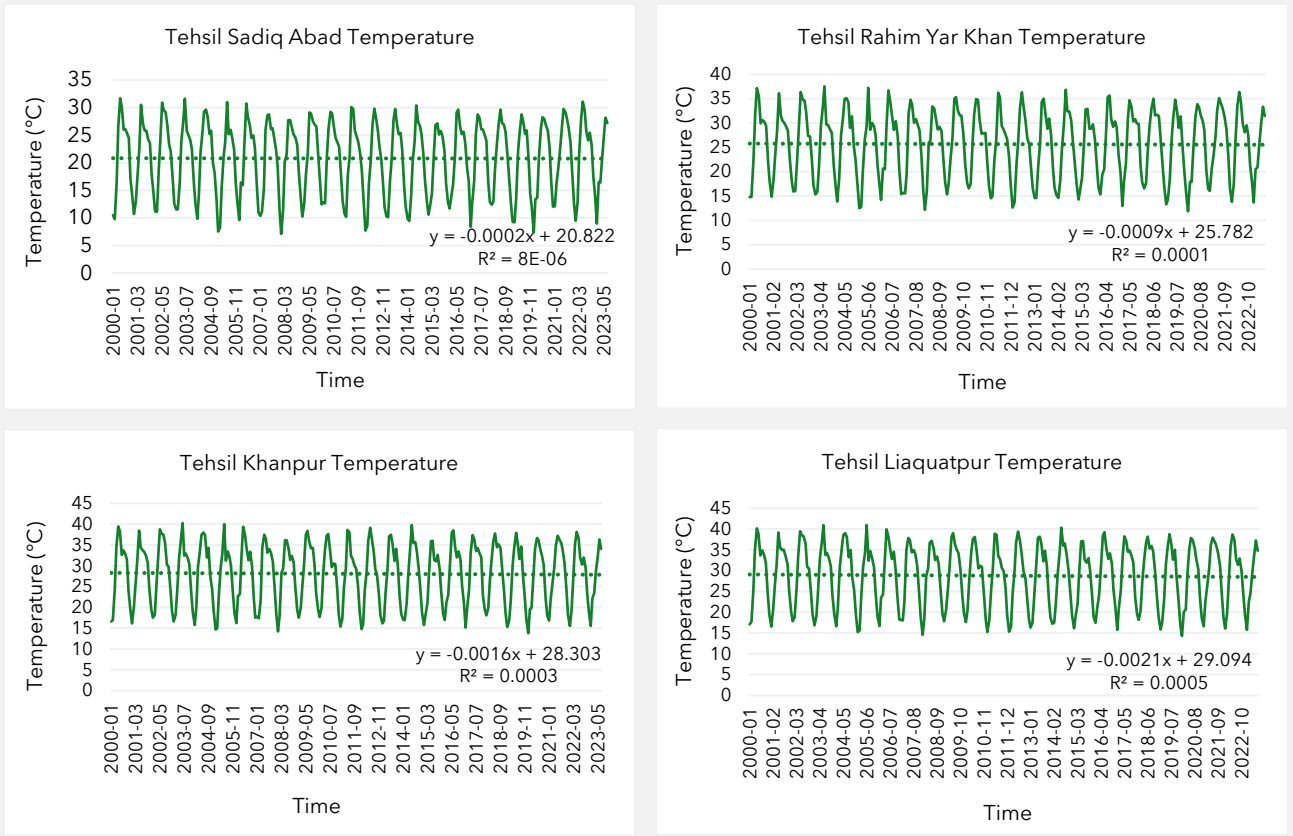

Figure 3. Average monthly temperatures across RYK district tehsils from 2000 to 2023

Source: IWMI Pakistan

With about 80% of the population residing in rural areas, RYK's economy is largely agricultural, with the major crops being cotton, sugarcane and wheat. Despite its agricultural prominence, RYK faces various challenges, including low literacy rates (32%), poor sanitation facilities (59% population access), susceptibility to seasonal floods and droughts, and water contamination leading to public health concerns and prevalence of hepatitis and other water-borne illnesses (ADB 2022; Afzal et al. 2021). Notably, approximately half of the district's population is at risk of flooding, while 25% face the risk of epidemics (PDMA 2022). Additionally, about 40% of the houses in the district are *kacha* homes (made from non-durable materials like mud, grass, bamboo, wood), implying susceptibility to damage from hazards such as floods or storms (ABD 2022).

RYK is situated close to other climate-vulnerable districts in the Sindh, Punjab and Balochistan provinces, which has led to internal migration and IDPs in the district during and after disasters, including the 2022 flood (**Figure 4**). Further, the district includes the Cholistan Desert, which is prone to drought and locust attacks. Thus, RYK can provide unique insights as both a host community and a district that is itself vulnerable to a number of natural hazards. In recent years, the district has recorded unpredictable precipitation patterns and recurring floods, leading to human casualties and damage to infrastructure (PBS 2023; PDMA 2022). (See **Box 1**.) The 2022 floods exacerbated vulnerabilities among migrants and host communities in RYK, particularly those residing in exposed environments, so exacerbating socio-economic inequalities and driving climate-induced migration and displacement.

District-specific data on disaster damages and impacts in the RYK district are scarce or not publicly available. The 2022 District Disaster Management Plan for RYK (PDMA 2022) states that 400 and 216 people were affected by floods in 2017 and 2020, respectively, with no details provided on what being 'affected' entails (e.g., injuries, displacement, etc.), and no sex- and age-disaggregated information. The report records 2 deaths from the 2017 flooding and 146 houses fully destroyed. During the major floods of 2010, 22,000 houses were damaged, 1 million people were affected (70% women and children), 250,000 people displaced, and 113 school buildings were affected (NDMA 2020). Updated statistics from the 2022 floods for the RYK district are unknown. As of

October 2022, only 5 deaths were officially recorded (PDMA, 2022), although this number is likely underreported based on the ground realities determined during the qualitative interviews.

A rapid needs assessment conducted by a well-established local NGO working in RYK stated that in the flood-affected areas of the district, about 115 and 89 houses were fully and partially destroyed, respectively (REEDS 2022). Further, 70 to 80 percent of the 1,232 acres cotton crop was destroyed, 82 livestock were lost, and nearly 45,000 kilograms (1,205 maunds) of stored wheat grain was spoiled by the water (REEDS 2022).

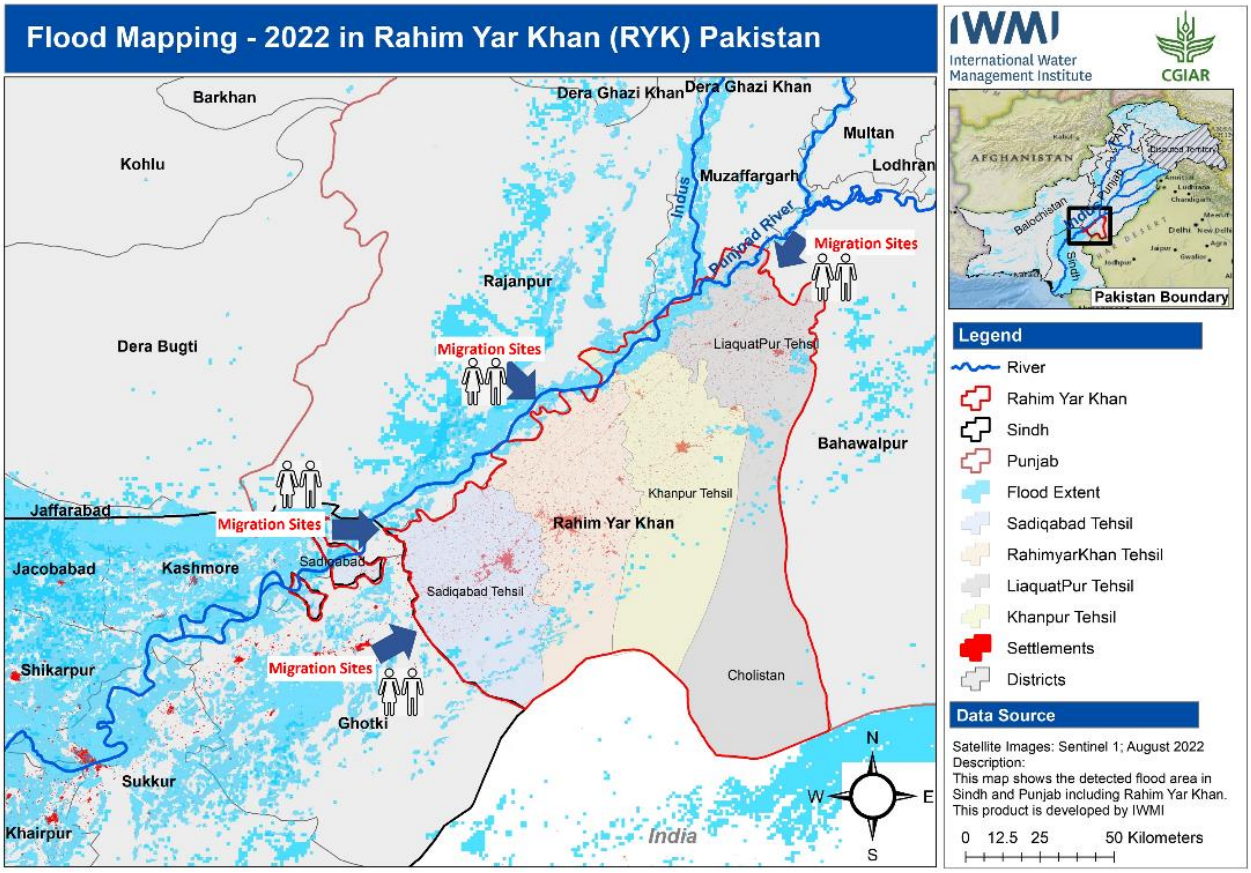

Figure 4. Flood (2022) extent in RYK district and migration entry points

Source: IWMI Pakistan

Research Design

This study employed a mixed-methods design, combining both quantitative and qualitative approaches to provide a comprehensive understanding of migration dimensions, disaster response and climate vulnerabilities. A detailed quantitative survey was administered with climate-induced migrants and IDPs in RYK in December 2023 and January 2024. It covered themes such as livelihoods, water and food insecurity, drinking and household water source, sanitation and hygiene, changes in wealth status before and after migration, and other migration challenges. The survey was developed based on global WASH indicators (UN-Water 2017) and contextualized for Pakistan.

The 150-question survey (**Annex A**) was complemented by FGDs held with male and female climate migrants (**Figure 5**), and by key informant interviews (KIIs) done with relevant stakeholders and experts in disaster management, government, and humanitarian organizations at the district, provincial, and federal levels. This mixed-methods approach allowed for data triangulation and a richer, multi-dimensional understanding of climate change, vulnerabilities and migration challenges in Pakistan.

Figure 5. Survey with male climate migrant in Khanpur
Source: IWMI Pakistan

Sampling

The study employed multi-stage random sampling (Sudman et al. 1988), guided by: the Sampling Guide for Displacement Situations Manual (JIPS 2020), developed by the inter-agency Joint IDP Profiling Service (JIPS); and the Compilers' Manual on Forced Displacement Statistics (EGRISS 2023) by the Expert Group on Refugee, IDP and Statelessness Statistics (EGRISS).

Because there is no official data available on migrant and IDP populations at the district level, including disaggregation of climate-induced migrants, in the first phase of the study, the IWMI team conducted a mapping exercise across the district in collaboration with a local NGO to identity migrant or IDP hotspots. This allowed the team to get a rough estimate of where these communities are located to better inform sampling for the larger survey data collection process.

In the second stage, the hotspots were distributed across the tehsils proportionally, based on population size. Sample size was then determined using UNICEF's (2024) Multiple Indicator Cluster Survey (MICS) sample size calculator, with a design effect of 1.5 and a 95% confidence interval. Based on the MICS calculator, the total sample size considered to be sufficient for reliable and generalizable results for the study was 720 respondents, though enumerators administered 100 additional surveys to ensure data quality.

Men and women (self-reported) were surveyed. Households served as the entry point for individual-level data collection with either a male or female respondent who were preferably the head of the household, the primary breadwinner, the spouse of either, or a household elder (i.e., someone aware of the migration/displacement challenges of the household). The inclusion criteria for the sample were individuals aged 18 to 60 living in the selected areas and who had been displaced or had forcibly moved due to environmental factors. Households

were selected using the systematic randomization approach, in which every third home from the right or left of the enumerator's starting point was selected for an interview. In areas where homes were scattered or not properly organized, enumerators selected every other home along their walking path.

A screening question was included at the beginning of the survey to identify migrants and IDPs who had relocated specifically due to environmental reasons. Although migration is driven by complex factors that are challenging to fully capture using a survey, the screening question helped us identify this group as accurately as possible. Of the total 828 respondents selected, two women reported that their primary reasons for moving were marriage and better job opportunities. These two respondents were excluded from the sample. The remaining respondents (n=826), who all cited environmental reasons for their relocation, are included in the overall analysis presented in the following sections.

A total of 12 FGDs (7 with women and 5 with men) were conducted across the tehsils (3 per tehsil) in the climate migrant communities identified during the scoping visit and through the networks of a local NGO. A total of 45 men and 89 women participated in the discussions. The FGD participants were selected from the same communities surveyed, but were different individuals from those surveyed, to avoid interview fatigue and to capture a broader range of perspectives within climate migrant/IDP communities. Focus groups were conducted until the research team achieved data saturation (Hennink et al. 2019).

For the KIIs, a total of 42 key informants (KIs) were identified through institutional networks and identifying major disaster response actors in the country. The selection focused on individuals with significant expertise who play a role in disaster management, including government officials, humanitarian organizations, civil society and other key stakeholders at district, provincial, and federal levels. Priority was given to those in strategic positions to obtain better insight into decision-making and coordination efforts. Interviews were conducted in-person and online.

Data Management Approach

The study approach and methodology were approved by IWMI's research ethics board and all relevant ethical guidelines and standards were adhered to. This included obtaining informed consent from all respondents and ensuring the confidentiality of the data collected.

The survey and FGD tool were pre-tested by a team of twelve trained enumerators before the field survey began. The team comprised an equal number of men and women (6 and 6) who carried out the field study over a period of 25 days. Survey data was collected using KoboToolbox, a data collection software tool used on tablets or smartphones. Throughout the data collection phase, a rigorous data monitoring and quality control system was in place. This involved daily data monitoring to check for inconsistencies, rejecting poor survey entries, and ensuring adherence to data collection protocols. Verification of GPS coordinates confirmed the authenticity of reported enumerator visits to designated clusters/areas.

Limitations

This study has several limitations. The absence of official data on climate-induced migrants and displaced persons at the district level necessitated reliance on estimates, potentially affecting the accuracy of the sample size and the representativeness of the findings. The initial identification of communities relied on scoping visits and local NGO networks, which may have introduced selection bias and inadvertent omission of migrant/displaced communities. Additionally, the data collection process relied heavily on self-reported information, which is susceptible to response biases, such as recall bias, potentially impacting the validity of the responses. Further, the survey was administered at a single point in time (between December 2023 and January 2024), providing only a snapshot of migrant experiences and potentially missing seasonal or temporal variations in migration experiences across time. Lastly, the dynamic nature of climate change and the intersecting drivers of migration means that environmental conditions and their impact can evolve, possibly rendering some findings obsolete over time. Despite these limitations, the study offers valuable insight into the vulnerabilities and challenges faced by climate-displaced communities in RYK.

Results

Survey Results and Qualitative Insights

Socio-demographic profile

A total of 826 respondents were surveyed, comprising 322 women and 504 men (**Table 1**). Tehsil-wise, the sample sizes are as follows: Khanpur (n=175); Liaquatpur (n=167) Rahim Yar Khan (n=244) Sadiq Abad (n=193); Cholistan Desert (n=47). The average household size is 7.44 family members, including an average of 5 children (2.6 boys and 2.4 girls). The majority of the respondents are married (96%), with only 1% divorced and 3% widowed. Notably, more women than men are widowed (7% vs less than 1%). The surveyed households are predominantly male-headed, with only 24% reporting joint household heads.

A significant proportion of respondents never attended school (83%), with a higher percentage of women (93%) compared to men (77%) falling into this category. Women have a lower educational attainment than men across all educational levels. In terms of occupation, the majority (57%) are employed as daily wage laborers. Specifically, 76% of men are daily wage workers compared to 27% of women, who primarily identify as homemakers/housewives (54%).

The reported average monthly household (HH) income is PKR 16,545 (USD 60). Women reported a lower monthly HH income (PKR 13,423/USD 48.28) than men (PKR 18,539/USD 67), suggesting a gender wage gap. The primary source of monthly household income across the district for both men and women is casual wage labor (70%), followed by agriculture/crop farming (16%), livestock (6%) and small/indigenous business (5%). Notably, monthly reported expenditure averaged PKR 23,903 (USD 86), suggesting significant financial strain in households.

Table 1. Socio-demographic profile of respondents

Socio-demographic characteristic	% Men (n=504)	% Women (n=322)	% Total (n=826)
Marital Status			
Single	0.4	0	0.2
Married	99	91	96
Divorced	0.2	1	1
Widowed	0.4	7	3
Household Head			
Self	84	10	55
Spouse	0	32	12
Self and spouse equally	13	41	24
Male relative	2	16	7
Female relative	1	1	1
Education Level			
Never attended school	77	93	83
Up to grade 5 completed	12	4	9
Grade 6 to 10 completed	7	1	5
FA/F.Sc (Grade 11 and 12)	1	0	0.5
Madrasah (religious education)	3	2	2
Bachelor's degree and above	0.6	0.6	0.6
Occupation			
Contributing family worker	0	13	5
Employed with daily wages	76	27	57
Employed with monthly salary	9	1	6
Homemaker	0	54	21
Self-employed/own business	11	3	8
Unemployed	21	2	23

Source: Authors' compilation from survey data

Migration and displacement details

The primary driver of migration or displacement was overwhelmingly attributed to floods (98%), with a minority citing drought or economic factors. Families migrated from other districts in Punjab province (41%), another town or city in RYK (40%), and from neighboring Sindh province (18%). A small minority (0.48%) had migrated from the Khyber Pakhtunkhwa or Balochistan provinces. **Figure 6** and **Figure 7**, respectively, show the migration flow of the respondents and the survey coverage (i.e., current location where they settled or were displaced from across the district.

