

Building Resilience in Fragile Context Affected by Climate Change

**Al Mudhaffar District
Taiz Governorate
Yemen**

**Research Unit
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**Building Resilience in Fragile Contexts Affected by Climate Change _ Al Mudhaffar District,
Taiz Governorate, Yemen**

Prepared by:

YFCA Research Unit – May, 2025

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Yemen Family Care Association (YFCA)

Address: Hadda Area, Sana'a, Yemen

Website: <http://www.yfca.org>

Email: info@yfca.org

Telephone: +967-01-410290

Contents

Executive Summary	7
1. Introduction	10
1.1. Key Objectives	11
1.2. Geographical Scope	12
2. Methodology	12
2.1. Survey Tools	13
2.2. Sampling	14
2.2.1. Random Sampling	14
2.2.2. Purposeful Sampling	15
2.3. Survey Team	15
2.4. Use of Technology	16
2.5. Data Collection and Analysis	16
2.6. Ethical Considerations	17
3. Al Mudhaffar District General Profile	18
4. Findings	20
4.1. HHs Demographic Profile	20
4.1.1. Respondents by Gender	20
4.1.2. Respondents by Age	20
4.1.3. Respondent by Displacement & Marginalization	20
4.1.4. Duration of Living in the Community & Integration into Society	22
4.1.5. Respondent by Disability	22
4.2. Impact by Climate Change	23
4.2.1. Types of Adverse Events	23
4.2.2. Key Consequences of Climate-Related Threats.....	25
4.3. Additional Risks and Threats	28
4.4. Actions Taken Against the Impact of Climate Change Risks	31
4.4.1. HH-Level Actions	31
4.4.2. Government-Level Actions	31

4.4.3.	Barriers to Implementing Risk and Threat Reduction Measures	32
4.5.	Trends in Disaster Losses	33
4.6.	Anticipated Disasters and Risks	34
4.6.1.	Disasters In the Next Five Years.....	34
4.6.2.	Perceived Future Threats to the Younger Generation	35
4.7.	Inclusive Risk Governance and Enabling Environment	36
4.7.1.	Assessment & Planning Processes	36
4.7.2.	Access to Resources and Services	36
4.7.3.	Capacity Building	37
4.7.4.	Access to Information	37
4.7.5.	Conflict Prevention and Peace Building Initiatives.....	38
4.7.6.	Risk and Response Planning	38
4.7.7.	The Institutional Participation	39
4.7.8.	Coherence & Nature-Based Solutions (<i>Institutional Capacities & Gaps</i>)	40
4.7.9.	Advocacy for Community & Women’s Participation in DRR	40
4.7.10.	Factors Impacting the Community & Institutions Inclusion	41
4.7.10.1.	HH-Level	41
4.7.10.2.	Institution-Level	41
A.	All Institutions	41
B.	Women-Led Organizations	42
5.	Recommendations.....	44

List of tables

Table 1	HHs Sampling	14
Table 2	Al Mudhaffar District General Profile.....	18

List of Figures

Figure 1	Respondent by Gender	20
Figure 2	Respondent by Age	20

Figure 3 Respondent by Displacement & Marginalization	20
Figure 4 Duration of Living & Integration into Society.....	22
Figure 5 Types of Adverse Events due to Climate Change.....	23
Figure 6 Consequences of Climate-Related Threats	26
Figure 7 Additional Risks and Threats.....	28
Figure 8 Actions to Reduce the Impact of Climate and Conflict-Related Risks	31
Figure 9 Barriers to Implementing Risk and Threat Reduction Measures	32
Figure 10 Anticipated Disasters and Risks in the Next Five Years	34
Figure 11 Perceived Future Threats to the Younger Generation	35

List of Photos

Photo 1 Map of Taiz Governorate _ Al Mudhaffar District.....	12
Photo 2 KII with a Local Government Officials	13
Photo 3 Female Enumerator During HHs Survey	14
Photo 4 KII with a Community Leader	15
Photo 5 Kobo Map Shows the Deployment of HH Survey Team Throughout Al Mudhaffar District	16
Photo 6 During Data Collection Process.....	17
Photo 7 After Rainfall in Al Mudhaffar District	19
Photo 8 IDPs HH (above) & Marginalized HH (below).....	21
Photo 9 Respondent with Physical Disability	22
Photo 10 Torrents at Different Sites of District	24
Photo 11 Affected Houses by Heavy Rainfall.....	27
Photo 12 Pandemics Drivers.....	30

Table of Abbreviations

DRR	Disaster Risk Reduction
IDPs	Internally Displaced Persons
KIIs	Key informant's interviews
NGOs	Non-governmental organizations
YFCA	Yemen Family Care Association
WLOs	Women- Led Organizations

Executive Summary

Context and Background

Al Mudhaffar District, located in Taiz Governorate, Yemen, is one of the most acutely climate-vulnerable and conflict-affected urban districts in the country. With a population of 279,054 including 20,584 internally displaced persons (IDPs), the district is facing a compound crisis characterized by climate shocks, protracted conflict, economic collapse, and the breakdown of public services.

Al Mudhaffar has become a humanitarian hotspot where nearly all residents, including 95% of IDPs and 83% of host communities, are in urgent need of multi-sectoral assistance. Climate change has intensified the occurrence and severity of extreme events such as destructive torrents, prolonged droughts, unseasonal cold spells, and heatwaves. These events, combined with deteriorated infrastructure and poor risk governance, are exacerbating food insecurity, displacement, disease outbreaks, urban flooding, and widespread livelihood loss.

Objectives

This assessment, conducted by the YFCA Research Unit, sought to:

- ♣ Evaluate the **vulnerability and exposure** of communities to climate-related risks in Al Mudhaffar.
- ♣ Identify and assess existing **coping mechanisms, adaptive capacities**, and community-based resilience strategies.
- ♣ Analyze **institutional preparedness**, risk governance systems, and the role of local authorities.
- ♣ Inform evidence-based **programming and policy** recommendations for climate-resilient development and humanitarian interventions.

Methodology

The study applied a **mixed-method participatory approach**, combining:

- ♣ **Quantitative household surveys** with 300 respondents using KoBoToolbox.
- ♣ **Qualitative key informant interviews (KIIs)** with 16 stakeholders including local leaders, government officials, service providers, and experts.
- ♣ Tools adapted from the Global Network of Civil Society Organizations for Disaster Reduction (GNDR) to contextualize risk perception, preparedness, and governance gaps.

Key Findings

1. Climate Risks and Impacts

- ♣ **99% of HHs** report direct negative impact from climate change.

- ♣ Most common hazards: **torrents (85%), cold waves (82%), droughts (54%), and heatwaves (47%).**
- ♣ Primary impacts: **loss of housing (93%), illness or injury (82%), livelihood failure (62%), and education disruption.**

2. Systemic Vulnerabilities

- ♣ **Poor drainage and failing water systems** compound flood damage.
- ♣ **Agricultural decline** due to erratic rainfall and outdated irrigation (e.g., qat flooding).
- ♣ **IDPs and marginalized groups** face exclusion, with 6% of HHs reporting disabilities, mainly physical, without tailored support.

3. Governance Gaps

- ♣ **87% of HHs** have never been consulted by local authorities for risk assessment or development planning.
- ♣ **97% are uninvolved in preparedness or emergency planning.**
- ♣ **84% have no access to early warning systems**, formal or informal.
- ♣ Institutions face limited capacity, coordination, and financial support for DRR and climate governance.

4. Coping Measures

- ♣ Households rely on **short-term, unsustainable strategies**: food rationing, relocation, borrowing.
- ♣ **Community-led actions** like makeshift flood barriers exist but lack support or scale.
- ♣ Core barriers: **lack of capacity (77%), ongoing conflict (68%), and insufficient training (66%).**

5. Future Outlook

- ♣ Anticipated next 5-year risks: **pandemics (58%), cold waves (46%), and economic collapse (41%).**
- ♣ **Youth are at significant risk** of chronic food insecurity (86%), prolonged unemployment (77%), and forced migration (44%).

Recommendations

To address these compounded challenges and reduce long-term climate and disaster vulnerability, the following strategic recommendations are proposed:

1. Strengthen Local Infrastructure and Essential Services

- ♣ Rehabilitate water networks, urban drainage, and stormwater systems.
- ♣ Expand renewable-powered water access (e.g., solar wells) and promote rainwater harvesting.
- ♣ Improve housing conditions and sanitation infrastructure, particularly for IDPs and marginalized households.

2. Enhance Livelihoods and Economic Resilience

- ♣ Promote climate-smart agriculture, hydroponics, and drought-tolerant crops.
- ♣ Support green job creation and microenterprise development, especially for women and youth.
- ♣ Expand access to financial services, grants, and digital platforms for informal workers.

3. Empower Women and Women-Led Organizations (WLOs)

- ♣ Guarantee women's leadership in community-based disaster risk committees (CBDRMCs).
- ♣ Engage WLOs as implementing partners in DRR, WASH, and awareness campaigns.
- ♣ Provide core funding, protection, and technical training to WLOs to increase sustainability and autonomy.

4. Build Institutional Capacity and Inclusive Risk Governance

- ♣ Train local officials in climate adaptation planning and inclusive DRR budgeting.
- ♣ Institutionalize community consultations and participatory development forums.
- ♣ Establish local early warning systems and ensure two-way communication between government and citizens.

5. Scale Nature-Based Solutions (NbS)

- ♣ Restore degraded slopes and urban wadis to reduce flood and erosion risks.
- ♣ Promote permaculture, urban greening, and ecosystem education in schools and neighborhoods.

6. Invest in Education, Youth, and Awareness

- ♣ Integrate DRR and climate change into school curricula.
- ♣ Establish youth climate clubs and peer-to-peer education initiatives.
- ♣ Use local media to disseminate warnings, guidance, and success stories.

7. Monitor Progress and Enable Learning

- ♣ Track resilience indicators disaggregated by gender, age, and disability.
- ♣ Establish feedback loops, community scorecards, and adaptive programming.
- ♣ Hold annual learning forums, especially for women and youth, to co-create and adjust strategies.

1. Introduction

After a decade of conflict, Yemen faces one of the world's most severe humanitarian crises, with an estimated 19.5 million people-over half the population-in need of humanitarian assistance and protection in 2025. This marks an increase of 1.3 million people compared to the previous year. The compounding effects of protracted conflict, economic collapse, and repeated climate shocks have left families struggling to feed themselves, access healthcare, and keep their children in school. The crisis is particularly acute for vulnerable groups such as women, children, people with disabilities, and internally displaced persons (IDPs)¹.

