Indus Consortium
Humanitarian Environment and Development Initiatives

IBA CBER
Centre for Business and Economic Research
Institute of Business Administration

NON ECONOMIC LOSS AND DAMAGE

POLICY FRAMEWORK SINDH

Table of Contents Contents

List of Figures

List of Tables

Acronyms

CBDRM	Community Based Disaster Risk Management
CES-DC	Centre for Epidemiological Studies Depression Scale for Children
DASS	Depression Anxiety Stress Scale
DRM	Disaster Risk Management
DMIS	Disaster Management Information System
EPI	Expanded Program on Immunization
EWS	Early Warning System
IPCC	Inter-governmental Panel on Climate Change
LMIC	Low-and Middle-Income Countries
MHVRA	Multi-Hazard Vulnerability Risk Assessment
NDMA	National Disaster Management Authority
NELD	Noneconomic Losses and Damages
PDNA	Post Disaster Needs Assessment
PDMA	Provincial Disaster Management Authority
QOL	Quality of Life
RRR	Response Rescue and Relief
SEPA	Sindh Environmental Protection Agency
SPHM	Sindh People's Housing for Flood-Affected families
WHOQOL-BREF	World Health Organization Quality of Life Brief Scale

Message

The Non-Economic Loss and Damage (NELD) report on Pakistan's 2022 floods highlights the profound and often overlooked impacts of climate-induced disasters, such as the loss of culture, heritage, health, ecosystems, and community cohesion, that cannot be easily quantified in monetary terms. The 2022 floods devastated millions of lives across Pakistan, not only through physical destruction but also by eroding traditional ways of life, displacing communities from ancestral lands, and deepening psychological trauma. By documenting these non-economic impacts, the report provides a more complete picture of the true cost of climate disasters and calls for urgent action to recognize and address them in recovery and resilience-building efforts.

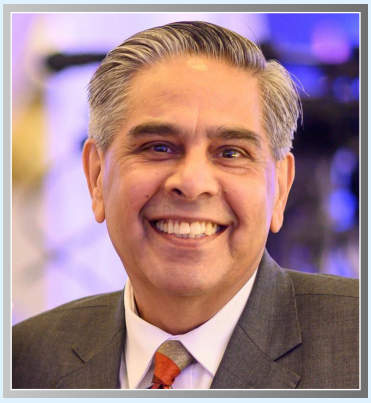
Integrating NELD considerations into future disaster response planning will significantly enhance Pakistan's ability to design more holistic and inclusive recovery strategies. Recognizing non-economic losses ensures that disaster responses prioritize mental health support, cultural preservation, gender-sensitive interventions, and the restoration of ecosystems alongside physical infrastructure rebuilding. This approach strengthens community resilience, fosters social cohesion, and promotes more equitable, people-centered recovery processes. Ultimately, including NELD initiatives will help Pakistan and other vulnerable countries advocate for more comprehensive support in global climate negotiations, ensuring that future adaptation and loss and damage responses truly leave no one behind.

I commend the Indus Consortium for leading this pioneering effort in Pakistan, in collaboration with Oxfam in Pakistan and its research partner, IBA Karachi. Their work sets an important precedent for more comprehensive and inclusive disaster management practices in the country.

warm regards
Imdad Hussain Saddiqui
Director Operations

Provincial Disaster Management Authority (PDMA) Sindh

Message



Foreword

I am pleased to note that in this pioneering study in Pakistan, the NELD Final Report examines the noneconomic losses and damages experienced in flood-prone districts of Sindh, following the devastating 2022 floods. While traditional post-disaster assessments typically focus on quantifiable economic losses, this research highlights the often-overlooked impacts on psychological well-being, loss of life, ecosystem services, and social displacement.

This preliminary, yet innovative, study is important, particularly since it employed a mixed-method approach across five districts (Qamber Shahdadkot, Ghotki, Dadu, Sukkur, and Sanghar), combining quantitative assessments using DASS-21 and WHOQOL-Brief surveys with qualitative methods including key informant interviews and focus group discussions. This approach allowed researchers to capture both measurable psychological impacts and the lived experiences of affected communities.

Findings reveal widespread psychological distress among flood victims, with the majority of participants experiencing stress, anxiety, and depression at concerning levels. Women showed slightly higher psychological distress than men, while quality of life assessments indicated participants were most dissatisfied with their environment and relatively more satisfied with their social relationships. The research also found that 72% of children were experiencing mild depressive symptoms, highlighting the intergenerational impact of the disaster.

Focus group discussions uncovered profound trauma across communities, particularly among vulnerable groups. Participants described feeling utterly helpless, experiencing deep insecurity, and losing connection to cultural and spiritual anchors as sacred sites were damaged. The destruction of ecosystem services, including damage to flora, fauna, and agricultural productivity, further compounded these noneconomic losses. Social displacement disrupted education and community structures, while inadequate health and safety conditions in relief camps contributed to ongoing suffering.

Based on these findings, the report proposes a comprehensive Disaster Risk Management framework aligned with the Sendai Framework and several 2030 Sustainable Development Goals. The framework outlines four strategic response areas: minimizing loss of life, protecting ecosystem services, enhancing psychological well-being, and supporting displaced communities. It emphasizes the need to restructure the District Disaster Management Authority, maintain systematic and comprehensive records of losses, establish preventative measures like mobile animal shelters, provide psychological support programs, and ensure economic integration for affected communities.

The report concludes that effectively addressing noneconomic losses requires collaborative action among multiple stakeholders, including government departments, environmental experts, social scientists, civil society organizations, and affected communities themselves. By incorporating these perspectives into disaster planning, future interventions can better address both the tangible and intangible impacts of climate disasters. This study will play an important tole in furthering the national discourse on loss and Damage and specially the Non-Economic Loss and Damage.

Ali Tauqeer sheikh
23 April 2024

Message

"I had the privilege of leading this pioneering study on noneconomic losses and damages (NELD) resulting from the 2022 floods in Sindh. Conducted in close coordination with Oxfam and Indus Consortium, the research adopts an interdisciplinary approach to examine the intangible yet enduring impacts of climate disasters—psychological trauma, loss of ecosystem services, and social dislocation—especially among women and children. This study contributes critical evidence to global efforts to operationalize the Loss and Damage Fund, which was notably established at COP27, by highlighting the need to consider noneconomic dimensions of vulnerability and recovery. By proposing a locally grounded policy framework, we hope this research informs more just, inclusive, and comprehensive climate response strategies in Pakistan aligned with international commitments."

Dr. Lubna Naz

Director Centre for Business and Economic Research, IBA Karachi.

Message

A Pioneering Step: Developing a Non-Economic Loss and Damage Framework for Sindh, Pakistan

Climate change is an escalating global crisis with far-reaching impacts on vulnerable communities, natural ecosystems, biodiversity, and the environment at large. The prevailing model of unsustainable economic development—driven by urbanization, industrialization, and fossil fuel-based transportation systems—has significantly contributed to environmental degradation. These actions have resulted in widespread loss and damage to the planet's natural balance.

The manifestations of climate change are now clearly visible in the form of recurring droughts, extreme heatwaves, flash floods, riverine floods, and cyclones. These disasters have pushed already vulnerable populations deeper into poverty, restricted their access to essential resources, and severely hindered their growth and development.

Pakistan experienced one of the most catastrophic floods in its history in August 2022. Some regions received more than 1,700 mm of rainfall, with a national average of around 1,100 mm. According to the National Disaster Management Authority (NDMA), the floods resulted in the loss of 1,739 lives, injuries to over 12,867 individuals, damage to 2,288,481 houses, destruction of 439 bridges, impairment of 877 km of road infrastructure, and the displacement of 33 million people. A total of 90 districts—32 in Balochistan and 24 in Sindh—were severely affected.

While the economic impact of the floods has been extensively documented, the non-economic loss and damage (NELD) suffered by communities remains under-researched and largely absent from disaster planning and response frameworks. These non-economic impacts include the psychological toll, social displacement, loss of cultural identity, biodiversity loss, and disruptions to ecosystem services.

Recognizing this gap, Indus Consortium, in collaboration with Oxfam in Pakistan, initiated a pioneering effort to document and advocate for the inclusion of NELD in disaster response mechanisms. This study focused on flood-prone districts in Sindh affected by the 2022 floods and aimed to bring to light the intangible losses endured by communities.

The Consortium engaged its partners—SDF, VSO, Nari Foundation, VDO, and its member LHDP in Qambar Shahdadkot—to conduct extensive fieldwork. Five Focus Group Discussions (FGDs) were held with diverse flood-affected groups including minorities, women, youth, persons with disabilities (PWDs), transgender individuals, and men. Key Informant Interviews (KIIs) were conducted with stakeholders from PDMA, health, education, protection, agriculture, and livestock departments, as well as the Sindh Police and other relevant actors. Additionally, 100 interviews were carried out to assess the mental health impacts on affected couples.

This is the first comprehensive study in Pakistan that explores NELD and proposes a Non-Economic Loss and Damage Framework specifically for the Sindh province. The framework aims to support government departments, humanitarian organizations, and development actors in integrating NELD into disaster response, recovery, and planning processes.

We are deeply grateful to Oxfam in Pakistan for their unwavering collaboration, particularly Mr. Shahnawaz Sahib, Country Director, and Ms. Sarah Zafar, for their support in conceptualizing and advancing the NELD agenda.

We extend special thanks to Dr. Ali Tauqeer Sheikh, a distinguished climate change expert and development professional, currently serving as an alternate Board Member of the Loss and Damage Fund under the UNFCCC. His guidance was instrumental in shaping a community-centric and actionable NELD framework.

Lastly, our sincere appreciation goes to Dr. Lubna Naz (Director, CBER at IBA; Gender Specialist), Dr. Saima Saif (Assistant Professor at SSLA, IBA; Clinical Psychologist), Dr. Zaheer Ali (Assistant Professor at SSLA at IBA, Sociologist), Mr Govinda, Research Associate, CBER, Rao Israr Ahmed, Senior Executive, CBER Karachi. Despite challenging field conditions, including extreme heat in districts such as Ghotki, Sukkur, Qambar Shahdadkot, Dadu, and Sanghar, they conducted fieldwork with rigor and dedication. Their efforts have laid the foundation for future work on non-economic loss and damage in Pakistan.

This study represents a significant milestone in understanding the true extent of disaster impacts and offers a path forward for more inclusive and effective disaster risk reduction.

Hussain Jarwar

Chief Executive Officer

Indus Consortium

Abstract

This study investigates the noneconomic losses and damages (NELD) in the flood-prone districts of Sindh, Pakistan, resulting from the 2022 floods. While traditional assessments focus on economic losses, this research emphasizes the often-overlooked impacts on psychological well-being, loss of life, ecosystem services, and social displacement. A mixed-method approach was used, combining quantitative tools such as the DASS-21 and WHOQOL-Brief surveys with qualitative methods, including key informant interviews and focus group discussions, to assess NELD. The findings highlight significant psychological distress among the affected populations, especially women and children, with widespread anxiety and depression, underscoring the need for enhanced mental health support during and after floods. The KII and FGDs substantiate the results from the psychological assessment and identify various risk factors, including poor health and safety, social and economic insecurity, inadequate response and resilience, and loss of cultural properties and ecosystem services. Based on these insights, a Disaster Risk Management (DRM) framework is proposed for addressing NELDs, which aligns with the Sendai Framework and several 2030 Sustainable Development Goals. This framework prioritizes minimizing loss of life, protecting ecosystem services, enhancing psychological well-being, and supporting displaced communities through a collaborative, multi-pronged approach, with a strong focus on community engagement in disaster response, relief, rehabilitation, and reconstruction.

Introduction

The Inter-governmental Panel on Climate Change (IPCC) published the (Intergovernmental Panel on Climate Change, 2023) which recognizes the interconnectedness of climate, ecosystems, biodiversity, and human societies, as well as the importance of various forms of knowledge. In Low-and Middle-Income Countries (LMICs), the evidence is primarily collected on economic losses and damages, such as infrastructure damage, loss of crops and livestock, and output and productivity losses, resulting from extreme climate events. Since economic losses and damages are tangible, they are easy to assess, report, and incorporate in planning and programs. In contrast, the noneconomic losses and damages encompass intangible or non-monetary impacts endured by individuals, communities, or ecosystems due to various factors such as natural disasters, environmental degradation, or social conflicts.

Unlike economic losses, which can be quantified in financial terms, noneconomic losses are often more challenging to assess and may include a broad spectrum of effects on well-being, quality of life, and social cohesion. Addressing noneconomic losses and damages calls for employing comprehensive approaches extending beyond monetary compensation. This may involve offering psychological support, reconstructing community infrastructure, safeguarding cultural heritage and biodiversity, fostering economic and social integration, and implementing sustainable environmental management practices.

International frameworks such as (UNISDR, 2015) and the (United Nations Framework Convention on Climate Change [UNFCCC, 2015) underscore the significance of addressing noneconomic losses and damages alongside conventional economic considerations. Similarly, the (United Nations, 2015) also underlines specific targets for addressing NELD, such as target 13.3 (build knowledge and capacity to meet climate change), and 13.5 (promote mechanism to raise capacity for planning and management)..

Background

In August 2022, Pakistan experienced one of the most devastating floods in its history. Precipitation levels reached over 1700 mm in certain towns, with an average of approximately 1100 mm across the entire country. The aftermath resulted in 1739 fatalities, 12,867 injuries, damage to 2,28,8481 houses, destruction of 439 bridges, impairment of 877 km of road infrastructure, and displacement of 33 million people from their homes. A total of 94 districts, including 32 in Balochistan and 24 in Sindh, were severely affected (Ministry of Planning, Development & Special Initiative, 2022).
Sindh is the second most populous province of Pakistan with an estimated population of 55 million (Pakistan Bureau of Statistics, 2023). The share of Sindh in national income is around 27%, with livestock contributing 62% of national agriculture GDP. The agriculture sector employs 70% of the total labor force in the Sindh province. The province of Sindh has historically been affected by both natural and human-made disasters. It is almost flat topography and is situated at the bottom of the Indus basin (Provincial Disaster Management Authority, n.d.). Thus, the excess water from the Indus River, its tributaries, and monsoon rains must flow through Sindh. The Indus River in Sindh poses a significant risk as it flows along a ridge, and in the event of a breach, the outflowing water cannot be redirected back into the river. However, the river is protected by 1,400 miles of flood protection embankments to safeguard the irrigation network, which extends from three barrages covering an area of 12.8 million acres (Ministry of Planning, Development & Special Initiative 2022).

Historically, Sindh has always experienced significant floods for the past four decades 1995, 2003, 2010, 2015, 2020, 2021, and 2022 (Provincial Disaster Management Authority, n.d.). The province was the hardest hit in 2022, experiencing 471% more rainfall than the 30-year average, causing rainfall induced floods (Mahesar et al. 2023). The flood in 2022 had a devastating effect on crops, livestock, and infrastructure in the province. A vast tract of crops was wiped out, accounting for 3.7 million acres of land, resulting in significant agriculture losses. Approximately 11% of crops suffered damage, particularly 42% of rice crops, 23% of cotton crops, and 31% of sugarcane production. Furthermore, the flood affected 8,463 km of roads and 165 bridges in Sindh (Provincial Disaster Management Authority, 2022).

The damaged infrastructure impeded mobility, livelihoods, trade and commerce and access to health, education, and other public services. The (World Bank, 2022) reported that the impact of poverty is severe in flood-affected districts, with poverty reaching 40-60% in certain districts. The province has been facing high rates of stunted growth among children for many years, indicating persistent nutritional deficiencies and poor health outcomes. The 2022 floods exacerbated the situation by causing shortages of food, damaging irrigation systems and infrastructure, disrupting jobs, and drowning animals—including cows and poultry. According to (UNICEF, 2023) one in every nine children under five years of age in flood-affected areas of Sindh and Balochistan was suffering from severe acute malnutrition.

Floods cause both immediate and long-term health impacts. Immediate impacts include injury and loss of human lives through drowning and structural collapses. However, encountering non-potable flood water for an extended period increases the chances of being exposed to infectious diseases. The (World Health Organization, 2022) issued a warning about public health threats and disease outbreaks in the aftermath of the 2022 floods. Diseases such as diarrhea, dengue fever, malaria, and polio were exacerbated among affected populations, particularly in camps where hygienic conditions were inappropriate.

The 2022 flood severely affected cultural properties across Sindh. The initial estimates showed at least 149 sites, including some world heritages sites (Japan Cultural Heritage Conservation, 2024), suffered partial but considerable damage. Moreover, numerous Buddhist stupas, Hindu temples, and tombs of pre- and post-Islamic dynasties suffered extensive damage (Ministry of Planning and Development & Special Initiatives, 2022). Several internationally renowned archaeological sites in Sindh including Kot Diji, Ranikot and Makli monuments suffered damage due to recent floods. The famous Makli monuments at Thatta and Banbhore were also affected by the floods. Additionally, the Buddhist stupa at Thul Mir Rukan has fallen victim to the inclement weather (Salman & Kalhoro, 2022).