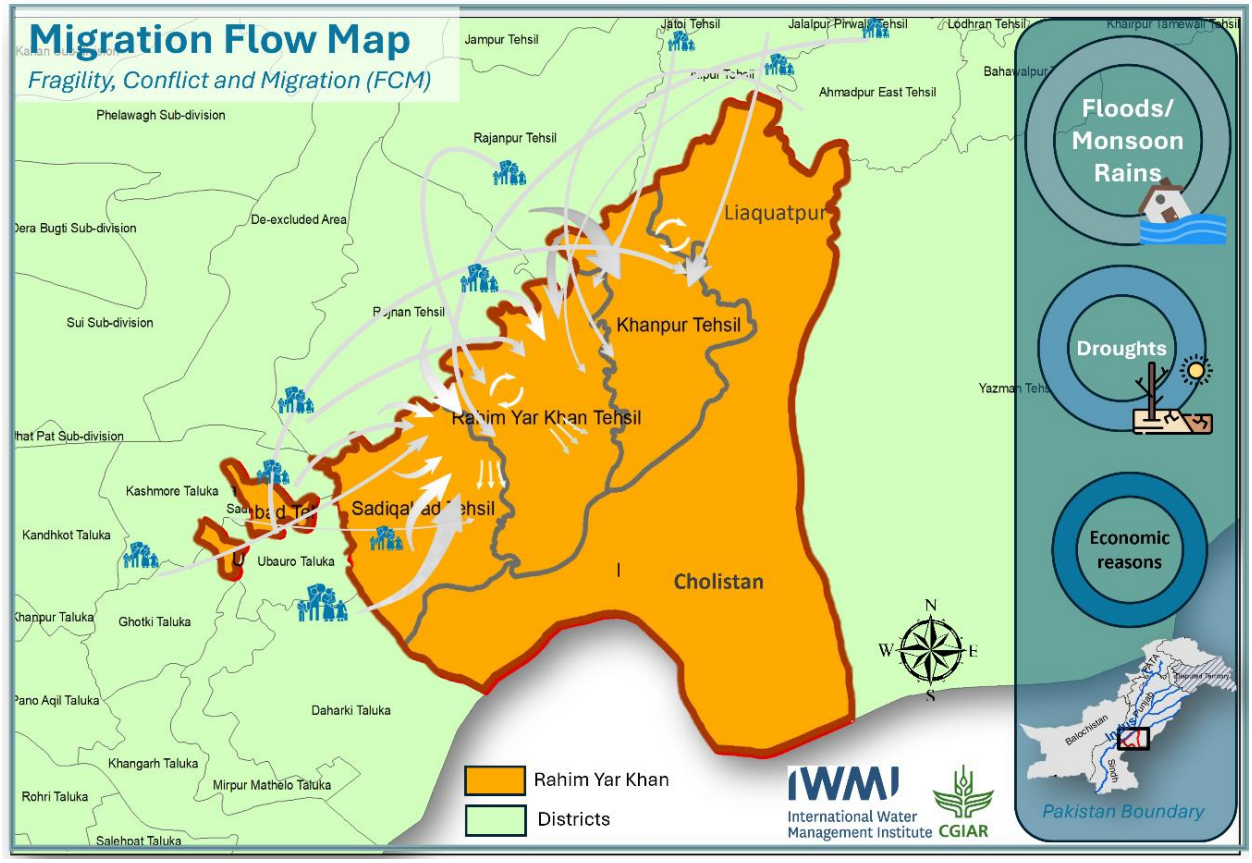

Figure 6. Migration flow of respondents surveyed across RYK

Source: IWMI Pakistan

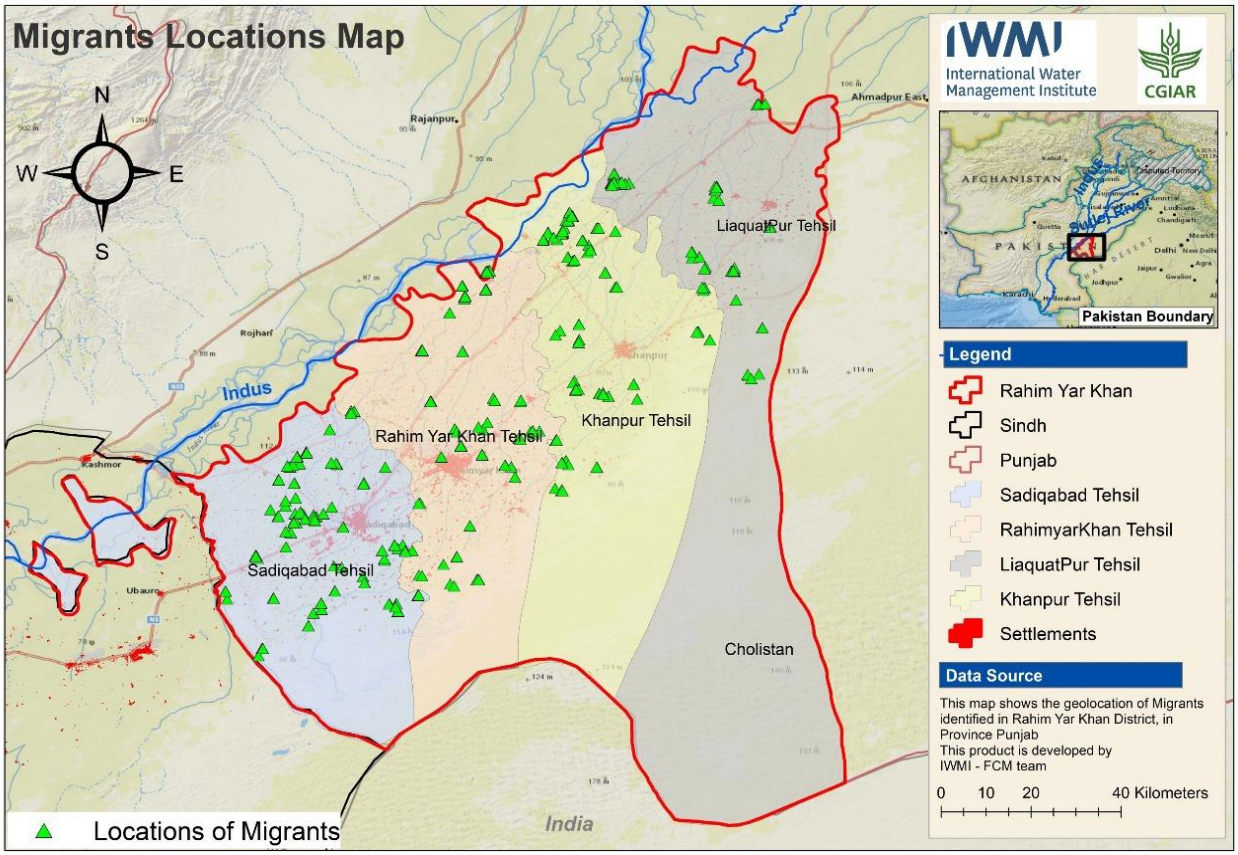

Figure 7. Spatial footprint of climate-induced migrants and IDPs surveyed across RYK district

Source: IWMI Pakistan

Driven by the need to ensure family safety amidst flood-related challenges, many households migrated collectively as communities, settling in vacant areas or places with livelihood opportunities. Most participants are laborers in agricultural fields who tend to the land. They reported that all their crops – and thus their livelihoods – were destroyed during the floods. Many homes were washed away, forcing them to move toward safety. Some FGD participants even reported the death of a close family member.

> **Due to the flooding, the crops were completely destroyed. The harvest was ready, but the flood came and all the essentials for living, including food and water, flowed away. Animals were washed away, and some even died, causing significant losses. Due to the water, houses collapsed, and many people were injured. Valuable documents also got soaked in water, including our identity cards. Everything was gone so we migrated. (Women's FGD, Khanpur)**

Generally, there was a sense that life was good, or at least manageable, before the floods. Participants may not have been wealthy but were able to earn a living. Others living further from the flood plains mentioned that the heatwave period and drought-like conditions (March to May 2022) before the floods began had caused the water level in the river to drop and stunted crop production. Low water quantity affected livelihoods, compelling many families to migrate.

> **I used to work as a farmer in a desert village, earning a decent income from my fields. However, circumstances forced both my family and our entire community to leave our homes and farmlands, which became barren due to the lack of water for our daily needs and for our livestock. We migrated to a new destination. Since then, to support my family's daily needs, both my wife and I have taken up manual labor. Unfortunately, the place where we have resettled is not much better than our native village, as it is also severely affected by drought. In fact, our village now lies abandoned, as everyone has moved to nearby villages. (Men's FGD, Cholistan Area, Sadiq Abad)**

While seasonal migration is commonplace in areas close to the Indus River, the majority of respondents reported that they would stay and settle in their current area (87%) rather than move back home (5%), while some were still unsure (7%). This may be because their homes were fully destroyed (95%) and their source of income/livelihood negatively affected (96%) before they were forced to move, as reported by the majority of respondents.

Drinking Water Source, Satisfaction and Safety

Issues of water quality and quantity were already prevalent in the district before the floods: Pakistan was ranked 80 out of 122 countries in terms of drinking water quality (Azizullah et al. 2011). Water quality research conducted by the Pakistan Council of Research in Water Resources (PCRWR) indicates that only 39% of tested water sources meet the national drinking water quality standards, with slow improvement made in the last years (an average of 1% per year between 2002 and 2020) (Hifza et al. 2021). PCRWR (2023) also classifies RYK as a district with high levels of arsenic contamination. Under the CGIAR Initiative on NEXUS Gains, IWMI Pakistan collected 91 water samples across district RYK and assessed the samples for arsenic, total dissolved solids (TDS), nitrate and fluoride levels. In nearly 55% of the samples, arsenic was the major contaminant, followed by TDS (37.4%), iron (15.4%), nitrate (7.7%) and fluoride (3.3%) (See **Annex B** for a detailed mapping of water contaminants across the district). Post-flooding, participants noted heightened water quality concerns after displacement.

> **Before the flood, we used to fetch water from our own handpumps at home, but they got washed away during the flood and we faced clean drinking water issues at the start of the flood. We have only handpumps. No other facilities for drinking water exist in the village. During the flood, we had to travel far to find places with clean water. The water was dirty, but we still drank it, and it made us sick. There was no other source of water for us. (Women's FGD, Liaquatpur)**

In their current locations, migrants still rely on handpumps near their homes (56%) or public taps/standpipes (35%) for drinking water, as well as for cooking and other household use. A small percentage rely on tubewells/boreholes (6%) or filtration plants (3%). While 55% of respondents report their HH does not face issues in accessing water, 45% do face challenges, highlighting the prevalence of water access issues across the district. The highest incidence of reported water access problems was in Sadiq Abad and Cholistan Desert, where 60% of respondents in each tehsil experience difficulties, suggesting intra-district disparities in water supply infrastructure or availability (**Figure 8**).

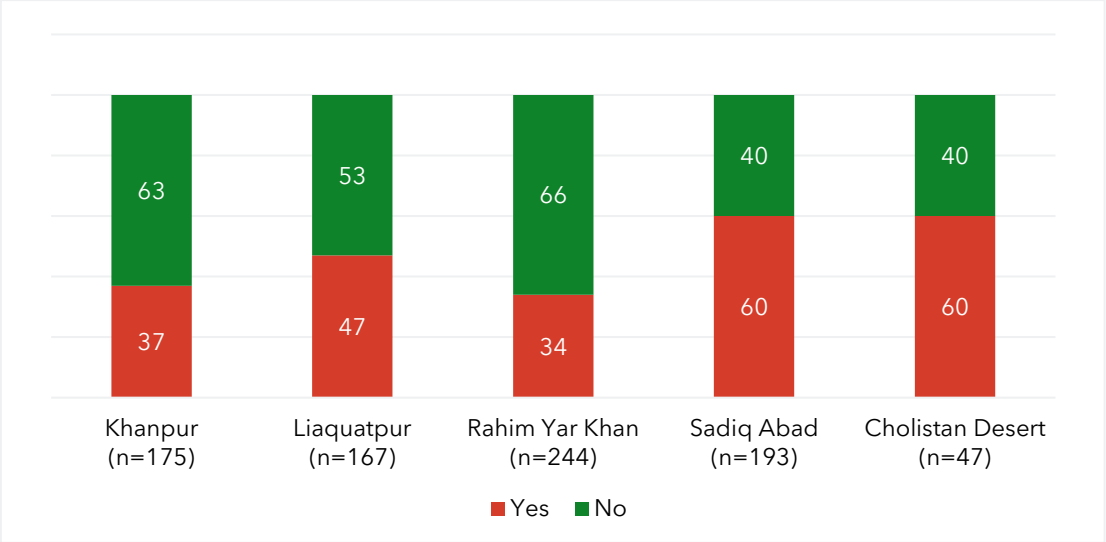

Figure 8. Percentage of households with water access problems across the tehsils

Source: Authors' creation

The most prevalent concerns highlighted were long wait times, children being left unattended at home, safety concerns, and water availability only at certain times of the day. Coping strategies used when water is unavailable were borrowing water from neighbors, drinking less water, reducing laundry, limiting showers and waiting until water is available again. Disputes also occurred about shared handpumps, "*because those who still had their handpumps were worried they would get damaged because everyone would come to take water*" (Men's FGD, Liaquatpur).

Additionally, only about 30% of all respondents across the district reported that their drinking water source is accessible to those with limited mobility or disabilities, indicating a lack of infrastructure designed for accessibility. However, 69% of respondents reported their drinking water source as being safe for women and young girls and boys to access, with variations across tehsils indicating potential differences in risks and safety measures with different water sources, particularly in Sadiq Abad and near the Cholistan Desert (**Figure 9**).

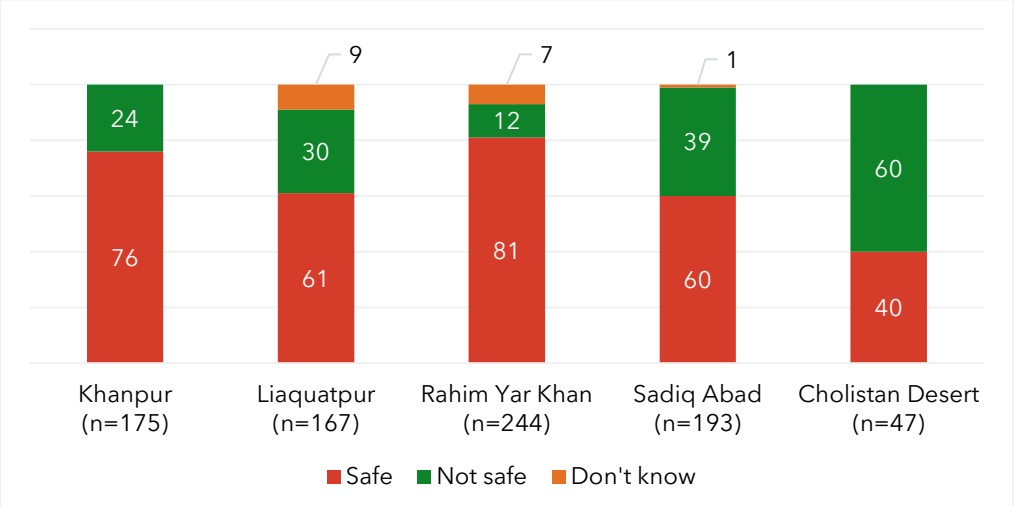

Figure 9. Perceived safety of drinking water access for women and children across the tehsils (%)

Source: Authors' creation

In terms of drinking water availability, more than two-thirds (71%) of the respondents reported that drinking water is always available from the source, about a quarter (27%) reported that water is available most of the time, and a small percentage (2%) reported that water is rarely available.

While water may be available most of the time, the reported water quality differs across the district. The majority (61%) reported that their drinking water is 'good', while only 6% reported it as 'excellent', and 21% reported it as

'neither good or bad', indicating room for improvement in water quality. Notably, in certain areas such as Cholistan Desert, none of the respondents reported excellent drinking water quality, while the highest water quality was reported in RYK tehsil. For individuals who reported poor drinking water quality, the primary reason was attributed to bad taste, smell and pollution (indicated by the presence of particles/materials or discoloration).

Both men and women (age 16 and above) are predominantly responsible for collecting drinking water (n=360), with women doing so slightly more often (48%) than men (44%). However, collection of domestic use water (n=309) falls primarily on women (60%) versus men (34%), suggesting a distinct gender role in terms of domestic water responsibility. Tehsil-wise, the comparisons show that more men collect drinking water in some tehsils **(Figure 10),** but more women collect domestic use water (**Figure 11)**. In the Cholistan Desert, men and women equally share responsibility for both drinking and domestic water collection. The involvement of children is minimal, with only 4% of both female and male children (under 16 years) responsible for drinking water collection across the district. Tehsil-wise variations are seen with drinking water collection by male and female children (**Figure 10** and **Figure 11**).

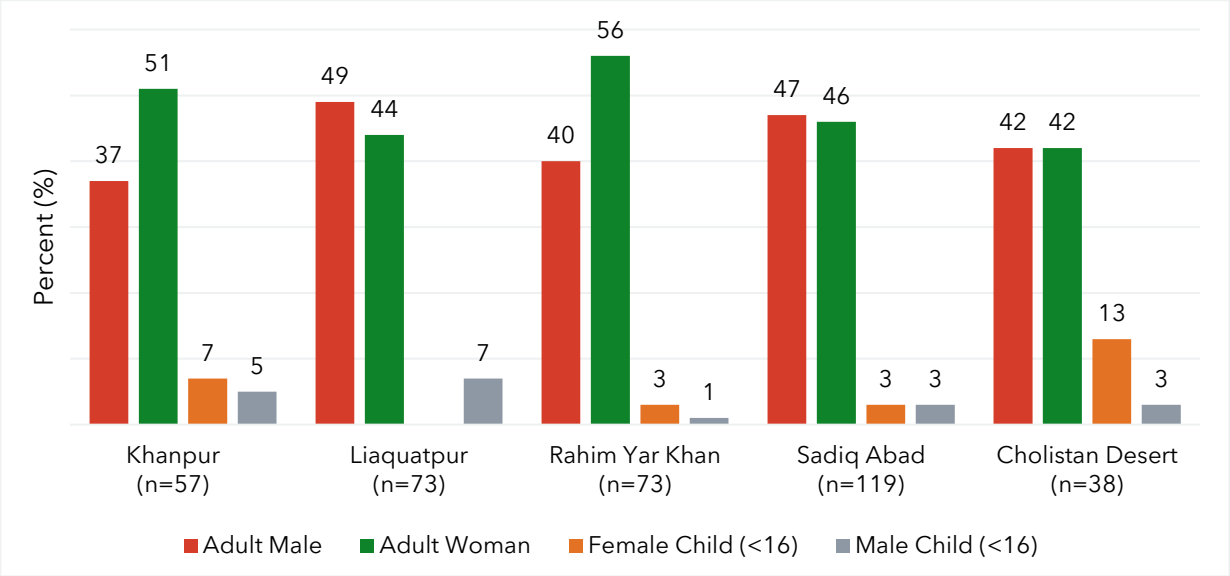

Figure 10. Drinking water collector (%) across the tehsils

Source: Authors' creation

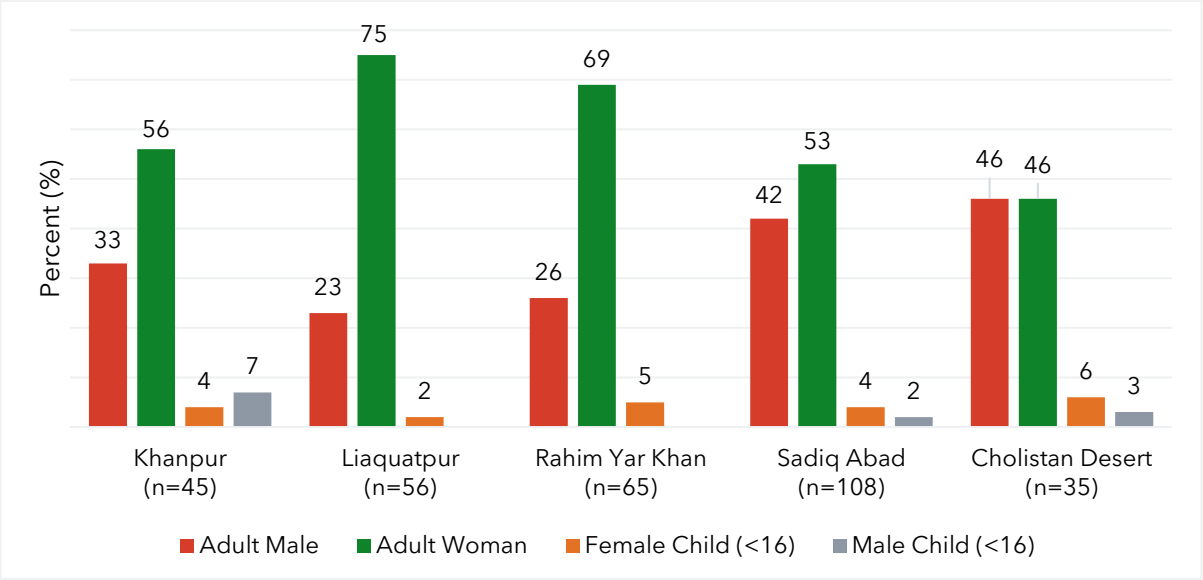

Figure 11. Household (domestic use) water collector (%) across the tehsils

Source: Authors' creation

Sex-disaggregated responses reveal interesting gender differences in perceptions regarding water collection responsibility. With women, there is a much larger gap between who they believe collects water (man vs. woman) than there is with men (**Table 2)**. This suggests women perceive themselves as the primary collectors of both drinking and domestic use water or overestimate their contribution, while men see the responsibility as more evenly shared for drinking water especially. Men may also underestimate the burden placed on women for household chores linked to water.