Climate change has intensified the frequency and severity of extreme weather events in Yemen, such as floods and droughts. These disasters have destroyed vital infrastructure, homes, and agricultural land, while also shifting landmines and causing new humanitarian emergencies. Flooding in particular has displaced tens of thousands of Yemenis, strained resources in host communities, and increased the risk of disease outbreaks and malnutrition, especially among IDPs².

The agricultural sector in Yemen is highly vulnerable to climate change. Droughts, floods, and pests have all contributed to reduced crop yields and the loss of arable land. Water scarcity remains the biggest obstacle to improving agricultural productivity, and continued climate pressures could lead to a 40% reduction in output. This has direct consequences for food security, as millions of Yemenis already face hunger and malnutrition³.

Climate change has worsened Yemen's public health crisis by increasing the risk of waterborne diseases such as cholera, dengue fever, and malaria. Flooding and poor sanitation contribute to the spread of these diseases, particularly in areas with large populations of IDPs and limited access to clean water. The destruction of healthcare and water infrastructure by both conflict and climate disasters has further exacerbated these risks⁴.

If no action is taken to build resilience, climate change is projected to cause severe economic losses and increased poverty in Yemen. By 2060, climate change could result in a cumulative loss of \$93 billion in Gross Domestic Product (GDP) and push an additional 3.8 million people into malnutrition. The compounded effects of climate change and ongoing conflict threaten to reverse decades of human development progress in the country⁵.

Taiz city is the capital of Taiz Governorate, which is located in southwestern Yemen. The governorate borders with the Red Sea in the west, Al Hodeidah and Ibb Governorates in the north, Ad Dali' Governorate in the east, and Lahj Governorate in the south. The city covers an area of

¹ Yemen Humanitarian Needs and Response Plan 2025

² Climate Change: A New Battlefield in Yemen's Ongoing Conflict, Sep 2024

³ Climate Change Impacts on Yemen and Adaptation Strategies, YFCA, Sep 2023

⁴ REPORT ON MIGRATION, ENVIRONMENT & CLIMATE CHANGE IN YEMEN, IOM, 2024

⁵ The Impact of Climate Change on Human Development in Yemen, UNDP, Nov 2023

approximately 22 km², was once one of Yemen's cultural hubs, and is still densely populated despite the outbreak of the conflict which included frequent heavy artillery shelling, airstrikes, and armed clashes in the city.

Al Mudhaffar District, situated within the heart of Taiz City, is one of the most densely populated urban districts in the area. Spanning an area of approximately 13.9 Km², the district is home to an estimated population of around 279,054 residents, based on the most recent official data⁶. As an integral part of Taiz City, Al Mudhaffar serves as a key administrative, commercial, and residential center, reflecting the broader socio-economic dynamics of the governorate.

According to the United Nations, Al Mudhaffar is among the six districts in Yemen with the highest severity of humanitarian needs (severity score five). The district is home to a large number of IDPs, with 95% of IDPs and up to 83% of host communities in urgent need of humanitarian assistance and protection. The proximity to active conflict frontlines has left nearly 900,000 people in dire need of basic services, including food, water, shelter, and healthcare⁷.

The Building Resilience Survey aims to provide an updated and comprehensive overview of the climate change disasters landscape, in the district of Al Mudhaffar, Taiz Governorate, Yemen.

1.1. Key Objectives

The "**Building Resilience in Fragile Contexts Affected by Climate Change**" survey aims to achieve the following specific objectives:

1. **Assess Community Vulnerability to Climate Change:** Evaluate the extent to which climate change impacts the livelihoods, health, and well-being of residents in Al Mudhaffar District, with a focus on identifying the most vulnerable groups, including women, children, and IDPs.
2. **Identify Existing Coping Mechanisms and Adaptive Strategies:** Document the current methods employed by households (HHs) and communities to cope with climate-related challenges, such as droughts and floods, to understand their effectiveness and areas needing support.
3. **Evaluate the Role of Local Governance in Climate Resilience:** Analyze the capacity and involvement of local authorities and institutions in planning and implementing climate adaptation and resilience strategies, including the provision of basic services and infrastructure.
4. **Promote Community Engagement and Participation:** Encourage active participation from community members in identifying climate-related risks and developing locally appropriate solutions, fostering a sense of ownership and empowerment.
5. **Inform Policy and Program Development:** Provide evidence-based recommendations to inform the design and implementation of policies and programs aimed at enhancing

⁶ Office of Planning and International Cooperation, Taiz

⁷ Humanitarian Needs Overview, 2024

climate resilience in fragile contexts, ensuring they are responsive to the specific needs of Al Mudhaffar District.

6. **Strengthen Data Collection and Monitoring Systems:** Enhance the capacity for ongoing data collection and monitoring of climate impacts and resilience efforts, utilizing tools like KoBoToolbox to facilitate efficient and accurate data management.

1.2. Geographical Scope

This survey was carried out in Al Mudhaffar District in Taiz Governorate. Within several areas of this district, targeted efforts were made to collecting the required data.



Photo 1 Map of Taiz Governorate _ Al Mudhaffar District

2. Methodology

This survey employed a mixed-method participatory approach, combining both primary and secondary data collection techniques to ensure a comprehensive, evidence-based analysis of climate change dynamics and their impacts on the target communities.

- ♣ Secondary Data Collection: An extensive desk review was undertaken, drawing on a wide range of relevant literature, including government reports, academic studies, policy documents, and existing data sets. This review provided essential contextual background on climate change trends, environmental vulnerabilities, and socio-economic conditions at both national and local levels.
- ♣ Primary Data Collection: A combination of qualitative and quantitative research methods was used to capture diverse perspectives and lived experiences of the affected populations. Specifically:

- **Key Informant Interviews (KIIs):** Conducted with local authorities, technical experts, and community leaders to gain expert insights into climate-related risks, governance structures, adaptive capacities, and institutional responses.
- **Household Surveys (HHs):** Administered using structured questionnaires to a representative sample of households, enabling quantitative analysis of community-level exposure to climate threats, perceived impacts, coping strategies, and levels of preparedness

2.1. Survey Tools

The survey utilized tools adapted from the Global Network of Civil Society Organizations for Disaster Reduction (GNDR), tailored to align with the specific objectives and context of this survey.

⚙️ KII Tool

The KII tool was designed to gather in-depth qualitative insights from individuals with specialized knowledge or authority relevant to the topic, such as local government officials, environmental experts, community leaders, and representatives of relevant institutions. The tool focused on key themes including observed climate trends, local risk perceptions, & institutional response mechanisms. These interviews allowed for a nuanced understanding of the structural and governance dimensions of climate resilience.



Photo 2 KII with a Local Government Officials

⚙️ HHs Questionnaire Tool

This structured questionnaire was administered to a representative sample of HHs within the target area. It was designed to quantitatively capture data on household-level exposure to

climate-related hazards, perceived environmental changes, socio-economic impacts, coping and adaptation mechanisms, access to support services, and levels of awareness and preparedness. The tool also included demographic indicators to help analyze vulnerability and resilience across different population groups.



Photo 3 Female Enumerator During HHs Survey

2.2. Sampling

2.2.1. Random Sampling

A random sampling approach was utilized to ensure inclusivity, capturing diverse perspectives from all segments of the community, including different genders.

⚙ HH Survey

The HH survey involved the random selection of 300⁸ respondents from targeted HHs within the assessed district. The table below provides an overview of the sample distribution:

Table 1 HHs Sampling

Gender	No. of Respondents
Female	204
Male	96
Total	300

⁸ <http://www.raosoft.com/samplesize.html>, with margin of error 5.65% & confidence level 95%

2.2.2. Purposeful Sampling

In addition to random sampling, purposive sampling was employed for selecting KII respondents, particularly for insights related to livelihoods and agriculture. **16** KIIs were conducted with key stakeholders, including: local government officials, environmental experts, community leaders, and representatives of relevant institutions.



Photo 4 KII with a Community Leader

2.3. Survey Team

The field data collection was carried out by a dedicated team of **nine trained enumerators**, strategically selected to ensure both gender balance and alignment with the specific data collection components of the assessment.

⚙ HH Survey Team:

Five **female enumerators** were assigned to conduct HH interviews, recognizing the importance of gender-sensitive data collection, particularly when engaging with women respondents in culturally conservative contexts.

⚙ KIIs' Team:

Four **male enumerators** were tasked with conducting KIIs, given the nature of the respondents, typically community leaders, government representatives, or technical experts.

Prior to deployment, all team members participated in a comprehensive training session. The training covered:

- Detailed orientation on the survey objectives and methodology
- Step-by-step guidance on the use of data collection tools (HH and KII)
- Ethical considerations, including informed consent and confidentiality protocols

2.4. Use of Technology

To enhance the efficiency, accuracy, and reliability of the data collection process, the HH survey was conducted electronically using mobile data collection technology. The survey tool was designed and deployed through the **KoBoToolbox** platform, a widely used digital data collection system suitable for humanitarian and development contexts.



Photo 5 Kobo Map Shows the Deployment of HH Survey Team Throughout Al Mudhaffar District

2.5. Data Collection and Analysis

📍 Data Collection

The field team conducted extensive data collection over a four-day period, covering various target areas. Using structured assessment tools, they carried out face-to-face interviews with key informants, ensuring direct engagement with knowledgeable individuals and face-to-face HHs interviews with randomly selected respondents. This process was conducted in close collaboration with community leaders and local authorities, enhancing the study's contextual accuracy and ensuring a deeper understanding of local dynamics.

❁ Data Analysis

- Quantitative Data: Data analysis was conducted using Microsoft Excel pivot tables, facilitating an organized and efficient evaluation of numerical trends and patterns.
- Qualitative Data: A thematic analysis approach was employed, systematically categorizing responses into key themes aligned with the study's core research questions. This method enabled a structured interpretation of insights gathered from discussions.



Photo 6 During Data Collection Process

2.6. Ethical Considerations

The survey strictly followed established social science ethical standards, ensuring:

- ❁ Respect and Dignity: Participants were treated respectfully, acknowledging their rights and autonomy.
- ❁ Cultural Sensitivity: Local traditions, norms, and leadership structures were respected, with active community involvement throughout the process.

- ⚙ Informed Consent: Clear and transparent information was provided to participants, who voluntarily consented to participate.
- ⚙ Confidentiality: Personal and sensitive information was securely protected and used exclusively for research purposes.