The floods in Pakistan, and especially in Sindh have led to significant social upheaval due to internal displacement of populations. In 2022, approximately 33 million people were forced to abandon their homes because of the floods, with many seeking refuge in camps or with their neighbors (Siddique Akbar, 2022). This extensive displacement disrupts numerous social networks and community structures, resulting in a decline in social capital.

Given the colossal losses and damages caused by frequent flash floods in Sindh, it is crucial to evaluate the less-explored aspects of well-being—such as emotional trauma from the loss of life, disruption of ecosystem services, and social dislocation—among individuals, families, and communities severely affected during and after the floods.

Thematic areas of the study

The tangible losses and damages from the 2022 flood have been documented in research reports, bulletins, and articles in Pakistan. However, the unquantifiable effects, though widespread and profound, have remained largely unexamined due to their complexity and interconnectedness. A comprehensive review of studies relating to noneconomic losses and damages (NELD) identifies four critical areas:

1. Loss of life
2. Loss of ecosystem services
3. Physical and psychological well-being repercussions
4. Social displacement

which should be explored in disaster-prone areas in the country. Therefore, this study examines NELD in flood-prone districts of Sindh using mixed-method approach and recommends a disaster risk management policy framework for the government of Sindh, Pakistan.

Geographical Scope

For the implementation of the survey and qualitative tools, the study selected the following districts:

1. Qambar Shahdadkot
2. Ghotki
3. Dadu
4. Sukkur
5. Sanghar

The team conducted an extensive review of reports, newspaper articles, and analyzed flood losses using maps to carefully select the study site. These districts were selected using the following criteria: high rates of flood caused fatalities and disability, extensive infrastructure damage, massive displacement, and losses of ecosystem services (Sindh Rural Support Organization, 2022), and the need for comprehensive resettlement and rehabilitation, as reported in (Government of Sindh, n.d.). Prior consultations with experts were also held to gain insight into the details of losses and damages in the districts worst affected by the 2022 floods. Finally, five out of eighteen highly flood affected districts were selected. The selection was based on convenience sampling. Qambar Shadadkot, Ghotki, Sukkar, Dadu, Sanghar were the selected districts.

Qamber Shahdadkot

Qambar Shahdadkot is a district in the Sindh province, Pakistan, established in 2004. It is a relatively new district with Qambar as its headquarters. The district borders Balochistan on the west and encompasses a diverse landscape with plains, agricultural land, the Kirthar mountain range, and wetlands. Spanning roughly 5,475 square kilometers (approximately 2,114 square miles). According to the (Pakistan Bureau of Statistics, 2023), the district has a population of over 1.5 million. Shahdadkot, another main town, is the most populated area. Despite its size and population, the district faces challenges with poverty, access to clean water, and infrastructure development. However, Qambar Shahdadkot has a rich cultural heritage and plays a significant role in Pakistan’s political landscape.

Ghotki

Located in northern Sindh, Pakistan, Ghotki district is known for its date palms and serves as the headquarters for the entire district. Founded in 1447, Ghotki district stretches across 6,083 square kilometers (2,349 square miles) and encompasses a population exceeding 1.77 million according to the 2023 census. The Indus River runs along the district's northeast to southwest border, contributing to agricultural irrigation. Ghotki also features desert areas with wind-blown hills and flooded plains with pockets of forests. Despite its agricultural potential, Ghotki grapples with challenges like poverty and limited access to clean water and infrastructure. However, the district plays an important role in Sindh's economy, particularly with the recent rise of sugarcane cultivation.

Dadu

Dadu district, bordering Balochistan to the east in Sindh, Pakistan, has a population exceeding 1.74 million according to 7th Population and Housing Census 2023 spread across a vast 19,070 sq km (7,363 sq mi) area. Established in 1931, Dadu city, famed for its tea, serves as the district's center. The mighty Indus River forms a natural border to the east, while the rugged Kirthar mountains rise to the west. Agriculture thrives due to a canal network fed by the Indus, making Dadu a key producer of crops like wheat, rice, and gram. Despite challenges like water access and infrastructure, Dadu remains a cultural hub with a rich history and serves as a vital transportation junction for Sindh.

Sukkur

Bordering Balochistan to the west, Sukkur district is in Sindh province. Established in its current form in 1947, Sukkur city is the bustling headquarters. With a population exceeding 1.6 million (Pakistan Bureau of Statistics, 2023) spread across 5,165 square kilometers (2,000 square miles), Sukkur is characterized by a diverse landscape. The Indus River passes through the district, while plains and agricultural land dominate the region. Sukkur plays a significant role in Sindh's economy, with trade and transportation being key sectors.

Sanghar

Sanghar is one of the largest districts of Pakistan. Sanghar has a thriving population exceeding 2.3 million (2023 census) and sprawls across a vast area of 9,874 square kilometers (3,812 square miles). Despite bordering the arid Thar Desert, Sanghar's agricultural success is fueled by the life-giving Mithrao Canal system, which irrigates vast swathes of land, enabling Sanghar to thrive as a major producer of rice, wheat, and cotton. In addition to agriculture, Sanghar's industrial sector flourishes with several cotton-textile factories, further contributing to the local economy.

All five districts make up 16.6% of the total population of Sindh. Along with wide-spread poverty, dilapidated health and education infrastructure, and livelihood dependence on agriculture, the districts share a common history of adversaries caused by flash floods

Objectives

This study aims to guide disaster risk planning by addressing noneconomic losses from climate change focusing on impacts to livelihoods, ecosystem services, social displacement, and the well-being of families, especially women and children, while promoting community-based disaster management in Sindh. The specific objectives are as follows:

1. To assess the noneconomic losses and damages resulting from loss of life, ecosystem services, psychological well-being, and social displacement caused by the 2022 flood.
2. To identify the key socio-economic and institutional factors that influence coping mechanisms for noneconomic losses and dam ages in the 2022 floods.
3. To recommend a policy framework for integrating noneconomic losses and damages into provincial disaster risk management strategies, aligned with the Sendai Framework and the 2030 Sustainable Development Goals.

Methodology

Mixed Method Approach

This study used a mixed method approach, combining both quantitative and qualitative tools, to assess the noneconomic losses and damages inflicted on families and communities by the 2022 flood. Quantitative methods included surveys to measure the extent of psychological stress and overall well-being (see appendix for the questionnaire). In parallel, qualitative methods such as in-depth interviews and focus group discussions were employed to uncover the emotional, social, ecosystem , and cultural repercussions of the flood—aspects often overlooked in purely quantitative assessments. The use of mixed method approach helped to understand not only the measurable aspects of flood damage but also the lived experiences and coping mechanisms of individuals and groups. This comprehensive perspective is valuable for tailoring disaster risk management policies and interventions to address both tangible and intangible losses and damages.

Quantitative tools

This study administered the Depression, Anxiety, and Stress Scale (DASS-21)) (Aslam & Kamal, 2017) and the WHO Quality of Life Brief Scale (WHOQOL-Brief) surveys to assess the psychological distress and perceptions among married couples regarding the quality of their lives after the 2022 floods. The DASS-21 assesses psychological distress, including depression, anxiety, and stress (Aslam & Kamal, 2017). It has three subscales: Depression (low mood, hopelessness, lack of interest), Anxiety (autonomic arousal, muscle tension, situational anxiety), and Stress (tension, irritability, difficulty relaxing). The WHOQOL-BREF (Lodhi et al., 2017) assesses Quality of Life in four domains: physical health (energy, pain, mobility, daily activities, medication dependence, work capacity), psychological health (mental and emotional well-being, self-esteem, body image), social relationships (personal relationships, social support, social activity), and environment (physical safety, home environment, financial resources, health care, opportunities for learning and recreation, physical environment, transport) (Lodhi et al. 2017).

Additionally, the Centre for Epidemiological Studies Depression Scale for Children (CES-DC) (Zia, 2019) was administered to mothers to evaluate the level of depression in their children. The CES-DC is used to assess depressive symptoms in children and adolescents, covering mood, somatic symptoms, (refer to physical symptoms that an individual experience which may or may not have a clear medical cause. While these symptoms are real and can cause significant distress, they are often associated with psychological factors such as stress, anxiety or depression, cognitive symptoms, (related to thinking, memory and information processing.

These symptoms can include difficulties with concentration, these symptoms are also often associated with mental health conditions such as depression and anxiety), and interpersonal problems, for example, items on the scale ask about feelings of sadness, changes in sleep and appetite, negative thoughts or trouble concentrating (Zia, 2019).

Screening for depression in children involves asking potentially distressing questions. To avoid triggering vulnerabilities of children, therefore, the information regarding their emotional, psychological, and behavioral symptoms was instead collected from their parents. All scales have good psychometric properties.

A team of three members (one clinical psychologist and two research assistants or RAs) conducted the administration of psychological tools. Since the administration of psychological tools requires specific psychological training, the two RAs were trained by the clinical psychologist in protocols, such as empathy, active listening, and other ethical considerations like confidentiality and respect. The interviews were conducted after explaining the purpose of the study and requesting voluntary participation from the participants, as most were illiterate. Convenience Sampling was used in the selection of participants in each district. The data collected through surveys were coded, cleaned, and finally analyzed using Exploratory Statistical Analysis. The questionnaires are attached in the appendix.

Study Participants

The adult participants in the study included 46 married couples, with males aged 23-56 years (Mean age = 40.24) and females aged 20-56 years (Mean age = 37.11). Among them, 34.8% of males and 69.6% of females had no formal education. Furthermore, 91%

of males worked full-time in farming and labor, 4.3% worked part-time, and 4.3% were unemployed. In contrast, only 15.2% of females were employed full-time in roles such as housekeeping and polio volunteers, 58.7% worked part-time in seasonal harvesting and stitching, and 26% were housewives.

Qualitative tools

The team conducted Key Informant Interviews (KIIs) with stakeholders to gather detailed insights on the psychological, social, ecosystem, and cultural impacts of the 2022 floods. The aim was to identify challenges and gaps in current disaster risk management strategies, understand coping mechanisms, and obtain recommendations for addressing noneconomic losses and damages effectively. Officials from the Health Department of Sindh Government, Provincial Disaster Management Authority, Agriculture Department, Irrigation and Livestock Departments, Education Directorate, Law Enforcement Agencies, Civil Society Organizations, and Non-Governmental-Organizations participated. These interviews provided a comprehensive view of 2022 flood impacts beyond physical damage and helped validate and cross-check data from other methods, ensuring accuracy and reliability in developing more holistic disaster risk management strategies.

Furthermore, this study employed Focus Group Discussions to unpack and understand the effects of 2022 floods. To ensure the discussions remained focused and yielded useful insights, a topic guide was used throughout data collection. Five FGDs were conducted with community members from Qambar, Shahdadkot, Ghotki, Dadu, Sukkur and Sanghar to investigate the community's response to noneconomic losses and damages. Participants were selected from various groups affected by the 2022 floods, including religious minorities, persons with disabilities, women, youth, and adults (see Table 1 below).

Table 1: Socio-demographic Characteristics of the Participants in FGDs

Socio-demographic Characteristics	Sanghar	Dadu	Qambar Shahdadkot	Ghotki	Sukkur
Sample	Person with disability (PWD) N=10	Women N=8	Community Members N=11	Religious Minorities N=10	Youth N=12
Age Range	22-60	20-60	22-60	22-60	18-25
Gender Ratio (Male to Female)	70-30	100	70-30	50-50	50-50
Employed to Unemployed rtio	30-70	20-80	70-30	60-40	40-60
Married to unmarried or widow/divorced ratio	80-20	100-0	70-30	90-10	20-80

Unlike psychological assessments tools and KII, FGDs brought together distinct groups of people who shared a common sense of loss, providing them with a sense of security and connectivity, which in turn, helped them open up and talk about uncomfortable events and gaps in coping mechanisms. After collecting qualitative data through KIIs and FGDs, the research team organized the information—such as text from transcripts and images—by coding it into themes. The recurring themes in all FGDs were selected, analyzed and discussions presented in the following research findings sections.

Like every method, the mixed methods approach has its own limitations; it poses challenges in integrating diverse data sets, and conflicting results can confound conclusions about the psychological, social, ecosystem, and cultural impacts of the 2022 floods. This can potentially affect the efficacy of the disaster risk management framework designed to address the noneconomic losses and damages.

Research Findings

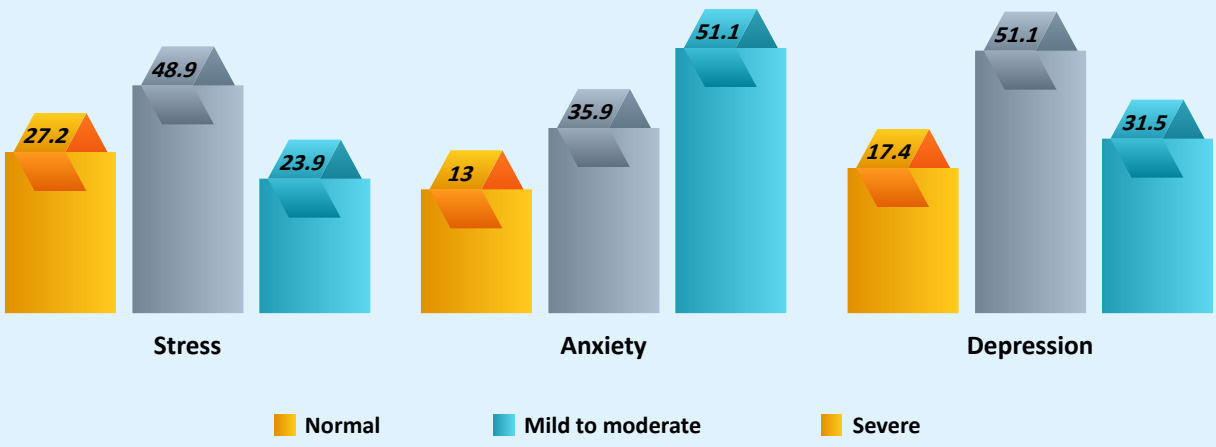
Psychological Distress

The DASS-21 was administered to explore the severity levels of psychological distress among the flood victims, in the form of depression, anxiety, and stress (Figure 1). Psychological distress can manifest through conditions such as depression, anxiety, and stress, indicating that individuals are going through significant psychological challenges. While these three conditions can co-occur and share some overlapping symptoms, there is a distinction between them in terms of severity and symptomatology.

The findings show that 84.8% of the participants feel stressed (48.9% at a mild to moderate level, and 23.9% at a severe level). Stress represents a state of mental or emotional strain resulting from demanding circumstances that typically resolves once the demanding situation is managed. However, the presence of high stress levels means that the participants are facing challenges on a day-to-day basis that they feel they are unable to resolve or manage successfully. They reported not being able to wind down, getting agitated easily. They tend to overreact to situations and feel vulnerable emotionally. About 87% of participants reported feeling anxious (35.9% at a mild to a moderate level, 51.1% at a severe level). Having anxiety means showing physiological and psychological responses to stress such as dryness of mouth, breathing difficulties (without any medical cause), trembling of hands and legs, increased heart rate suddenly, experiencing panic attacks, and feeling scared without any reason.