Table 2. Sex-disaggregated perceptions of primary drinking and household water collector (%)

	Drinking Water		Household Water	
	Women (%) (n=144)	Men (%) (n=216)	Women (%) (n=128)	Men (%) (n=181)
Woman collects	64	37	84	60
Man collects	27	55	51	34

Source: Survey data

The usual mode of transportation to collect drinking water and household use water is by foot/walking (80% and 89%), similar for both men and women, with a smaller proportion (less than 10%) of men and women relying on motorcycle or donkey cart use to collect water. During the FGDs, women stated that men would travel long distances to collect water due to safety concerns for women, as they are living in new and unknown areas with fewer social networks and so do not feel safe to travel freely outside.

The majority of respondents (35%) spend 15 to 30 minutes on an average trip to collect drinking water, while 20% spend 30 to 60 minutes on average. The time required for water collection extends beyond an hour for 11% of the total respondents, highlighting the significant burden placed on some households, and the potential for this chore to impact other daily activities. Tehsil variations suggest differences in access to water, depending on where a household has settled and on water availability across the district (**Figure 12**).

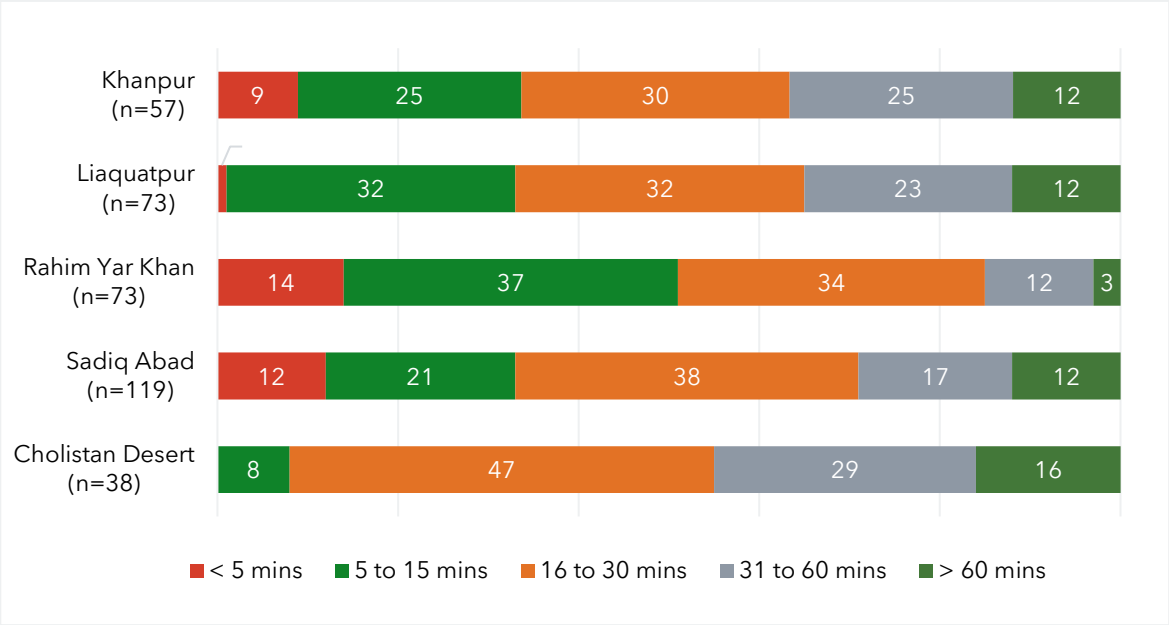

Figure 12. Average time spent collecting drinking water across the tehsils (%)
Source: Authors' creation

In line with the survey results, the FGD findings reveal that, in the aftermath of the flood, communities faced a severe shortage of water infrastructure. Many said that their handpumps, which were previously the primary source of clean water, had been damaged or washed away during the flood, leaving them without any functional facilities for accessing drinking water. The absence of alternative clean water sources forced residents to drink contaminated water at times, posing a significant health risk to themselves and their families.

> **Can you imagine waking up one morning, going to the tap for a drink, and finding the water yellow and stinky? It's not just about drinking; it's about cooking, bathing, and even giving water to our animals. We had no choice but to leave our homes, because there just wasn't enough clean water left for everyone. (Women's FGD, Khanpur)**

During the FGD, the participants highlighted the alarming deterioration in water quality immediately following the flood. It became evident from their accounts that the water, which had previously been clear and potable, turned visibly contaminated in the aftermath of the disaster. Residents described how the water changed color to a yellowish hue and emitted a foul odor, indicating severe contamination. This sudden degradation in water quality posed significant challenges for the community, as access to safe and clean drinking water became increasingly scarce.

Sanitation Challenges

In Pakistan, sanitation access disparities persist. In rural areas, 60% of the population has access to basic sanitation facilities, compared to 80% in urban areas (UN-Water 2022). Issues of water quality often go hand in hand with sanitation issues, especially in the aftermath of environmental disruptions. Sanitation infrastructure and practices are critical to maintaining community health and well-being, especially in the context of displacement and migration. There is a general lack of adequate sanitation infrastructure in the surveyed communities, with only 36% of households having a toilet facility inside their home. For households who share toilet facilities (28%), an average of three households share the facility. In terms of type of toilet facility used, the largest proportion of respondents (37%) report having no toilet facilities and using open fields/bush (i.e., open defecation), followed by a flush to pit latrine (30%) and flush to piped sewer system (17%). A small percentage (8%) use pit latrines (with and without slabs). Climate migrants in Cholistan Desert (72%) and Sadiq Abad (58%) have the highest prevalence of open defecation, indicating critical gaps in access to basic sanitation.

Improved sanitation facilities are defined as facilities that hygienically separate human waste from human contact (WHO and UNICEF 2022). Improved sanitation includes flush or pour-flush to piped sewer systems, septic tank pit latrines, ventilated-improved pit latrines, pit latrines with slabs and composting toilets. All other facilities (pit latrines without slabs, bucket latrines, hanging toilets and open defecation) are considered unimproved. Across all

tehsils, a significant majority (70%) of households report using unimproved toilet facilities, indicating widespread reliance on sanitation options that may not meet the standards for safety and hygiene (**Figure 13**). This prevalence of unimproved facilities is especially high in Cholistan Desert and Sadiq Abad, where 91% and 80% of households, respectively, rely on such facilities, highlighting the critical need for sanitation infrastructure improvement in these areas.

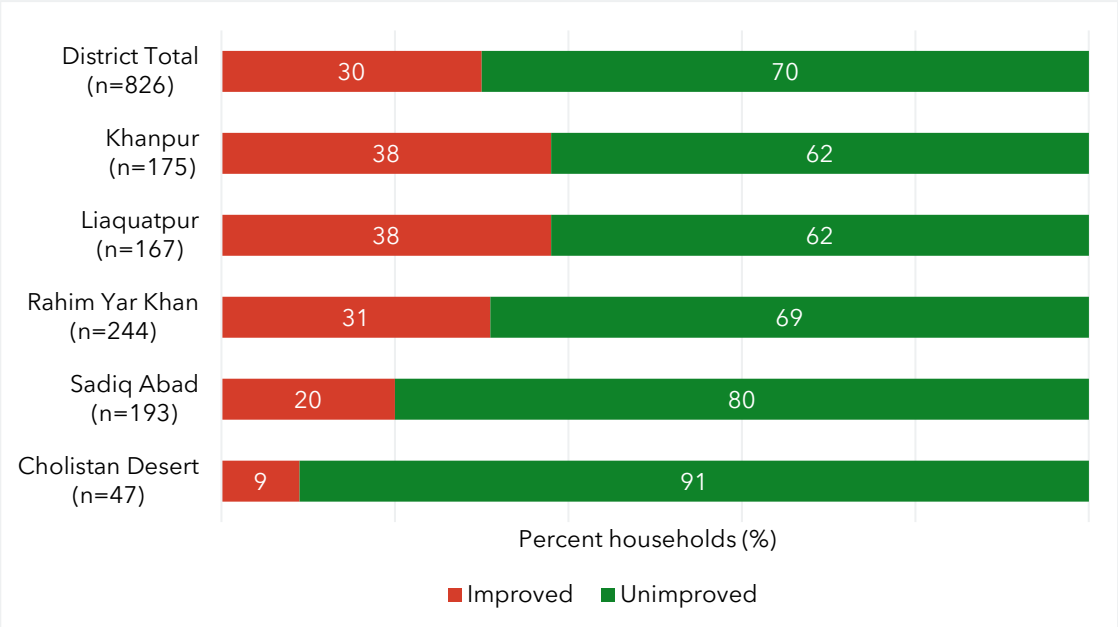

Figure 13. Households with improved and unimproved sanitation facilities across the tehsils (%)
Source: Authors' creation

Discussions with men and women indicate that a significant majority did not have latrines in their households before they migrated or were displaced. Women and men went to open fields for purposes of defecation. Women travelled in small groups for safety and to cover one another to ensure privacy. After the floods and displacement, this practice continued. The women expressed their fear of encountering insects or snakes in the open fields.

> **Sanitation facilities were also affected. Before the flood, we used to go to the fields for toilets, and some houses had toilets. During the flood, going to relieve ourselves became difficult due to submerged fields and people had to use shelter school toilets. There was always fear of encountering dangerous animals or insects outside. Now, there are toilets, but they are not functional, and people do not go outside due to safety concerns. (Women's FGD, Khanpur)**

In terms of household waste management, nearly half (46%) the respondents report burying or burning household waste outside their home, while 23% dispose of household waste in a designated (informal) disposal area in their neighborhood (with similar trends across tehsils). Household water used for cooking, laundry and bathing is also disposed of directly on the open ground by the majority of respondents (60%), followed by disposal in a sink/drain connected to a pit (18%) and disposal in a sink/drain connected to an open drain or open ground (13%).

Menstrual Hygiene Management

Of the 322 women surveyed, 62% (n=199) experience monthly menstruation and were willing to answer MHM-related questions. Only 32% of the women report that water is available all the time to wash their body daily during their period, highlighting issues with water availability, which has implications for women's hygiene. More concerning is that only 27% women reported that the water used during their period is always clean, while 11% reported it as rarely clean. The tehsil comparison indicates that women in Liaquatpur and Khanpur have the least difficulty in accessing water during their periods, while women living in Sadiq Abad and Cholistan Desert have a harder time managing their periods due to low water availability in these tehsils. These results suggest that water access and infrastructure vary across the district (**Figure 14**).

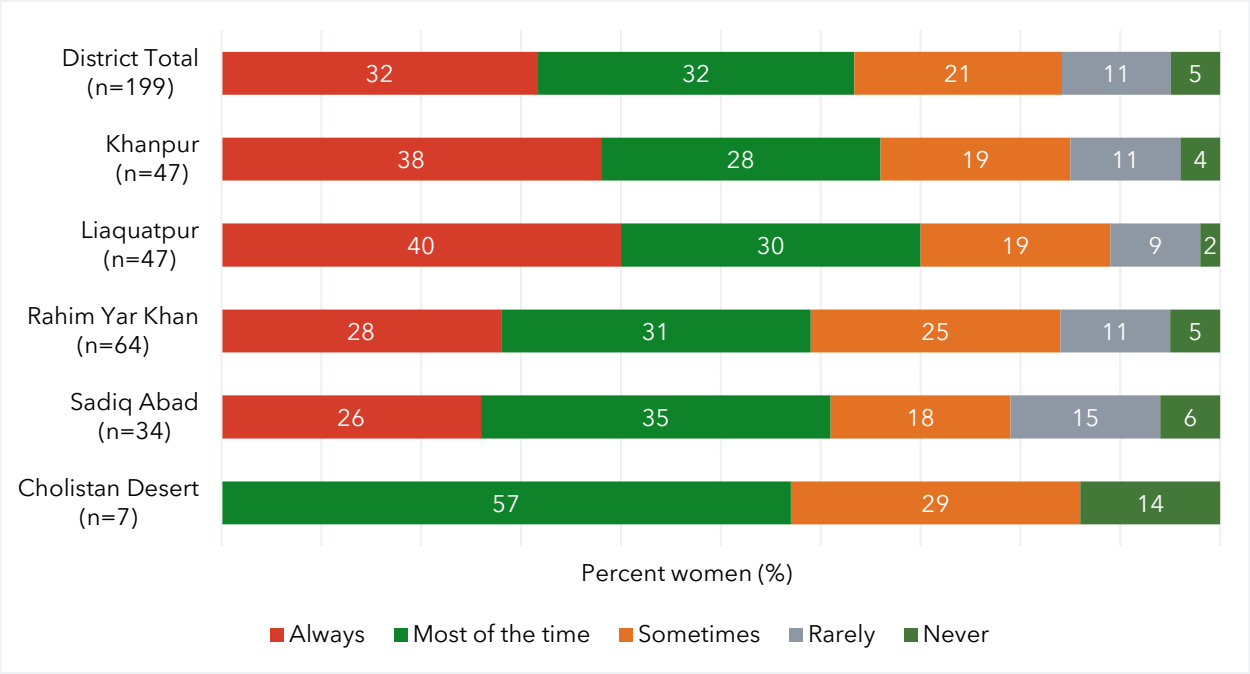

Figure 14. Availability of water to clean oneself during menstrual periods across the tehsils (% women)
Source: Authors' creation

Clean water is of utmost importance for MHM, as unclean water increases the risk of skin irritation and infections. Across the district, only 27% of women who have access to water during their periods (n=190) report that the water is always clean, 27% report that water is clean most of the time, and 11% report that water is rarely clean.

When asked about the ease of washing themselves and changing their sanitary materials in privacy inside their home, 15% of women report that they can always easily wash and change themselves, 33% women report that they can wash and change most of the time, 25% said sometimes, 20% said rarely and 8% said never. Notably, women reported more difficulties in washing and changing themselves in privacy when they are outside their homes traveling or running errands, indicating a lack of gender-sensitive sanitation infrastructure in public spaces (**Table 3**), with broader implications for how sanitation facilities are built in shelters or relief camps during disasters.

Table 3. Ease of washing and changing oneself inside and outside the home during periods

	Inside the home (% women)	Outside the home (% women)
Always	15	10
Most of the time	33	19
Sometimes	25	31
Rarely	20	20
Never	8	21

Source: Authors' creation

During the FGDs (**Figure 15**), women who have sheltered in camps also acknowledged poor MHM practices, with privacy a major concern as latrines were in areas when men would gather. The women reported numerous challenges related to lack of privacy and resources. Water shortages in flood-affected areas made it difficult for women to maintain cleanliness and wash reusable cloth pads effectively. Contaminated water sources increase the risk of infections and other health problems. Post-flood, these challenges have intensified. The disaster also disrupted essential services and infrastructure, making it even harder for women to access sanitary products. Financial constraints further compounded the problem, as many families struggled to afford these items amidst the post-disaster economic challenges.

Before the flood, we used to use cloth for sanitary purposes. During the flood, it became challenging, as we did not have toilets at home. When guests came it was difficult, as there were no toilets, and going outside to use cloth was problematic. We had to find a corner or use curtains to manage the situation. Many of us face allergies and rashes because we use basic cloths and dirty water to clean them. (Women's FGD, Khanpur)

In rural areas of Pakistan, 63% of women and girls use reusable materials, 25% use single-use materials (e.g., disposable pad) and 11% no material at all (UNICEF and WHO 2023). Disasters add another layer of difficulty to managing periods. Across RYK, the main sanitary material used by migrant or displaced women is reusable cloths (84%), while 16% use no material at all, higher than the national rural average. Women in Cholistan Desert (29%) had the highest prevalence of using no sanitary materials, followed by women in Khanpur (23%) and Sadiq Abad (21%).

Figure 15. FGD with female migrants in RYK

Source: IWMI Pakistan

Reusable materials are washed and hung to dry, which posed difficulties during the flood when facilities were damaged or destroyed and privacy affected. Women reported struggling to find the time and privacy needed to manage their menstrual hygiene effectively at home. With limited access to private space and the responsibility of caring for family members, women resort to wearing the same cloth pads for extended periods, compromising their hygiene and increasing the risk of infections and discomfort. The lack of suitable drying areas for cloth pads further exacerbated these challenges. Damaged homes and infrastructure made it difficult to find clean, private spaces to dry reusable menstrual hygiene products, leading to potential hygiene-related issues. Women often wait until men leave the house before they change their hygiene materials.

Lack of access to water affects both MHM as well as overall hygiene practices. For example, only 45% women report always washing their hands with soap after changing their sanitary materials and indicated the difficulties in washing and changing their clothes: **'We used to change clothes regularly before the flood, but during the flood it became challenging because it was difficult to wash them. We often had to wear wet clothes for days.'**

Overall, women's MHM needs were inadequately met both before and after migration or displacement, suggesting a broader problem of Pakistan's ability to fulfill women's reproductive health needs. Nearly half of the women (48%) surveyed noted that, after migration or displacement, managing their period was the same as before migration or displacement, while 31% reported that it became harder. Inadequate MHM is also linked to stress on mental health: 7% of the women reported that they always experience stress in managing their periods, 30% reported stress most of the time, 27% indicated sometimes, 7% indicated rarely, and 29% indicated never.

Health and Waterborne Illnesses

The prevalence of waterborne diseases is exacerbated by contaminated water sources, industrial pollution and inadequate sanitation infrastructure. Poor water and sanitation led to health and waterborne illnesses among climate migrant communities. The sudden onset of floodwater left communities vulnerable and psychologically shaken. With infrastructure damaged and resources scarce, individuals faced heightened risk to their health and well-being. Contaminated water sources and unsanitary conditions led to an increase in diarrheal illnesses, malaria, typhoid fever, and skin rashes among the affected population.

> **The flood had shocking effects on health. The contaminated water caused various illnesses, and people suffered from infections, fevers, hepatitis and itching. Some even had complications during pregnancy due to the lack of proper nutrition. The water in the rivers, which used to be a source of drinking water, became polluted during the flood. (Men's FGD, Sadiq Abad)**

The most prevalent illnesses faced by the respondents or someone in their household were diarrhea (80%), malaria (69%), gastroenteritis (60%), typhoid (54%), skin irritation or rashes (51%), and cholera (45%). Women had a higher reported prevalence of diarrhea, hepatitis A, typhoid, malaria, gastroenteritis, cholera and skin irritations/rashes compared to men and young boys and girls. The tehsil comparison (**Table 4**) indicates that Khanpur has the highest rates of diarrhea, gastroenteritis, typhoid, skin rashes, cholera and dengue compared to the other tehsils. The Liaquatpur and RYK tehsils have the lowest rates across the district.

The FGD participants reported that medical facilities had also been destroyed and families have to travel farther distances to reach a hospital or clinic, sometimes traveling up to 5-6 hours. Others reported that doctors were often unavailable or that roads had been damaged or destroyed, preventing access to medical facilities. Illnesses from poor water quality also prevented individuals from being able to work, further compounding vulnerabilities.