3. Al Mudhaffar District General Profile

Table 2 Al Mudhaffar District General Profile

Aspect	Details
Area	13.9 km ²
Geographical Boundaries	East: Al Qahirah district, North: At Ta'iziyah district, West: At Ta'iziyah district South: Mashr'ah Wa Hadnan & Sabir Al Mawadim districts
Terrain Nature	Plateaus and mountains
Climate	Mild in winter, hot in summer
Most Important Valleys	Wadi Al Qadi & Wadi Al Dahi
Rain Season	In summer mostly
Population	279054
Urbanity	Urban, Semi-Urban
No. of IDPs ⁹	20,584

⁹ UN Final Population Projection Dataset, Yemen 2023



Photo 7 After Rainfall in Al Mudhaffar District



4. Findings

4.1. HHs Demographic Profile

This section presents a comprehensive overview of the demographic characteristics of the 300 surveyed HHs. It includes key information such as the gender and age distribution of respondents, displacement status, and experiences of marginalization. The analysis also explores the length of time HHs have resided in their current communities and the extent to which they are socially integrated. Additionally, data on the prevalence and types of disabilities within the surveyed population are included. Together, these indicators provide critical context for understanding the HHs’ vulnerabilities, social dynamics, and specific needs within the community.

4.1.1. Respondents by Gender

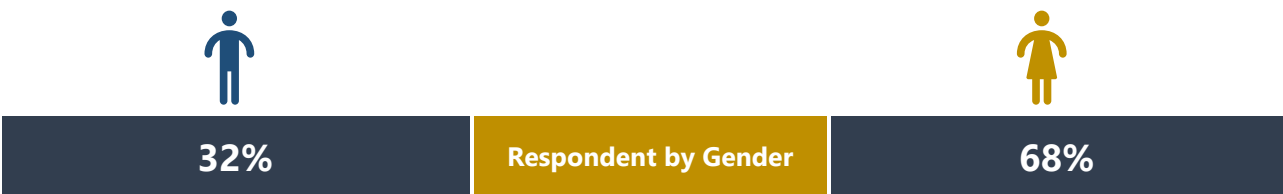


Figure 1 Respondent by Gender

4.1.2. Respondents by Age

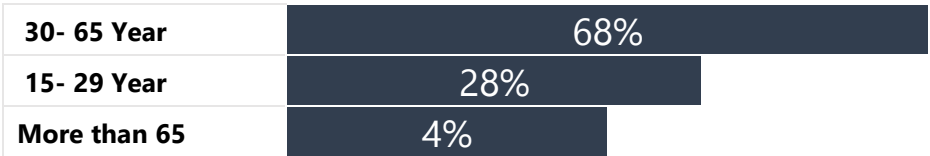


Figure 2 Respondent by Age

4.1.3. Respondent by Displacement & Marginalization

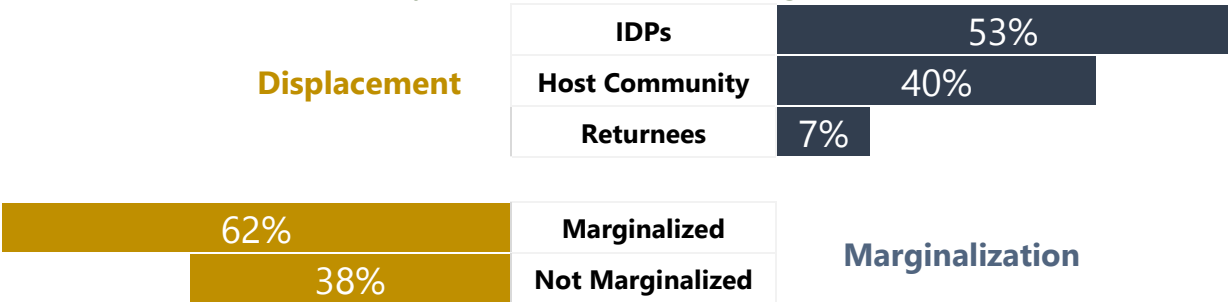


Figure 3 Respondent by Displacement & Marginalization



Photo 8 IDPs HH (above) & Marginalized HH (below)



4.1.4. Duration of Living in the Community & Integration into Society



Figure 4 Duration of Living & Integration into Society

4.1.5. Respondent by Disability

Survey findings indicate that 6% of respondents reported having a disability, all of which were identified as physical disabilities.



Photo 9 Respondent with Physical Disability

4.2. Impact by Climate Change

An overwhelming 99% of surveyed respondents reported that their households have been adversely affected by climate change.

The KIs from findings reveal that the vast majority of participants view climate change as having a serious and growing impact on their communities. Most described frequent and intense weather events such as heatwaves, cold spells, droughts, and flash floods, which have caused damage to homes, farmlands, roads, and public spaces. Some informants shared examples of how floods swept away property, displaced vulnerable families, and even led to the death of a child. The changing climate has also affected livelihoods, particularly for farmers and street vendors whose work depends on stable weather and infrastructure. Health concerns are rising as well, with new illnesses emerging and environmental pollution, such as contaminated water sources, becoming more common. Many respondents stressed that Yemen’s weak infrastructure and economic instability, made worse by years of conflict, leave communities like those in the targeted district particularly vulnerable to the effects of climate change.

The interviews suggest that climate change is not a distant threat but a current and pressing challenge deeply affecting daily life.

4.2.1. Types of Adverse Events

When asked about the specific types of climate-related events they have faced over the past five years, a significant majority (**85%**) cited destructive torrents, while **82%** reported exposure to cold waves, an indicator of the increasing unpredictability of seasonal weather patterns. Over half of the respondents (**54%**) have been affected by prolonged droughts, and **47%** by extreme heatwaves.

The chart below presents a detailed breakdown of the various climate-related events reported by respondents.

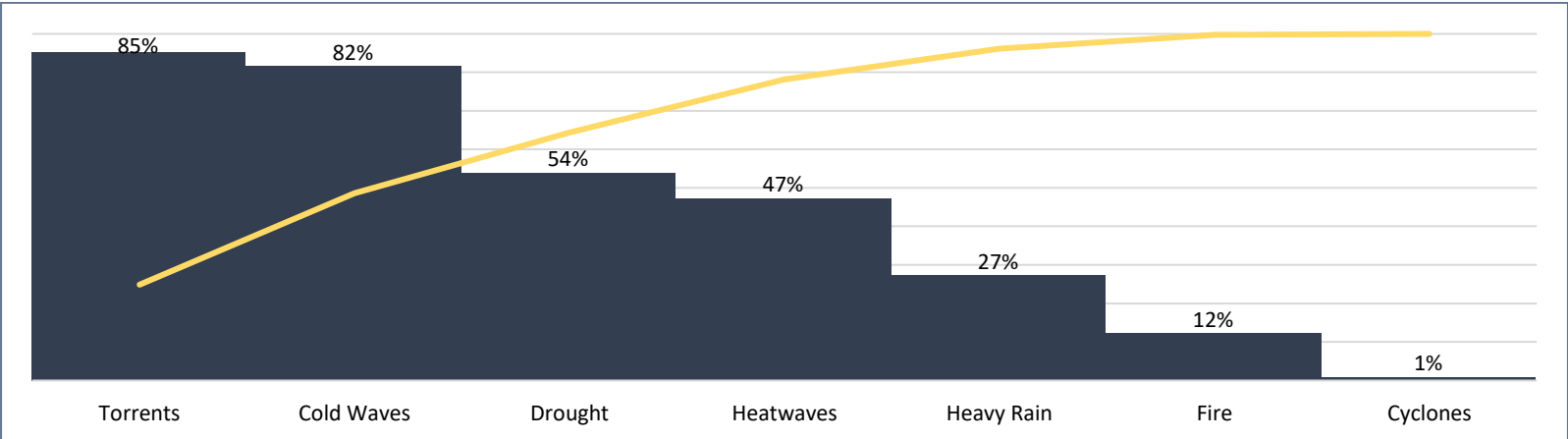


Figure 5 Types of Adverse Events due to Climate Change



Photo 10 Torrents at Different Sites of District



The KIs highlight that climate change is causing a wide range of negative events in Al Mudhaffar district, with the most frequently mentioned being severe drought, intense heatwaves, and harsh cold waves. Drought was identified as the most serious issue, resulting from declining rainfall and leading to widespread water shortages. One participant noted, ***“Rainfall last winter was very low, which caused a severe drought this year, making it harder for people to access water.”*** Many families now rely on expensive water trucks, with prices rising dramatically ***“The price of one water truck rose from 25,000 to 60,000 riyals due to the absence of a public water system,”*** another explained. Agriculture has been severely affected, with reports of crop spoilage, dying vegetation, and soil erosion during heavy rains. As one informant put it, ***“Crops were damaged during drought, and topsoil was washed away during rainfall, affecting people’s livelihood.”***

Heatwaves and cold waves are also worsening health conditions, especially among IDPs living in inadequate shelters. One respondent emphasized, ***“IDPs in the district are the most affected, living in tents or crowded ground floors with no protection from the extreme cold or heat.”*** These temperature extremes have led to more illnesses such as respiratory infections and kidney problems. Additionally, floods and landslides were reported in some areas, damaging homes, roads, and farmland. A further concern raised was the shift in rainfall seasons, disrupting traditional agricultural practices. One interviewee stated, ***“Rain now comes in winter, which is not a farming season. This change is harming our seasonal crops.”*** Some informants also mentioned poor water management practices, including the cultivation of water-intensive qat using traditional flooding methods ***“We use outdated irrigation techniques, which waste water and increase drought in some areas.”*** one respondent noted.

4.2.2. Key Consequences of Climate-Related Threats

The chart below illustrates the diverse and far-reaching consequences that communities have experienced due to climate-related risks and overlapping shocks such as conflict and economic instability. The three most significant impacts identified were loss or damage to housing (**93%**), illness or injury (**82%**), and loss of livelihood (**62%**). Housing damage was primarily attributed to extreme weather events such as torrents, heavy rain. Illness and injury, reported by over four-fifths of respondents, highlight the strain on public health and the limited capacity of local health systems to respond to climate- and conflict-induced health challenges.

Additionally, **loss of livelihood** and **daily wage loss** (reported by 43%) reflect the erosion of income-generating opportunities due to environmental degradation.