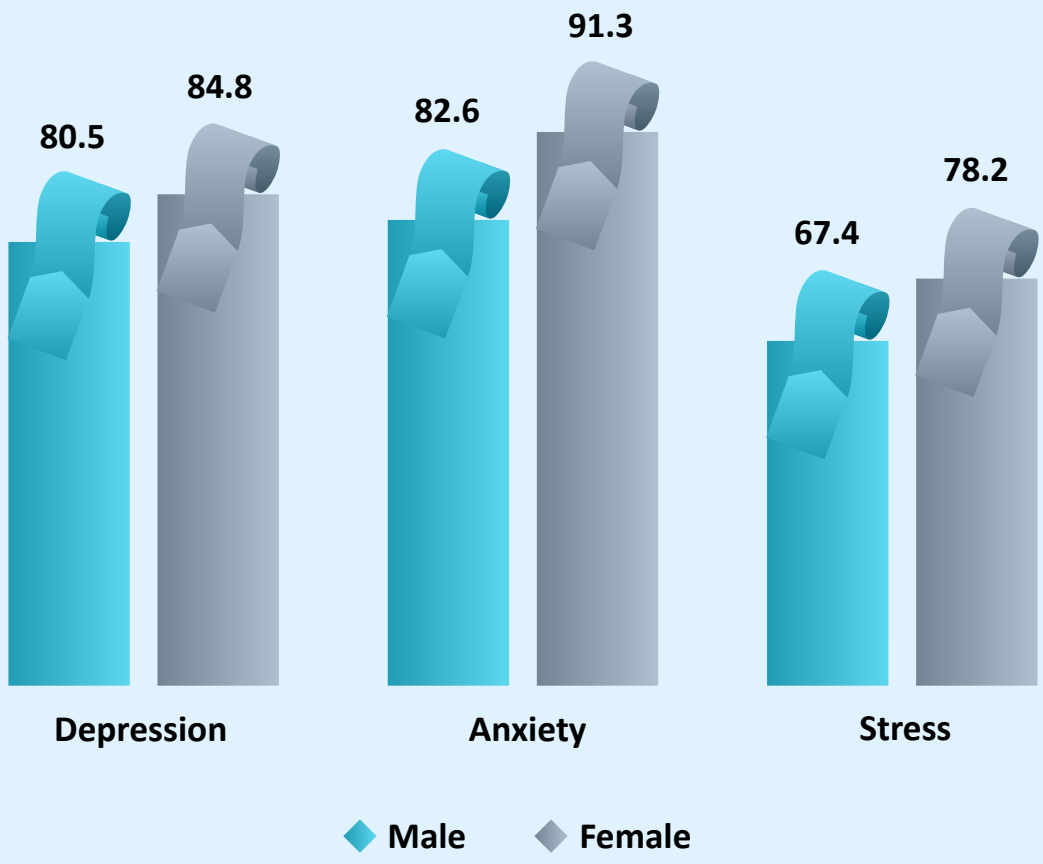
Approximately 82% of the participants reported experiencing depressive symptoms (51.1% at a mild to a moderate level, 31.5% at a severe level) which is an indication of an inability to experience any positive feelings, hopelessness, and a general feeling that life is worthless.

Figure 1 : Severity levels of phychological distress



The prior evidence on the implementation of DASS-21 in two highly affected but remote Upazilas (subdistricts) after the flash floods 2022 in Bangladesh showed that women affected by the flood experienced both physical and mental health problems (Rahman et al. 2023). Another similar study revealed that the death of a family member, the loss of a home, crops, and animals, and a lack of relief were significant risk factors for depression among women in Taunsa and Rajanpur flood-affected villages during the 2022 floods in Pakistan (Sawangchai et al. 2023). The overall depression among women was 56.6%, which corroborates our research findings (see Figure 1). The reported normal to moderate depression rates (51%-56%) are higher than the global averages of depression rate after natural disasters (5.9%–53%) (Mamun et al., 2019). These studies highlight the importance of disaster preparedness measures, such as forming rapid response and relief committees in flood-prone districts, to minimize the adverse mental health effects of future floods.
This study found presence of psychological distress in both males and females (Figure 2), with slightly higher levels of depression, stress, and anxiety observed among females.

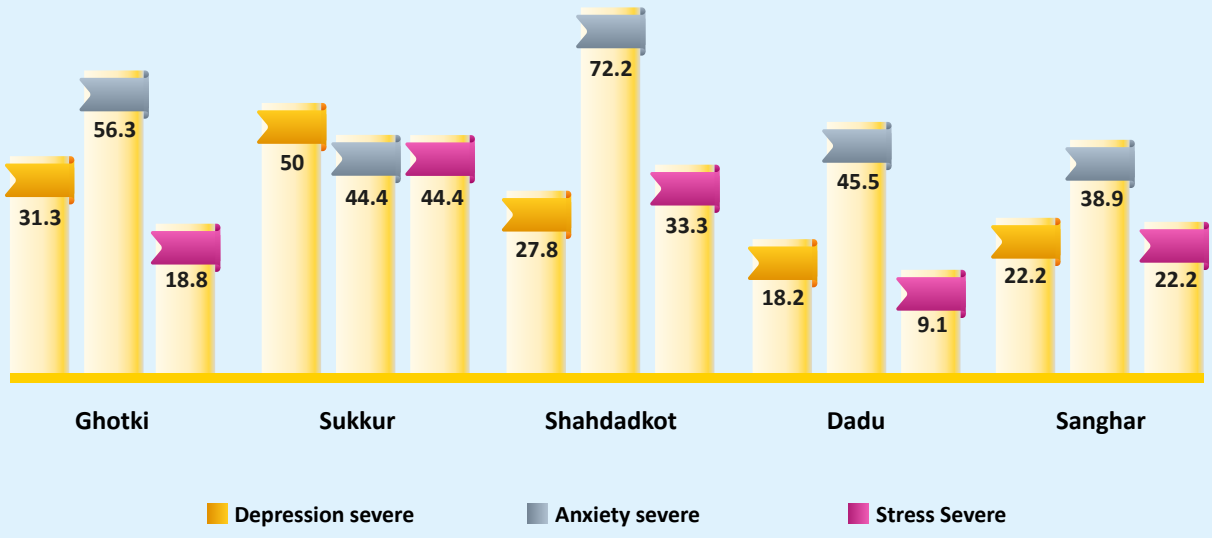
Figure 2 : Gendered phychogical distress



Psychological Distress Across Study Sites

The severity levels of psychological distress across the five study sites are explored and presented in Figure 3. It is worth noting that severe anxiety levels are present across all sites, followed by depressive symptoms. This indicates a widespread issue with anxiety where people are experiencing increased levels of panic, fear, and excessive worrying, along with persistent sadness and feelings of hopelessness. The findings suggest the need for increased mental health resources and interventions, particularly those focusing on anxiety and depression.

Figure 3 : Psychological Distress Across Study Site

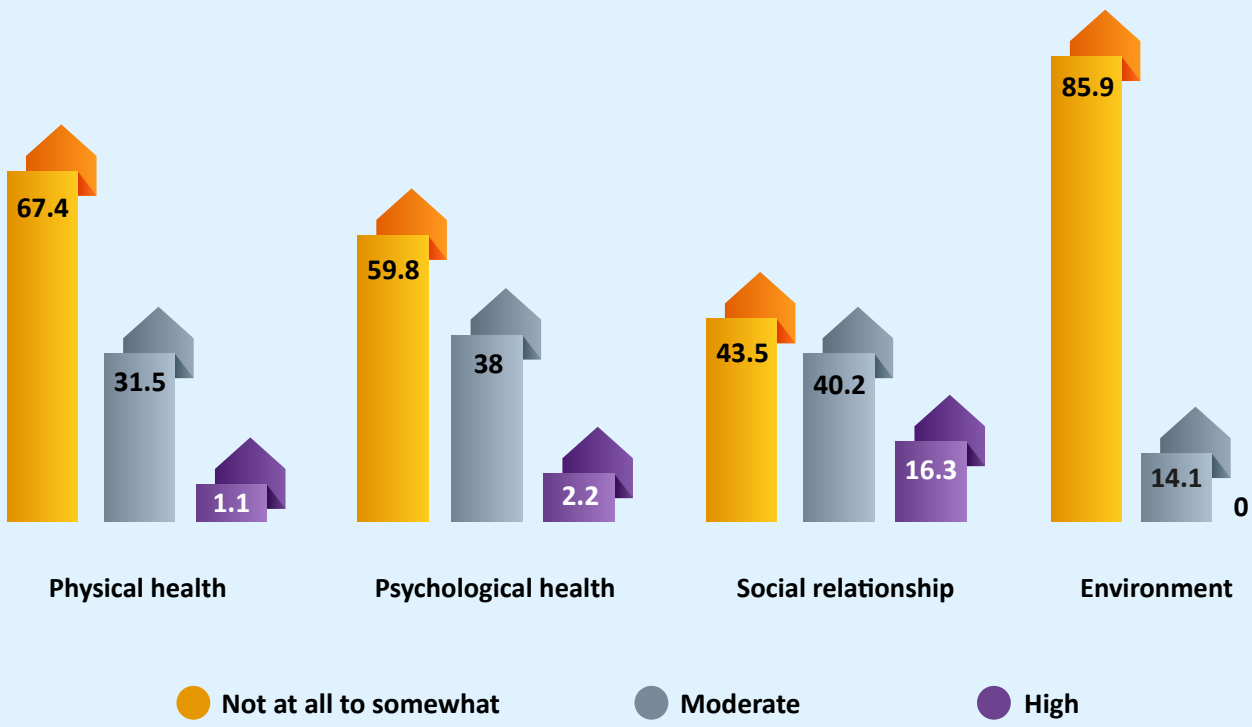


The profiling of study sites shows commonalities in the severity of economic hardships faced by the population. According to the report of the Ministry of Planning, Development & Special Initiatives 2022, the flood-hit districts, particularly in Sindh, were more impoverished than the national poverty rates. Among the provinces, the highest proportion of food-insecure people was in Sindh, at 22.3%, followed by Balochistan at 22.7%. This context may have contributed to the high levels of anxiety and depression observed at the study sites.

Quality of Life

The WHOQOL-BREF was administered to explore the participants' satisfaction levels with the quality of life. The quality of life was measured across four domains, i.e., physical health, psychological health, social relationships, and environment (Figure 4). The World Health Organization defines Quality of Life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, and their relationship to salient features of their environment. (Group W, 1993). WHOQOL-BREF is a short version of WHOQOL-100 developed under the supervision of WHO (Skevington et al., 2004). Among several general instruments to measure quality of life, WHOQOL-BREF is one of the most suitable instruments, which is comparatively brief, acceptable to use, valid across cultures, and extensively used in different epidemiological studies.

Figure 4 : Satisfaction with Quality of Life



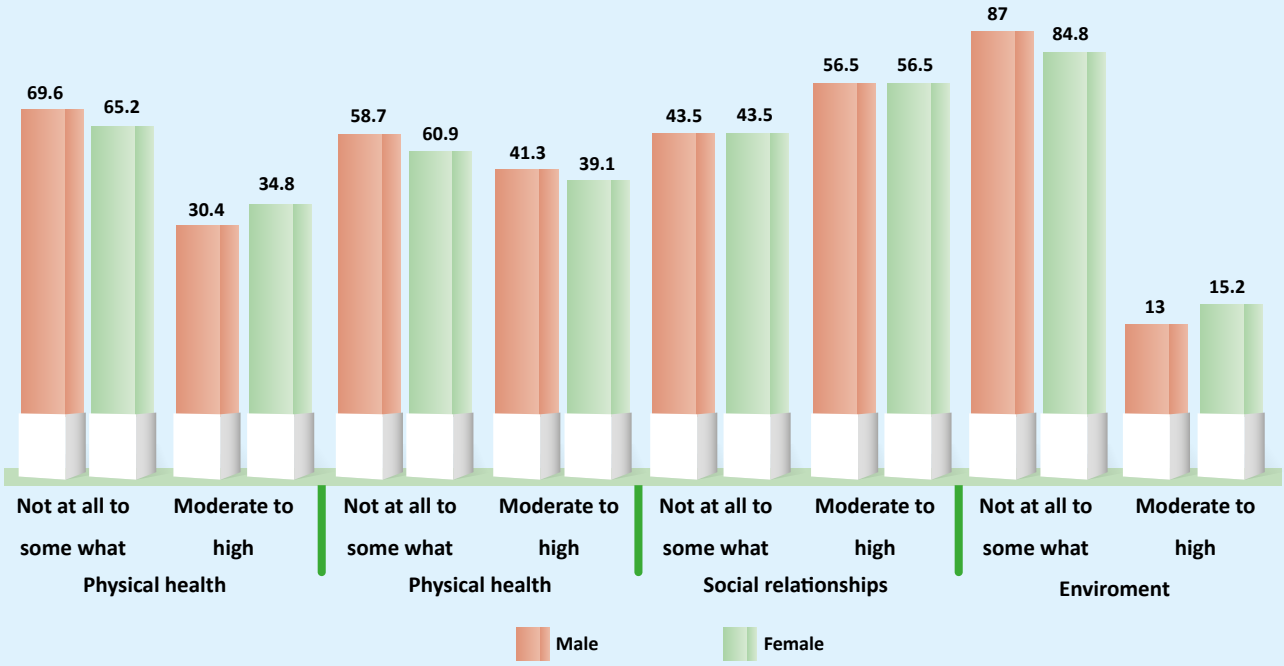
Satisfaction with overall quality of life is vital, as it correlates with an individual's happiness and well-being and contributes to better mental health by reducing the symptoms of psychological distress. The results from the administration of the WHO quality of life survey show that approximately 67% of the participants reported being not at all to somewhat satisfied with their physical health, 31.5% reported moderate satisfaction, whereas only 1.1% reported high satisfaction. The items asked in this domain were related to activities of daily living that required mobility and physical energy.
The domain of psychological health measures includes an individual's psychological and emotional well-being, self-esteem, body image, and religious and spiritual beliefs.

Approximately 59.8% of the participants reported not at all to somewhat satisfied with their psychological health, 38% reported a moderate level of satisfaction, in contrast only 2.2% reported high satisfaction with their psychological health.
The items in the domain of social relationships assessed the quality of social support, personal relationships, social activities, and sexual activities with their married partners. The satisfaction level of the participants regarding the quality of their social relationships is higher compared to other domains. About 43% of participants reported not at all to somewhat satisfied, whereas 40% reported moderate satisfaction, and 16% reported high satisfaction with the quality of their social relationships.
The items in the domain of environment assess satisfaction with physical safety and security, home environment, financial resources, health services, and transportation. Participants in our study showed the lowest level of satisfaction with this aspect of their lives. As shown in Figure 4, around 86% of participants reported not at all to somewhat satisfied, 14% reported moderate satisfaction, and nobody reported high satisfaction with their environment.

Gendered Quality of Life

When satisfaction with quality of life is examined through a gender lens, a slight difference is observed in the level of satisfaction each gender has with the quality of their lives (Figure 5). Females are more satisfied with their physical health compared to their male counterparts. Cultural roles dictate that males have to go out of their homes and earn livelihood for their families, which requires more physical energy and rigor as compared to the physical energy required by the females for the domestic work However, when we look at the satisfaction level with psychological health, females are less satisfied than their male counterparts. This can be linked with the previous findings of depressive symptoms, anxiety and stress which was more prevalent among females. Since psychological distress is more prevalent among females, hence they are less satisfied. In terms of social relationships, they report the same level of satisfaction. It is worth noting that neither females nor males reported adequate levels of satisfaction with their environment.

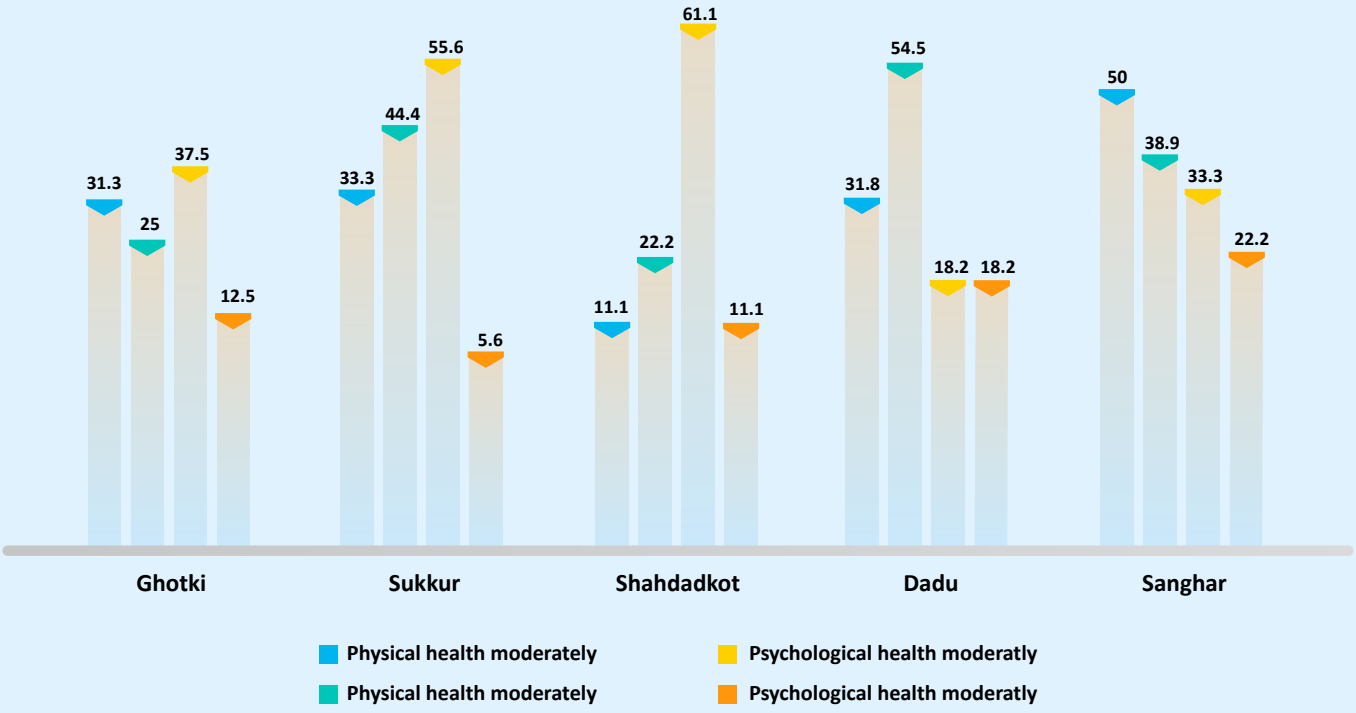
Figure 5 : Gendered Quality of Life



Quality of Life across study sites

If we explore the satisfaction level with quality of life across the five study sites (Figure 6), it is worth noting that the moderate level of satisfaction with the environment is low in all areas, whereas the moderate level of satisfaction with social relationships is high. This low satisfaction with the environment indicates issues such as poor living conditions, inadequate infrastructure, lack of access to services and unsafe surroundings.