Table 4. Prevalence of reported waterborne disease across the tehsils in the past two years (% households)

	Khanpur	Liaquatpur	Rahim Yar Khan	Sadiq Abad	Cholistan Desert	Total
	n=175	n=167	n=244	n=193	n=47	n=826
Diarrhea	88	75	76	82	81	80
Malaria	71	62	69	71	74	69
Gastroenteritis	67	60	53	63	64	60
Typhoid	70	42	47	59	57	54
Skin irritations or rash	59	52	44	54	45	51
Cholera	54	46	37	45	43	45
Hepatitis A	31	17	16	31	19	23
Hepatitis E	16	12	16	23	19	17
Intestinal worms	24	19	10	28	6	19
Dengue	15	12	10	11	11	12

Source: Authors' creation

Note: Values indicate the percentage of households that reported each disease experienced by the respondent or someone in their household. Percentages do not sum to 100% as respondents could select multiple illnesses.

Water Insecurity

To assess water insecurity, the Individual Water Insecurity Experiences (IWISE) Scale (Young et al. 2021) was used in the survey tool. This is a 12-item tool designed to measure personal experience of water insecurity at the individual level. It assesses how water insecurity impacts daily life, considering the availability, accessibility,

adequacy, and reliability of water resources (Young et al. 2021). The total score ranges from 0 to 36, with scores of 12 and above indicating water insecurity. A little over half of the surveyed migrants (54%) are water secure, while 46% are water insecure. Tehsil-wise disaggregation reveals that more respondents in Cholistan Desert (68%) and Sadiq Abad (64%) are water insecure, while the RYK (64%) and Khanpur tehsils (61%) have the highest proportion of water secure respondents (**Figure 16**). Sex-disaggregated analysis indicates that women are more water insecure than men across the district (**Figure 17**).

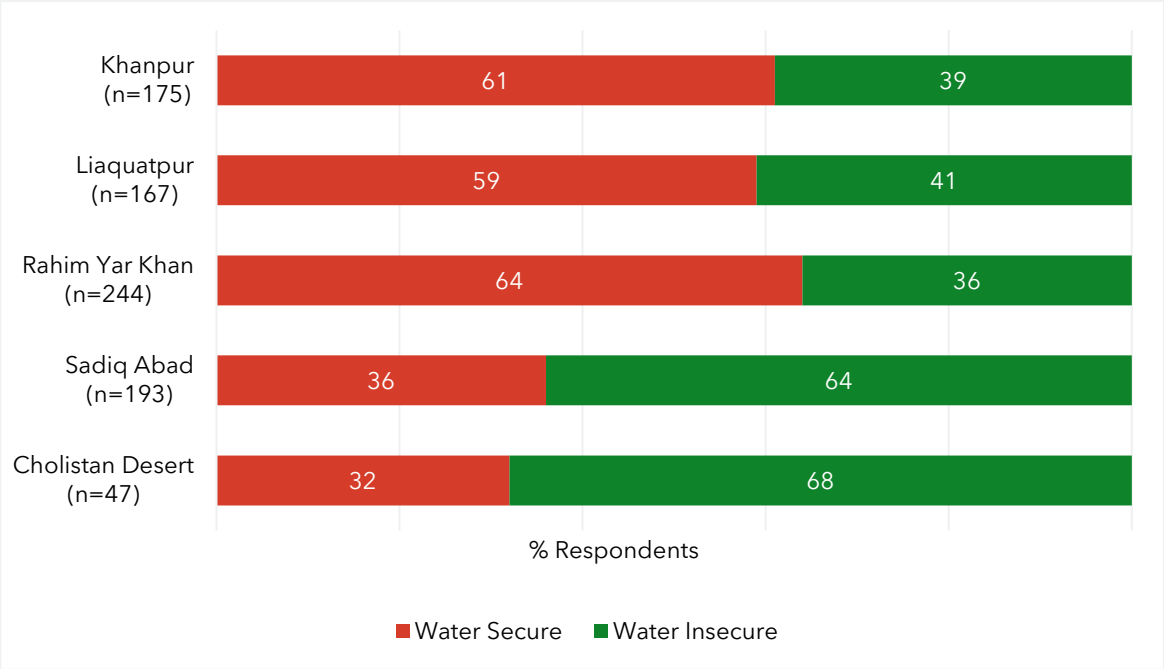

Figure 16. Water insecurity levels across the tehsils (% respondents)
Source: Authors' creation

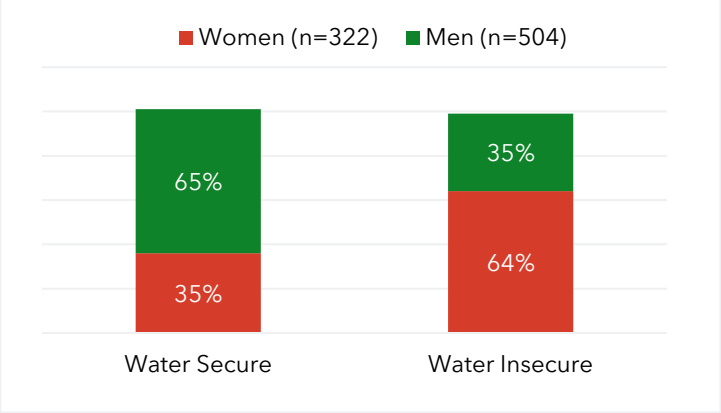

Figure 17. Water insecurity of climate migrants across RYK (men and women)
Source: Authors' creation

Food Insecurity Experiences

The Food Insecurity Experience Scale (FIES) is an 8-item tool developed by the Food and Agriculture Organization (FAO) to measure the severity of food insecurity at the individual or household level (FAO 2018). The FIES does not quantify food consumption or assess diet quality. Respondents answer "yes" or "no" to questions that relate to experiences of food insecurity over the past year. Scores range from 0 to 8, with higher scores indicating greater severity of food insecurity. Data were analyzed using FAO's online FIES application tool to compute final scores and categorized responses as food secure, mild food insecurity, moderate food insecurity or severe food insecurity.

Notably, none of the climate migrant respondents were categorized as food secure or mildly food insecure. Approximately 91% of the surveyed sample experiences at least moderate or severe food insecurity, while 60.19%

experiences severe food insecurity, highlighting significant challenges in accessing adequate and nutritious food (**Table 5**). Moderate or severe food insecurity refers to individuals or households who have reduced the quality and/or quantity of their food, and who face uncertainty in terms of their ability to obtain sufficient food due to limited resources. Severe food insecurity refers to those who have run out of food and, in extreme cases, have gone days without eating. This group is characterized as experiencing severe hunger and the most acute form of food deprivation (FAO 2024). Sex-disaggregated analysis reveals that women are more food insecure than men, experience a higher prevalence of moderate or severe, and severe food insecurity (**Figure 18**). The observed difference in the mean scores (0.4) of men and women is statistically significant, indicating that gender plays a significant role in food insecurity as measured by this index.

Table 5. Prevalence of food insecurity across the tehils (% households)

	Moderate or severe (%)	Severe (%)
Combined district (n=826)	90.87	60.19
Khanpur (n=175)	91.96	59.09
Liaquatpur (n=167)	87.25	52.86
Rahim Yar Khan (n=244)	87.19	56.63
Sadiq Abad (n=193)	88.23	55.58
Cholistan Desert (n=47)	86.32	51.68

Source: Authors' creation

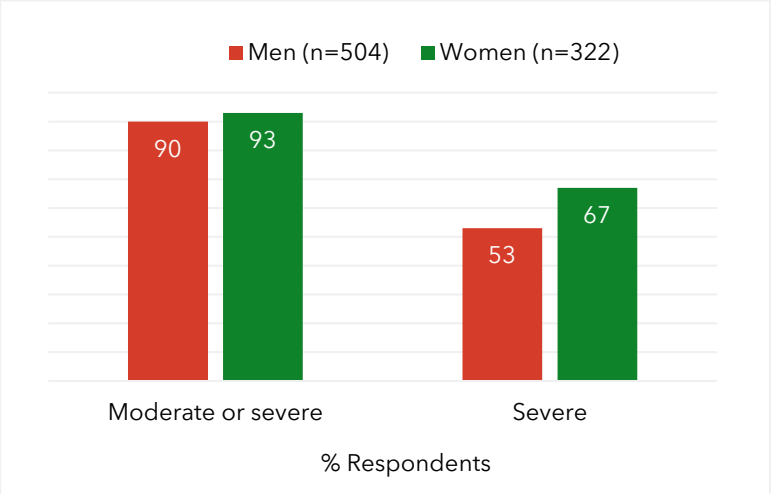

Figure 18. Prevalence of food insecurity levels across RYK (men and women)
Source: Authors' creation

According to Pakistan's National Nutrition Survey of 2018, 1,054 households were surveyed across the RYK district: 39.4% households were food secure, 34.1% were mildly food insecure, 15.7% were moderately food insecure and 10.8% were severely food insecure (Government of Pakistan and UNICEF 2020). Communities most vulnerable to climate change and the impacts of disasters were likely already experiencing food insecurity before the floods struck. These populations were already facing significant socio-economic challenges and were predisposed to food insecurity, and the floods intensified the severity of their food insecurity.

During the FGDs, all participants expressed how challenging it is for them to afford food for their children and families, citing high inflation costs as a main barrier.

> **During the flood, we survived on the relief food provided. Children were often fed with soaked bread, and they were frequently hungry. There was a shortage of food, and people struggled to find affordable items. The rates of commodities doubled after the flood. Now, with PKR 6,000 (USD 21.58), you can only buy what used to cost PKR 2,000 (USD 7.19). (Women's FGD, Cholistan, Liaquatpur)**

Participants indicated that in order to cope with inflation, diets were altered, sometimes meals were cut from three per day to only one, and they purchased the least expensive food items. Women also said that priority was given to feeding children, even if that meant that adults skipped meals. Some households also relied on charity rations distributed by NGOs or local government.

Living standards before and after migration

Wealth quintiles (poorest, poor, middle, rich, richest) were determined using the EquityTool developed for Pakistan, consists of 12 items that cover assets, source of cooking fuel, and materials used in household construction (Metrics for Management 2020). The EquityTool is a validated shortened version of the Wealth Index used in Demographic and Health Surveys (DHS) to capture household living standards. Wealth quintiles before and after migration or displacement are compared in **Table 6,** and a sex-disaggregated comparison is provided in **Table 7**.

Table 6. Wealth quintile before and after migration/displacement

	Before Migration/ Displacement	After Migration/ Displacement
	Total (n=826)	
Poorest	56%	78%
Poor	31%	19%
Middle	11%	2%
Rich	2%	1%
Richest	1%	0%

Source: Authors' creation

Table 7. Wealth quintile before and after migration/displacement (men and women)

	Before Migration/ Displacement		After Migration/ Displacement	
	Men (n=504)	Women (n=322)	Men (n=504)	Women (n=322)
Poorest	57%	53%	85%	68%
Poor	29%	34%	12%	29%
Middle	11%	10%	2%	3%
Rich	3%	2%	1%	0%
Richest	0%	1%	0%	0%

Source: Authors' creation

Even before migration or displacement occurred, the majority of men and women were already in the poor or poorest wealth quintiles. The situation worsened after migration/displacement, particularly for men, where there was a 28% increase in respondents categorized as poorest compared to a 15% increase in women in the same category. This suggests that men were more affected by loss of livelihoods or employment opportunities, as they are the traditional breadwinners in Pakistani society, and are generally wealthier than women (Abbas et al. 2021).

Tehsil-disaggregated data show similar trends, with a large jump from the poor to poorest wealth quintiles before and after migration (**Figure 19** and **Figure 20**). The biggest increase occurred in Khanpur and Cholistan Desert, which points to localized challenges in these areas, such as limited access to resources, income-earning opportunities and support systems.

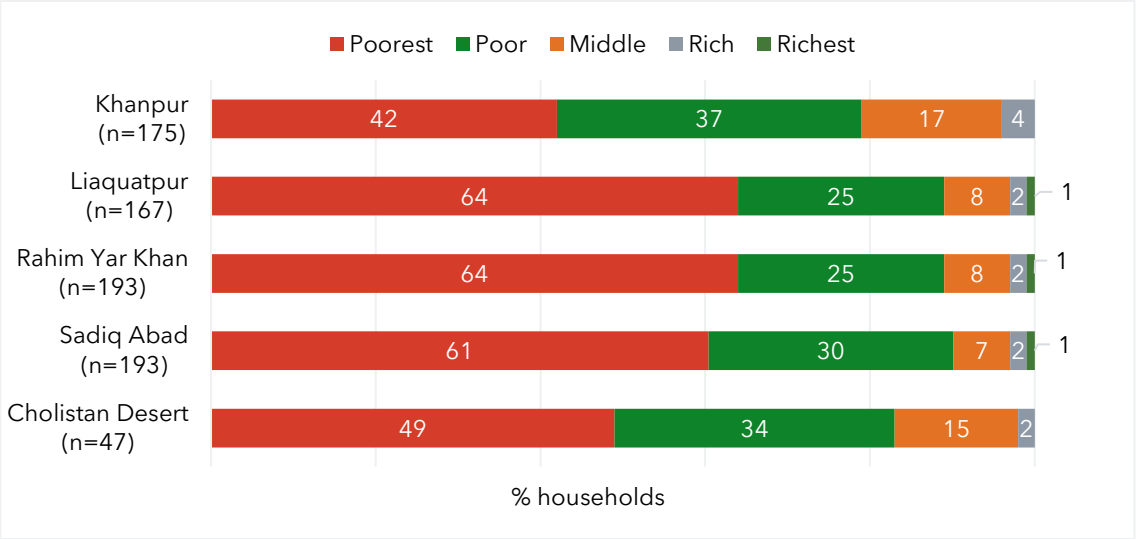

Figure 19. Household wealth quintiles across the tehsils before displacement
Source: Authors' creation

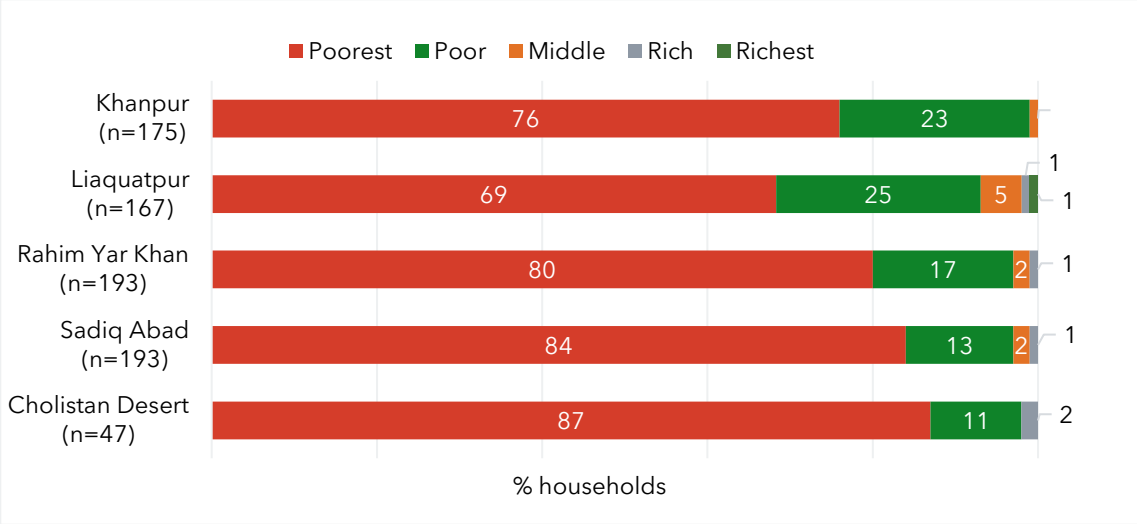

Figure 20. Household wealth quintiles across the tehsils after displacement
Source: Authors' creation

The results point to pronounced worsening of economic conditions following migration or displacement, highlighting the need to address not only immediate humanitarian needs but also long-term economic resilience and adaptation strategies for climate-displaced populations. In terms of receiving government assistance or aid, 78% of respondents reported that they had not received any kind of assistance after being displaced, with 18% reporting that they had received assistance from the government, and only 4% having received assistance from NGOs. Of those who had received assistance (n=179), 65% received food rations, 20% received cash assistance, 13% received both food rations and cash, and 2% reported assistance with constructing a house.

Interpersonal disputes and mental health challenges

Community discussions highlighted a range of challenges faced by both men and women in the wake of migration. While some communities remained close-knit and supportive of each other, disputes inevitably arose after the floods, driven by concerns over housing loss, food insecurity, and the well-being of children. Many parents reported that schools were either damaged or converted into shelters, impacting children's ability to continue their education. Some respondents indicated that relatives not impacted by the floods cut off contact

with their families and did not offer any support, suggesting instances of social isolation and feelings of abandonment and distress. The mental health toll from being uprooted manifested in "a general sense of disturbance and unease among [the community]", including arguments with family members and neighbors which, in some cases, ended in tragedy.

> **During the days of the floods, divorces happened, and the children suffered. There was a woman, distressed by the situation, who went back to her parents' home with her children, while her husband, overwhelmed by the situation and unemployment, ended up taking his own life. (Women's FGD, Liaquatpur)**

Men and women also said that the floods impacted elderly and disabled family members who were very disturbed at the upheaval and needed constant supervision and support. In some cases, it was adolescents who watched over elderly or disabled relatives, adding to their own emotional burden.

Early warning information and government coordination

More than half the respondents (58%) reported not receiving any early warning information before the floods hit. The tehsils with the highest percentage of individuals who did not receive an early warning were Cholistan Desert (68%) and Sadiq Abad (65%), followed by Liaquatpur (61%), Khanpur (54%) and Rahim Yar Khan (52%). The most common sources of warning/information were family members or neighbors and community centers (e.g., mosque), highlighting the importance of investing in community-based EWS. During the FGDs (**Figure 21**), participants said that families did not have adequate time to prepare because warnings did not arrive in time, and some people did not heed the warnings and remained in their homes. Others did not see any signs of flooding and underestimated the warning information. Additionally, the men and women who had received some type of warning, either from the army or television, did not have any means to evacuate and did not know where to go.

Additionally, digital gaps in communicating early warning information are prevalent. Almost 60% of respondents do not own a mobile phone, and of the 40% who do, 87% only own a basic phone (not a smart phone). Further, 84% of respondents do not know how to send a text message and 79% cannot read, suggesting inaccessibility of early warning text messages sent by the government to mobile phones. A gender gap also persists, with a significantly higher percentage of women who do not own a mobile phone (75%), who cannot read (90%) or cannot write/type text messages (94%). A companion report on the digital ecosystem of disaster response in Pakistan takes a deeper dive into these findings (Waqar et al. 2024).

Figure 21. FGD with male migrants
Source: IWMI Pakistan

Key informants from the government shared a different perspective on disaster preparedness, while acknowledging gaps in coordination. A representative from Rescue 1122 in RYK emphasized that the district is always prepared for rescue response in disasters and coordinates with the Provincial Disaster Management Authority (PDMA) to conduct mock exercises:

> **The government consistently provides timely flood and rain alerts to both local authorities and communities, and media tends to amplify these alerts. However, challenges in accessibility and**

reach, particularly in remote or marginalized areas, may hinder the effective dissemination of alerts. Additionally, issues of reliability and trust could undermine the perceived credibility of the alerts among the population. Even if alerts are issued, communities may not take them seriously or act upon them if they do not trust the source. Furthermore, while the media may amplify alerts, not everyone has access to news channels, or it may be confusing to understand for some.

Another government informant explained that rural communities have a strong connection to their land and homes, and this often hinders migration. Affected communities often resist relocation during floods due to a mix of practical, cultural, and economic factors. Financial constraints, a strong connection to their land and livelihoods, and fear of losing agricultural assets are among the reasons that deter them from migrating. Moving away from one's land or home is the last option after all has been destroyed; alternatively, many families return to their homes after a few weeks or months.

Other respondents interviewed acknowledged that disaster response tends to be reactive, and that the government and civil society only activate once a disaster hits. This leads to coordination issues and duplication of efforts during relief and recovery interventions, and this is further compounded by a lack of standardized data collection and sharing across districts. Further, addressing migration or displacement is not at the forefront of policies or planning in terms of thinking about social safety nets or legal protections for climate migrants, as well as long-term recovery initiatives.