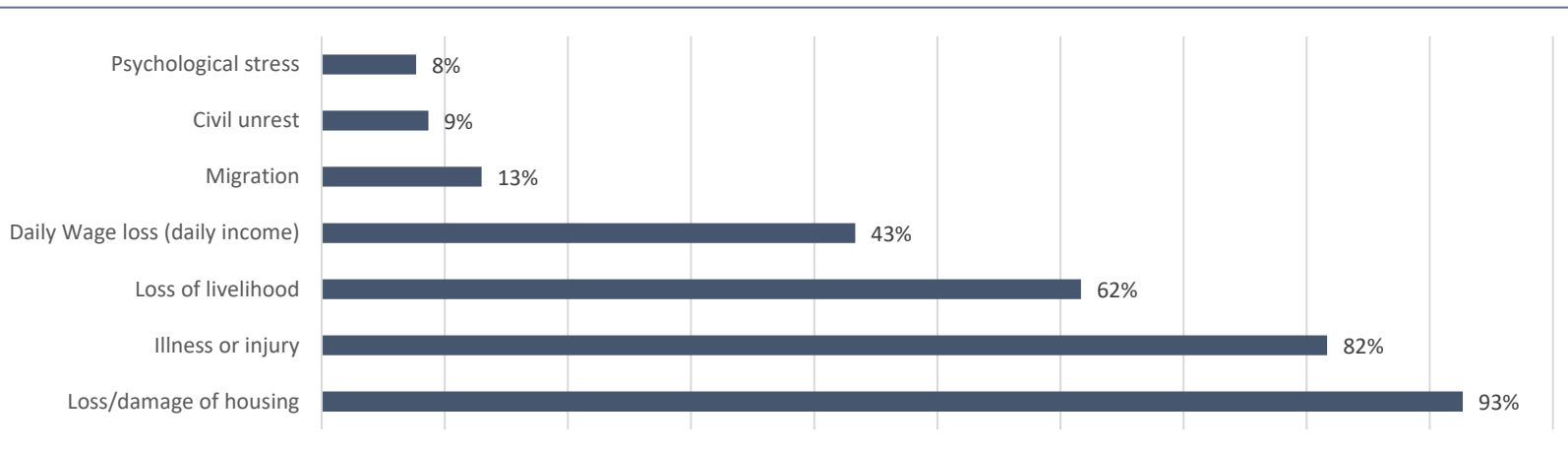


Figure 6 Consequences of Climate-Related Threats

KIs highlight that climate-related threats have led to severe and overlapping consequences for local communities. The most commonly reported impacts include the destruction of homes, loss of agricultural land and crops, widespread illness, and both internal and external migration. One participant described, ***“Some houses were swept away by floods, like what happened in Al-Awadi Street, and others collapsed due to rockfalls in Wadi Al-Qadhi.”*** Agricultural losses were equally alarming, with another respondent stating, ***“During drought, crops dry up, making land unusable, and during heavy rains, floods wash it away.”*** These losses have caused many to lose their daily income, especially farmers and informal workers. Illness and poor health were also mentioned frequently, particularly those linked to poor sanitation and water contamination. As one informant explained, ***“Diseases are spreading, especially during the rains, because garbage and construction waste block water channels, creating breeding grounds for mosquitoes.”*** Migration has become a necessary coping strategy for many, with some families borrowing money to leave the country in search of work. ***“Because of poor living conditions and lack of income, many borrowed money and migrated abroad,”*** one respondent shared. Others emphasized the mental and physical health toll caused by displacement and overcrowded housing, saying, ***“People are now forced to live in poorly ventilated, crowded homes without privacy or proper sanitation.”*** Tragically, some even reported losing loved ones due to these overlapping crises. These quotes collectively reflect how climate change, layered with conflict and poverty, is pushing communities into deeper vulnerability and hardship.



Photo 11 Affected Houses by Heavy Rainfall



4.3. Additional Risks and Threats

Beyond the immediate impacts of climate change, surveyed HHs identified several other significant risks that threaten their well-being and stability. The following figure shows the top three threats reported were economic shocks (96%), pandemics (95%), and conflicts (66%). A smaller proportion of respondents also reported concerns about civil unrest (19%) and water shortages (5%), indicating localized pressures that compound existing vulnerabilities.

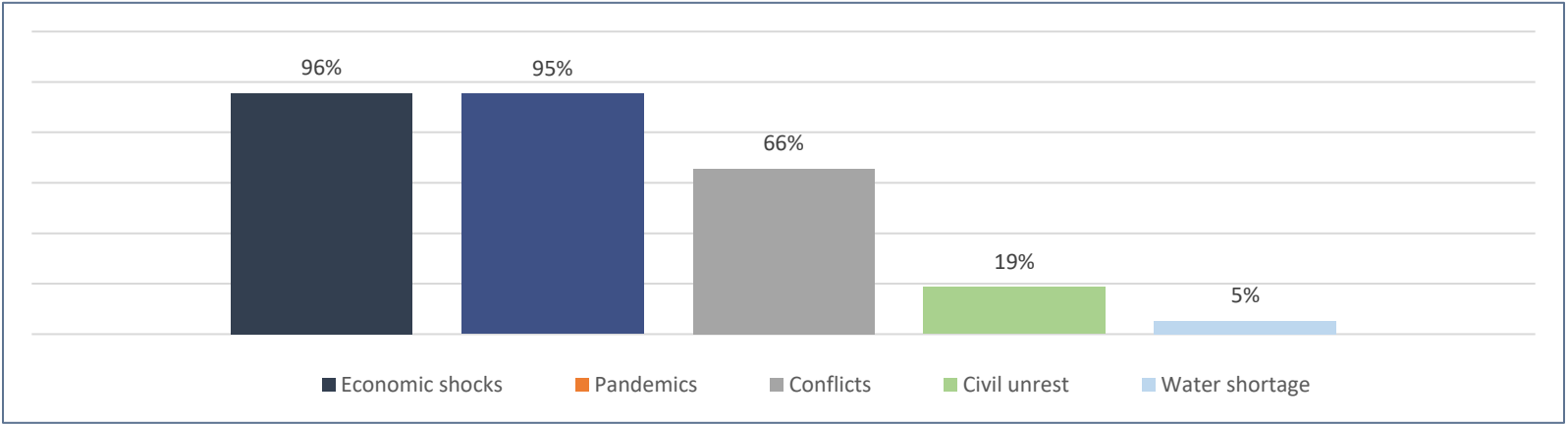
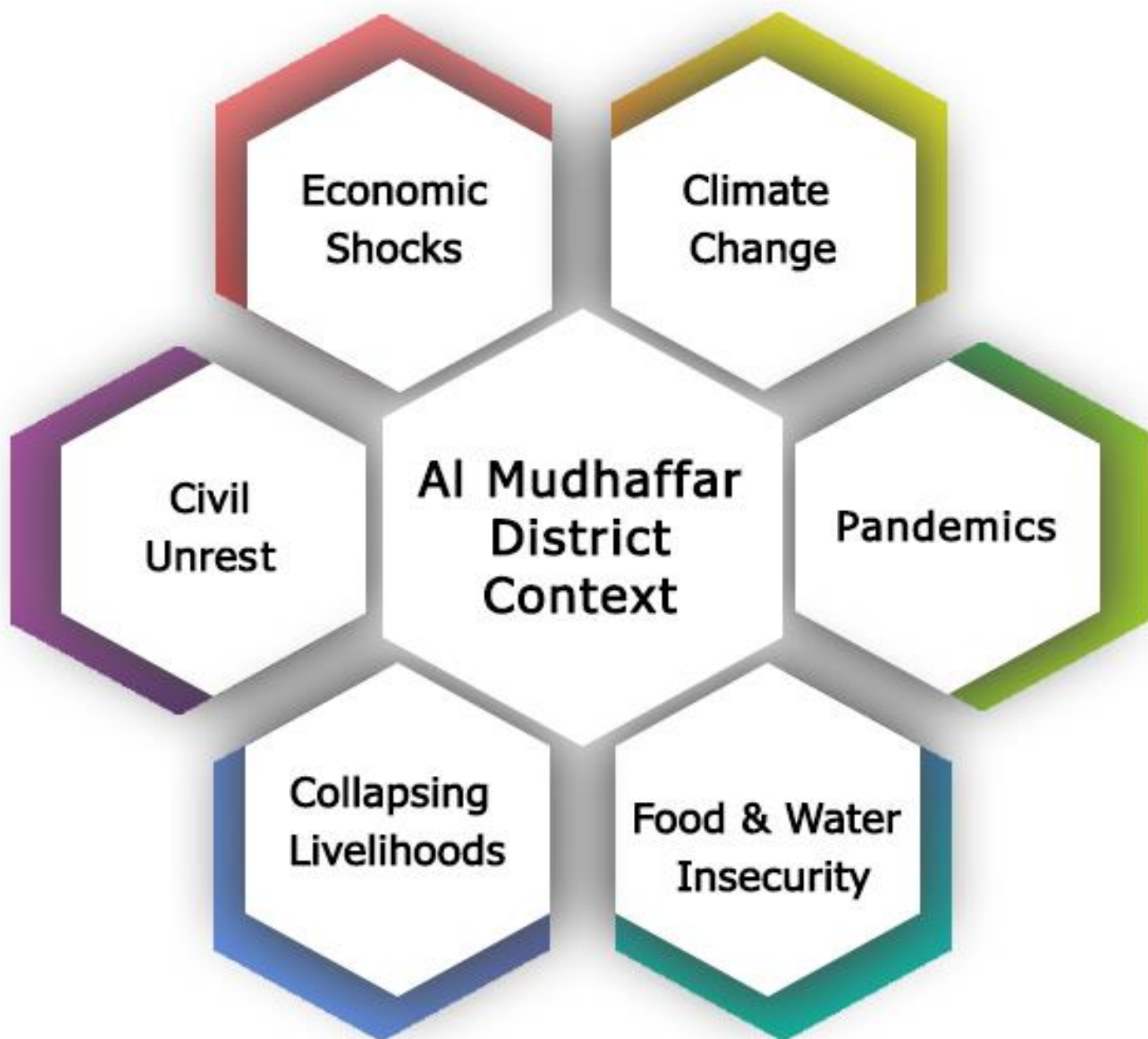


Figure 7 Additional Risks and Threats

KIIs’ participants highlight that, beyond climate change, communities are facing additional serious threats, most notably pandemics, economic shocks, and ongoing conflict. Pandemics were identified as the most urgent concern, with diseases like cholera and fevers spreading due to poor sanitation and stagnant water. One participant noted, **“The community faces diseases and pandemics due to sewage overflows in the streets, especially during rain, along with the spread of flies and mosquitoes.”** Economic hardship was another major theme, with many describing rising prices and collapsing livelihoods. As one informant explained, **“The economic crisis is huge, people cannot afford food, water, or medicine.”** Farmers in particular are struggling due to crop failures, lack of seeds, and no cold storage facilities. Conflict, both ongoing and climate-induced, was also frequently mentioned. One interviewee stated, **“Instead of preparing for disasters and climate changes, the country entered into conflict that destroyed everything, pushing us backward.”** Others reported tensions over water resources during droughts, such as disputes over wells to irrigate qat. These overlapping threats are placing intense pressure on communities already suffering from fragile infrastructure and weak public services. As one respondent summarized, **“Every new wave of hardship, whether a flood, a disease, or a price spike, hits a population already weakened by the last one.”**

These findings underscore the need for multi-sectoral approaches that address economic resilience, health system strengthening, and conflict-sensitive programming.



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Photo 12 Pandemics Drivers



4.4. Actions Taken Against the Impact of Climate Change Risks

4.4.1. HH-Level Actions

The chart below illustrates the range of actions households have taken to mitigate the effects of climate-related risks and conflict. The data shows that the three most commonly prioritized measures are related to food security (64%), emergency response mechanisms (42%), and establishing early warning systems (37%).