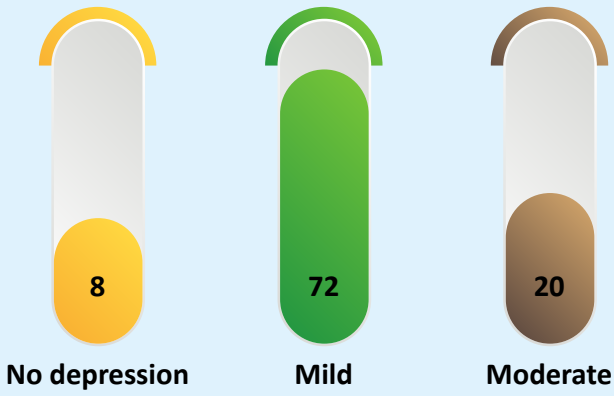
Figure 6 : Satisfaction with quality of life across the study sites



Depression Among Children

The Centre for Epidemiological Studies Depression Scale for Children was used to assess the severity of depression among children. Data was collected from 25 children aged 6 to 18 years (M=10.56) by their mothers. Among these, 48% were girls aged 6 to 17 years (M=10.83) and 52% were boys with age range of 6 to 18 years (M=10.3). About 52% of the children reported having access to a government school, whereas 48% of the children did not go to school due to reasons such as the school being far away or the unaffordability of transport even for government schools. Results indicate that 72% of the children are going through depressive symptomatology on at a mild level of severity whereas 20% are experiencing on a moderate level of severity (Figure 7).

Figure 7 : Severity Levels of Depression among Children



Stakeholders' perspectives on noneconomic losses and damages and humanitarian response during and post 2022 Flood

The 2022 flash floods in Sindh caused widespread noneconomic losses and damages, severely impacting vulnerable and marginalized communities. The interview held with Imdad Hussain Siddiqui, Assistant Director Operations of the Provincial Disaster management authority brought to light the roles of National, provincial and district level disaster management authorities in disaster preparedness and response in flood-prone districts in Sindh. The National Disaster Management Authority (NDMA) has established a Community-Based Disaster Risk Management (CBDRM) framework to enhance coordination in response, rescue, and relief (RRR) operations across all provinces. The framework is implemented by the Provincial Disaster Management Authority (PDMA) Sindh. It helps to strengthen community networks to identify hazards, assess vulnerabilities, map capacities, and plan protective actions. It also emphasizes the importance of learning response skills and effectively utilizing local resources. The collaboration with NGOs in implementing these CBDRM strategies aims to bolster resilience in Sindh's most vulnerable districts.

Two significant initiatives have been taken to support these efforts: the Multi-Hazard Vulnerability Risk Assessment (MHVRA) and the Disaster Management Information System (DMIS). These tools have been crucial for effective disaster management, enabling comprehensive mitigation, preparedness, emergency response, recovery, rehabilitation, and reconstruction activities under the broader Provincial Disaster Risk Management (PDRM) framework.

One of the major projects under PDRM is the Sindh People's Housing for Flood-Affected families (SPHF), which is financially supported by the World Bank. It aims to construct 256,000 houses, including 57,000 to be owned by women. To date, 72,000 houses have been constructed and handed over.

Despite these efforts, several key challenges persist. For example, the organizational structure of the District Disaster Management Authority (DDMA) remains vague, hindering effective coordination and implementation of DRM at the district level.

STAAKEHOLDERS' PERSPECTIVES ON NON-ECONOMIC LOSSES AND DAMAGES AND HUMANITARIAN RESPONSE DURING AND POST 2022 FLOOD

Strategic Areas of the study			
Loss in life	Loss in Ecosystem services	Loss in psychological well being	Social displacement
Disaster Management Authority Personnel Perspectives			
Early warning	Coordination with health department	Coordination with local administration, agriculture, irrigation, and forestry	Coordination in relief and rehabilitation and reconstruction
Assess vulnerability and risk mapping	Coordination with NGO and CSOs in providing healthcare	Date collection post floods	Capacity building of communities-CBDRM
Agriculture and Livestock officials, Perspectives			
Flash flood 2022	Challenges in accessing medical help by farming community	Loss of trees and medicinal herbs	Adverse effect on socialization of farmers during and post flood
Huge losses of life and livestock among small farmers	Subsistence farmers were more distressed and devasted than middle and large farmers	Loss of cultural heritage	Lack of local political leadership support for displaced communities
Health and Education Officials' Perspectives			
Unavailability of vaccines, baby milk caused fatalities and malnourishment	Limited support for mental wellbeing	Playgrounds were destroyed by floods	Over-vrowdedness and infectious disease

Limited medical support for elderly, pregnant women,and disable people causing disable among families	Unavailability of preganancy care and sanitary products caused severe stress among women	School infrastructure got destroyed in relief and rehabilitation	Restricted women mobility to avail medical care
Law Enforcement and CSOs Representatives' Perspective			
Local administration support to avert loss and damages	CSO and NGOs set up camps for mental health assessment (in few camps only)	Limited instructional support for restoring natural environment after flood	Sense of deep deprivation and idenitity among displaced communities
Role of CSO and NGOs in saving lives and live stock	Corrdination with local community in providing relief	Irreplaceable loss of culturel heritage	Safety and security issues for women and girls during relief and rehabilitation operation
Environmental Scientists' Perspectives			
Huge loss of life and environment	No or limited support to mitigate mental stress resulted from loss of cultural heritage and nature environment	Restoration of lakes, and soil	Displaced people were deprived of sound landscapes and natural atmosphere
Need for detailed post flood survey of irrgation, and WASH infrastructure	Limited community led initiatives for mental health	Loss of flora and fauna	Dilapidated infrastructure and poor heath and well being

Table 2: Stakeholders' Perspective on Non-economics and Damages

According to Assistant Director Operations PDMA,

"There is a need to reorganize DDMA and strengthen coordination, monitoring, and accountability across government and non-government departments to improve disaster risk management, especially response and relief operations in calamity-hit areas."

– (AD Operations PDMA)
A similar observation was shared by the gender specialist,

"The DDMA's lack of coordination, being in contact only with the District Commissioner and a few stakeholders without accountability, hindered effective disaster management".

– Gender Specialist Irrigation Department Government of Sindh.
Furthermore, the CBDRM is currently operational in only a few highly vulnerable districts, limiting its overall impact. There is a limited role for women in response, rescue, and relief planning and operations, which undermines the inclusivity and effectiveness of these efforts, calling for revisiting the progress toward meeting SDG target 1.5 (see Table). The PDMA official underscores the need for gender mainstreaming in DRM, as follows.

"Local women have minimal role in response, rescue and relief planning and operations in flood -prone districts of Sindh."

– (AD Operations PDMA)
One of the significant challenges in the SPHF project is locating people who migrated from their original places during the floods, undermining efforts to provide them with housing and support. According to the coordinator of SPHF,

"Discrepancies in housing survey were noticed as people relocated from their original places due to endangering survival hood and economic hardships in flood-hit areas."

– Monitoring & Evaluation Lead Safco Support Foundation
The 2022 flash floods had destructive effects on the agriculture and livestock sectors, which form the backbone of the rural economy in Sindh. Despite the presence of an early warning system, continuous rainfall over a month overwhelmed the infrastructure, leading to severe losses. Sindh's geographical vulnerability, intensified by its location in the lower course of the Indus River and its predominantly arid and semi-arid climate, made it particularly susceptible to such natural disasters, calling for investment in the up gradation of the infrastructure, which is in alignment with the following SDG targets, 2.4, 6.6, 9.1 and 15.3, (see Table).

"Less resilient infrastructure to climate changes contributed to the extensive damage during the 2022 floods."

– Gender Specialist Irrigation Department Government of Sindh.

Another official reported about Sanghar,

"There is a need for rehabilitation of both physical infrastructure and nature-based solutions, such as reviving old water paths, reducing encroachment, and mitigating deforestation."

– Deputy Director of the Agriculture Extension Department, Sanghar
The loss of livestock, a critical asset for poor households, turned out to be a loss of livelihood which instilled the feelings of worthlessness and helplessness among affected families. The limited relief, restricted to deferred payments without debt write-offs, further compounded the mental stress, anguish, and depression among farmers. The observations shared by the officials of the agriculture, livestock, and health departments are consistent with the psychological assessment based on "DASS-21" and "FGDs" held with community members.
The officials from the Health and Civil Society organizations shared their views on a critical gap in mental health and well-being services, with limited support provided by NGOs in selected shelters. Inadequate water, sanitation, and hygiene (WASH) facilities severely affected pregnant women and girls, compromising their health and safety.

Schools, converted into shelter homes, provided temporary relief to displaced families but faced numerous challenges, including issues of privacy and personal security. A health official who participated actively in relief operations during the 2022 flood pointed out,

"In Shahdadkot, it was challenging to provide medical care to physically injured individuals and treat children experiencing infectious diseases due to dilapidated roads—taking care of mental health was unimaginable."

- Health Department, Qamber Shdadkot,

There was a profound impact on the health and education sectors, exposing significant vulnerabilities and highlighting areas needing urgent attention and improvement. The severe malnutrition reported among affected families, particularly due to the unavailability of milk and baby cereals, caused immense mental distress. Additionally, the lack of essential medicines led to distress and loss of life, exacerbated by the inadequate availability of vaccinations for skin diseases, diarrhea, cholera, and snake bites, particularly in Ghotki, Dadu and Shahadadkot districts. The Expanded Program on Immunization (EPI) faced significant hurdles in reaching out to families in flood-affected areas. The Joint living arrangements in schools turned into shelters posed challenges in terms of social acceptability among families.

The official from the Education Directorate in Dadu shared his experience,

"Temporary teaching arrangements were largely ineffective, with low interest from both parents and children."

- A representative of the Education Department in Dadu

Furthermore, he pointed out that

"The infrastructure of schools used as shelters was damaged and stolen by the sheltered population upon their return. The severe sense of deprivation and hopelessness among families led to the encouragement of beggary among children."

The observations shared by various stakeholders are consistent with the experiences shared in focus group discussions with minorities, youth, and women.

Subsistence farmers, who rely heavily on agriculture for their sustenance, were the most severely impacted, facing extreme helplessness due to the lack of medium- to long-term support systems. The floods also disrupted social interactions among farmers, which are typically facilitated through the sharing of agricultural produce. Additionally, the loss of livestock deprived shepherds of their traditional musical enjoyment,

Despite the widespread displacement and distress, cases of gender violence were seldom reported, largely due to conservative cultural norms that discourage the disclosure of such incidents, as endorsed by participants in the focus group discussion. The police provided necessary security during relief operations conducted by the district administration, ensuring some degree of safety for the affected populations.

A woman police officer shared her views,
"There were a few reports of molestation of women during relief and rescue operations in flood affected villages in Dadu."

In charge of the Women Protection Cell in Sukkur

The interviews with representatives of government officials reveals that CSOs and NGOs played a pivotal role in the Response, Rescue, and Relief (RRR) efforts, with a particular emphasis on providing relief. Their diligent efforts were instrumental in delivering essential services and support to displaced communities, often filling gaps left by formal institutions. However, the officials complained about the minimal role of local political leadership in RRR, which created a deep sense of helplessness among flood victims.
The floods had a devastating impact on the region's ecosystem services, significantly altering the natural landscape and disrupting ecosystem systems. The uprooting of old trees and the destruction of flora and fauna deprived local communities of essential resources and the natural environment necessary for social activities and well-being. The floods uprooted old trees, which served as important social gathering spots for local communities.

An official from agriculture extension department reported,

The loss of these trees not only affected social activities but also disrupted the local ecosystem. As people were deprived of sound landscapes of migratory birds, many important shrubs, and species of medicinal plants, affecting the local population's access to natural remedies and resources."

- Deputy Director of Agriculture, Ghotki

The floods caused significant damage to wildlife, with many wild animals and species being washed away. This loss further disrupted the ecosystem balance and affected biodiversity. The destruction of plants, wild shrubs, and minor crops created difficulties in finding natural fodder for the remaining livestock, impacting the agricultural livelihoods of local communities. While the floods severely affected biodiversity, they also helped restore Manchar lake, highlighting the complex and sometimes beneficial impacts of natural disasters on certain ecosystems.

Focus Group discussions (thematic analysis)

Community Response and Resilience

Human resilience has been studied from various disciplinary perspectives, encompassing individual factors like realism, value systems, and an open mind (Bonanno, 2004). Researchers also examine resilience in relation to environmental factors such as family support and spiritual future orientations (Lee, Sudom, & Zamorski, 2013). Psychologically, resilience involves adapting successfully to challenging life experiences through mental, emotional, and behavioral flexibility (American Psychological Association, n.d.). Community resilience refers to a community's ability to anticipate, prepare for, and cope with threats, predicting better responses to climate change (Cohen et al., 2016). Resilient communities adapt more effectively to the impacts of climate change on physical and mental well-being. Since communities consist of individuals, training people in coping strategies and stress management enhances overall community resilience (Fatima, 2022).

One participant's views in our study echoed this evidence

"In this time of crisis, we witnessed the true spirit of community. Despite the hardships, we came together to support each other. We set up makeshift camps and shared whatever resources we had. The local doctors and volunteers did their best to provide medical aid, but the challenges were overwhelming."

(A male community member aged 25, Qambar)
This illustrates the emergence of resilience i.e. self-reliance and solidarity within communities during disasters. This grassroots level of mutual support is crucial when formal aid mechanisms fail. Literature on disaster resilience frequently highlights the importance of community solidarity and collective action in the face of emergencies. Community-based responses can be immediate and tailored to the specific needs of the affected population, which is often more effective than external aid (Kazi, 2014). Traditional knowledge also plays a significant role, as highlighted by one of the participants,

"The elderly women used their knowledge of traditional medicine to treat the sick in relief camps."

(A married women aged 60, Dadu)

Notably, traditional medicine is used for healing in rural areas, especially when access to formal healthcare is disrupted. This use of indigenous knowledge in disaster response is supported by various studies, which show that traditional practices are often vital in managing health crises during and after disasters (Noureen et al., 2022).

During the 2022 floods, insufficient political and governmental support heightened self-reliance, fostering resilience among those affected. Evidence from flood-prone districts highlights the lack of proper measures to assist those unable to help themselves. This underscores the need for comprehensive economic and social support systems to enhance community resilience in future crises. A participant shared,

"We go to the city to work as labor and then get feeders for our cattle. We used to work before the floods but after the flood there is no work. We often ate only once a day, ensuring that our children ate before we did. We sought help from those with jobs, sometimes receiving 500 or 1000 rupees."

(A male aged 25, Dadu)

Another participant shared a similar ordeal,

"It is a great source of pain to get our wheat from the city when we used to grow it all our lives. It has greatly impacted us financially as well as emotionally."

(A male aged 29, Ghotki)

Participants recalled their experiences during the 2022 flood, sharing that essential non-food items became incredibly expensive; plastic sheets that once cost 300 rupees per kilogram were now 1000 to 1500 rupees. They could not make proper tents and had to travel to Sukkur to find these items. Furthermore, people were frustrated that aid was given to local landlords for distribution by the local administration, as they either did not share it with the affected people or only shared it with their supporters, implying the issue of inequitable distribution of relief goods in flood-affected areas. One of the participants said,

"Mostly people who were close to local political leader received aid during and after the 2022 flood."

(A male aged 41, Qambar)

The participants appreciated the non-governmental and governmental organizations for providing relief and rebuilding infrastructure. However, they realized that full recovery would take years. Many have lost their homes and livelihoods, and rebuilding is a slow process. They are constantly worried about the future, with the fear of another flood always at the back of their minds.

which can hinder resilience and recovery among disaster-hit communities. Similar evidence from the Ghizer district in Gilgit-Baltistan showed that “signs of depression” became more apparent among villagers, with a rise in suicide rates, possibly caused by climate-induced devastation (Ebrahim, 2022).