Discussion and Recommendations

Improving adaptive capacity and sustainable development can significantly reduce the risks of involuntary migration and displacement due to climate change (IPCC 2023). Migrant and IDP communities were already vulnerable before the 2022 disaster hit, but it exacerbated their vulnerabilities and pushed them further into poverty and inadequate access to essential services and supplies. The survey results highlight several critical issues:

1. **Infrastructure Deficiency:** The district relies heavily on channeled water as its main source, raising quality concerns. Migrant and IDP communities have less access to clean sources of water, and women often bear the burden of water collection. Further, because of poor construction of houses and constructing dwelling in areas prone to floods, the majority of the participants had their homes fully destroyed, leading to longer recovery times and a higher chance of forced migration and displacement.
2. **Health and Sanitation:** Inadequate access to sanitation and health services is evident from the prevalence of waterborne illnesses, compromising water quality and public health. Women had a higher prevalence of waterborne illnesses, including diarrhea, stomach issues and skin rashes. Pregnant and breast-feeding women were at even higher risk. MHM is also a critical concern for women without adequate access to clean water, and safe, private areas to wash and change themselves while on their periods.
3. **Water and Food Insecurity**: Water insecurity exacerbates food insecurity, necessitating integrated interventions that encompass agricultural production, sanitation, and water management to mitigate food shortages and improve nutrition. Across the district, women had a higher level of water insecurity and experienced more severe food insecurity than men, highlighting gendered vulnerabilities in terms of water and food access. Food insecurity is part of a larger systemic issue that needs to be taken into consideration in terms of disaster response and AA measures.
4. **Economic Vulnerability:** Households were already in the lower wealth quintiles before the disaster. Migration and displacement pushed them further into the poorest quintiles, highlighting an increase in economic vulnerability and instability. This situation underscores the need for long-term recovery programs that can help displaced individuals regain stability and move out of poverty.
5. **Mental Health Burden**: Participants indicated that being displaced and losing their homes caused tension in households, and the damage to water infrastructure led to communal arguments over shared use of functioning handpumps. Inflation made it difficult for households to afford basic groceries, which also led to heightened tempers and arguments between spouses.
6. **Poor Planning and Coordination in Disaster Response Efforts**: PDMAs tend to be reactive rather than proactive, and the institutional framework is government-centric with minimal community engagement. Civil society and NGOs are activated after disaster strikes, and humanitarian programming is often focused on the short-term, immediate needs of affected communities. This approach leads to fragmented and less effective disaster response and recovery efforts. Effective disaster management requires a shift toward inclusive, community-centered planning that involves local stakeholders in risk assessments, disaster preparedness, and recovery planning. Building local capacity, fostering inter-agency coordination, and integrating long-term development goals into disaster response strategies are crucial in reducing vulnerability and ensuring sustainable recovery.

Based on the vulnerabilities assessed using the survey and interviews, various recommendations are proposed to address the migration-related challenges to disaster response and climate resilience in Pakistan, as detailed below.

Short-Term

- **Improve accessibility to essential services:** The district administration should ensure accessibility to healthcare, education, and critical amenities, including potable water, to mitigate the impact of climate change. Alongside managing and implementing rapid response units at the district level, the PDMA must provide mobile emergency health camps/clinics to prevent long travel time and allow communities to receive the healthcare they need, particularly for pregnant women and women with young children. This includes addressing the menstrual hygiene needs of women in disaster contexts and ensuring access to sanitary pads and soap in order to maintain cleanliness and prevent infections.
- **Support climate-resilient agriculture and water management:** Collaborate with provincial agriculture and irrigation departments, including On Farm Water Management (department), to implement specific climate-resilient agricultural practices and integrated water management systems. This includes establishing drought-resistant crop varieties, optimizing irrigation techniques such as drip or sprinkler systems, and developing water conservation strategies. Offer training workshops tailored to the specific needs of displaced communities and provide technical support and financial incentives to encourage their adoption, in collaboration with the private sector and donors (World Bank, USAID, etc.). Additionally, provincial agriculture departments should develop comprehensive water management plans (in line with the National Water Policy, National Climate Change Policy and National Adaptation Plan) that ensure the sustainable use and conservation of water resources for both human and livestock needs. These measures would help displaced agricultural communities recover more effectively after a flood, stabilize their livelihoods, and build resilience against the impact of climate change in the future.
- **Map climate-induced migration patterns, and water and food insecurity trends:** The Pakistan Bureau of Statistics (PBS) should map climate-induced temporary migration patterns within and outside Pakistan in collaboration with provincial bureaus and humanitarian organizations like IOM and UNICEF and research institutions like IWMI to provide technical support to identify clusters of individuals in each district in relation to the availability of resources before, during and after disaster events. This data will enable government departments and policymakers to better understand the effect that climate change has on migration trends and provide more targeted support to vulnerable populations.

Medium-Term

- **Integrate vulnerable migrant and IDP households into national programs:** Incorporate migrant and IDP households into national programs like the BISP, Ehsaas Program, and Punjab Free Health Insurance Scheme to provide social protection and assistance. Policies need to be adapted to accommodate families who have lost national identification cards and valuable documentation during disasters, which hinders their ability to register for these programs. Financial support mechanisms should be reevaluated to reconsider the duration of support (e.g., 1 month, 3 months, 6 months, etc.) and the amounts adjusted for inflation and family size.
- **Enhance shelter and camp infrastructure for displaced populations:** To improve the effectiveness and sustainability of temporary shelters and camps, NDMA, PDMAs, district administrations, and humanitarian organizations should establish a clear matrix of roles and responsibilities. This matrix should define specific duties for the setup and management of shelters, including the provision of clean drinking water, sanitation facilities, and food services. Shelters should be structurally sound and equipped with essential services, including reliable access to clean drinking water, efficient sanitation facilities, and health services, including psychosocial support services. These facilities should be designed with gender sensitivity in mind, such as providing secure, private spaces for MHM, and safe areas for women and children. Establishing regular maintenance protocols and integrating livelihood support into shelter planning would further enhance resilience.

- **Improve EWS:** Improve the timeliness and reliability of EWSs by improving the forecasting capability of the Pakistan Meteorological Department (PMD), the NDMA, and the Federal Flood Commission (FFC) to ensure more accurate flood warnings. Enhancing predictive trigger models with real-time data—such as rainfall, river flow, and weather forecasts—would enable these agencies to set context-specific thresholds that trigger AAs, like evacuations or cash transfers. These pre-planned triggers need to be coordinated among agencies (NDMA, Ministry of Climate Change, Ministry of Planning), humanitarian actors, and local organizations on the ground. Strengthening inter-agency coordination and communication, building community-based early warning dissemination networks, and integrating forecast-based financing mechanisms could further ensure timely, effective responses.
- **Develop a Disaster Management Information System (DMIS):** To improve governmental coordination, the NDMA should establish a DMIS to equip provincial and district disaster authorities, and relevant agencies, with new IT equipment to ensure emergency relief operations are effectively tracked. Standardized data from districts and divisions should be uploaded to the DMIS to manage all humanitarian aspects of crises in terms of preparedness, response, and recovery. This system would enable decision-makers to collect real-time information to organize and advise emergency response methods effectively. The NDMA should oversee the DMIS and ensure that PDMAs, DDMAs, UN agencies and local NGOs on the ground collect and reporting data that can easily be integrated into the online dashboard.

Long-Term

- **Enhance advocacy for increased climate change and disaster funding in the federal budget:** To effectively implement AAs and disaster preparedness measures, it is essential to advocate for increased funding in climate change and disaster management. Of the total national budget for 2024-2025 in Pakistan (PKR 18.9 billion/USD 67.9 billon), only PKR 962 million (USD 3.5 million) is allocated to environmental protection - approximately 0.005% of the total budget. Disaster preparedness is allocated around PKR 47.4 million (USD 170.6 million) (0.25% of total budget), but response and recovery funds are relatively low, at PKR 12.9 million (USD 46.8 million) and 444 million (USD 1.6 million), respectively - less than 0.1% of the federal budget. Advocacy should aim to bridge the gap between budget allocations and actual needs by engaging with policymakers, civil society, and the media. Additionally, exploring private sector funding opportunities would complement government efforts and ensure a more robust and comprehensive approach to climate adaptation and disaster preparedness. Prioritizing increased, diversified funding would enhance support for vulnerable communities, and bolster resilience against climate impacts.
- **Promote integrated climate-resilient practices to tackle disasters:** Support nationwide adoption of climate-resilient practices through the Ministry of Climate Change and relevant provincial departments, integrating these into disaster response plans in collaboration with the NDMA and provincial and district DMAs. Government departments, which normally work in siloes, should be incentivized to improve coordination and communication, including agriculture and irrigation, disaster management, and public health and planning departments.
- **Facilitate regional cooperation on disaster response and migration:** Pakistan should engage in regional and international dialogues to address climate-induced displacement collaboratively. This includes integrated regional planning to ensure coordination with neighboring countries and sharing and adapting best practices to meet the needs of IDPs during climatic events in the local Pakistani context. This could also involve advocating for the recognition of climate migrants within global and national frameworks. By adopting a proactive approach to climate migration, Pakistan would not only safeguard its vulnerable populations, but also contribute to broader efforts to combat the impact that climate change has on displacement globally.

Conclusion

This report highlights the significant challenges posed by climate-induced migration in the district of RYK and provides a comprehensive set of recommendations to enhance disaster response and climate resilience in Pakistan. The survey results underscore the critical need for infrastructure development, improved access to essential services, and the adoption of climate-resilient agricultural practices. Women, in particular, face a disproportionate burden related to water collection and sanitation, exacerbating their vulnerability in the face of climate change.

Economic vulnerabilities are pronounced, with a significant shift towards lower wealth quintiles following migration or displacement. This trend emphasizes the urgent need for targeted interventions to support affected communities and reduce socio-economic disparities. Furthermore, the findings reveal that PDMAs tend to be reactive rather than proactive, highlighting the need for community engagement and the development of comprehensive disaster management strategies.

Key recommendations include:

- Supporting climate-resilient agricultural practices like the introduction of drought resistant crop varieties.
- Improving access to healthcare and critical amenities, particularly in flood prone areas, through the development of mobile health units, especially in remote areas of the country.
- Integrating vulnerable households into national programs through the enhancement of social protection programs, especially through the introduction of schemes/initiatives in the provincial Annual Development Program.
- Raising awareness among policymakers by leveraging platforms that are actively involved in providing disaster response, including NDMA, PDMA, and DDMA.
- Enhancing EWS and developing a DMIS for improved coordination and real-time information management.
- Long-term advocacy efforts to improve funding allocation for disaster response and climate resilience.

By implementing these recommendations, Pakistan can better prepare for and mitigate the impact of climate-induced migration, ultimately fostering sustainable development and resilience in vulnerable regions. Collaborative efforts among governmental tiers, community engagement, and the integration of innovative technologies are essential in addressing the multifaceted challenges posed by climate change and ensuring the well-being of affected communities.

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Annex A. Survey Tool

Community Survey کمیونٹی سروے

Introduction and Consent: تعارف اور رضامندی

- AoA. My name is [*Enumerator Name*] and I am from IWMI. IWMI is a non-profit research organization that works on issues related to water and climate change. We are here today as part of a research study to learn more about communities who migrate or who are displaced due to extreme weather events.

اسلام علیکم میرا نام(انٹرویو کرنے والے کا نام)ہےاور میرا تعلق **IWMI** ادارہ سے ہیں۔**IWMI** ایک غیر منافع بخش ادارہ ہے جو پانی اور موسمیاتی تبدیلیوں سے متعلقہ مسائل پر کام کرتا ہے۔آج ہم یہاں ایک تحقیقاتی مطالعے کے لیے آئے ہیں تاکہ ان لوگوں کے بارے میں جان سکیں جو شدید موسمی واقعات کی وجہ سے نقل مکانی کرتے ہیں یا بے گھر ہو جاتے ہیں۔

- The purpose of this study is to learn more about water, sanitation, and climate change issues facing communities like yours. Your responses will help us learn about current issues and opportunities for improvement. There will be no cost for you participating in this research study, nor will you be paid for taking part in this study.

اس مطالعے کا مقصد آپ جیسی برادریوں کو درپیش پانی، صفائی ستھرائی، اور موسمیاتی تبدیلیوں کے مسائل کے بارے میں مزید جاننا ہے۔ آپ کے جوابات ہمیں موجودہ مسائل اور بہتری کے مواقع کے بارے میں جاننے میں مدد دیں گے۔ اس تحقیقی مطالعے میں شرکت کے لیے آپ پر کوئی لاگت نہیں آئے گی، نہ ہی آپ کو اس میں شرکت کے لیے کوئی ادائیگی کی جائے گی

- Your house was selected at random. You have been selected to participate in this study because you are a resident in this area and would have a good understanding of community issues, and we are interested in your valuable expertise.

آپ کا گھر بے ترتیبی سے منتخب کیا گیا ہے۔ آپ اس مطالعے میں شرکت کے لیے منتخب ہوئے ہیں کیونکہ آپ اس علاقے کے رہائشی ہیں اور برادری کے مسائل کی اچھی سمجھ رکھتے ہیں، اور ہم آپ کی قیمتی مہارت میں دلچسپی رکھتے ہیں

- Whatever information you provide today will be kept strictly confidential, and we will not collect any names or personal information. None of your information will be shared with anyone outside of the research team.

آج آپ جو معلومات فراہم کریں گے وہ سختی سے خفیہ رکھی جائیں گی، اور ہم کوئی نام یا ذاتی معلومات جمع نہیں کریں گے۔ آپ کی کوئی بھی معلومات تحقیقی ٹیم کے باہر کسی کے ساتھ شیئر نہیں کی جائیں گی

- Taking part in this study is voluntary. You are free to not answer any questions or withdraw at any time without any negative repercussions. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study, at which point your data will be deleted.

اس مطالعے میں شرکت رضاکارانہ ہے۔ آپ کسی بھی سوال کا جواب دینے میں آزاد ہیں یا کسی بھی وقت بغیر کسی منفی نتائج کے دستبردار ہو سکتےہیں۔ آپ اس مطالعے میں شرکت نہ کرنے کا انتخاب کر سکتے ہیں، یا اگر آپ فیصلہ کرتے ہیں کہ شرکت کریں، تو آپ بعد میں اپنا ذہن بدل سکتے ہیں اور مطالعے سے دستبردار ہو سکتے ہیں، اِس موقع پر آپ کا ڈیٹا حذف کر دیا جائے گا

- Our discussion will last around 30-40 minutes. There are no risks to you from participating in this research. The information you give us will help inform future programs to improve water and sanitation resources and management in this area.

ہماری گفتگو تقریباً 30-40 منٹ تک جاری رہے گی۔ اس تحقیق میں شرکت سے آپ کو کوئی خطرہ نہیں ہے۔ آپ کی طرف سے دی گئی معلومات مستقبل کے پروگراموں کی بہتری کے لیے مددگار ہوں گی جو اس علاقے میں پانی اور صفائی ستھرائی کے وسائل اور انتظام کو بہتر بنانے میں مدد دیں

- We will only continue with the interview if you are interested in participating and provide your verbal consent. Do I have your permission to proceed? [*Wait for verbal consent before beginning interview*]

اگر آپ شرکت میں دلچسپی رکھتے ہیں اور زبانی رضامندی دیتے ہیں تو ہم انٹرویو جاری رکھیں گے۔ کیا میں آپ کی اجازت سے آگے بڑھ سکتا/سکتی ہوں؟ [انٹرویو شروع کرنے سے پہلے زبانی رضامندی کا انتظار کریں]

Section 1: Socio-Demographic and Migration Details

S.#	Question	Response	Note
S1Q1	Interview date (dd/mm/yyyy) انٹرویو کی تاریخ		*Auto generated in data collection software*
S1Q2	GPS location جی پی ایس کامقام		*Auto generated in software*
S1Q3	Tehsil/Area تحصیل/علاقہ	• Sadiq Abad **صادق آباد** • Rahim Yar Khan **رحیم یار خان** • Khanpur **خانپور** • Liaquatpur **لیاقت پور** • Cholistan Desert **چولستان صحرا**	*Single Select*
S1Q4	Name of interviewer (REEDS staff) انٹرویو لینے والے کا نام	Type name: نام لکھیں	
S1Q5	Name of interviewee انٹرویو دینے والے کا نام	Type name: نام لکھیں	
S1Q6	Respondent gender جوابات دینے والے کی جنس	• Male مرد • Female عورت • Transgender خواجہ سرا	*If Male, Skip Section 6 (MHM)*
S1Q7	Age عمر	• Enter Age: _____ عمر کا اندراج کریں	*Number*
S1Q8	Marital status ازدواجی حیثیت	• Single کنوارہ/ غیر شادی شدہ • Married شادی شدہ • Divorced طلاق یافتہ • Separated علیحدہ رہنے والا/والی • Widowed بیوہ	*If select option "single" skip to Q13*
S1Q9	Do you have living children? کیا آپ کے بچے ہیں؟	• Yes جی ہاں • No جی نہیں	*If No >> Q13*
S1Q10	If yes, how many? اگر ہاں ، تو کتنے ہیں؟	• No. of boys: ____ لڑکے کتنے ہیں • No. of girls: ____ لڑکیاں کتنی ہیں	*Number*
S1Q11	Do you have children under 5 years of age? کیا آپ کے 5 سال سے کم عمر کےبچے ہیں؟	• Yes جی ہاں • No جی نہیں	*If No >> Q13*
S1Q12	If yes, how many? اگر ہاں، تو کتنے ہیں؟	Number of children under 5 years: _____ 5 سال سے کم عمر کے بچوں کی تعداد لکھیں	*Number*

S1Q13	From where did you migrate/move from? آپ نے کہاں سے ہجرت کی ہے؟	Type in this format: [City/town/village Name, District, Province] اس ترتیب میں لکھیں: [شہر/قصبہ/گاؤں کا نام، ضلع، صوبہ]	
S1Q14	Where did you migrate/move from? آپ نے کہاں سے ہجرت کی ہے؟ *[Based on response to S2Q13, enumerator can mark the correct option themselves – no need to repeat question]* S2Q9 کے مطابق، شمار کنندہ خود سے صحیح نشان کو منتخب کر سکتا ہے-دوبارہ دہرانے کی ضرورت نہیں ہے۔	1. Another city/town in RYK رحیم یار خان میں کسی قصبے یا کسی دوسرے شہر سے 2. From another district in Punjab province پنجاب میں کسی دوسرے ضلع سے 3. Sindh Province سندھ صوبہ 4. KP Province خیبر پختونخواہ صوبہ 5. Balochistan Province بلوچستان صوبہ 6. Gilgit-Baltistan گلگت بلتستان 7. Azad Jammu-Kashmir آزاد جموں کشمیر 8. Another country کسی اور ملک سے	
S1Q15	What was the primary reason for migrating or being displaced here? آپ کی ہجرت یا بے گھر ہونے ےکی بنیادی وجہ کیا تھی؟	• Flood/ Monsoon/Heavy rains سیلاب • Drought خشک سالی • Heatwave گرمی کی لہر • Economic reasons/Better job opportunities معاشی وجوہات/ ملازمت کے بہتر مواقع • Moving away from family or tribal conflict خاندانی یا قبائلی تنازعات سے دور رہنا • Better opportunities for my children میرے بچوں کے لیے بہتر مواقع • Health reasons صحت کی وجوہات • To be closer to relatives رشتہ داروں کے قریب ہونا • Other: (specify) دیگر کی وضاحت _____	*If economic reasons, moving away, better opportunities, health, closer to relative, other, then SURVEY ENDS.*
S1Q16	How long have you lived here in this current place? آپ موجودہ جگہ پر کتنی دیر سے رہ رہے ہیں؟	1. Less than 6 months 6ماہ سے کم 2. 6 months to 1 year 6ماہ سے 1 سال تک 3. 1-2 years 1تا 2 سال 4. 3-6 years 3 تا 6 سال 6. 7-10 years 7 تا 10 سال 7. More than 10 years 10 سال سے زیادہ	
S1Q17	Do you plan to stay here and settle, or move back to your previous home? کیا آپ یہاں رہنے کا مستقل ارادہ رکھتے ہیں، یا پچھلے گھر واپس جانے کا ارادہ ہے؟	1. Stay and settle رہنے اور آباد ہونے کا ارادہ 2. Move back واپسی چلے جانا 3. Unsure غیر یقینی	