Notably, 20% of HHs reported taking **no action**, signaling gaps in awareness, resources, or capacity to respond effectively.

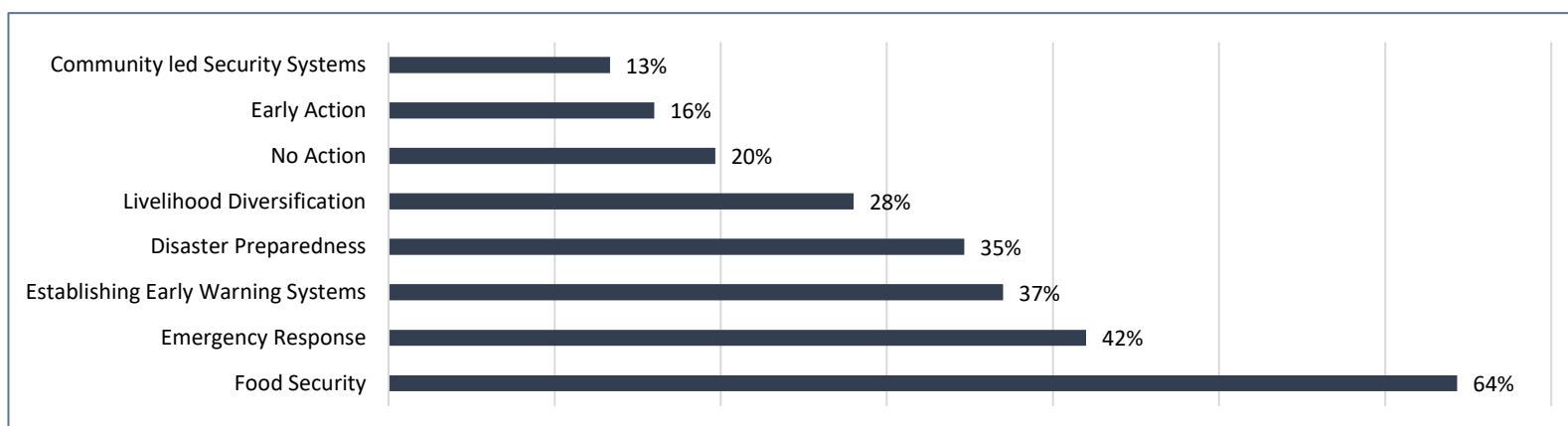


Figure 8 Actions to Reduce the Impact of Climate and Conflict-Related Risks

The KIIs findings show that while some communities have taken limited steps to reduce the impacts of climate risks and conflict, most actions are reactive and constrained by a lack of resources. The most common efforts included early intervention, emergency response, and disaster preparedness, yet several participants reported that no measures had been taken by communities at all.

4.4.2. Government-Level Actions

As the government and local authorities' level, the KIIs findings reveal that the actions were taken, they were often small-scale and community-driven. As one respondent stated, ***"Unfortunately, no action has been taken by either the community or the authorities we hope humanitarian organizations will step in."*** One interviewee explained, ***"We built barriers with stones and sandbags to stop floodwater from entering camps, and placed zinc sheets over tents, this was all done with the help of generous individuals and organizations."*** Some participants highlighted the importance of early warning systems, with one saying, ***"If we had early warning stations and better planning, we could prepare in advance and reduce disaster impacts."*** Others recalled more effective past practices, such as community clean-up campaigns before the rainy season: ***"Before 2010, we used to clean drains and enforce fines on dumping waste in flood areas, this really helped reduce risks."*** However, weakened local institutions and lack of coordination were seen as major barriers. One informant

noted, *“The local disaster authority in Taiz is tied to the central body in Aden, and even salaries aren’t paid, which limits their ability to act.”*

The responses reflect a fragile situation where resilience depends heavily on local initiative and ad hoc support, underscoring the urgent need for coordinated disaster planning, funding, and long-term capacity building.

4.4.3. Barriers to Implementing Risk and Threat Reduction Measures

The chart below outlines the key barriers HHs face when attempting to implement actions aimed at reducing the impacts of climate risks, conflict, and other threats. The data reveals that the three most significant barriers are: lack of capacity (77%), ongoing conflicts (68%), and lack of training on disaster risk reduction (66%).

Other notable barriers include the exclusion of marginalized communities (33%) and an unconducive political environment (31%), both of which limit inclusive participation and the effective implementation of risk reduction strategies.

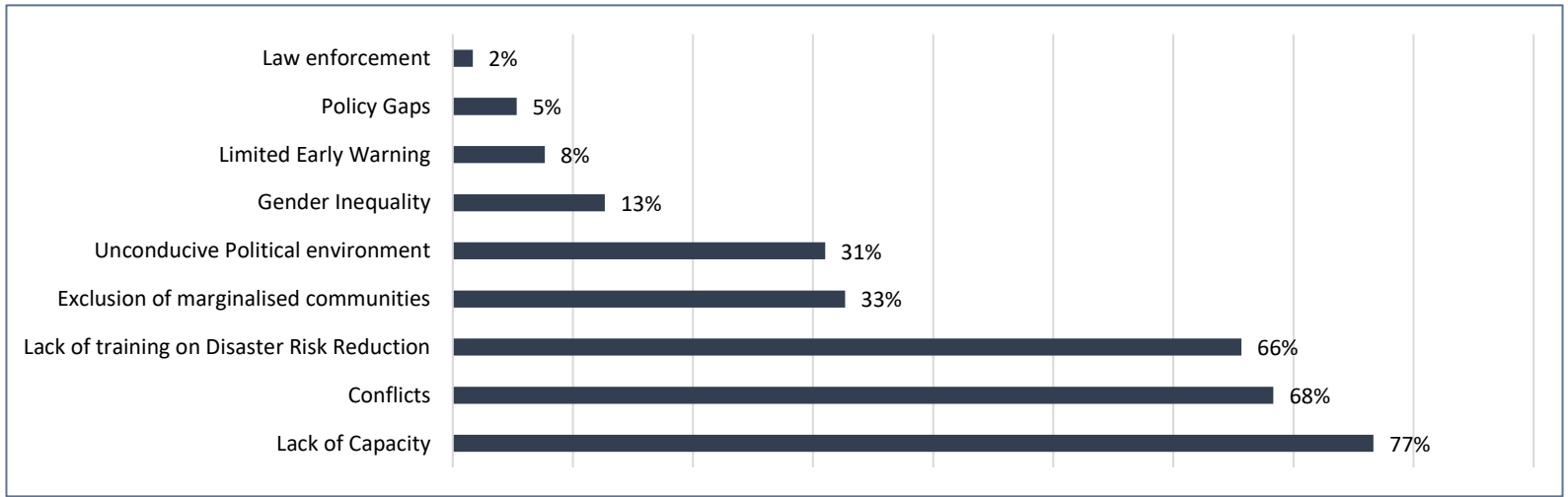


Figure 9 Barriers to Implementing Risk and Threat Reduction Measures

KIIs’ results reveal that the most significant barriers to implementing risk reduction measures are ongoing conflict, lack of capacity, and absence of training in disaster management. Conflict was described as the most disruptive, affecting both national systems and local community efforts. One participant stated, *“Conflict is the biggest obstacle, whether it’s the broader war or internal struggles within our community over personal interests.”* The instability has also damaged public infrastructure and services, such as water and sanitation. As another informant noted, *“Conflict deprived the city of water from Al-Hayma, and at the same time, the garbage dump in Wadi Al Dhabab polluted the water going to Al-Rubai’e.”* Lack of financial and institutional capacity was another major issue. Communities reported having no emergency budgets, trained response teams, or essential equipment. One person explained, *“We don’t have money to build proper shelters or firefighting equipment, if a fire breaks out in a camp, it could burn everything because we don’t even*

have a single fire truck in the whole governorate.” The third key barrier is the lack of training and public awareness. Many respondents said neither the community nor local authorities had received any formal disaster preparedness education. **“People here have no idea how to deal with disasters. Even the government staff haven’t received any training or workshops,”** one informant said. Others criticized the absence of functioning early warning systems, with one noting, **“Early warning is almost nonexistent. Where are the platforms, the announcements, the community follow-up teams?”** These quotations illustrate how deeply rooted and overlapping these challenges are, leaving already vulnerable communities unprepared for the increasing risks posed by climate change and conflict.

4.5. Trends in Disaster Losses

When asked about changes in disaster-related losses over the past 5 to 10 years, a striking **71%** of respondents reported a significant increase, while an additional **19%** observed a slight increase. This overwhelming majority (**90%**) indicates that the burden of disasters, such as climate shocks, conflict-driven displacement, and economic disruptions, has become progressively more severe and widespread in the community.

Only a small fraction of respondents felt that disaster losses had remained the same (**9%**), and an even smaller percentage believed losses had decreased, either significantly or slightly (**1%**).

The KIs reveal mixed but mostly concerning trends regarding disaster-related losses over the past 5 to 10 years. While a few participants observed a slight decline due to local mitigation efforts, the majority reported that losses have either remained the same or increased. One informant noted, **“When studies are done, plans prepared, and precautions taken, losses decrease,”** highlighting the benefit of proactive planning. However, many others described worsening conditions, especially related to livelihoods, health, and basic needs. As one respondent explained, **“Losses have increased significantly, livelihoods have declined due to conflict and reduced job opportunities. Water prices have skyrocketed due to drought, and crop yields are lower, causing food prices to rise.”** Another expressed concern about the impact on children, saying, **“Children are now hauling water containers to help their families, this affects their health and education. It’s a huge loss, because they are the future.”** Others pointed to the persistence of earlier problems, with one stating, **“Losses remain the same. In the past, we used mosquito nets to fight disease, but now these aren’t being distributed anymore.”** Several respondents also mentioned how rising poverty has led to more begging, child labor, and even harassment, weakening the social fabric.

These findings suggest that current resilience mechanisms, if any, are not keeping pace with the growing intensity and frequency of hazards. The reported upward trend in losses may be linked to a combination of factors including limited preparedness, weak infrastructure, worsening climate conditions, and prolonged conflict exposure.

4.6. Anticipated Disasters and Risks

4.6.1. Disasters In the Next Five Years

When asked about the risks and threats they expect their communities to face in the next five years as a result of climate change and conflict, respondents identified a diverse range of concerns. The two most significant anticipated risks were pandemics (**58%**) and cold waves (**46%**), indicating that health-related crises and extreme weather fluctuations are expected to continue posing major threats.

The chart below presents a detailed breakdown of the other expected risks and threats reported by respondents such as economic shocks were the third most cited threat (**41%**).