Health and Safety

Health and safety emerged as a recurring theme in all focus group discussions (FGDs). Participants reported that children were the hardest hit, many falling ill with waterborne diseases such as cholera and diarrhea, highlighting their vulnerability during floods. Floods often contaminate drinking water, creating a breeding ground for pathogens that cause diseases like cholera, typhoid, and diarrhea. Additionally, the lack of basic health services for the flood-affected, coupled with the fear of being bitten by poisonous snakes, contributed to the psychological trauma of the victims. As mentioned by one of the FGD participants:

"At night, the sound of collapsing homes and the sight of rising water kept us awake and fearful for our lives and those of our children. The presence of snakes and other dangers in the water added to our terror. We could not sleep, and the constant worry about our children's safety was overwhelming".

(A woman aged 35, Dadu)

Such threats add another layer of danger for already vulnerable populations, further complicating the emergency response and recovery efforts in flood hit districts. Pregnant women and children, particularly newborn, face heightened risks, as argued by one of the participants in FGD in Ghotki,

"Pregnant women and new-born were particularly vulnerable to catching infectious disease due to the lack of WASH infrastructure and pre-and-postnatal care."

(A woman aged 31, Qambar)

Young participants expressed a desire to receive training in managing health risks for pregnant women, ailing elderly individuals, and children. This indicates a gap in disaster risk management plans, which heavily rely on trained staff while overlooking the fact that the intensity of the flood hindered medical staff's access to affected areas, leaving people at the mercy of nature and divine help. Floods increased the security risks for young girls. A participant shared her suffering from personal insecurity,

"When men saw our clothes drying outside in the relief camps and us without veils (purdah), it shattered us. We felt like the ground should open up and swallow us; we wanted to die and disappear into the ground."
(A young girl, aged 20, Sukkur)

Participants from Hindu community shared that families avoid sending girls to school and do not get their National Identity Cards in normal days to protect them from potential abduction and forced conversion to Islam. The 2022 flood heightened insecurity among them

As one woman stated:

"We hide our girls out of fear of abduction, but the flood exposed us to strangers we never expected to encounter. It was an incredibly distressing and fearful time. By Baghwan's grace, our daughters remained safe, but the insecurity was overwhelming."

(A Hindu woman aged 45, Ghotki)

This adds to the experience shared by a woman police officer in Dadu during in-depth interviews, as it is not only conservative norms but a lack of institutional support to minorities which created sense of deep insecurity among them.

Furthermore, some individuals were at higher risk due to their functional limitations. For example, impaired hearing or sight restricted their ability to receive warnings and emergency instructions and perceive alerts. Physical disability reduced their capacity to carry out self-protective actions and affected their speed and agility in taking measures for their safety and security. One participant in the FGD argued:

"The roads were blocked for three to four months, and we were not provided with special transport facilities to relief camps, not even a proper washroom in shelter home."

(A physically disabled male aged 24, Sanghar)

Another participant shared her ordeal,

"My husband had to carry me on his shoulders through the water because I can't walk without crutches. I felt so helpless and afraid, and there was no support from the local administration to rescue people with disabilities."

(A married physically disabled woman aged 28, Sanghar)

Another participant shared tragic experience,

"My cousin had to leave a physically disabled person behind in the rush to escape when we heard the flood was coming. We do not know what happened to him."

(A male aged 25, Dadu).

Many participants reported disabilities caused by snake bites due to the unavailability of vaccines, as well as injuries from roof collapses. A few also reported becoming disabled from overturned vans while being transported to safe places. These experiences highlight the intangible, long-lasting losses suffered.

Social Displacement

Displacement disrupts access to basic services, such as education and health. For example, children displaced from flood-affected communities will lose out on some of the important school days because of the damage that will have occurred in school infrastructure and displacement. One of the participants shared,

"In some villages there was no school, in some the school got damaged and, in some place, NGO had a camp and offered education."

(A woman, 30, Dadu)

Another participant recalls,

"Our homes, passed down through generations, were obliterated, leaving us with no place to call home. The roadways were blocked, isolating communities, and preventing essential supplies from reaching us. Our livestock, which many of us relied on for our livelihood, were lost, further exacerbating our hardships. The floods didn't just wash away our homes; they washed away our way of life."

(A woman aged 20, Sukkur)

Most displaced people admitted the support of the community in distress, as shared by the participant,

"We moved to safer place with our community, Dewan Committee provided us with the food and other supplies during the floods, but it was not enough."

(A Hindu woman, aged 30, Ghotki)

Participants expressed a deep sense of insecurity while stranded on the roads, waiting for a response from the government. The intensity of the flood slowed down the response time, which further aggravated the stress among displaced families.

"We were afraid about the safety and security of our female members as we have to spend nights under open sky for many days."

(A young man, aged 25, Sukkar)

The government response was delayed, but it did not discriminate against victims based on religion, or caste. This counters the widely held perception of discriminatory treatment against minorities in Pakistan and highlights the role of disaster in uniting the population. One participant shared his experience, and others endorsed his account.

"We did not face any discrimination in the provision of food and medical care by the local administration during our stay in relief camps. Local NGOs and philanthropists supported us wholeheartedly during our time of distress."

(A Hindu man, aged 26, Ghotki)

However, it was clear from the discussion that participants were concerned that once these social and economic safety nets are gone, the real challenges would begin. Without employment opportunities and the replacement of their damaged homes and livestock, there is a risk of desperation, which might lead some individuals to resort to criminal activities as they struggle to survive.

Loss in Ecosystem services

Almost all participants in the FGDs agreed that the 2007 and 2022 floods were more devastating than the 2010 flood, which was a riverine flood. The 2022 floods were caused by prolonged extreme monsoon rainfall. Excessive rainfall and breaches in river embankments led to widespread flooding, damaging crops, cattle, homes, cultural heritage, and local flora and fauna. Flood victims also reported a loss of land fertility after the floods, possibly due to standing water for months, indicating the hindered progress toward achieving SDG 6.6. One participant said:

"The Johi area, where I live, was one of the worst-hit. The water stayed for four months, making it impossible to return to normal life. Everything was waterlogged. The fields, which were our main source of livelihood, were destroyed. Crops were ruined, and there was a fear of famine."

(A male farmer aged 35, Dadu)

.

A farmer aged 30 from Qambar lamented,

"Our lands are barren now. We are left with nothing."

In addition, respondents reported the impact of flooding on local and migratory bird species. One participant mentioned an insect he calls “Panwero” which attacks the fields and destroys crops. The birds that once flew over the fields, providing natural pest control, stopped coming after the floods. The flooding of vast land areas disrupts the habitats of many species, leading to their deaths and displacement. Habitat destruction, which includes damage to both flora and fauna, severely impacts local biodiversity, with significant cultural and religious implications

.

“We lost our sacred peepal tree, which was given to us by Bhagwan, and it felt as if we had lost a part of our soul. Trees are like our children and losing them was deeply painful.”

(A Hindu man, aged 28, Ghotki)

Apart from damage to flora and fauna, age-old temples, mosques, and shrines, which were held in reverence and served as important spiritual sites for the local population, were severely damaged. The loss of these sacred places instilled deep sadness and a sense of hopelessness, as people felt they had lost their connection to seeking divine help in times of need.

“Our temples were damaged, and the statues of our gods were washed away. We had to create makeshift mandirs, but we lived in constant fear that the water might come again. Our cow goddess died, which was a profound loss for us as cows are considered like mothers in our religion.”

(A Hindu man, aged 33, Ghotki)

The 2022 floods caused damage to various animal species, including mammals, insects, reptiles, amphibians, and birds. The loss of species diversity can lead to ecosystem imbalances, affecting essential ecosystem services such as pollination, water purification, and soil fertility in flood prone areas.

The government response was delayed, but it did not discriminate against victims based on religion, or caste. This counters the widely held perception of discriminatory treatment against minorities in Pakistan and highlights the role of disaster in uniting the population. One participant shared his experience, and others endorsed his account.

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However, it was clear from the discussion that participants were concerned that once these social and economic safety nets are gone, the real challenges would begin. Without employment opportunities and the replacement of their damaged homes and livestock, there is a risk of desperation, which might lead some individuals to resort to criminal activities as they struggle to survive.

Loss in Ecosystem services

Almost all participants in the FGDs agreed that the 2007 and 2022 floods were more devastating than the 2010 flood, which was a riverine flood. The 2022 floods were caused by prolonged extreme monsoon rainfall. Excessive rainfall and breaches in river embankments led to widespread flooding, damaging crops, cattle, homes, cultural heritage, and local flora and fauna. Flood victims also reported a loss of land fertility after the floods, possibly due to standing water for months, indicating the hindered progress toward achieving SDG 6.6. One participant said:

"The Johi area, where I live, was one of the worst-hit. The water stayed for four months, making it impossible to return to normal life. Everything was waterlogged. The fields, which were our main source of livelihood, were destroyed. Crops were ruined, and there was a fear of famine."

(A male farmer aged 35, Dadu)

.

A farmer aged 30 from Qambar lamented,

"Our lands are barren now. We are left with nothing."

In addition, respondents reported the impact of flooding on local and migratory bird species. One participant mentioned an insect he calls “Panwero” which attacks the fields and destroys crops. The birds that once flew over the fields, providing natural pest control, stopped coming after the floods. The flooding of vast land areas disrupts the habitats of many species, leading to their deaths and displacement. Habitat destruction, which includes damage to both flora and fauna, severely impacts local biodiversity, with significant cultural and religious implications

.

“We lost our sacred peepal tree, which was given to us by Bhagwan, and it felt as if we had lost a part of our soul. Trees are like our children and losing them was deeply painful.”

(A Hindu man, aged 28, Ghotki)

Apart from damage to flora and fauna, age-old temples, mosques, and shrines, which were held in reverence and served as important spiritual sites for the local population, were severely damaged. The loss of these sacred places instilled deep sadness and a sense of hopelessness, as people felt they had lost their connection to seeking divine help in times of need.

“Our temples were damaged, and the statues of our gods were washed away. We had to create makeshift mandirs, but we lived in constant fear that the water might come again. Our cow goddess died, which was a profound loss for us as cows are considered like mothers in our religion.”

(A Hindu man, aged 33, Ghotki)

The 2022 floods caused damage to various animal species, including mammals, insects, reptiles, amphibians, and birds. The loss of species diversity can lead to ecosystem imbalances, affecting essential ecosystem services such as pollination, water purification, and soil fertility in flood prone areas.

Noneconomic Losses and Damages Policy framework 2024-2030

This study proposes a policy framework for integrating noneconomic losses and damages (NELD) into Disaster Risk Management (DRM) plans in Sindh. It is aligned with the Sendai Framework 2030, see Table, and therefore, can be replicated in similar settings. Moreover, it may help the government make steady progress toward several targets of SDG related to poverty reduction, vulnerability, and climate change actions, see Table.

Disaster Risk Management (DRM) involves all types of activities, both structural and non-structural to prevent or limit risks. For example, preparedness and mitigation efforts aim to diminish the adverse impacts of climate-change induced devastations. DRM comprises Disaster Risk Reduction (DRR) and Disaster Management (DM). DRR focuses on pre-disaster period of managing risks, designing, and developing climate change resistant infrastructure with community involvement, investing in adaptations using indigenous knowledge to minimize noneconomic losses and damages.

NON-ECONOMIC LOSSESS AND DAMAGES POLICY FRAMEWORK FOR GOVERNMENT OF SINDH

DISASTER RISK MANAGEMENT (IN FLOOD PRONE AREAS OF SINDH)

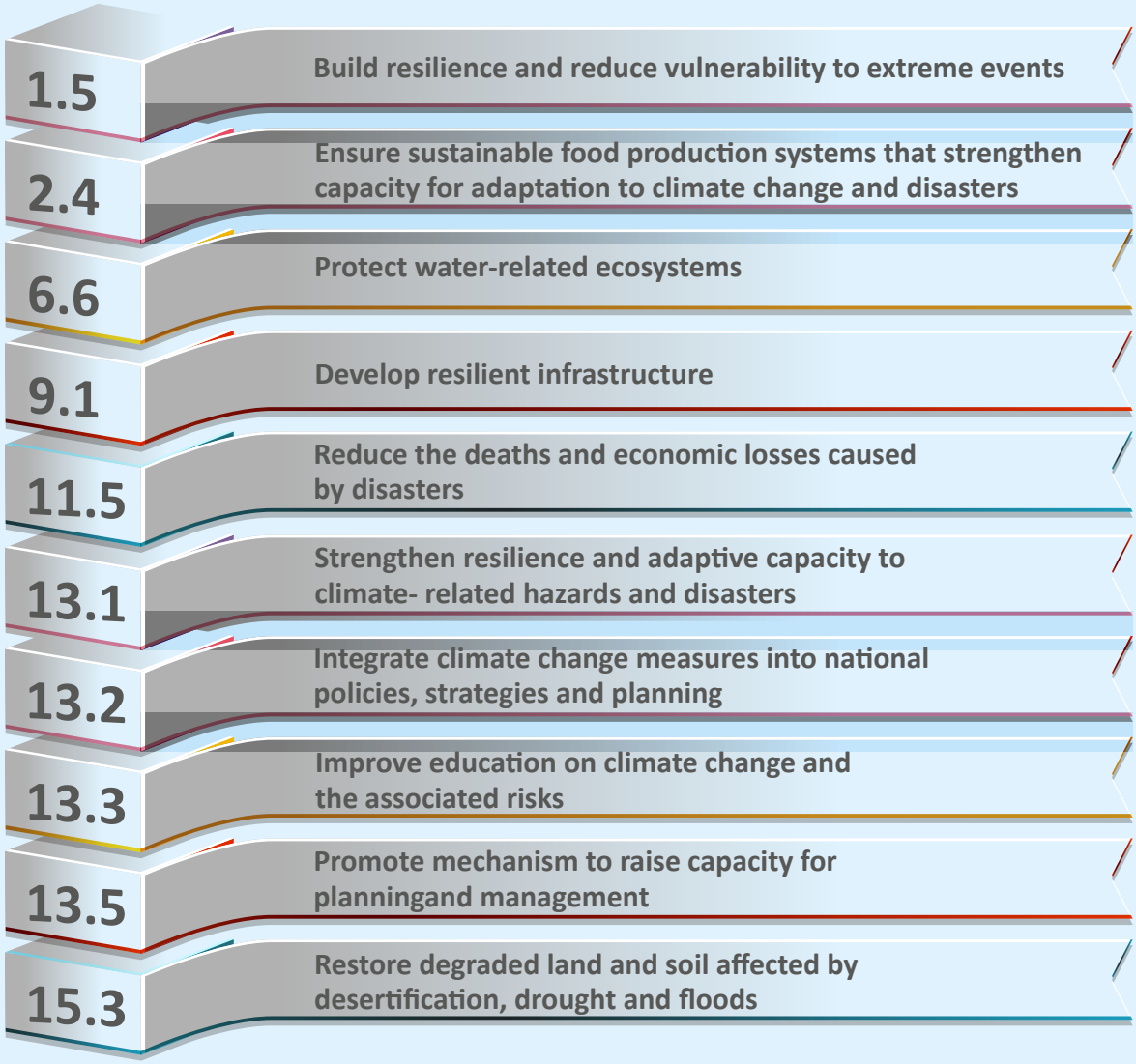
Goal							
Propose integration of non-economic losses and damages from floods in disaster risk management plans in Sindh.							
The significant mitigation of disaster risk and reduction of losses affecting lives, livelihoods, health, and the economic, physical, social, cultural, and environment assets of individuals, businesses, communities, and nation (Sendai Framwork Outcome 2023)							
Strategic areas							
Loss in life		Loss in Ecosystem services		Loss in Psychological well-being		Social displacement	
Objectives							
Minimize loss of life		Protect and restore ecological system		Address andmitigate the psychological well-being of the affected population		Support and rehabilitate families displaced by flood	
Strategies							
Develop a system recording loss of line	Develop a community- based flood preparedness and early warning system	Develop ecosystem restoration plan (and prioritize actions)	Riparian buffer zones	Develop a plan for community resilience building	Institutional capacity building	Develop a disaster preparedness and emergency response plan	Develop a plan for economic and social integration
Action(s)							
Community engagement for DDMA to integrate traditional knowledge and practices into EWS.	Form early warning local committees. capacity building in emergency protocols. Build, inspect and maintain flood defense infrastructure.	Restore and rehabilitate damaged ecosystems. Invest in sustainable agricultural practices, and ecosyetem conservation	Form early warning local committees. capacity building in emergency protocols. Build, inspect and maintain flood defense infrastructure.	Develop programs to build emotional resilience and coping skills for DDR. Train community in psychological first aid (PFA) skills. Develop a case study.	Integrating mental health into DRR. Train healthcare professional in disaster mental health care. Implement school program to support children's mental health in disaster area. Develop a case study.	Assess displacement risk and needs. Educate communities about diaster risk, evacuation plans, and resources. Set up legal aid capms to assist with claims and documentation. Develop a czse study.	Job placement program, vocation traning, and small business support. Involve community in rehabilitation and reconstruction. Develope a case study.