S1Q18	Do you live here alone or with family? آپ یہاں اکیلے رہتے ہیں یا خاندان کے ساتھ؟	1. Alone اکیلے 2. With family گھرانے کے ساتھ 3. With some family members گھرانے کے کچھ افراد کے ساتھ 4. With friends دوستوں کے ساتھ 5. Employer-provided housing آجر کی فراہم کردہ رہائش 6. Other (specify: _____) دیگر کی وضاحت	*If 'Alone', Skip to S1Q20*
S1Q19	How many people in total are in your household? (those who currently live together with you and share/cook the same food) آپکے گھر میں کل کتنے لوگ رہتے ہیں (جو ایک ساتھ رہتے اور کھاتے پیتے اکٹھے ہوں)	Enter Number: _____ نمبر درج کریں	*Number*
S1Q20	What is the highest class you have completed? آپ نے کتنی جماعتیں پڑھی ہیں؟	• Never attended school کبھی اسکول نہیں گئے • Up to Class 5 completed 5 جماعتوں تک پورا کیا ہے • Class 6 to Class 10 completed 6 سے 10 کلاس تک • FA/F.Sc انٹرمیڈیٹ • BA/B. Com/BSC بی-اے/بی-کوم/بی-اس-سی • Masters ماسٹر • PhD پی ایچ ڈی • Technical diploma ٹیکنیکل ڈپلومہ • Madrasah (religious education only) مدرسہ(دینی تعلیم)	*Single Select*
S1Q21	Who is the head of the household (primary decision-maker in the household)? گھر کا سربراہ کون ہے (جوگھر میں بنیادی فیصلہ سازی کرتا ہے)؟	• Self خود • Spouse شریک حیات • Self and spouse equally خود اور شریک حیات • Male relative (father, brother, uncle, father-in-law, son, grandfather, any other person) مرد رشتہ دار (باپ، بھائی، چچا، سسر، بیٹا، دادا) • Female relative (mother, sister, aunt, mother-in-law, daughter, grandmother, any other person) خاتون رشتہ دار (ماں، بہن، خالہ، ساس، بیٹی، دادی)	*Single Select*
S1Q22	Who is the primary breadwinner of the household? گھر میں بنیادی کمانے والا کون ہے؟	• Self خود • Spouse شریک حیات • Self and spouse equally خود اور شریک حیات • Male relative (father, brother, uncle, father-in-law, son, grandfather, any other person) مرد رشتہ دار (باپ، بھائی، چچا، سسر، بیٹا، دادا)	*Single Select*

		• Female relative (mother, sister, aunt, mother-in-law, daughter, grandmother, any other person) خاتون رشتہ دار (ماں، بہن، خالہ، ساس، بیٹی، دادی) • Other (Specify:____)	
S1Q23	Before you moved here, was your home destroyed? آپ کےیہاں منتقل ہونے سے پہلے کیا آپ کا گھر تباہ ہوگیا تھا؟	• Yes, fully جی ہاں: مکمل طور پر • Yes, partially جی ہاں: جزوی طور پر • Not destroyed تباہ نہیں ہوا۔	
S1Q24	Before you moved, was your source of income/livelihood negatively affected? آپ کےمنتقل ہونے سے پہلے کیا آپ کی آمدنی یا روزگار متاثر ہوا تھا؟	• Yes, fully جی ہاں: مکمل طور پر • Yes, partially جی ہاں: جزوی طور پر • Income not affected	
S1Q25	What do you currently do for a living? کیا آپ ابھی کوئی کام / نوکری کرتے/ کرتی ہیں؟	• Contributing family worker گھر کے کام کاج میں ہاتھ بٹانا • Employed with monthly salary ماہانہ تنخواہ پر کام • Employed with daily wages یومیہ اجرت کے ساتھ کام • Self-employed/own business اپنا کاروبار • Unemployed (and seeking job) بے روزگاری • Housewife گھریلو خاتون • Retired ریٹائرڈ • Student طالب علم • Unable to work (due to personal reasons, e.g., illness) (unemployed) کام نہیں کر سکتے	*Single Select*
S1Q26	Average monthly household income آپ کے گھرانے کی ماہانہ آمدنی / انکم کتنی ہے؟	Enter monthly income (PKR) ماہانہ آمدنی درج کریں	*Number* *98 = Don't know*
S1Q27	Main source of monthly household income ماہانہ گھریلو آمدنی کا ذریعہ	• Agriculture/Crop farming زراعت/فصل کاشتکاری • Livestock مویشی بانی • Indigenous business/Small business دیسی کاروبار/چھوٹا کاروبار • Casual wage labor روز مرہ اجرت کی مزدوری • Foreign remittance (no job) غیر ملکی ترسیلات(کوئی نوکری نہیں) • Any other (please indicate) _____ کوئی اور(براہ کرم وضاحت کریں)	*Single select*
S1Q28	What is your average household expenditure (spending on household needs, rent, utilities, food, etc.)? آپ کا اوسط گھریلو خرچ گھریلو ضروریات، کرایہ، کھانا، وغیرہ پر کتنا آتا ہے؟	Enter monthly expenditure (PKR): ماہانہ اخراجات درج کریں۔ If don't know, enter '98' 0" درج کریں98اگر نہیں جانتے تو	*Number*

Section 2: Household Use and Drinking Water: Source, Satisfaction, Safety

	Question	Response	*Note*
S2Q1	What is the main source of <u>drinking water</u> in your household? آپ کے گھر میں پینے کے پانی کا بنیادی ذریعہ کیا ہے؟	• Piped water into dwelling گھر کے اندرنلکا لگا ہے • Piped water into yard/plot پلاٹ پرنلکا لگا ہے • Public tap/standpipe عوامی نل / اسٹینڈ پائپ • Filtration plant فلٹریشن پلانٹ • Tubewell/borehole ٹیوب ویل یا بورہول • Rainwater collection بارش کا پانی • Bottled water بوتل کا پانی / منرل واٹر • Public tanker پبلک ٹینکر • Private tanker پرائیویٹ ٹینکر • Cart with small tank/drum چھوٹے ٹینک/ڈرم میں • Protected dug well کھودا ہوا محفوظ کنواں • Unprotected dug well غیر محفوظ کھودا ہوا کنواں • Protected spring محفوظ چشمہ • Unprotected spring غیر محفوظ چشمہ • Surface water (river, dam, lake, pond, stream, canal, irrigation channels) سطحی پانی (ندی، / ڈیم / جھیل / نہر / آب پاشی کا چینل) • Other (specify): پلیز وضاحت کریں	*Single Select* *If piped water then Skip Q 5-7*
S2Q2	Is drinking water always available from this source? کیا پینے کا پانی ہمیشہ اس ذریعہ سے دستیاب ہوتا ہے؟	• Yes, always available year round سال بھر ہمیشہ دستیاب ہوتا ہے • Water is available most of the time پانی اکثر دستیاب ہوتا ہے • Water is available some of the time کچھ وقت پانی دستیاب ہوتا ہے • Water is rarely available پانی کم ہی ملتا ہے • Don’t know نہیں معلوم	*Single Select*
S2Q3	Is the drinking water source accessible to those with limited mobility or disabilities? کیا پینے کے پانی کا ذریعہ سب لوگوں کے لئے خصوصاً وہیل چیر یا معذور افراد کے لئے بھی قابل رسائی ہے	• Yes جی ہاں • No جی نہیں • Don’t know نہیں معلوم	*Single Select*

S2Q4	Is the drinking water source safe for women and young girls and boys to access? کیا پینے کے پانی کا یہ ذریعہ خواتین اور نوجوان لڑکیوں اور لڑکوں کے لیے محفوظ ہے؟	• Yes جی ہاں • No جی نہیں • Don't know نہیں معلوم	*Single Select*
S2Q5	Who usually goes to this source to collect drinking water for your household? *(Probe: Is this person under age 16? What sex? Select the answer that best describes this person)* آپ کے گھر کے لئے عام طور پر اس ذریعہ سے پانی کون لینے جاتا/جاتی ہے؟ (تحقیق: کیا اس شخص کی عمر 16 سال سے کم ہے؟ کونسی جنس ہے؟ اس جواب کو منتخب کریں جو اس شخص کی بہترین وضاحت کرتا ہے)	• Adult woman بالغ عورت • Adult man بالغ مرد • Female child (under 16 years) لڑکی (16 سال سے کم عمر) • Male child (under 16 years) لڑکا (16 سال سے کم عمر) • Water is delivered to home/on household premises پانی گھر تک پہنچایا جاتا ہے/پانی گھر کے احاطے میں ہے۔	*Single Select* *If water delivered >>Q8*
S2Q6	What is the usual mode of transportation used when collecting drinking water? عام طور پرپینے کےپانی کو لینے کے لئے چیز پر جاتے ہیں؟	• By car گاڑی پر • By foot/walking پیدل/واک کر کے • By motorcycle موٹر سائیکل پر • Donkey cart ("gaddha gari") • Bicycle • By public transport پبلک ٹرانسپورٹ پر	
S2Q7	How long does it take to reach the place where you/they get drinking water, collect the water, and return home (on average)? اس جگہ تک پہنچنے میں کتنا وقت لگتا ہے جہاں سے آپ پینے کا پانی لیتے ہیں، اور گھر لوٹتے ہیں (اوسط)؟	• Less than 5 minutes 5 منٹ سے کم ٹائم لگتا ہے • 5 to 15 minutes 5 سے 10 منٹ لگتے ہیں • 16 to 30 minutes 10 سے 30 منٹ لگتے ہیں • 31 to 60 minutes 30 سے 60 منٹ لگتے ہیں • More than 61 minutes 60 منٹ سے زیادہ	*Single Select*
S2Q8	How would you rate the overall quality of your household's drinking water? آپ اپنے گھر کے پینے کے پانی کے معیار کی درجہ بندی کیسے کریں گے؟	• Extremely poor بہت ہی خراب • Poor خراب • Neither good neither bad نہ ہی اتنا اچھا نہ ہی اتنا برا • Good ٹھیک / اچھا ہے • Excellent/Very good بہت ہی ٹھیک /بہت ہی اچھا / بہترین/ہے	*If Good, Very Good, neither good/bad >>Q10*
S2Q9	If poor, what are the issues with the drinking water quality?	• Bad taste پانی کا زائقہ خراب ہے • Smell coming from water	*Multi Select*

	اگر خراب ہے تو، آپ کے پینے والے پانی میں کیا مسائل ہیں؟	پانی میں سے بدبو آتی ہے • Polluted (contains particles/materials or discolored) (آلودہ ((ذرات/مواد پر مشتمل ہے یا رنگین) • Other (specify) دیگر(پلیز وضاحت کریں)	
S2Q10	Does your household ever have any problems with getting drinking water? کیا آپ کو یا آپ کے گھر والوں کو پینے کا پانی حاصل کرنے میں کبھی کوئی پریشانی ہوتی ہے؟	• Yes جی ہاں • No جی نہیں	*If No >>13*
S2Q11	If yes, what are the problems? اگر ہاں، تو کن پریشانیوں کا سامنا کرنا پڑتا ہے؟	• Expensive rates مہنگے ریٹس / زیادہ قیمت • Long wait times طویل وقت انتظار کرنا پڑتا ہے • Only available certain times of day دن میں مخصوص اوقات میں دستیاب ہوتا ہے • Safety concerns حفاظتی خدشات ہوتے ہیں • Bad taste/smell (poor quality) خراب ذائقہ / بدبو دار (خراب معیار) • Children left unattended at home بچوں کو گھر پر چھوڑ کے جانا پڑتا ہے • Other (specify: ____) دیگر (پلیز وضاحت کریں)	*Multi Select*
S2Q12	What are your coping strategies if there is not enough safe drinking water? پینے کا صاف پانی نہ ہونے کی صورت میں آپ کی حکمت عملی کیا ہوتی ہے؟	• Everyone drinks less ہر کوئی پانی کم پیتا ہے • Adults drink less بالغ افراد کم پانی پیتے ہیں • Children drink less بچے کم پانی پیتے ہیں • Use unsafe water sources پانی کے غیر محفوظ ذرائع کا استعمال • Borrow from neighbors پڑوسیوں سے پانی لیتے ہیں • Do nothing/wait until water becomes available again کچھ بھی نہیں کرتے/ پانی دوبارہ دستیاب ہونے تک انتظار کرتے ہیں • Other (specify) دیگر (پلیز وضاحت کریں)	*Multi Select*
S2Q13	Do you pay for your drinking water? کیا آپ پینے کا پانی حاصل کرنےکے لئے کوئی رقم دیتے ہیں؟	• Yes جی ہاں • No جی نہیں	*If No >>15*
S2Q14	How much do you pay per month? ہر مہینہ کتنی رقم دیتے ہیں؟	• Enter amount (PKR): رقم درج کریں	*Number* *Don't know 98*
S2Q15	Overall, what is your level of satisfaction with your household drinking water (quality & quantity) کیا آپ گھر میں پینے کے پانی کی کوالٹی اور مقدار سے مطمئن ہیں	• Very dissatisfied بلکل بھی مطمئن نہیں ہیں • Dissatisfied مطمئن نہیں ہیں • Neither satisfied nor dissatisfied نہ مطمئن ہیں نہ ہی غیر مطمئن	

		• Satisfied مطمئن ہیں • Very satisfied بہت ہی مطمئن ہیں	
Now, I'd like to move on to questions about water in your household used for non-drinking purposes. اب میں آپ کے گھر میں پینے کے علاوہ دوسرے مقاصد کے لئے استعمال ہونے والے پانی کے بارے میں سوالات پر آگے بڑھنا چاہتا ہوں۔			
S2Q16	What is the main source of water used by your household for **household purposes**, such as laundry, washing dishes, cleaning, hand washing, etc.? (domestic water use) آپ کے گھر میں کپڑے دھونے ، ہاتھ صاف کرنے ، گھر کی صفائی، برتن دھونے کے لئے پانی کا بنیادی ذریعہ کیا ہے؟	• Piped water into dwelling گھر کے اندرنلکا لگا ہے • Piped water into yard/plot پلاٹ پرنلکا لگا ہے • Public tap/standpipe عوامی نل / اسٹینڈ پائپ • Filtration plant فلٹریشن پلانٹ • Tubewell/borehole ٹیوب ویل یا بورہول • Rainwater collection بارش کا پانی • Bottled water بوتل کا پانی / منرل واٹر • Public tanker پبلک ٹینکر • Private tanker پرائیویٹ ٹینکر • Cart with small tank/drum چھوٹے ٹینک/ڈرم میں • Protected dug well کھودا ہوا محفوظ کنواں • Unprotected dug well غیر محفوظ کھودا ہوا کنواں • Protected spring محفوظ چشمہ • Unprotected spring یر محفوظ چشمہ • Surface water (river, dam, lake, pond, stream, canal, irrigation channels) سطحی پانی (ندی، / ڈیم / جھیل / نہر / آب پاشی کا چینل) • Other (specify): گر (وضاحت کریں)	*Single Select* *If piped water Skip Q21-23*
S2Q17	What is the water source for water used for cooking? کھانا پکانے کے لیے پانی کا کون سابنیادی ذریعہ استعمال کرتے ہیں؟	• Piped water into dwelling گھر کے اندرنلکا لگا ہے • Piped water into yard/plot پلاٹ پرنلکا لگا ہے • Public tap/standpipe عوامی نل / اسٹینڈ پائپ • Filtration plant فلٹریشن پلانٹ • Tubewell/borehole ٹیوب ویل یا بورہول • Rainwater collection بارش کا پانی • Bottled water بوتل کا پانی / منرل واٹر • Public tanker پبلک ٹینکر	

		• Private tanker پرائیویٹ ٹینکر • Cart with small tank/drum چھوٹے ٹینک/ڈرم میں • Protected dug well کھودا ہوا محفوظ کنواں • Unprotected dug well غیر محفوظ کھودا ہوا کنواں • Protected spring محفوظ چشمہ • Unprotected spring یر محفوظ چشمہ • Surface water (river, dam, lake, pond, stream, canal, irrigation channels) سطحی پانی (ندی، / ڈیم / جھیل / نہر / آب پاشی کا چینل) Other (specify): گر (وضاحت کریں)	
S2Q18	Is water for household/domestic use always available from the source? (not cooking water) کیا گھریلواستعمال کے لیے پانی ہمیشہ دستیاب ہوتا ہے؟	• Yes, always available year round سال بھر ہمیشہ دستیاب ہوتا ہے • Water is available most of the time پانی اکثر دستیاب ہوتا ہے • Water is available some of the time کچھ وقت پانی دستیاب ہوتا ہے • No, water is rarely available پانی کم ہی ملتا ہے • Don't know نہیں معلوم	*Single Select*
S2Q19	Is the water source accessible to those with limited mobility or disabilities? کیا پانی کا ذریعہ سب لوگوں خصوصاوہیل چیراستعمال کرنے والے یا معذور افراد کے لئے بھی کے لئے قابل رسائی ہے اور وہاں سے پانی آسانی سے لے سکتے ہیں؟	• Yes جی ہاں • No جی نہیں • Don't know نہیں معلوم	*Single Select*
S2Q20	Is the water source safe for women, girls and boys to access? کیا یہ پانی کا ذریعہ استعمال کرنے والی خواتین اور نوجوان لڑکیوں اور لڑکوں کے لیے محفوظ ہے؟	• Yes جی ہاں • No جی نہیں • Don't know نہیں معلوم	*Single Select*
S2Q21	Who usually goes to this source to collect the water for your household? *(Probe: Is this person under age 16? What sex? Select the answer that best describes this person.)* آپ کے گھر کے لئے عام طور پر اس ذریعہ سے پانی کون لینے جاتا/جاتی ہے؟ تحقیق: کیا اس شخص کی عمر 16 سال سے کم) ہے؟ جنس کونسی ہے؟ اس جواب کو منتخب کریں (جو اس شخص کی بہترین وضاحت کرتا ہے	• Adult woman بالغ عورت • Adult man بالغ مرد • Female child (under 16 years) لڑکی (16 سال سے کم عمر) • Male child (under 16 years) لڑکا (16 سال سے کم عمر) • Water is delivered to home/on household premises گھر پر ڈلیوری	*Single Select* *If water delivered >> Q24*