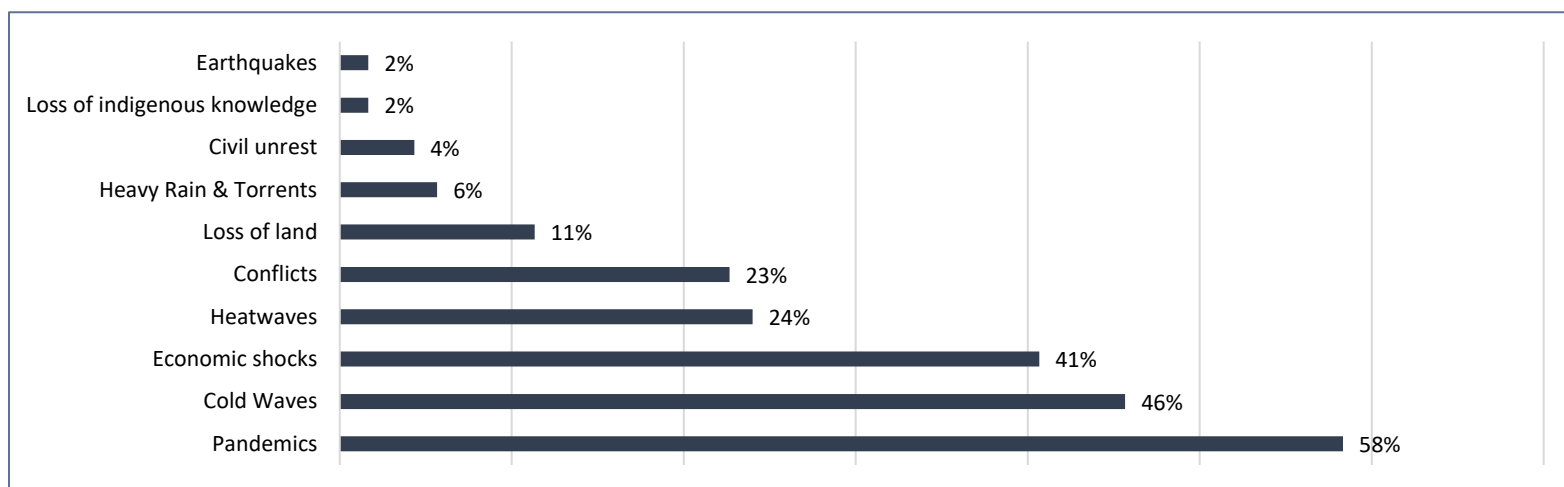


Figure 10 Anticipated Disasters and Risks in the Next Five Years

Findings of KIIs indicate that respondents anticipate two major threats in the next five years: the spread of pandemics and the intensification of heatwaves, both driven by climate change and ongoing conflict. Pandemics were the most frequently mentioned concern, especially in relation to poor sanitation and flood-related water contamination. One respondent warned, ***“After every flood, we see a rise in pandemics caused by water contaminated with sewage.”*** Another added, ***“Due to rising temperatures and stagnant wastewater, pandemics like cholera and fevers will continue to spread, they’re hard to control, but we can reduce them with prevention.”*** Heatwaves were also widely feared, particularly because of the lack of green spaces, overcrowded housing, and limited access to cooling. As one informant explained, ***“Hot areas turn into night-time societies, people sleep during the day and work at night, which reduces productivity.”*** Drought was another major concern, especially with the absence of rainwater harvesting solutions. One interviewee suggested, ***“Unless small home rain tanks are built, we’ll face permanent drought.”*** The economic consequences of these threats were also highlighted, with one participant stating, ***“The real danger is the economic crisis, livelihoods are vanishing, food and medicine are becoming unaffordable, and people are losing hope.”*** Some feared these pressures could lead to unrest, as another noted, ***“Rising unemployment and***

lack of water and food will lead to civil unrest in the near future. These voices reflect a community that is not only aware of the risks ahead but deeply concerned about the growing burden of unaddressed climate and conflict-related challenges.

These projections underline the need for forward-looking, multisectoral risk reduction strategies that integrate public health preparedness, economic resilience, conflict sensitivity, and climate adaptation.

4.6.2. Perceived Future Threats to the Younger Generation

The following chart illustrates community perceptions of the most significant threats that the younger generation is expected to face as a result of ongoing climate change and conflict. The data reveals that the top three concerns are food insecurity (**86%**), unemployment (**77%**), and migration (**44%**). These threats reflect a deep anxiety about the future stability of essential systems and the long-term viability of life in the community.

The chart also highlights several other notable anticipated threats, providing a detailed breakdown of emerging concerns that communities believe will significantly impact the younger generation in the years ahead.

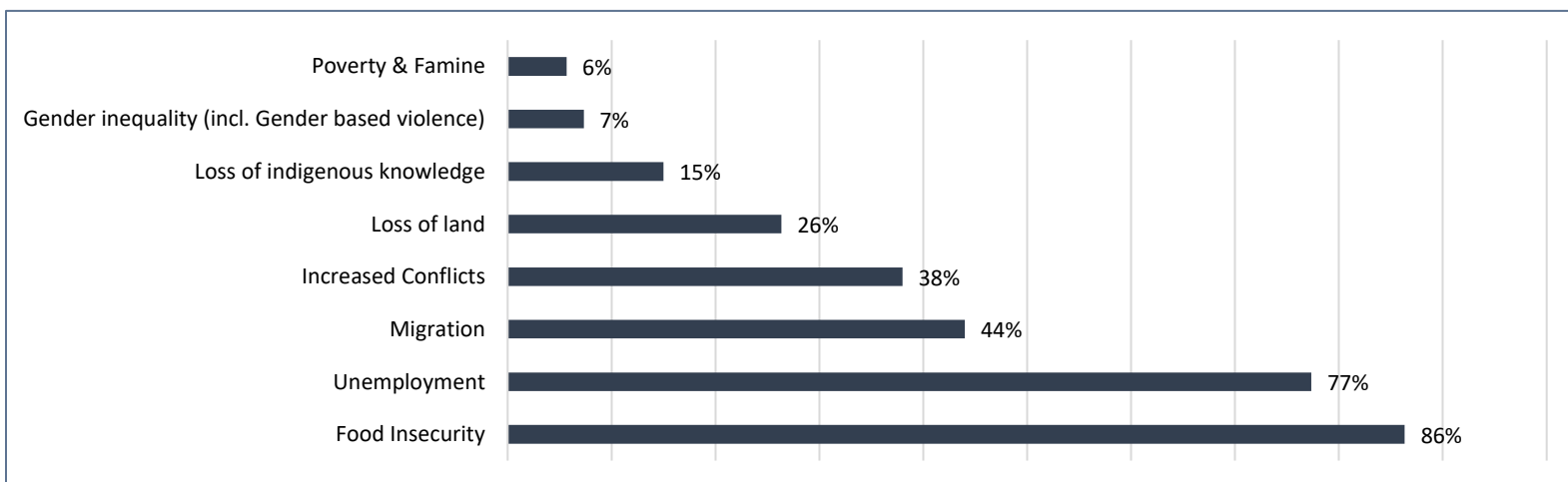


Figure 11 Perceived Future Threats to the Younger Generation

KIIs reveal that the next generation is likely to face three major threats as a result of ongoing conflict and climate change: rising unemployment, widespread migration, and growing food and water insecurity. Unemployment was identified as a central challenge, particularly among youth. One respondent stated, ***“Unemployment is dominant in our community due to war and the high cost of living, pushing young people to migrate in search of stability and a future.”*** This lack of income has led to both internal and external migration, as families search for safety and better livelihoods. As one participant explained, ***“The threats facing the next generation include displacement within the***

country or abroad due to war, high prices, and lack of opportunities.”Informants also expressed deep concern about declining agricultural productivity and poor water management, which are expected to worsen due to climate stress. One person warned, **“Without sustainable solutions, we’ll see growing food insecurity and water scarcity, especially since there’s no clear strategy to protect resources for future generations.”** The erosion of education and rising poverty were also highlighted, with one informant noting, **“Ignorance and illiteracy have returned, and without education, the youth are left with no options but to migrate or fall into poverty.”**The responses reflect a growing sense of urgency and fear that, unless action is taken, the next generation will inherit a fragile and unstable future.

4.7. Inclusive Risk Governance and Enabling Environment

4.7.1. Assessment & Planning Processes

According to the HH survey analysis, there is a significant gap in local government engagement with communities, especially among the most vulnerable groups, reflecting a lack of inclusive and participatory approaches in decision-making and planning processes. An overwhelming majority of respondents, **87%** for risk assessment and **86%** for development planning, reported that the local government does not engage at all in regular consultations to assess risks or developmental needs. A small fraction noted minimal interaction, with **10–11%** indicating very limited efforts and only **1–2%** reporting occasional or limited engagement. These findings highlight a severe deficiency in inclusive, risk-informed planning at the local level.

KIIs’ results reveal considerable variation and overall limitations in community involvement in both disaster risk management and risk-informed development planning. While a few institutions described meaningful engagement, such as collaborating with community committees, using social media for feedback, or responding to community requests, these efforts were often isolated and constrained by limited resources or capacity. Most respondents reported minimal or no participation, often citing lack of mandate, funding, or internal capability. Some referenced partial or informal efforts like awareness sessions or unstructured community team initiatives, but these fell short of consistent, institutionalized practices.

The findings point to a fragmented landscape where community engagement is the exception rather than the norm, with few formal mechanisms or coordinated strategies to ensure inclusive, risk-informed planning and implementation.

4.7.2. Access to Resources and Services

The analysis of HH answers indicates that a significant portion of the population lacks adequate support from the local government in mitigating the impacts of disasters and conflict. **69%** of respondents reported having no access at all to essential resources and services such as food, shelter, healthcare, education, livelihoods, or aid. An additional **14%** indicated access only to a very limited extent, while **13%** reported occasional access. Only **5%** acknowledged access with

some limitations, underscoring the widespread absence of consistent and effective government support mechanisms for vulnerable communities.

KIIs highlight a widespread lack of financial resources and local government support for implementing risk reduction or development activities. Most institutions reported extremely limited or no access to funding, with many selecting “not at all” on assessment scales. Respondents cited reliance on donations, NGOs, or charitable individuals, while repeated appeals to authorities often went unanswered. Some described minimal support, such as receiving limited equipment, but noted severe operational challenges, including unpaid salaries and loss of budgetary control. A few institutions managed to collaborate with humanitarian partners to maintain essential services. The findings underscore severe financial constraints that hinder local institutions' ability to meet community needs or pursue sustainable development.