Implementing Department(s)							
MOCC&EC, NDMA-CBDRM, PDMA, DDMA, PND-Sindh	PND, Sindh DDMA, CSO, NGO, Community members	MOCC&EC, SEPA, PND, Sindh Agricultural Department-Sindh Sindh irrigation Deparment Sindh Agriculture University- Department of soil science Sindh Forest Department NGO/CSO	MOCC&EC, NDMA- CBDRM, PND- Sindh Agricultural Department Sindh IUCN Sindh Agriculture University Department of soil scinece NGO/CSO	Sindh Mental Health Authority Health Department of Sindh Environment, Climate Change $ Coastal Development Department- Goverment of Sindh NGO/CSO, PND- Sindh	Sindh Mental Health Authority Health Department of Sindh Environment, Climate Change $ Coastal Development Department- Goverment of Sindh NGO/CSO, PND- Sindh	MOCC&EC, PDMA, NDMA- CBDRM NGOs/CSOs PND-Sindh Law department- Goverment of Sindh Sindh Human rights commission- Govermment of Sindh NGO/CSO	MOCC&PND, Sindh Sindh Bureau of statistics Sindh Microfinance Bank Labour and Human resources Department- Goverment of Sindh Sindh Population Welfare deparment PDMA NGO/CSO

Table 3: Non-economics Losses and Damages Policy Framework

Sustainable Development Goals

Targets



Disaster Management comprises activities focused on preparedness (for example, emergency supplies of food for the elderly and milk for children, availability of medicines and trained staff for pregnant women and chronic patients, vaccination for livestock, training etc.), response (rescuing lives particularly of disabled persons, women and children, assessment of damages and losses to environment and so on), recovery, rehabilitation and reconstruction (repair and reconstruction of damaged infrastructure including historical sites, temples and mosques, schools and hospitals, water and roads etc.).

This framework focuses on four key strategic areas: loss of life, loss of ecosystem services, loss in psychological well-being, and social displacement, which address the multifaceted impacts of floods beyond the economic aspects. The framework outlines objectives, strategies, actions, and implementation organizations for each strategic area, see Table 4.

Strategic response 1-Loss of Life

The primary objective of this strategic area is to minimize the loss of life during floods. This can be achieved through the development and implementation of community based early warning system and capacity building of communities in flood preparedness, response, and mitigation. The insights from psychological assessment, KII and FGDs highlighted the need for inclusive planning and programming of response, relief, and rehabilitation. The following actions can be undertaken to avert loss in life and associated stress, trauma, and depression. First, records of loss of life need to be maintained with the help of communities and local administration.

Secondly, engaging communities to integrate traditional knowledge and practices into early warning systems (EWS) is crucial; forming local early warning committees will ensure timely and effective communication, enabling communities to take necessary actions before floods strike. The inclusion of youth, women and PWDs in local committees would help to strengthen the disaster risk reduction efforts in flood prone districts.

Thirdly, capacity building in emergency protocols is another critical action, as it enhances the preparedness and response capabilities of local communities. Furthermore, building

inspecting, maintaining, and investing in robust flood defense infrastructure will protect vulnerable areas from floodwaters, significantly reducing the risk of fatalities.

Despite concerted efforts by the government, the huge noneconomic losses and damages, calls for strengthening the local institutions. Restructuring the District Disaster Management Authority (DDMA) is essential to enhance disaster management capabilities, as highlighted in key-informant interviews. The restructuring will improve coordination and response during natural disasters, ensuring that the DDMA acts swiftly and effectively. Further, a consortium of key federal and provincial government departments, environmental experts and social scientists, and civil society organizations is needed to devise effective coping mechanisms in disaster-hit areas. The frequent engagement with communities in disaster risk management plans is necessary to enable vulnerable communities understand and manage the risks to economic and noneconomic assets resulting from recurring floods

Strategic response 2- Loss in Ecosystem Services

The evidence suggests prioritizing the protection and restoration of ecosystem systems in disaster risk management policies for flood-prone areas. Strategies to achieve this include ecosystem restoration and the establishment of riparian buffer zones. Restoring and rehabilitating damaged ecosystems will help preserve biodiversity and maintain the natural balance. Investing in sustainable agricultural practices and ecosystem conservation will not only protect the environment but also support the livelihoods of those dependent on these systems.

Planting native trees and integrating them within agricultural landscapes can be an effective action. This not only aids in ecosystem restoration but also provides additional benefits such as improved soil health and increased biodiversity. Fostering adaptive disaster risk management practices ensures these efforts are sustainable and can evolve with changing environmental conditions. Implementing these strategies requires the involvement of various departments, particularly the Sindh Environmental Protection Agency (SEPA), the Agricultural Department of Sindh, and the Sindh Forest Department, among others, see table.

Strategic response 3-Loss in Psychological Well-Being

Addressing and mitigating the psychological well-being of the affected population is a crucial component of the framework. Strategies in this area focus on community resilience building and enhancing institutional capacity. Developing programs to build emotional resilience and coping skills for disaster risk reduction (DRR) will help communities better handle the stress and trauma associated with NELD. Training community members, especially young men and women, in psychological first aid (PFA) skills will equip them with the knowledge to support each other during and after disasters. The longer duration of mental illness and burgeoning costs associated with mental health prevent families to seek treatment, which calls for designing free or subsidized mental health care programs for the patients even after the disaster.

Integrating mental health into disaster risk reduction plans is essential for a holistic approach to disaster management. Training healthcare professionals in disaster mental health care ensures that the affected population receives appropriate psychological support. Implementing school-based programs to support children's mental health in disaster-hit areas addresses the specific needs of young survivors, helping them recover and continue their education. Key departments to be involved in these efforts include the Sindh Mental Health Authority, the Health Department of Sindh, newly established Sindh Social Protection Authority or SSPA, and various NGOs and CSOs.

Strategic response 4-Social Displacement

The objective of this strategic area is to support and rehabilitate families displaced by floods. Strategies include disaster preparedness and emergency response, as well as economic and social integration. Assessing internal displacement risks and needs is the first step in providing effective support. Educating communities about disaster risks, evacuation plans, and available resources empowers them to make informed decisions during emergencies.

Setting up legal aid camps to assist with claims and documentation is crucial for displaced families to access necessary services and support, as highlighted in KII. Job placement programs, vocational training, and small business support will help displaced individuals rebuild their lives and regain financial stability. Mobilizing the community in psychological support and rehabilitation and reconstruction efforts ensures that these initiatives are tailored to their specific needs and circumstances. Implementing these strategies requires collaboration among various departments, including the PDMA, NDMA-CBDRM, the Law Department of Sindh, and the Sindh Human Rights Commission. Community based disaster reduction management (CBDRM) is already in place in the Sindh province, it should incorporate disaster risk education and knowledge practices relating to NELD into its training modules.

Recommendations

This framework emphasizes a collaborative approach, involving multiple departments and organizations, experts, and active engagement with local communities to ensure effective implementation. The National Disaster Management Authority (NDMA), Sindh Bureau of Statistics, NADRA, Ministry of Climate Change & Environmental Coordination, the Provincial Disaster Management Authority (PDMA), and the DDMA can play a pivotal role in overseeing disaster management and community-based disaster risk management. The loss of livestock records should be maintained with regular livestock surveys in the frequently flood-hit areas. Mobile animal shelters can be built in collaboration with PDMA, DDMA and local communities to prevent contact of humans with animals during floods and subsequently spread of diseases. Furthermore, the collection of evidence on frequently inundated villages from the past can help raise the villages from the ground to prevent destruction of houses, loss of lives and livestock.

Departments such as SEPA, the Agricultural Department of Sindh, and the Sindh Irrigation Department, environmental experts, conservationists, agriculture scientists, and social scientists should devise plans and prepare case studies for restoration of ecosystem services and agricultural infrastructure. The maintenance of the records of cultural properties and ecosystem services is the need of the hour; tagging of old trees and cultural properties is necessary in flood-prone areas.

Psychological well-being and environmental impacts should be assessed and addressed through collaborative efforts, the Sindh Mental Health Authority, the Health Department of Sindh, and the Environment, Climate Change & Coastal Development Department, clinical psychologists, psychiatrists, social scientists and civil society organization and community representatives especially youth, women and PWDs should take part in designing and implementation of experimental plans for psychological support in flood prone areas. After successful implementation, validated through monitoring and evaluation, the psychological support-based interventions should be scaled up to other flood prone areas.

Ensuring educational continuity, safety and security and legal support should involve collaborative efforts by Sindh School Education and Literacy Department, the Law Department, and the Sindh Human Rights Commission. Along with these departments, the local CSOs and communities should be engaged to address the sense of social insecurity among marginalized groups, mostly comprising minorities, women, and disabled persons, in flood prone areas to improve coping mechanism. Economic and social integration efforts should be given priority. The surveys of economically inactive youth, adults and PWDs should be conducted post floods, and interest free loans should be provided to them to foster self-reliance and self-respect. The Sindh Bureau of Statistics, Sindh Microfinance Bank, Sindh Agriculture Bank, and the Labor and Human Resources Department, Social Scientists, among others need to collaborate in surveys, job creation and investment plans, and social cohesiveness programs to address social and economic insecurity.

The capacity building of communities in developing resilience and response to disasters is essential, NGOs, CSOs, and community members play a vital role in all aspects of the framework, from community engagement to the implementation of mental health and educational programs. Their involvement ensures that the framework is inclusive and considers the diverse needs of the affected population.

Most importantly, the effectiveness of policies relies on evidence; a concrete, reliable, and foolproof database of noneconomic losses and damages needs to be built and frequently updated with the help of experts. It would help to improve humanitarian response of disaster risk reduction efforts in flood prone areas.

Focus Group Discussion

KIIS

Validation workshop

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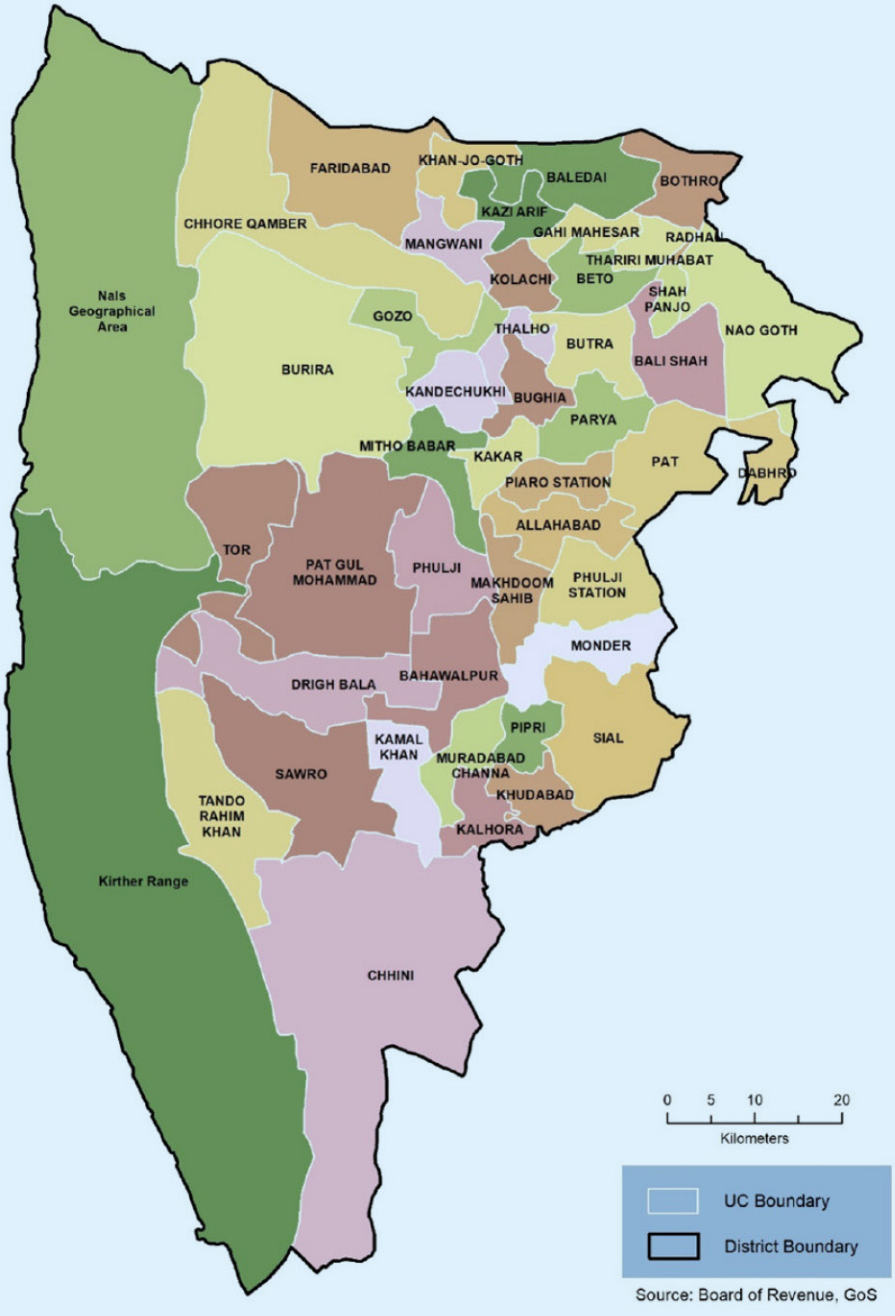
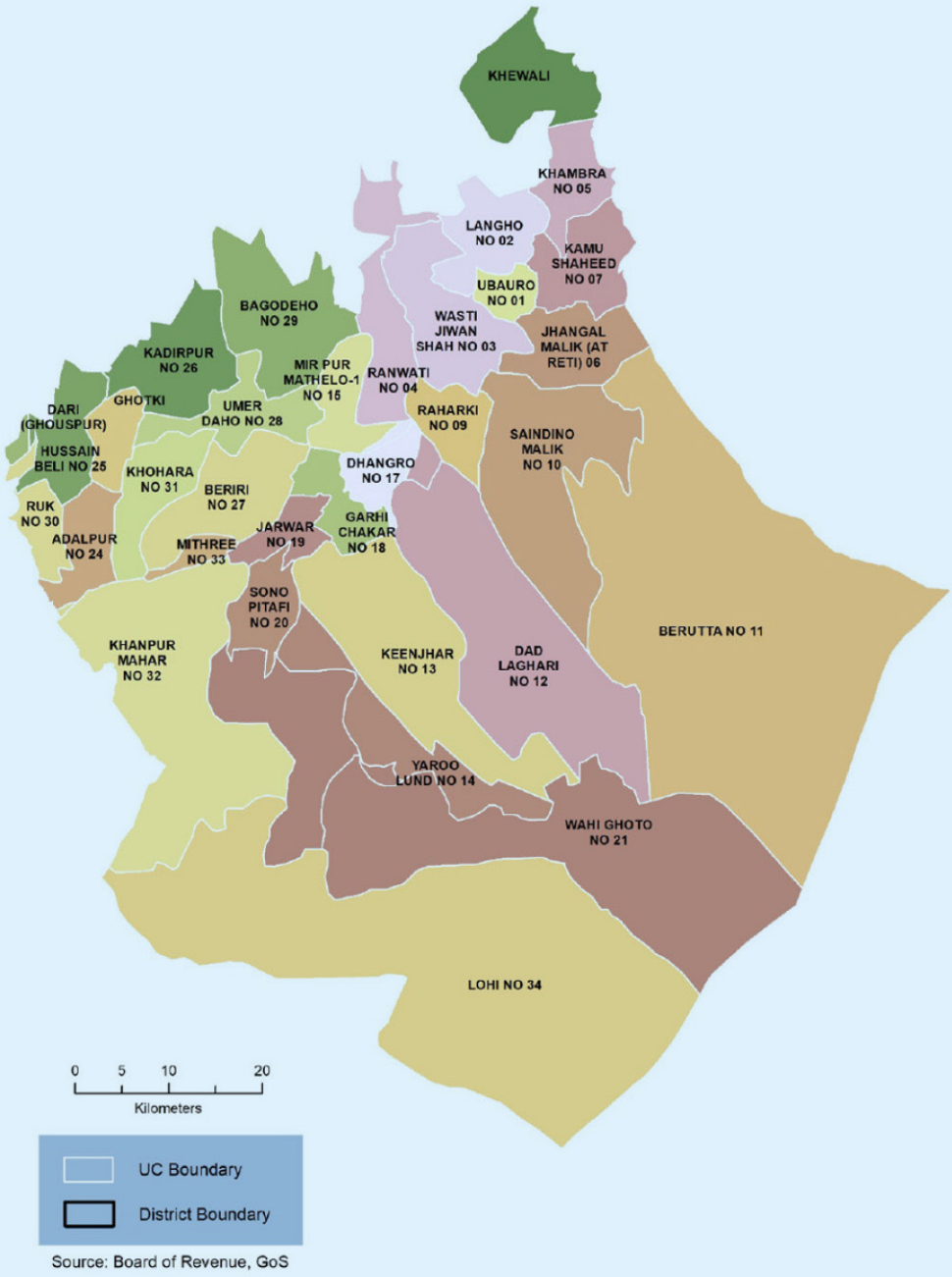
Appendix