S2Q22	What is the usual mode of transportation used when collecting household water? عام طور گھر میں استعمال ہونے والا پانی لینے کے لئےکس چیزپر جاتے ہیں؟	• By car گاڑی پر • By foot/walking پیدل/واک کر کے • By motorcycle موٹر سائیکل پر • Donkey cart ("gaddha gari") • Bicycle • By public transport پبلک ٹرانسپورٹ پر	*Single Select*
S2Q23	How long does it take to reach the place where you/they get water, collect the water, and return home (on average)? اس جگہ تک پہنچنے میں کتنا وقت لگتا ہے جہاں سے آپ گھر میں استعمال ہونے کا پانی لیتے ہیں، اور گھر لوٹتے ہیں (اوسط)؟	• Less than 5 minutes 5 منٹ سے کم ٹائم لگتا ہے • 5 to 15 minutes 5 سے 15 منٹ لگتے ہیں • 16 to 30 minutes 15 سے 30 منٹ لگتے ہیں • 31 to 60 minutes 30 سے 60 منٹ لگتے ہیں • More than 61 minutes 60منٹ سے زیادہ	*Single Select*
S2Q24	Overall, how would you rate the quality of your household's domestic water? آپ اپنے گھر کے پینے کے پانی کے معیار کی درجہ بندی کیسے کریں گے؟	• Extremely poor بہت ہی خراب • Poor خراب • Neither good neither bad نہ ہی اتنا اچھا نہ ہی اتنا برا • Good ٹھیک / اچھا ہے • Excellent/Very good بہت ہی ٹھیک /بہت ہی اچھا / بہترین/ہے	*If Good, Very Good, Neither good/bad skip to Q26*
S2Q25	If poor, what are the issues with the domestic water quality? گھریلو پانی اگر ناقص ہے تو اس کے معیار کے ساتھ کیا مسائل ہیں؟	• Poor/bad taste پانی کا زئقہ خراب ہیں • Smell coming from water پانی سے بدبو آتی ہے • Polluted (contains particles/materials or discolored) (آلودہ (ذرات/مواد پر مشتمل ہے یا رنگین) • Other (specify) دیگر(پلیز وضاحت کریں)	*Multi Select*
S2Q26	Does your household have any problems with getting water for household use? کیا آپ کو یا آپ کے گھر والوں کو گھر میں استعمال کا پانی حاصل کرنے میں کبھی کوئی پریشانی ہوتی ہے؟	• Yes جی ہاں • No جی نہیں	*If No skip to Q29*
S2Q27	If yes, what are the problems? اگر ہاں، تو کن پریشانیوں کا سامناکرنا پڑتا ہے؟	• Expensive rates مہنگے ریٹس / زیادہ قیمت • Long wait times طویل وقت انتظار کرنا پڑتا ہے	*Multi Select*

		• Only available certain times of day دن میں مخصوص اوقات میں دستیاب ہوتا ہے • Safety concerns حفاظتی خدشات ہوتے ہیں • Bad taste/smell (poor quality) خراب ذائقہ / بو (خراب معیار) • Children left unattended at home بچوں کو گھر پر چھوڑ کے جانا پڑتا ہے (پانی لینے کے لئے) • Other (specify): دیگر (پلیز وضاحت کریں)	
S2Q28	What are your coping strategies if there is not enough water for household use? گھر میں استعمال ہونے والا پانی نہ ہونے کی صورت میں آپ کی کیا حکمت عملی ہوتی ہے؟	• Use water from storage ذخیرہ سے پانی استعمال • Cook less کھانا کم پکایا • Clean/Do laundry less گھر کی صفائی/ کپڑے ڈھونا کم کیے • Less showers/washing کم نہانا اور کم ہاتھ واش کرنا • Use unsafe water sources گندے پانی کا استعمال • Borrow from neighbors پڑوسیوں سے پانی لے کر استعمال کیا • Do nothing/Wait until water becomes available again کچھ نہیں کیا/ پانی دوبارہ دستیاب ہونے کاانتظار کیا • Other (specify): دیگر (پلیز وضاحت کریں)	*Multi Select*
S2Q29	Do you pay for your household water? کیا آپ گھر میں استعمال ہونے والے پانی کے لئے کوئی رقم دیتے ہیں؟	• Yes جی ہاں • No جی نہیں	*If No skip to Q31*
S2Q30	How much do you pay per month? ماہانہ کتنی رقم دیتے ہیں؟	• Enter amount (PKR): رقم درج کریں Don't know 98	*Number*
S2Q31	Does your house have an underground water storage tank? آپ کے گھر میں ذیر زمین پانی کی ٹینکی موجود ہے؟	• Yes جی ہاں • No جی نہیں	*Single Select*
S2Q32	Does your household have any large water storage tank (on the roof or on side of house)? کیا آپ کے گھر میں پانی اسٹور کرنے کے لئے کوئی ٹینک ہے؟ (جو گھر میں چھت کے اپر ہوتی ہے)	• Yes جی ہاں • No جی نہیں	*Single Select*

S2Q33	Does your household store water for HH use /domestic water in buckets or storage containers inside the home? Are they covered containers? کیا آپ گھر کےاندر بالٹیوں/ بڑی بوتلوں میں پانی جمع کرتے ہیں؟ اور اسےاُوپر سے ڈھانکتے ہیں؟	• Water not stored in buckets or storage containers پانی چھوٹے کنٹینر میں محفوظ نہیں کرتے ہیں • Water stored in **covered** buckets or storage containers پانی ڈھکے ہوئے چھوٹے کنٹینر میں محفوظ کرتے ہیں • Water stored in **uncovered** containers/buckets پانی چھوٹے کنٹینر میں محفوظ کرتے ہے لیکن ڈھکا ہوا نہیں ہوتا	*Single Select*
S2Q34	Overall, what is your level of satisfaction with your household water used کیا آپ گھر میں استعمال ہونے والے پانی سے مطمئن ہیں؟	• Very dissatisfied بلکل بھی مطمئن نہیں ہیں • Dissatisfied مطمئن نہیں ہیں • Neither satisfied or dissatisfied نہ مطمئن ہیں نہ ہی غیر مطمئن • Satisfied مطمئن ہیں • Very satisfied بہت ہی مطمئن ہیں	*Single Select*

Section 3: Sanitation

	Question	Response	*Note*
S3Q1	How many washrooms with a toilet facility do you have in your home? آپ کے گھر میں کتنی لیٹرینیں ہیں؟	Enter number: _____ عدد درج کریں	
S3Q2	What kind of toilet facility do members of your household usually use? عام طور پر آپ کے گھرانے کے افراد کس قسم کی لیٹرین استعمال کرتے ہیں *Definitions of toilet facilities in **Annex B*** *Note for enumerator:* *If "latrine", "pit latrine", or "traditional latrine" is given as a response, probe for whether the latrine meets the definition of a VIP, a pit latrine with slab, a pit latrine without slab, or an open pit.* *If "flush" probe: Where does it flush to?* شمار کنندہ کے لیے نوٹ: اگر "لیٹرین"، "پٹ لیٹرین"، یا "روایتی لیٹرین" جواب کے طور پر کہا جاتا ہے، تو اس بات کی تحقیق کریں کہ آیا کہ وی-ئی-پی لیٹرین، سلیب کے ساتھ پٹ لیٹرین، بغیر سلیب کے گڑھے والی لیٹرین، یا کُھلے گڑھے	• Flush/pour flush to: فلش ٹوائلٹ o Piped sewer system سیوریج کے نظام سے منسلک فلش سسٹم o Septic tank سیپٹک ٹینک سے منسلک فلش o Pit latrine گڑھے والی لیٹرین میں فلش کرتے ہیں o Elsewhere کسی اور جگہ فلش کرتے ہیں o Unknown place/not sure/don't know نا معلوم جگہ/ معلوم نہیں • Ventilated improved pit latrine (VIP) ہوادار اور بہتر گڑھےوالا بیت الخلاء • Pit latrine with slab سلیب لگے ہوئے گڑھےوالا بیت الخلاء • Pit latrine without slab/open pit بغیرسلیب گڑھےوالا بیت الخلاء • Composting toilet کھاد بنانے والا بیت الخلاء • Bucket بالٹی والا بیت الخلاء • Hanging toilet/hanging latrine دیوار سے لگی بیت الخلاء • No facilities or bush or field کوئی سہولت نہیں/ جھاڑی/ کھیت میں	*Single Select*

	والی لیٹرین میں سے کس طرح کی لیٹرین کی تعریف پر پورا اترتا ہے؟	• Other (specify): دیگر (پلیز وضاحت کریں)	
S3Q3	Where is this toilet facility located? یہ لیٹرین کی سہولت کہاں ہے؟	• Inside own home (private) گھر کے اندر (پرائیویٹ) • Outside home in yard/plot area (private) گھر کے باہر صحن/پلاٹ میں • Elsewhere (public location) کسی اور جگہ پر (پبلک لوکیشن پر)	*Single Select*
S3Q4	Is everyone in the household able to access and use the toilet **at all times** of the day and night? کیا گھر کا ہر فرد دن اور رات کے وقت جب بھی چاہے لیٹرین استعمال کر سکتے ہیں؟	• Yes جی ہاں • No جی نہیں	*If Yes >> Q6*
S3Q5	If not, what is the main reason household members are unable to use/access the toilet at all times? اگر نہیں، تو گھر کے افراد ہر وقت لیٹرین کی سہولت کیوں استعمال نہیں کر سکتے ہیں؟	• Limited mobility prevents toilet use محدود نقل و حرکت بیت الخلاکے استعمال کو روکتی ہے • Distance/barriers prevent reaching the toilet فاصلہ بہت زیادہ ہے / رکاوٹیں ٹوائلٹ تک جانے میں روکتی ہیں • Toilet is not always available ٹوائلٹ کی سہولت ہمیشہ میسر نہیں ہوتی • Toilet is not always safe to use ٹوائلٹ میں بار بار جانا محفوظ نہیں ہوتا • Other (specify): دیگر (پلیز وضاحت کریں)	*Single Select*
S3Q6	Do you share this toilet facility with other households? کیا آپ لیٹرین کی سہولت دوسرے گھرانوں کےلوگوں کو بھی استعمال کرنے دیتے ہیں؟	• Yes جی ہاں • No جی نہیں	*If No >> Q8*
S3Q7	How many total households share this facility? لیٹرین کی یہ سہولت آپ کتنے گھرانوں کو استعمال کرنے دیتے ہیں؟	• Number of households: _____ گھر کے افراد کی تعداد	*Number*
S3Q8	How does your household usually dispose of household waste/garbage (e.g., food scraps, plastic wrappers, broken items, etc.)? آپ یا آپ کے گھر والے گھر کا کوڑا کرکٹ مثلاً کھانے کے سکریپ، پلاسٹک کے ریپر، ٹوٹی ہوئی اشیاء وغیرہ کہاں پھینکتے ہیں؟	• Collected by formal service provider گھر سے لے جاتے ہیں (میونسپل کمیٹی) • Collected by informal service provider غیر رسمی خدمت فراہم کنندہ کے ذریعہ • Disposed of in designated waste disposal area in neighborhood گھر کے پاس ہی مخصوص علاقے میں ٹھکانے لگا دیا جاتا ہے • Buried or burned within the household گھر کے اندر ہی جلا دیا یا دفن کر دیا • Buried or burned outside the household گھر کے باہر جلا دیا یا دفن کر دیا • Disposed of elsewhere کسی اور جگہ پر پھنک دیا • Don’t know/Not sure	*Single Select*

		معلوم نہیں	
S3Q9	How do you dispose of household water used for cooking, laundry and bathing? آپ کے کھانا پکانے ، کپڑے دھونے اور نہانے کے استعمال کے بعد والا پانی کہاں جاتا ہے؟	• Sink/drain connected to sewer گٹر/ ڈرین سے منسلک • Sink/drain connected to septic tank ڈرین / سیپٹک ٹینک سے منسلک • Sink/drain connected to pit ڈرین / گڑھے سے منسلک نالی • Sink/drain connected to soak pit ڈرین / نالی گٹر سے منسلک • Sink/drain connected to open drain or open ground ڈرین / کلی نالی گٹر سے منسلک • Disposed directly to open ground or water body کھلے میدان میں • N/A (cooking, laundry and bathing is done away from the household) لاگو نہیں ہوتا (گھر میں نہ ہی کوئی کھانا پکاتا اور نہ ہی کوئی نہاتا ہے) • Don't know/Not sure نہیں معلوم	*Single Select*

Section 4: Wealth Index or Equity

I'd like to ask you some questions about assets your household has and some questions about your home construction material. **We want to know about the assets you had before and after migrating or being displaced.**

میں آپ سے آپ کے گھرانے کی اثاثوں اور آپ کے گھر کے تعمیر کے مواد کے بارے میں کچھ سوالات پوچھنا چاہتا ہوں۔

Question	**Before migration or displacement due to climate extreme event**	**After migration or displacement**
Does your household have a refrigerator? کیا آپ کے گھر میں فریج ہے؟ • Yes جی ہاں • No جی نہیں	S4Q1	S4Q2
Does your household have a washing machine? کیا آپ کے گھر میں کپڑے دھونے والی مشین ہے؟	S4Q3	S4Q4
Does your household have a sofa? کیا آپ کے گھر میں صوفہ ہے؟	S4Q5	S4Q6
Does your household have a chair? کیا آپ کے گھر میں کرسی ہے؟	S4Q7	S4Q8
Does your household have an Almirah/Cabinet کیا آپ کے گھر میں الماری/ کیبنٹ ہے؟	S4Q9	S4Q10
Does your household have a computer?	S4Q11	S4Q12

کیا آپ کے گھر میں کمپیوٹر ہے؟		
Does your household have internet connection? کیا آپ کے گھر میں انٹرنیٹ کنکشن ہے؟	S4Q13	S4Q14
Does your household have a bed? *(Note: charpaye does not count as bed)* کیا آپ کے گھر میں سونے کے لیےبیڈہے؟ نوٹ : اس میں چارپائی نہیں کاؤنٹ ہو گی	S4Q15	S4Q16
Does any member of this household have a bank account? کیا آپ کے گھر میں کسی فرد کے پاس بینک اکاؤنٹ ہے؟ (**Microfinance bank** is counted, but EasyPaisa, JazzCash is **NOT** considered a bank)	S4Q17	S4Q18
What type of fuel does your household mainly use for cooking? آپ کا گھرانہ بنیادی طور پر کھانا پکانے کے لئے کس طرح کا ایندھن استعمال کرتا ہے؟ • Wood لکڑی • LPG (cylinder) ایل پی جی • Natural gas قدرتی گیس • Biogas بائیوگیس • Kerosene مٹی کا تیل • Coal, Lignite کوئلہ ، بھورا کوئلہ • Charcoal چارکول(لکڑی سے بنا ہوا) • Electricity بجلی • Straw/shrub/grass تنکے / جھاڑیاں / گھاس • Agriculture crop زرعی فصل • Animal dung جانوروں کا گوبر • No food cooked in household گھر میں کھانا نہیں پکایا جاتا • Other, please specify دیگر وضاحت کریں	S4Q19	S4Q20
What is the main material of the roof in your household? آپ کی چھت کس قسم کے مٹیریل سے بنی ہوئی ہے؟	S4Q21	S4Q22

• No roof چھت نہیں کوئی • Thatch/palm leaf چھپر / کھجور کے پتے • Sod/grass گھاس کا ٹکڑا / گھاس • Rustic mat چٹائی • Palm/bamboo کھجور / بانس • Wood planks لکڑی کے تختے • Cardboard گتے • Asbestos ریشہ دارچیز • Reinforced brick cement/RBC اینٹوں / اور سیمنٹ / آر بی سی • Metal دھات • Wood لکڑی • Calamine/cement fiber چست / سیمنٹ فائبر • Ceramic tiles سیرامک ٹائل • Reinformed cement concrete/RCC سیمنٹ / آر سی سی • Roofing shingles چھت کے شنگل • Other: Please specify دیگر (پلیز وضاحت کریں)		

What is the main material of the walls in your household? رہائش گاہ کے بیرونی دیواریں کس قسم کے مٹیریل سے بنی ہوئی ہے؟ • No walls کوئی دیوار نہیں • Cane/palm/trunks کین / کھجور / تنے • Dirt مٹی • Mud/stones گارا/ پتھر • Bamboo/sticks/mud بانس / چھڑی / گارا • Unbaked bricks/mud کچی اینٹوں / گارا • Bamboo with mud مٹی کے ساتھ بانس • Stone with mud مٹی کے ساتھ پتھر • Uncovered adobe بغیر پلستر کی دیواریں • Plywood پلائی ووڈ • Reused wood استعمال شدہ لکڑیوں کی • Cement سیمنٹ • Stone with lime/cement سیمنٹ پتھر کے ساتھ چونے • Bricks اینٹیں • Cement blocks سیمنٹ بلاکس • Covered adobe مٹی کے پلاستر • Wood planks/shingles لکڑی کے تختے / شنگل • Other: Please specify دیگر (پلیز وضاحت کریں)	S4Q23	S4Q24

Section 5: Menstrual Hygiene Management (MHM)

سیکشن 6: ماہواری حفظان صحت کا انتظام (ایم ایچ ایم)

[Ask only if respondent experiences menstruation]

صرف اس صورت میں پوچھیں جب جواب دہندہ کو حیض کا تجربہ ہو

I would like to ask you some questions about water issues related to managing your menstrual cycle.

میں اب آپ کی ماہواری کے انتظام کےمتعلق پانی کے مسائل کے بارے میں کچھ سوالات پوچھنا چاہوں گی۔

	Question	**Response**	**Note**
S5Q1	If you still experience menstruation, are you willing to answer some brief questions related to your menstrual hygiene management?	• Yes جی ہاں • No جی نہیں	*If No or N/A >> Section 6*

	اگر آپ ابھی بھی حیض کا تجربہ کرتی ہیں، تو کیا آپ اپنے ماہواری کے حفظان صحت کے انتظام سے متعلق کچھ مختصر سوالات کے جواب دینے کے لیے تیار ہیں؟	• N/A – does not menstruate لاگونہیں ہوتا (ماحواری نہیں ہوتی)	
S5Q2	How often is water available for you to wash your body <u>daily</u> during your menstrual period? کیا آپ کو ماہواری کے دوران اپنے جسم کو روزانہ دھونے کے لیے پانی دستیاب ہوتا ہے؟	• Never کبھی نہیں • Rarely شاذ و نادر ہی • Sometimes کبھی کبھی • Most of the time اکثر (زیادہ تر وقت) • Always ہمیشہ	*If never >>Q4*
S5Q3	How often is the water available clean? کتنی بار صاف پانی دستیاب ہوتا ہے؟	• Never کبھی نہیں • Rarely شاذ و نادر ہی • Sometimes کبھی کبھی • Most of the time اکثر (زیادہ تر وقت) • Always ہمیشہ	
S5Q4	How often do you feel you can easily wash and change yourself in privacy during your menstrual period? (inside the home) آپ کو کتنی بار لگتا ہے کہ آپ اپنی ماہواری کے دوران رازداری میں اپنے آپ کو دھو سکتے ہیں اور (پیڈ) تبدیل کرسکتی ہیں؟	• Never کبھی نہیں • Rarely شاذ و نادر ہی • Sometimes کبھی کبھی • Most of the time اکثر (زیادہ تر وقت) • Always ہمیشہ	
S5Q5	How often do you feel you can easily wash and change yourself in privacy during your menstrual period? (outside the home while traveling or running errands?)	• Never کبھی نہیں • Rarely شاذ و نادر ہی • Sometimes کبھی کبھی • Most of the time اکثر (زیادہ تر وقت) • Always • ہمیشہ	
S5Q6	What hygiene materials do you normally use to manage your period? آپ اپنی ماہواری کو منظم کرنے کے لیے عام طور پر حفظان صحت کے کون سے مواد استعمال کرتی ہیں؟ *If more than one, record main type used* اگر ایک سے زیادہ بتائیں تو جو زیادہ استعمال ہونے والی قسم ہے، اسکو سلیکٹ کریں	• Cloth/reusable sanitary pad کپڑا/ دوبارہ قابل استعمال سینیٹری پیڈ • Disposable sanitary pad or cloth ڈسپوزایبل سینیٹری پیڈ یا کپڑا • Tampon روئی کی گدی • Menstrual cup ماہواری کا کپ • Toilet paper ٹشو پیپر • Underwear alone (no material) صرف انڈرویر (کوئی مواد نہیں)	*Single Select*
S5Q7	How do you dispose of your MH materials? آپ اپنے ماہواری کے کچرے کو کیسے پھینکتی/ ضائع کرتی ہیں؟	• Wash cloth and hang to dry کپڑا دھو کر خشک ہونے کے لیے لٹکا دیتی ہیں	*Single Select*