4.7.3. Capacity Building

Based on the HH survey responses, there is an almost complete absence of meaningful community participation in essential resilience-building activities, including those related to risk reduction, development planning, and peacebuilding efforts. An overwhelming **97%** of respondents stated they are not involved at all in capacity building initiatives related to humanitarian response, conflict mitigation, disaster risk reduction, climate change adaptation, or risk-informed development. Only **2%** reported very limited involvement, and a mere **1%** indicated occasional participation. These findings underscore a profound gap in efforts to strengthen local capacities for disaster and conflict resilience.

KIIs indicate that most institutions in Al Mudhaffar district have had limited or sporadic involvement in building community capacity to address conflict, climate change, and disaster risks. While a few reported meaningful initiatives, such as training sessions and support for community advocacy, these efforts were largely dependent on external partnerships and were not sustained. The majority of respondents cited barriers including lack of funding, mandate, or technical capacity. Some noted past involvement that has since ceased due to the ongoing crisis, while others acknowledged no engagement in capacity-building at all. Several highlighted the need to strengthen their own institutional capacities to support such work.

4.7.4. Access to Information

The findings of HH survey indicate a serious breakdown in communication between local authorities and communities regarding early warnings, risks, and resilience. A striking **84%** of respondents reported having no access at all to formal or informal mechanisms for receiving or sharing such critical information. Only **10%** mentioned having access to a very limited extent, and a scant **6%** noted occasional access, highlighting the urgent need to establish effective, inclusive information-sharing systems to enhance community preparedness and response.

KIIs reported that early warning and risk-related information exchange between local institutions and government authorities in the district is inconsistent and largely informal. While a few

institutions reported active engagement, using phones, social media, or internal procedures to share and act on alerts, most indicated the absence of structured early warning systems. Some rely on ad hoc notifications or informal channels like WhatsApp, which are seen as unreliable and insufficient. Several respondents emphasized that no official systems are in place, leaving them to respond reactively to emergencies.

The findings underscore a critical gap in formal, coordinated early warning mechanisms, highlighting the urgent need to establish accessible and reliable systems to enhance preparedness and resilience.

4.7.5. Conflict Prevention and Peace Building Initiatives

The HH survey reveals that community inclusion in such efforts is almost entirely lacking. **89%** of respondents stated that the government does not involve them at all in conflict prevention or peacebuilding activities. An additional **8%** reported very limited involvement, and only **2%** indicated occasional participation, while just 1% acknowledged any involvement with limitations. These results point to a critical exclusion of communities from processes essential for sustaining peace and social cohesion.

Klls' findings show that many institutions in the district are engaged in community-based conflict prevention and peacebuilding, though the extent of involvement varies. Several respondents described active participation through training sessions, awareness campaigns, community dialogues, and support for women-led initiatives, emphasizing the link between peace and the effectiveness of humanitarian work. However, some institutions reported limited or no involvement, often citing mandates focused on service delivery or security. A few noted isolated efforts to mediate local disputes.

Regarding the women involvement, Klls reveal broad recognition of women's roles in conflict prevention and peacebuilding across institutions in the district, though the degree of support and facilitation varies. Several institutions reported strong engagement, highlighting gender-inclusive leadership and active involvement of women in community initiatives and sectoral programs such as rural water projects. Others expressed support in principle but noted limited opportunities due to the scarcity of women-led organizations or mandates restricted by their institutional roles, particularly among security bodies. A few acknowledged no current engagements, though framed this as contingent on the presence of women's groups.

4.7.6. Risk and Response Planning

The analysis of HH survey findings reveals a near-total lack of community awareness and involvement in emergency preparedness efforts, indicating serious deficiencies in outreach, planning, and engagement at the local level. An overwhelming **99%** of respondents are unaware of any contingency or emergency response plan, and **97%** are not part of any emergency response task force. Furthermore, **99%** reported no involvement in emergency response planning or mock

drills. These findings reflect a critical gap in community engagement and preparedness, severely undermining the effectiveness of local disaster and emergency response systems.

KIs reveal stark disparities in institutional participation in emergency response planning and preparedness in district. While some institutions reported structured and proactive involvement, such as collaborating with local authorities, forming task forces, and conducting awareness and preparedness activities, many others cited non-participation due to the absence of existing plans, lack of coordination, or limited capacity. A few institutions highlighted their role in community-led planning, including work with international partners and involvement in simulation drills. Others contribute supportively but without leading roles. However, a significant number acknowledged no engagement in planning or emergency team formation, often due to lack of resources or formal structures.

The findings point to a fragmented preparedness landscape, where committed actors are constrained by weak systems and many institutions remain uninvolved, underscoring the urgent need for inclusive, coordinated, and well-resourced emergency planning and response mechanisms across the district.

4.7.7. The Institutional Participation

Based on the KIs findings, the institutional participation in UN cluster coordination mechanisms in the targeted district is generally limited, with most institutions either uninvolved or participating only occasionally. Structural barriers, a lack of invitations, and the underrepresentation of climate-focused clusters were commonly cited reasons. While some institutions reported active involvement, particularly in WASH, protection, and security coordination, most described engagement as ad hoc or minimal. This highlights the need to expand and institutionalize local participation in coordination platforms.

Participation of “women-led organizations” in UN cluster mechanisms is even more limited. Many respondents were unaware of such organizations or noted their weak presence in their areas. A few acknowledged some engagement but described it as infrequent and restricted, often due to the small number of active women-led organizations. While some informants pointed to examples of strong participation, overall, there is a clear gap in visibility, support, and inclusion of women-led entities within cluster structures.

Similarly, women’s participation in the National Platform for Disaster Risk Reduction (DRR) is reported to be low, constrained by both institutional and cultural barriers. Most respondents noted little to no involvement, citing lack of awareness, encouragement, or institutional support. While a few highlighted occasional participations by educated women and rare instances of female leadership, these were exceptions rather than the norm.

The findings underscore the need for targeted efforts to enhance women’s representation and leadership in both national DRR frameworks and local coordination platforms.

4.7.8. Coherence & Nature-Based Solutions *(Institutional Capacities & Gaps)*

KIs reveal that most institutions in Al Mudhaffar district are making moderate efforts to foster coherence between humanitarian response, development activities, and peacebuilding at the local level. Many described partial engagement through coordination with local authorities and community committees, or by serving as intermediaries between communities and external actors. A few institutions reported strong and structured involvement, including support for reconstruction initiatives. However, some institutions admitted to having no procedures in place, underscoring inconsistent implementation and the need for stronger institutional coordination and support.

In contrast, awareness and use of **nature-based solutions (NbS)** for climate risk management and disaster adaptation are generally low. Most institutions reported little to no familiarity with NbS concepts, with only a few demonstrating technical knowledge or internal capacity. Some cited the presence of engineers or relevant expertise but noted that this knowledge remains untapped due to lack of support or funding.

While a minority of institutions expressed confidence in their NbS capacity, the findings point to a significant knowledge gap and the need to build awareness and integrate sustainable, nature-based approaches into local climate resilience strategies.

4.7.9. Advocacy for Community & Women's Participation in DRR

Key informant interviews reveal wide variation in institutional advocacy for community priorities within Yemen's National Platform for DRR. A few institutions demonstrated strong engagement, actively promoting community needs and supporting displaced populations, with some gaining national recognition for their efforts. Others showed moderate involvement, particularly in response to disasters like floods and disease outbreaks. However, many institutions reported no participation, largely due to a lack of awareness or understanding of the platform. These findings highlight a critical need for increased outreach, coordination, and capacity-building to broaden institutional advocacy and ensure community voices are represented in national DRR efforts.

Similarly, advocacy for **women's participation in DRR platforms** also varies significantly. Some institutions strongly support women's roles, emphasizing equality and highlighting female leadership within their organizations. Others showed moderate backing, expressing support for women's involvement across sectors. Yet, a notable portion of respondents reported no advocacy or awareness regarding women's inclusion in DRR governance.

Overall, while there are promising examples of commitment to gender-inclusive DRR, the findings underscore a broader gap in awareness and institutional support, pointing to the need for targeted initiatives to promote and sustain women's leadership and representation in disaster risk governance.

4.7.10. Factors Impacting the Community & Institutions Inclusion

4.7.10.1. HH-Level

Based on the findings of the HH survey, the key factors that hinder or enable community inclusion in decision-making processes related to risks, threats, development initiatives, and peacebuilding efforts are summarized as follows:

✿ Barriers to Inclusion

- ✿ Social and Cultural Discrimination: Marginalized groups (e.g., Muhamasheen), women, and youth are excluded due to deep-rooted norms and biases.
- ✿ Access Challenges: Poor infrastructure, long distances, and high travel costs limit participation.
- ✿ Lack of Awareness: High illiteracy and limited information about risks and participation opportunities reduce engagement.
- ✿ Economic Hardship: Poverty and lack of support prevent people from engaging in community processes.
- ✿ Logistical Constraints: Inconvenient scheduling, household burdens, and absence of formal invitations hinder involvement.
- ✿ Institutional Gaps: Weak governance, lack of inclusive platforms, and poor communication exclude communities from decision-making.

✿ Enablers of Inclusion

- ✿ Improved Access and Support: Financial aid, transport, and childcare make participation more feasible.
- ✿ Awareness and Training: Risk education, inclusive messaging, and targeted outreach empower communities.
- ✿ Equality and Institutional Backing: Non-discrimination, recognition of vulnerable groups, and support from authorities promote inclusion.
- ✿ Community Trust and Engagement: Safe spaces, collaboration, and civil society support foster inclusive participation.

4.7.10.2. Institution-Level

Based on the findings of the KIs, the key factors that hinder or enable institutions inclusion in decision-making processes related to risks, threats, development initiatives, and peacebuilding efforts are summarized as follows:

A. All Institutions

✿ Main Barriers

✿ Lack of Institutional Support

- No responsiveness from senior departments.

- No support from the government or NGOs.

⚙️ **Limited Resources**

- No financial resources.
- No general budget for the district office.
- We lack basic tools, like a transport vehicle.

⚙️ **Social and Environmental Challenges**

- Restrictive social norms.
- Internal conflicts.
- People are too preoccupied with survival to engage.

⚙️ **Key Enablers**

⚙️ **Support and Resources**

- Financial and technical assistance.
- External support enables participation.

⚙️ **Trust and Collaboration**

- Credibility and trust in engagement efforts.
- Coordination between government and organizations.

⚙️ **Awareness and Capacity Building**

- Awareness campaigns and training sessions.
- Institutional and individual capacity building.

Institutional participation in decision-making on disaster risk, development, and peacebuilding in the district is constrained by weak institutional support, limited resources, and social pressures. However, financial backing, inter-agency coordination, and ongoing capacity-building efforts are critical enablers for more effective and inclusive engagement.