DISTRICT DADU
AT A GLANCE

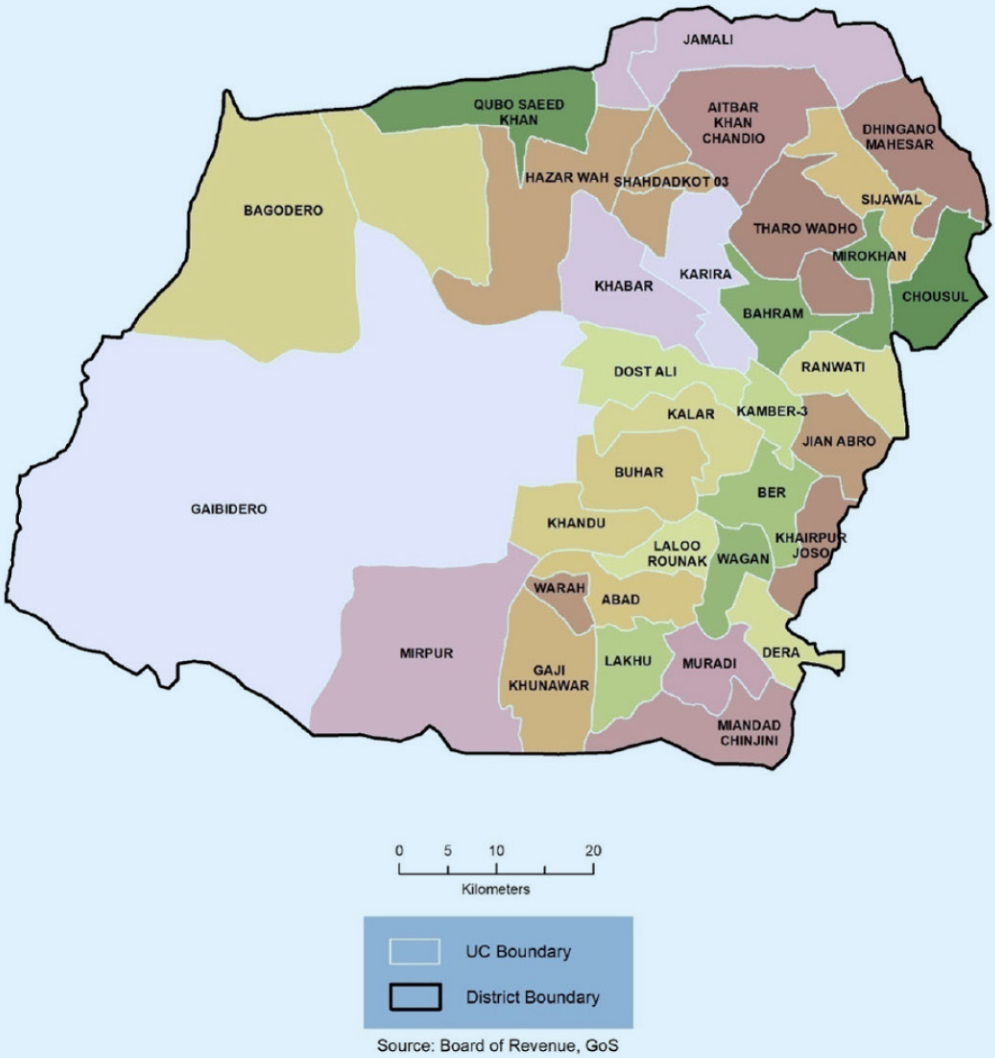


DISTRICT GHOTKI
AT A GLANCE



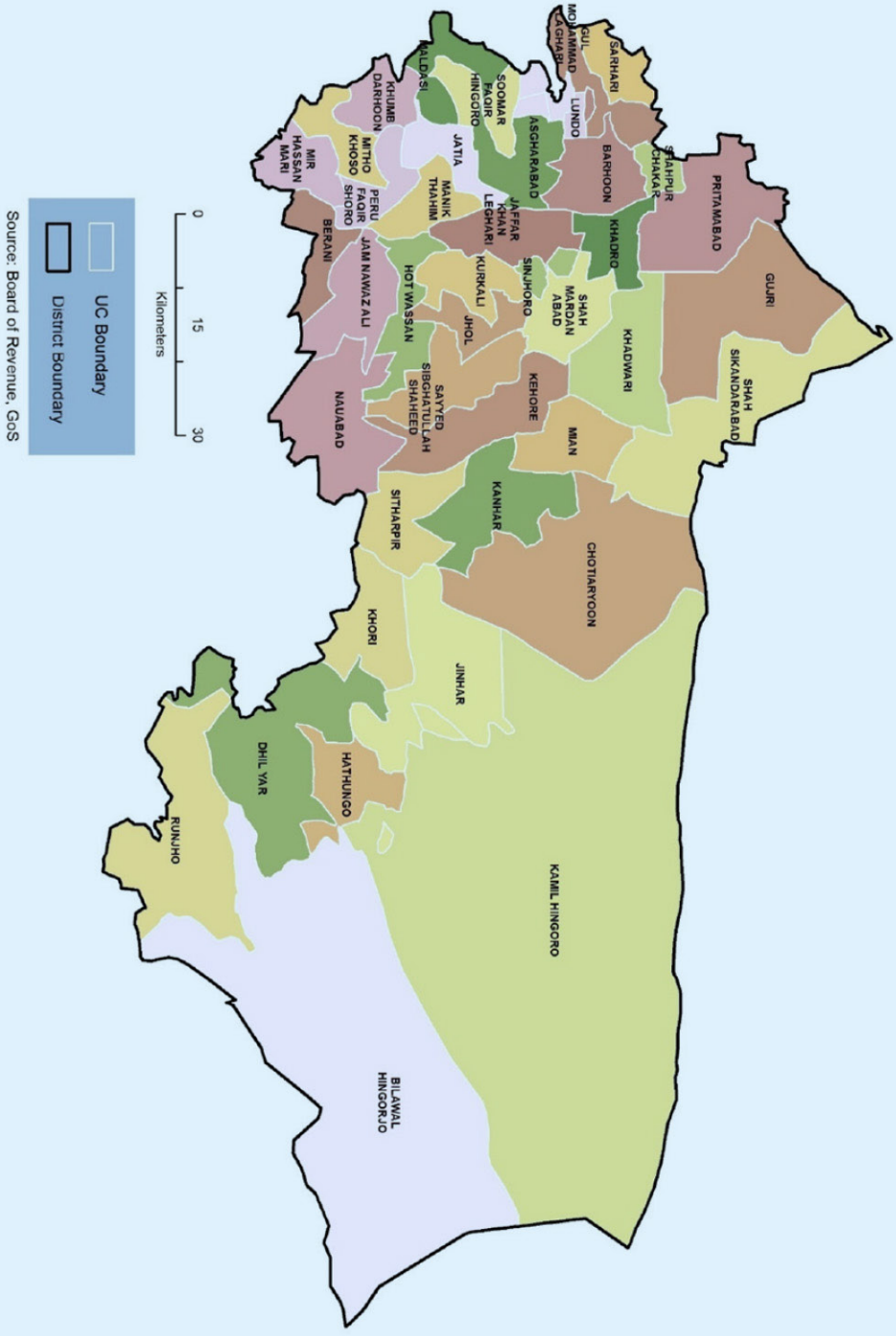
Source: Board of Revenue, GoS

DISTRICT KAMBAR SHAHDADKOT
AT A GLANCE

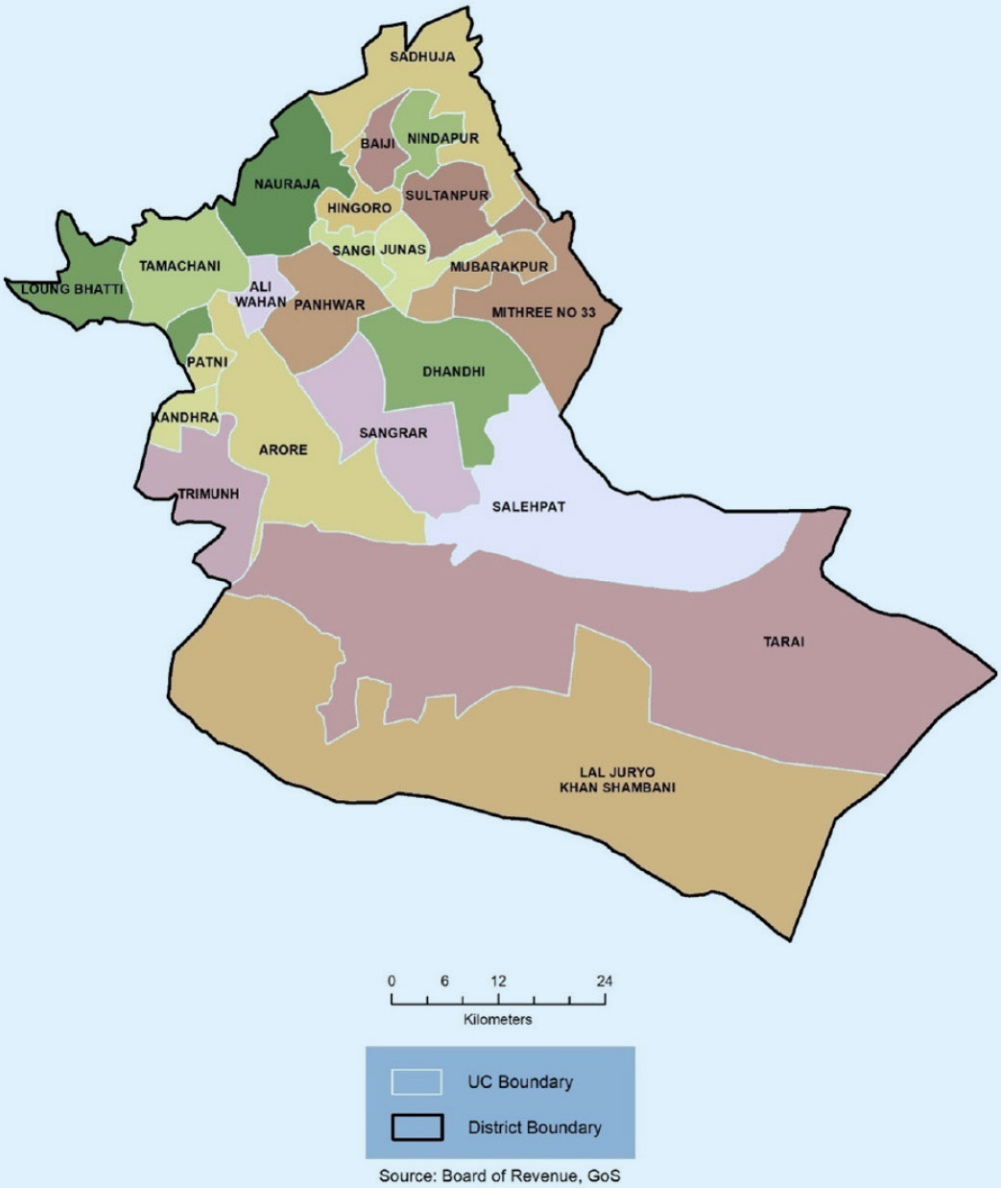


Source: Board of Revenue, GoS

DISTRICT SANGHAR
AT A GLANCE



DISTRICT SUKKUR
AT A GLANCE



Source: Board of Revenue, GoS

Questionnaires
Consent form

تحقیق میں شرکت کا راضی نامہ

Consent Form

یہ تحقیق میں(صائمہ سیف، پی ایچ ڈی فیلو) کر رہی ہوں میرا تعلق انسٹیٹیوٹ آف کلینکل سایکولوجی ، یونیورسٹی آف کراچی سے ہے۔ میں یہ جاننے میں دلچسپی رکھتی ہوں کہ ا یچ آئی وی کی بیماری کی وجہ سےآپ کن نفسیاتی مشکلا ت کا سامنا کرتے/کرتی ہیں۔ اس مقصد کے حصول کے لئے آپ کو اس تحقیق میں رضا کارانہ شرکت کی دعوت دیتی ہوں۔ اس مقصد کے لئے آپ کا تعاون اس تحقیق سے کار آمد نتائج اخذ کرنے کا با عث بنے گا۔ آپ کو چند سوال نامے دیےجائیں گے، برا ئے مہربانی ان کو غور سے پڑھیں اور احتیاط سے ان کے جوابات دیں۔ اس تحقیق میں شرکت کے نتیجے میں کسی قسم کے نقصان کا امکان نہیں ہے لیکن پھر بھی اگر آپ کو اس دوران کسی قسم کی کوئی مشکل ہو تو آپ مجھ سے مدد مانگ سکتے/سکتی ہیں۔ آپ کو یہ حق حاصل ہے کہ کسی بھی وقت اس تحقیق میں اپنی شرکت جاری رکھنے سے معذرت کر سکتے/سکتی ہیں۔ آپ کے تمام ذاتی معلومات کو صرف تحقیقی مقاصد اور ضرورت کے لئے استعمال میں لا یا جا ے گا اور راز داری کا خیال رکھا جا ئے گا یہاں تک کہ حتمی رپورٹ میں بھی آپ کے ذاتی معلومات کا تذکرہ نہیں ہو گا۔ اگر آپ اس تحقیق کے نتائج سے دلچسپی رکھتے/ رکھتی ہیں تو آپ 6 ماہ بعد صائمہ سیف سے اس نمبر021-34613584 یا اس ا ی میل saimasaif91@gmail.com پر رابطہ کر سکتے/سکتی ہیں۔

آپ کے تعاون کے لئے شکریہ
صائمہ سیف

میں اس تحقیق میں رضا کرانا شرکت کے لیےحامی بھرتا/ بھرتی ہوں۔

نام _____
تاریخ _____
دستخط _____

Sociodemographic form

ذاتی معلومات کا سوالنامہ

نام : ---------- عمر ---------- جنس : مرد ------- عورت : ----------

تعلیم ---------- مذہب ----------

آپ کی شادی کو کتنا عرصۃ ہوا ہے ؟ ---------- آپ کے کتنے بچے ہیں ؟ ----------

4 آپ کا پیشہ کیا ہے ؟

5 آپ کس خاندان نظام میں رہتے/رہتی ہیں ؟

☐ انفرادی ☐ اجتماعی

7 آپ کے گھر میں کل کتنے افراد ہیں ؟ ----------

8 آپ کے گھر میں کمانے والے افراد کتنے ہیں ؟ ----------

9 ایک محتاط اندازے کے مطابق آپ کے خاندان کی ماہانہ آمدنی کتنی ہے ؟ ----------

15 آپ کے گھر میں کوئی ایسا شخص ہے جس کو کوئی جسمانی بیماری ہے یا کبھی ہوئی تھی؟

☐ ہاں ☐ نہیں

اگر ہاں تو کو ن سی؟ ---------- ----------

16 آپ کے گھر میں کوئی ایسا شخص ہے جس کو کوئی نفسیاتی بیماری ہے یا کبھی ہوئی تھی؟

☐ ہاں ☐ نہیں

اگر ہاں تو کو ن سی؟ ---------- ----------

کبھی آپ کو کوئی محلق بیماری لاحق/ تشخیص ہوئی ہے (جیسا کہ ہیپاٹائٹس بی، سی وغیرہ؟)

☐ ہاں ☐ نہیں

اگر ہاں تو کو ن سی؟ ---------- ----------

تشخیص کو کتنا عرصہ ہوا ہے ؟---

Depression, Anxiety and Stress Scale (DASS21) - Urdu

نوٹ: مندرجہ ذیل بیانات میں سے جو گزشتہ ایک ہفتے کے دوران آپ پر صحیح ثابت ہوئے ہوں ان کے سامنے 3.2.1.0 میں سے کسی ایک ہندسہ پر نشان لگائیں۔
واضح رہے کہ آپ کے جوابات کو صحیح یا غلط تصور نہیں کیا جائے گا۔ کسی بھی بیان پر زیادہ وقت ضائع نہ کریں۔