		• Dispose material in waste bin مواد کو کوڑے دان میں پھنک دیتی ہیں۔ • Flush down toilet/latrine بیت الخلا/ لیٹرین میں فلش کر دیتی ہیں • Throw outside in open area or drain باہر کھلی جگہ یا نالی میں پھینک دیتی ہیں • Other (specify): دیگر (پلیز وضاحت کریں)	
S5Q8	How often do you wash your hands **with soap** after changing your hygiene materials? کیا آپ اپنے حفظان صحت کے مواد کو تبدیل کرنے کے بعد اپنے ہاتھ صابن سے دھوتی ہیں؟	• Never کبھی نہیں • Rarely شاذو نادر • Sometimes کبھی کبھی • Most of the time زیادہ تر وقت • Always ہمیشہ	*Single Select*
S5Q9	How often do you face stress/difficulty in managing your period due to water issues? پانی کے مسائل کی وجہ سے آپ کو اپنی ماہواری کو سنبھالنے میں مشکلات کا سامنا کرنا پڑتا ہے؟	• Never کبھی نہیں • Rarely شاذو نادر • Sometimes کبھی کبھی • Most of the time زیادہ تر وقت • Always ہمیشہ	*If Never >> S5Q11*
S5Q10	What kind of water issues make managing your period difficult? کس قسم کے پانی کے مسائل آپ کی ماہواری کےانتظام مشکل بنا دیتے ہیں؟	• Poor water quality پانی کا ناقص معیار • Low water quantity پانی کی کم مقدار • No privacy to wash/clean دھونے/صاف کرنے کے لئے کوئی پرائیویسی / رازداری نہیں ہے • Difficulty washing materials مواد کو دھونے میں دشواری • Other (specify): دیگر (پلیز وضاحت کریں)	*Multi Select*
S5Q11	After migration or displacement, has managing your period becoming easier, harder, or the same?	• Easier • Harder • Same	

Section 6: Household Water Insecurity Experiences (HWISE) Scale

Note for Enumerator: *Each item is phrased to capture experiences that anyone in the household has had in the past year. Responses to items are: never (0 times), rarely (in 1 or 2 months), sometimes (in some but not every month), often/always (in almost every month or in every month). Never is scored as 0, rarely is scored as 1, sometimes is scored as 2, and often/always is scored as 3.*

نوٹ برائے شمار کنندہ: ہر شے کو ایسے ترتیب دیا گیا ہے کہ ہم اُن تجربات کا مشاہدہ کر سکیں جو گھر کے کسی بھی فرد کے ساتھ پچھلے سال پیش آئے ہیں۔ جوابات کی فہرست یہ ہیں: کبھی نہیں (0 بار)، شازو نادر (1 یا 2 مہینے میں)، کبھی کبھی (کسی کسی مہینے میں)، ہمیشہ/ہر دفع(کم و بیش ہر مہینہ یا ہر مہینے)ہر گز نہیں کا سکور 0 ، شازو نادر کا سکور 1 ،کبھی کبھی کا سکور2 اور ہمیشہ/ہر وقت کا سکور 3 ہے۔

I will now ask you about your household's experiences with water. For each experience, we want to know in how many months this happened to you or anyone in your household during the last 12 months. Even if it happened just once during a month, we'd like you to count that month.

اب میں آپ سے پانی کے ساتھ آپ کے تجربات کے بارے میں پوچھوں گا۔ ہر تجربے کے لئے، ہم جاننا چاہتے ہیں کہ پچھلے 12 مہینوں کے دوران آپ کے ساتھ کتنے مہینوں میں ایسا ہوا۔ یہاں تک کہ اگر یہ ایک مہینے کے دوران صرف ایک بار ہوا، ہم چاہتے ہیں کہ آپ اس مہینے کو گِن کر بتائیے۔

	Item	**Response/Score**
S6Q1	In the last 12 months, how often did you **or anyone in your household** worry that you would not have enough water for all of your needs (e.g., bathing, washing your clothes, etc.)? پچھلے 12 مہینوں میں آپ کو کبھی اس بات کی فکر ہوئی کہ آپ کے پاس آپ کی تمام ضروریات (مثلاً نہانا، کپڑے دھونا وغیرہ) کے لیے پانی نہیں ہوگا؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q2	Please think about where you get most of your water, such as a tap, well, borehole, bottled water, filtration plant, etc. How often was this water source interrupted or limited in any way during the last 12 months? (e.g. low water pressure, less water than expected, supply shut off, storage tank ran out of water, etc.)? براہ کرم اس بارے میں سوچیں کہ آپ اپنا زیادہ تر پانی کہاں سے حاصل کرتے ہیں، جیسے کہ نل، کنواں، بورہول، بوتل کا پانی، فلٹریشن پلانٹ وغیرہ۔ پچھلے 12 مہینوں کے دوران اس پانی کے ذرائع میں کبھی رکاوٹیں آئیں یا کسی بھی طرح سے محدود ہوئیں؟ (مثلاً پانی کا کم دباؤ، توقع سے کم پانی، سپلائی بند، اسٹوریج ٹینک میں پانی ختم ہو گیا، وغیرہ)؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q3	In the last 12 months, how often could clothes not be washed because of problems with water? پچھلے 12 مہینوں میں پانی کے مسائل کی وجہ سے آپ کے کپڑے کبھی نہیں دھوئے جا سکے ہو؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q4	In the last 12 months, how often did you or anyone in your household have to change schedules or plans because of problems with water? (Activities that may have been interrupted include caring for others, doing household chores, income-generating activities, sleeping, etc.) پچھلے 12 مہینوں میں، آپ کو پانی کے مسائل کی وجہ سے کبھی پلان تبدیل کرنے پڑے ہو؟ (جن سرگرمیوں میں خلل پڑ سکتا ہے ان میں دوسروں کی دیکھ بھال کرنا، گھریلو کام کاج کرنا، آمدنی پیدا کرنے والی سرگرمیاں، سونا وغیرہ شامل ہیں۔)	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q5	Still thinking about the last 12 months, how often did you or anyone in your household change what you ate because of problems with water? پچھلے 12 مہینوں کے بارے میں سوچتے ہوئے بتائیں، کہ آپ نے پانی کے مسائل کی وجہ سے کبھی کھانا کھانے والی چیزوں میں تبدیلیاں کی ہو (مثال کےطور پر پانی سے بننے والی چیز نہیں بن سکی، تو اس وجہ سے آپ کو کچھ اور کھانا پڑا)؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q6	How often were you or anyone in your household not able to wash your hands after dirty activities because of problems with water? (e.g., using the washroom or changing diapers, cleaning, etc.) پچھلے 12 مہینوں میں پانی کے مسائل کی وجہ سے آپ کبھی لیٹرین کا استعمال کرنے / ڈائپر تبدیل کرنے ، صفائی کرنےکے بعد ہاتھ نہ دھو سکیں ہو؟ *(Note: Choosing not to wash hands is different from not having enough water to wash.)* نوٹ: ہاتھ نہ دھو پانے کا مطلب وافر مقدار میں پانی موجود ہونے کے باوجود ہاتھ نہ دھونے سے مختلف ہوتا ہے۔	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q7	In the last 12 months, how often were you or anyone in your household not able to wash your body because of problems with water? (e.g., not enough water, dirty, unsafe)? پچھلے 12 مہینوں میں، آپ کتنی بار پانی کے مسائل کی وجہ سے اپنے جسم کو نہیں دھو سکے؟ (مثال کے طور پر، کافی پانی نہیں، گندا، غیر محفوظ)؟؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ

S6Q8	In the last 12 months, how often did you or anyone in your household not have as much water to drink as you would have liked? پچھلے 12 مہینوں میں کتنی بار ایسا ہوا کہ آپ کے پاس پینے کے لئے اتنا پانی نہیں تھا جتنا آپ چاہتے تھے؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q9	Still thinking about the last 12 months, how often did you or anyone in your household feel angry because of problems you were experiencing with water? پچھلے 12 مہینوں کے بارے میں سوچ کر بتائیں کہ آپ کو پانی کے ساتھ درپیش مسائل کی وجہ سے کتنی بار غصہ محسوس ہوا؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q10	In the last 12 months, how often did you go to sleep thirsty because there was no water to drink? پچھلے 12 مہینوں میں پینے کے لیے پانی نہ ہونے کی وجہ سے آپ کتنی بار پیاسے سو گئے؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q11	In the last 12 months, how often did you or anyone in your household have no useable or drinkable water whatsoever? پچھلے 12 مہینوں میں، آپ کے پاس کتنی بار قابل استعمال یا پینے کے قابل پانی نہیں تھا؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ
S6Q12	How often did you or anyone in your household feel shame/embarrassment/stigma because of problems you were experiencing with water during the last 12 months? پانی کے ساتھ درپیش مسائل کی وجہ سے پچھلے 12 مہینوں میں آپ کو کتنی بار شرمندگی اور ہزیمت کا سامنا کرنا پڑا؟	Never = 0 کبھی نہیں Rarely = 1 شاذ و نادر ہی Sometimes = 2 کبھی کبھی Often/Always = 3 اکثر/ہمیشہ

Section 7: Food Insecurity Experience Scale (FIES)

S7Q1	During the last 12 months, was there a time when you or others in your household were worried you would not have enough food to eat because of a lack of money or other resources? پچھلے 12 مہینوں کے دوران، کیا ایسا کوئی وقت آیا جب آپ یا آپ کے گھرانے کے دوسرے افراد نے پیسے یا دوسرے وسائل کی کمی کی بنا پر پریشانی کا سامنا کیا کی آپ کو خوف ہوا کہ کھانے کی وافر مقدار دستیاب نہیں ہوگی؟	No نہیں Yes جی ہاں Don't know معلوم نہیں Refused انکار کرنا
S7Q2	Still thinking about the last 12 months, was there a time when you or others in your household were unable to eat healthy and nutritious food because of a lack of money or other resources? پچھلے 12 مہینوں کے بارے میں سوچتے ہوئے، کیا ایسا کوئی وقت آیا جب آپ یا آپ کے گھرانے کے دوسرے افراد پیسے یا دوسرے وسائل کی کمی کی بنا پر صحیح اورصحت مند غذا کھانے سے قاصر رہے ہو؟	0 No 0 نہیں 1 Yes 1 جی ہاں 98 Don't know

		98 معلوم نہیں 99 Refused **99** انکار کرنا
S7Q3	During the last 12 months, was there a time when you or others in your household ate only a few kinds of foods because of a lack of money or other resources? پچھلے 12 مہینوں کے دوران، کیا ایسا کوئی وقت آیا جب آپ یا آپ کے گھرانے کے دوسرے افراد نے پیسوں یا دوسرے وسائل کی کمی کی بنا پر کھانے کی چند قسمیں کھائی ہو؟	0 No 0 نہیں 1 Yes 1 جی ہاں 98 Don't know 98 معلوم نہیں 99 Refused **99** انکار کرنا
S7Q4	During the last 12 months, was there a time when you or others in your household had to skip a meal because there was not enough money or other resources to get food? پچھلے 12 مہینوں کے دوران، کیا ایسا کوئی وقت آیا جب آپ یا آپ کے گھرانے کے دوسرے افراد پیسوں یا دوسرے وسائل کی کمی کی بنا پر کسی وقت کےکھانے کو چھوڑنے پر مجبور ہوئےہو ؟	0 No 0 نہیں 1 Yes 1 جی ہاں 98 Don't know 98 معلوم نہیں 99 Refused **99** انکار کرنا
S7Q5	Still thinking about the last 12 months, was there a time when you or others in your household ate less than you thought you should because of a lack of money or other resources? پچھلے 12 مہینوں کے بارے میں سوچتے ہوئے، کیا ایسا کوئی وقت آیا جب آپ یا آپ کے گھرانے کے دوسرے افراد نے پیسوں یا دوسرے وسائل کی کمی کی بنا پر ضرورت سے کم کھایا ہو؟	0 No 0 نہیں 1 Yes 1 جی ہاں 98 Don't know 98 معلوم نہیں 99 Refused **99** انکار کرنا
S7Q6	In the past 12 months, was there a time when your household ran out of food because of a lack of money or other resources? پچھلے 12 مہینوں میں، کیا ایسا کوئی وقت آیا جب پیسے یا دوسرے زرائع نہ ہونے کی وجہ سے آپ کے گھرانے کی خوراک ختم ہو گئی ہو؟	0 No 0 نہیں 1 Yes 1 جی ہاں 98 Don't know 98 معلوم نہیں 99 Refused **99** انکار کرنا
S7Q7	In the past 12 months, was there a time when you or others in your household were **hungry** but did not eat because of a lack of money or other resources for food? پچھلے 12 مہینوں میں، کیا ایسا کوئی وقت آیا جب آپ یا آپ کے گھرانے کے دوسرے افراد پیسوں یا دوسرے کھانے کے وسائل کی کمی کی بنا پر کھانا نہیں کھا سکے ہو؟	0 No 0 نہیں 1 Yes 1 جی ہاں 98 Don't know 98 معلوم نہیں 99 Refused **99** انکار کرنا
S7Q8	During the last 12 months, was there a time when you or others in your household went without eating for a whole day because of a lack of money or other resources? پچھلے 12 مہینوں کے دوران، کیا ایسا کوئی وقت آیا جب آپ یا آپ کے گھرانے کے دوسرے افراد نے پیسوں یا دوسرے وسائل کی کمی کی بنا پر پورے دن کھانا نہیں کھایا؟	0 No 0 نہیں 1 Yes 1 جی ہاں 98 Don't know 98 معلوم نہیں 99 Refused **99** انکار کرنا

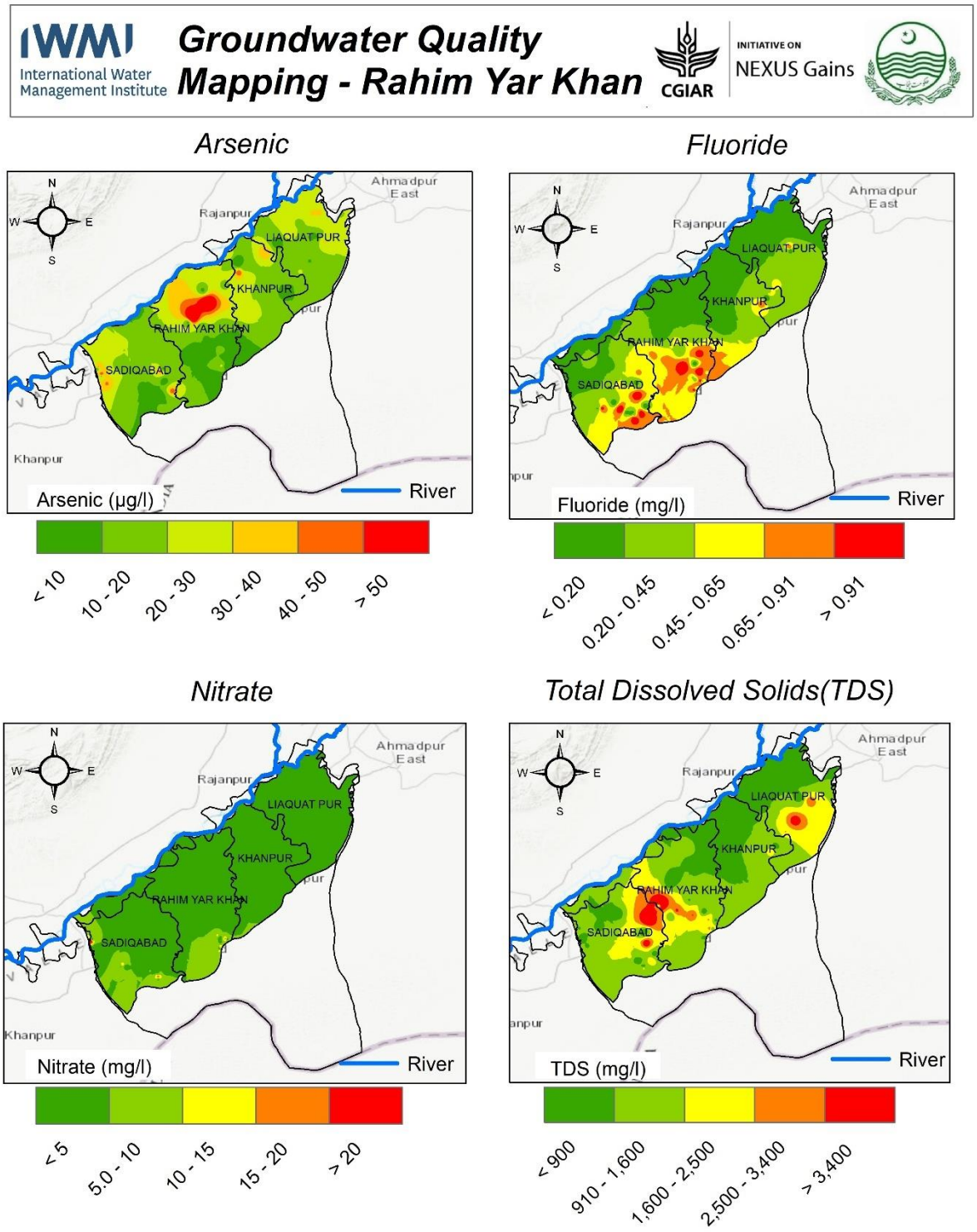
Section 8: Health/Water-Borne Diseases

Question	In the past 2 years, have you or anyone in household ever suffered from this illness? پچھلے 2 سالوں میں، کیا آپ یا گھر کا کوئی فرد اس بیماری کا شکار ہوا ہے؟	What was the age and gender of that person/people? اس شخص کی عمر اور جنس کیا تھی؟

	• Yes جی ہاں • No نہیں *(If No >> next illness)* (اگر نہیں >>اگلی بیماری)	• Male under 5 years 5 سال سے کم عمر کے مرد • Female under 5 years 5 سال سے کم عمر کی خواتین • Male youth (6-17) (6-17) مرد نوجوان • Female youth (6-17) (6-17) خواتین نوجوان • Male adult (18+) (18+) مرد بالغ • Female Adult (18+) (18+) خاتون بالغ
Diarrhea **اسہال**	S8Q1	S8Q2
Hepatitis A **ہیپاٹائٹس اے**	S8Q3	S8Q4
Hepatitis E **ہیپاٹائٹس ای**	S8Q5	S8Q6
Typhoid **ٹائیفائیڈ**	S8Q7	S8Q8
Dengue **ڈینگی**	S8Q9	S8Q10
Malaria **ملیریا**	S8Q11	S8Q12
Intestinal worms **آنتوں کے کیڑے**	S8Q13	S8Q14
Gastroenteritis (stomach flu /inflammation) **معدے کی سوزش (پیٹ فلو / سوزش)**	S8Q15	S8Q16
Skin irritations or rash **جلد کی جلن یا دھبے**	S8Q17	S8Q18
Cholera	S8Q19	S8Q20

	Question	**Response**	**Note**
S8Q21	Have you or anyone in your household ever gone to a clinic or hospital for treatment for any of the above-mentioned illnesses? کیا آپ یا آپ کے گھر میں کوئی بھی اوپر بتائے گئی بیماریوں میں سے کسی کے علاج کے لئے کبھی کسی کلینک یا اسپتال گیا ہے؟	• Yes جی ہاں • No جی نہیں	*If Yes >> Section 9*
S8Q22	If no, why? اگر نہیں تو کیوں؟	• No clinic or hospital available کوئی کلینک یا اسپتال دستیاب نہیں • Clinic or hospital too far away کلینک یا اسپتال بہت دور ہے • Cost of treatment too expensive علاج کی لاگت بہت مہنگی ہے • Relied on homeopathic remedies ہومیوپیتھک علاج پر انحصار کیا • Didn't feel clinic/hospital visit was needed ہسپتال جانے کی کبھی ضرورت محسوس نہیں کی • Other (specify): دیگر (وضاحت کریں)	*Multi Select*

Annex B. Groundwater Quality Mapping



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