نمبر شمار	بیانات	کبھی نہیں 0	کبھی کبھار 1	زیادہ تر وقت 2	ہر وقت 3
1	میرے لیے پرسکون ہونا مشکل ہوتا جا رہا ہے۔				
2	مجھے یہ احساس ہوتا رہا ہے جیسے میرا منہ خشک ہو رہا ہے۔				
3	مجھے کسی قسم کے مثبت جذبات محسوس نہیں ہوتے۔				
4	مجھے سانس لینے میں دشواری محسوس ہوتی رہی ہے (بغیر کسی جسمانی مشقت والے کام کے)				
5	مجھے کسی کام کے کرنے کیلئے آغاز کرنا مشکل محسوس ہوتا رہا ہے۔				
6	میں نے بعض حالات میں غیر ضروری ردِعمل کا اظہار کیا۔				
7	مجھے کپکپاہٹ محسوس ہوتی رہی ہے (مثلاً ہاتھوں میں)۔				
8	میں نے محسوس کیا کہ میں بہت زیادہ ذہنی توانائی استعمال کر رہی / رہا ہوں۔				
9	میں ایسے حالات سے گھبراتی / گھبراتا رہا جن میں میرے احمق بننے اور میری بے چینی بڑھنے کا خدشہ ہوتا ہے۔				
10	میں اپنا مستقبل تاریک محسوس کرتی / کرتا رہا۔				
11	مجھے اپنے آپ میں چڑچڑاپن محسوس ہوتا رہا۔				
12	میں ذہنی طور بے سکونی محسوس کرتی / کرتا رہا ہوں۔				
13	میں اُداسی محسوس کرتی / کرتا رہا۔				
14	میرے لیے اس چیز / شخص کو برداشت کرنا مشکل رہا ہے جو میرے کام میں رُکاوٹ پیدا کرے۔				
15	مجھے محسوس ہوتا رہا ہے کہ جیسے مجھے دورہ پڑنے لگا ہے۔				
16	مجھے کسی بھی کام میں دلچسپی نہیں رہی۔				
17	مجھے محسوس ہوتا رہا کہ میں کسی قابل نہیں ہوں۔				
18	مجھے محسوس ہوتا رہا کہ میں بہت جذباتی ہو جاتی / جاتا ہوں۔				
19	مجھے بلاوجہ بغیر کسی جسمانی مشقت کے دِل کی دھڑکن تیز محسوس ہوتی رہی۔				
20	میں بغیر کسی وجہ کے خوفزدہ ہو جاتی / جاتا رہا۔				
21	مجھے یہ احساس ہوتا رہا کہ زندگی بے معنی ہے۔				

Depression, Anxiety and Stress Scale (DASS21) – English

DASS21 Name: Date:

Please read each statement and circle a number 0, 1, 2 or 3 wich indicates how much the statement applied to ypu over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree or a good part of time
3 Applied to me very much or most of the tie

1 (s)	I found it hard wind down	0	1	2	3
2 (s)	I was aware of dryness of my month	0	1	2	3
3 (s)	I couldn't seem to expenence any positive feeling at all	0	1	2	3
4 (s)	I experienced breathing difficulty)e.g excessively rapid breathing breathieness in the absence of physical exertion)	0	1	2	3
5 (s)	I found it difficult to work up the initiative to do things	0	1	2	3
6 (s)	I tended to over-react to situation	0	1	2	3
7 (s)	I experienced trembling (e.g. in the hands)	0	1	2	3
8 (s)	I felt that i was using a lot of nervous energy	0	1	2	3
9 (s)	I was worried about situation in which i might panic and make a fool of myself				
10 (s)	I felt that i had nothing to look forward to	0	1	2	3
11 (s)	I found myself getting agitated	0	1	2	3
12 (s)	I found it difficult to relax	0	1	2	3
13 (s)	I felt down- hearted and blue	0	1	2	3
14 (s)	I was intolerant of anything that kept me from getting on with what i was doing	0	1	2	3
15 (s)	I felt i was close to panic	0	1	2	3
16 (s)	I was unable to become enthusiastic about anything	0	1	2	3
17 (s)	I felt i wan't worth much as a person	0	1	2	3
18 (s)	I felt that i was rather touchy	0	1	2	3
19 (s)	I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	0	1	2	3
20 (s)	I felt scared without any good reason	0	1	2	3
21 (s)	I felt that life was meaningless	0	1	2	3

WHO Quality of Life Brief (WHOQOL-BREF) – Urdu

Annexure-1

WHO QOL- BREF

براہ مہربانی ہر سوال کو غور سے پڑھیں اور پچھلے دو ہفتوں کے دوران اپنے احساسات کی روشنی میں سکیل میں دیئے گئے اس نمبر پر دائرہ لگائیں جو آپ کے احساسات کی بہترین ترجمانی کرتا ہو۔

	بہت خراب	خراب	نہ خراب نہ اچھی	اچھی	بہت اچھی
1۔آپ اپنے معیار زندگی کو کس سطح پر پاتے ہیں؟	1	2	3	4	5

	بہت غیر مطمئن	کافی حد تک غیر مطمئن	نہ مطمئن نہ غیر مطمئن	مطمئن	بہت مطمئن
2۔آپ اپنی صحت کے بارے میں کس حد تک مطمئن ہیں؟	1	2	3	4	5

مندرجہ ذیل سوالات ان تجربات سے متعلق ہیں جو پچھلے دو ہفتوں کے دوران آپ پر گزرے۔

	بالکل نہیں	معمولی مقدار میں	درمیانی مقدار میں	کافی مقدار میں	انتہائی مقدار
3۔جو کام آپ کو کرنے کی ضرورت ہے آپ کا جسمانی درد اس میں کس حد تک رکاوٹ بنتا ہے؟	1	2	3	4	5
4۔آپ کو اپنی روزمرہ زندگی میں کام کرنے کے لیے طبی علاج کی کتنی ضرورت ہے؟	1	2	3	4	5
5۔آپ زندگی سے کتنا لطف اندوز ہوتے ہیں؟	1	2	3	4	5
6۔آپ کس حد تک اپنی زندگی کو بامعنی محسوس کرتے ہیں؟	1	2	3	4	5

	بالکل نہیں	معمولی	درمیانہ/درمیانی	بہت	بہت زیادہ
7۔آپ میں توجہ مرکوز کرنے کی صلاحیت کتنی اچھی ہے؟	1	2	3	4	5
8۔آپ اپنی روزمرہ زندگی میں خود کو کتنا محفوظ محسوس کرتے ہیں؟	1	2	3	4	5
9۔آپ کا طبعی ماحول کتنا صحت مند ہے؟	1	2	3	4	5

مندرجہ ذیل سوالات ان تجربات سے متعلق ہیں جو پچھلے دو ہفتوں کے دوران آپ پر گزرے۔

	بالکل نہیں	تھوڑا سا/تھوڑی سی	کچھ حد تک	بہت حد تک	مکمل طور پر
10۔کیا آپ روزمرہ زندگی کے لیے کافی توانائی رکھتے ہیں؟	1	2	3	4	5
11۔کیا آپ اپنی جسمانی شکل وصورت کو قبول کر پاتے/پاتی ہیں۔	1	2	3	4	5

12۔کیاآپ کے پاس اپنی ضروریات پوری کرنے کے لیے کافی رقم ہے؟	1	2	3	4	5
13۔آپ کوروزمرہ کی زندگی کے لیے درکار معلومات کتنی میسر ہیں؟	1	2	3	4	5
14۔آپ کوفرصت کے لمحات گزارنے کے مواقع کس حد تک میسر ہیں؟	1	2	3	4	5
15۔آپ اپنے آپ کو کس کام کے لیے جسمانی طور پر آمادہ کر پاتے ہیں؟	1	2	3	4	5

مندرجہ ذیل سوالات میں پوچھا گیاہے کہ آپ نے اپنی زندگی کے مختلف پہلوئوں کے بارے میں گزشتہ دوہفتوں کے دوران کتنا اچھااور مطمئن محسوس کیا۔

	بہت غیر مطمئن	کافی حد تک غیر مطمئن	نہ مطمئن نہ ہی غیر مطمئن	مطمئن	بہت مطمئن
16۔آپ اپنی نیند سے کتنے مطمئن ہیں؟	1	2	3	4	5
17۔آپ اپنے روزمرہ زندگی کے معمولات ادا کرنے کی اہلیت سے کتنا مطمئن ہیں؟	1	2	3	4	5
18۔آپ کام کے لیے اپنی استعداد سے کتنے مطمئن ہیں؟	1	2	3	4	5
19۔آپ اپنے آپ سے کتنا مطمئن ہیں؟	1	2	3	4	5
20۔آپ اپنے ذاتی تعلقات سے کتنا مطمئن ہیں؟	1	2	3	4	5
21۔آپ اپنی جنسی زندگی سے کتنے مطمئن ہیں؟	1	2	3	4	5
22۔آپ اپنے دوستوں سے ملنے والے سہارے سے کتنے مطمئن ہیں؟	1	2	3	4	5
23۔آپ جس جگہ رہتے ہیں وہاں کے حالات سے کتنا مطمئن ہیں؟	1	2	3	4	5
24۔آپ طبّی سہولیات تک اپنی رسائی سے کتنا مطمئن ہیں؟	1	2	3	4	5
25۔آپ اپنے ذرائع آمدورفت سے کتنا مطمئن ہیں؟	1	2	3	4	5
	کبھی نہیں	شاذونادر	بعض اوقات	اکثراوقات	ہمیشہ
26۔آپ کو کتنی بار منفی احساسات جیسا کہ افسردگی،مایوسی، اضطراب،ڈپریشن ہوتے ہیں؟	1	2	3	4	5

WHO Quality of Life Brief (WHOQOL-BREF) – English

The following question ask how you feel about your quality of lif, health or other areas of your life. I will read out each question to you, along with the response. **Please choose the answer that appears most appropriate.** If you are unsure about which response to give to a question, the first response you think of is often the best one.

Please keep in mind your standard, hopes, pleasures and concerns. **We ask that you think about your life in the last four weeks.**

	Very poor	Poor	Neither satisfied nor good	Satisfied	Very Satisfied
01. How would you rate your quality of life ?	1	2	3	4	5

	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very Satisfied
02. How satisfied are you with your health ?	1	2	3	4	5

The following question ask about how much you have experienced certain things in the last four weeks.

	Not at all	A little	A moderately amount	Very much	An extreme amount
03. To what extent do you feel that physical pain prevents you from doing what you need to do ?	5	4	3	2	1
04 How much do you need any medical treatment to function in your daily life ?	5	4	3	2	1
05. How much do you enjoy life ?	1	2	3	4	5
06. To what extent do you feel your life to be meaningful ?	1	2	3	4	5

	Not at all	A little	A moderately amount	Very much	Extremely
07. How well are you able to concentrate ?	1	2	3	4	5
08. How safe do you feel in your daily life ?	1	2	3	4	5
09. How healthy is your physical environment ?	1	2	3	4	5

The following question ask about how completely you experience or were able to certain things in the last four weeks.

		Not at all	A little	Moderately	Mostly	Completly
10.	Do you have enough energy for everyday life ?	1	2	3	4	5
11.	Are you able to accept your bodily appearance ?	1	2	3	4	5
12.	Have you enough money to meet your needs ?	1	2	3	4	5
13.	How available to you is the information that you need in your day-to-day life ?	1	2	3	4	5
14.	To what extent do you have the opportunity for leisure activities ?	1	2	3	4	5

		Very poor	Poor	Neither nor good	Good	Very good
15.	Have well are you able to get around ?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16.	How satisfied are you with your sleep ?	1	2	3	4	5
17.	How satisfied are you with your ability to perform your daily living activities ?	1	2	3	4	5
18.	How satisfied are you with your capacity for work ?	1	2	3	4	5
19.	How satisfied are you with yourself ?	1	2	3	4	5
20.	How satisfied are you with your personal relationship ?	1	2	3	4	5
21.	How satisfied are you with your sex life ?	1	2	3	4	5
22.	How satisfied are you with the support you get you friends ?	1	2	3	4	5
23.	How satisfied are you with the conditions of your living place ?	1	2	3	4	5
24.	How satisfied are you with your access to health services ?	1	2	3	4	5

25. How satisfied are you with your transport ?	1	2	3	4	5

The following question refers to how often you have felt or experienced certain in the last four wwks.

	Never	Seldom	Quit often	Very often	Always
26. How often do you have negative feelings such as blue mood, despair, anxiety, depression ?	1	2	3	4	5

Centre for Epidemiological Studies Depression Scale for Children (CES-DC) – Urdu

ہدایت: نیچے ایک فہرست دی گئی ہے احساسات یارویوں کی جو آپ نے محسوس کیئے ہوں یاان پر عمل کیاہو. برائے مہربانی اس جگہ نشان لگایئے جو یہ بتائے کہ پچھلے ایک ہفتے میں آپ نے ایسا کس حد تک محسوس کیا.

پچھلے ہفتے کے دوران	بالکل بھی نہیں	بہت کم	کچھ	بہت زیادہ
1۔میں ان چیزوں سے پریشان ہوا/ہوئی جو عام طور پر پریشان نہیں کرتی تھیں ۔				
۔مجھے کھانے کو دل نہیں کر رہا تھا، مجھے بہت بھوک نہیں لگی۔				
3۔میں خوشی محسوس ہونے کے قابل نہیں تھا / تھی۔یہاں تک کہ میرے گھر والوں یادوستوں نے بہتر محسوس کرانے میں مدد کرنے کی کوشش کی۔				
4۔میں نے محسوس کیا کہ میں بھی اتنا اچھا/اچھی ہوں جتنا کہ دوسرے بچے۔				
5۔مجھے ایسا محسوس ہوا جیسا کہ جو میں کر رہا تھا/کر رہی تھی اس پر توجہ نہیں دے سکا/سکی۔				

پچھلے ہفتے کے دوران	بالکل بھی نہیں	بہت کم	کچھ	بہت زیادہ
6۔میں نے مایوسی اور ناخوشی محسوس کی ۔				
7۔مجھے ایسا لگا جیسا کہ میں چیزوں کو کرنے میں بہت تھکاوٹ محسوس کرتا تھا/کرتی تھی۔				
8۔میں نے محسوس کیا جیسا کہ کچھ اچھا ہونے جارہا ہے۔				
9۔میں نے ایسا محسوس کیا جیسا کہ جو کام میں نے پہلے کیا وہ صحیح نہیں ہوا۔				
10۔میں نے ڈر محسوس کیا۔				

پچھلے ہفتے کے دوران	بالکل بھی نہیں	بہت کم	کچھ	بہت زیادہ
11۔میں عام طور پر جس طرح سوتا/سوتی ہوں اس طرح نہیں سویا/ سوئی ۔				
12۔میں خوش تھا/تھی۔				
13۔میں معمول سے زیادہ خاموش تھا/تھی۔				
14۔میں نے تنہا کیا محسوس جیسا کہ میرے کوئی دوست نہیں ہیں۔				
15۔میں نے محسوس کیا کہ جیسے وہ بچے جن کو میں جانتا/جانتی ہوں وہ میرے ساتھ دوستانہ نہیں تھے یاوہ میرے ساتھ رہنا نہیں چاہتے تھے۔				

پچھلے ہفتے کے دوران	بالکل بھی نہیں	بہت کم	کچھ	بہت زیادہ
16۔ میرا اچھا وقت گذرا۔				
17۔ مجھے ایسا محسوس ہوا جیسا کہ میں رو رہا/رہی ہوں۔				
18۔ میں نے مایوسی محسوس کی۔				
19۔ میں نے محسوس کیا کہ لوگوں نے مجھے پسند نہیں کیا۔				
20۔ چیزوں کو شروع کرنا بہت مشکل تھا۔				

Centre for Epidemiological Studies Depression Scale for Children (CES-DC) – English

Instruction:

Below is a list of the ways you might have felt or acted. Please check much you have felt this way during the past week.

	Not At All	A little	Same	Alot
1. I was bothered by things that usually don't me	0	1	2	3
2. I did not fell like eating, I wasn't very hungry	0	1	2	3
3. I wasn't table to fell happy, even when my or friends tried to help me feel better.	0	1	2	3
4. I felt like i was just as good as other kids	3	2	1	0
5. I felt like i couldn't pay attention to what i was doing	0	1	2	3
6. I felt down and unhappy.	0	1	2	3
7. I felt like i was too tired to do things.	0	1	2	3
8. I felt like somthing good was going to happen	3	2	1	0
9. I felt like things i did before didn't work out right.	0	1	2	3
10. I felt scared.	0	1	2	3
11. I didn't sleep as well as usually sleep	0	1	2	3
12, I was happy.	3	2	1	0
13. I was more quit than usual.	0	1	2	3
14. I felt lonely, like i didn't have any friends.	0	1	2	3
15. I felt like kids i know were not firndly or that they did't want to be with me.	0	1	2	3
16. I had a good time	3	2	1	0
17. I felt like crying.	0	1	2	3
18. I felt said.	0	1	2	3
19. I felt people didn't like me.	0	1	2	3
20. It was hard to get started doing thibgs.	0	1	2	3

Indus Consortium

Humanitarian Environment and Development Initiatives

LHDP

VILLAGE SHADABAD ORGANIZATION VSO

Doaba Foundation

Sustainable Development Foundation SDF

VDO

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