B. Women-Led Organizations

⚙️ **Main Barriers**

⚙️ **Cultural and Social Norms**

- Deep-rooted traditions and customs
- Fear among some women
- Ignorance about the importance of women's leadership

⚙️ **Institutional Neglect and Exclusion**

- Some departments ignore women
- Lack of continuous institutional support
- Unclear societal roles for women

❄ Security and Capacity Challenges

- Harassment and threats
- Lack of protection mechanisms
- Insufficient training and capacity
- Same small group appears at every event, limiting inclusivity

❄ Key Enablers

❄ Support and Protection

- Political, moral, and financial support for women
- Legal protection and gender-sensitive policies
- Government cooperation

❄ Awareness and Skills Development

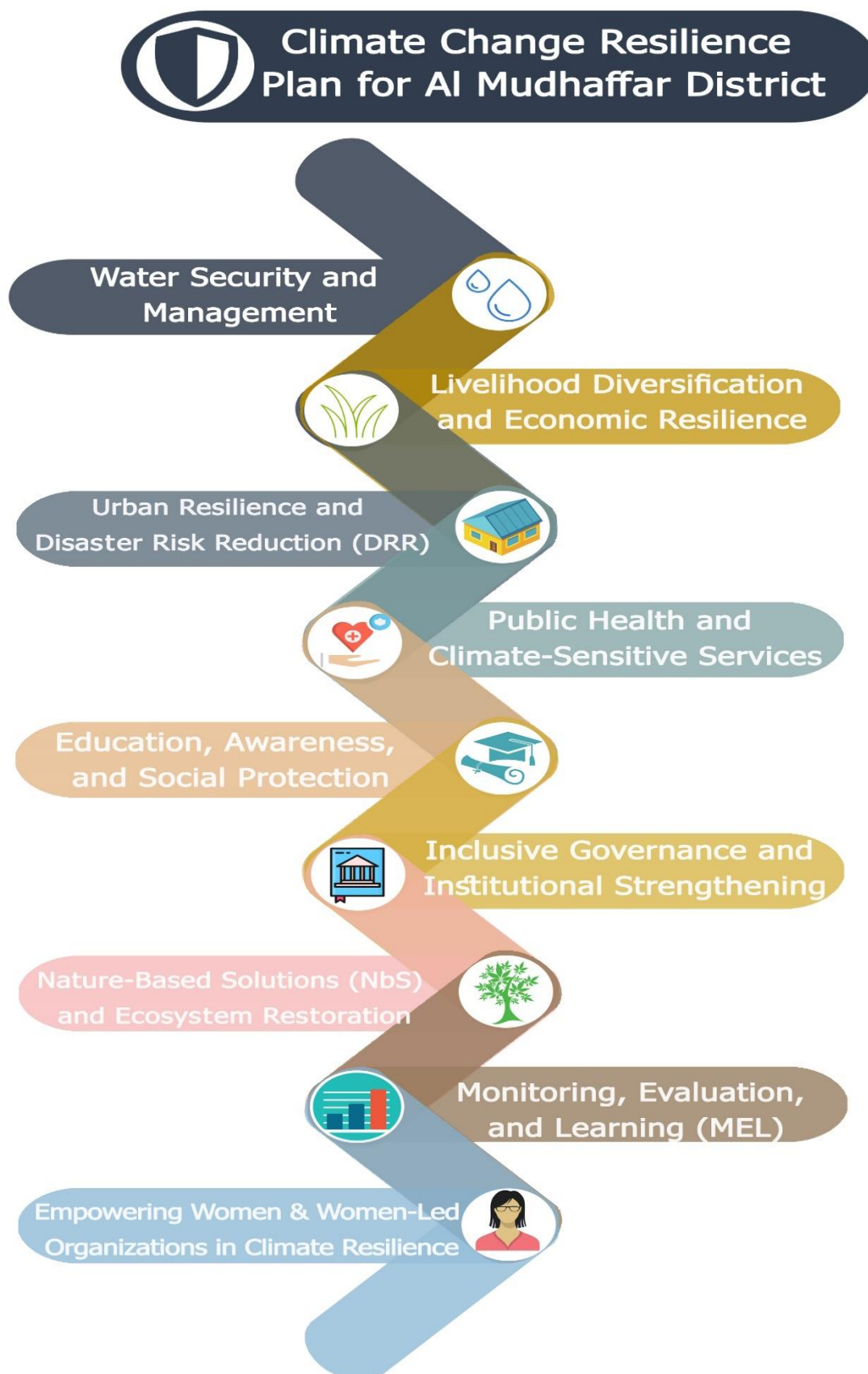
- Community awareness of women's roles and effectiveness
- Access to education and communication skills
- Training and leadership opportunities

❄ Coordination and Planning

- Collaboration with local authorities
- Community-level coordination and support
- Proper planning and preparation before activities

The participation of women-led organizations in decision-making on disaster risk, development, and peacebuilding in Al Mudhaffar district is often obstructed by harmful traditions, weak institutional engagement, insecurity, and lack of resources. However, their inclusion can be significantly enhanced through legal protection, targeted support, increased awareness, training opportunities, and stronger coordination with local stakeholders.

5. Recommendations



Climate Change Resilience Plan for Al Mudhaffar District

This detailed resilience plan provides a framework for building adaptive capacity across sectors in Al Mudhaffar, aligned with community needs, climate science, gender equity, and conflict-sensitive development.

Water Security and Management

A. Infrastructure Rehabilitation

- ♣ Reconstruct and expand urban water pipelines and reservoirs.
- ♣ Restore damaged water points and rehabilitate shallow wells using solar pumping systems.

B. Water Harvesting and Storage

- ♣ Construct rooftop rainwater harvesting tanks for homes, mosques, and schools.
- ♣ Promote fog harvesting and household water-saving technologies (e.g., low-flow taps, greywater reuse).

C. Integrated Water Resource Management (IWRM)

- ♣ Conduct hydrogeological mapping and protect aquifers.
- ♣ Establish and train local water committees (ensuring 50% women participation) on equitable allocation, mediation, and sustainability.

Livelihood Diversification and Economic Resilience

A. Climate-Smart Livelihoods

- ♣ Promote vertical and hydroponic gardens in dense urban areas.
- ♣ Distribute drought-tolerant seeds and pest management kits to peri-urban farmers.
- ♣ Introduce solar-powered drying and storage units for women farmers and cooperatives.

B. Youth and Women Entrepreneurship

- ♣ Launch green entrepreneurship incubators for women and youth (e.g., recycling, solar services, digital crafts).
- ♣ Offer startup kits for home-based businesses (e.g., tailoring, phone repair).

C. Market Linkages

- ♣ Connect women producers to mobile markets and e-commerce channels.
- ♣ Partner with NGOs to establish cooperative platforms that boost fair trade and resilience branding.

Urban Resilience and Disaster Risk Reduction (DRR)

A. Flood Mitigation

- ♣ Install decentralized drainage systems and stormwater retention zones.
- ♣ Map early evacuation routes with input from women's groups and community committees.

B. Urban Greening

- ♣ Launch community tree-planting drives (led by school clubs and Women-Led Organizations (WLOs)).
- ♣ Develop green rooftops and mini-parks in congested neighborhoods.

C. Infrastructure Regulations

- ♣ Enforce DRR building codes and zoning laws in coordination with women-led construction awareness teams.
- ♣ Prevent unsafe urban sprawl through gender-sensitive urban planning.

Public Health and Climate-Sensitive Services

A. WASH Interventions

- ♣ Ensure water chlorination, clean latrines, and solid waste systems in IDP settlements.
- ♣ Include women's feedback on WASH design (e.g., safe access, menstrual hygiene).

B. Disease Surveillance

- ♣ Train women health promoters to detect and respond to climate-linked outbreaks.
- ♣ Establish mobile medical teams with female staff to reach vulnerable households.

C. Heat and Cold Wave Response

- ♣ Provide community cooling/warming centers run by WLOs.
- ♣ Distribute seasonal kits (blankets, solar lights, hydration packs) to female-headed HHs.

Education, Awareness, and Social Protection

A. Community-Based DRR Education

- ♣ Integrate climate risk education into school curricula with girls' leadership projects.
- ♣ Train youth clubs (50% girls) in first aid, early warning, and civic engagement.

B. Early Warning and Information Access

- ♣ Deploy gender-sensitive alert systems (radio, SMS, WhatsApp) in collaboration with WLOs.
- ♣ Use visual/audio messages to reach illiterate or disabled women.

C. Social Safety Nets

- ♣ Expand cash-for-resilience schemes prioritizing vulnerable women.
- ♣ Create temporary shelter options for climate-displaced female-led families.

Inclusive Governance and Institutional Strengthening

A. Community Participation Mechanisms

- ♣ Ensure at least 50% female representation in community disaster risk committees.
- ♣ Hold women-only consultations to inform resilience and development priorities.

B. Capacity Building for Local Authorities

- ♣ Train public officials on gender-responsive DRR planning and budgeting.
- ♣ Establish a Climate and Resilience Unit with a dedicated gender desk.

C. Intersectoral Coordination

- ♣ Engage WLOs as standing members in district-level Climate Resilience Taskforce.
- ♣ Align local DRR plans with Yemen's NDCs and National Adaptation Plan (NAP), incorporating gender indicators.

Nature-Based Solutions (NbS) and Ecosystem Restoration

A. Ecosystem-Based Adaptation

- ♣ Rehabilitate slopes and riverbanks through community labor groups (including women and youth).

- ♣ Protect wetlands and natural buffer zones from urban encroachment.

B. Agroforestry and Permaculture

- ♣ Promote multi-species agroforestry plots managed by women's collectives.
- ♣ Support permaculture learning gardens in schools and community centers.

C. Environmental Education

- ♣ Train women educators and WLOs on biodiversity, soil health, and natural infrastructure.
- ♣ Integrate climate justice themes into community storytelling and arts programs.

Monitoring, Evaluation, and Learning (MEL)

A. Resilience Indicators

- ♣ Monitor % of female-led HHs with safe water/livelihood access; track women's participation in DRR structures.

B. Feedback Loops

- ♣ Establish community scorecards and complaint systems ensuring anonymity and safety for women.

C. Learning Hubs

- ♣ Publish case studies on women-led adaptation success stories.
- ♣ Hold annual women's climate forums to evaluate progress and elevate local innovations.

Empowering Women & Women-Led Organizations in Climate Resilience

A. Leadership, Governance, and Institutional Participation

- ♣ Include WLOs in all planning, budgeting, and cluster coordination platforms.
- ♣ Establish quotas for female leadership in climate and DRR councils.
- ♣ Train WLOs in proposal writing, climate science, and legal advocacy.

B. Economic Empowerment

- ♣ Prioritize WLOs and female-headed HHs in microfinance and livelihoods programs.
- ♣ Launch green cooperatives and rotating savings schemes managed by women.

C. Protection, Inclusion, and Voice

- ♣ Provide security protocols for women leaders in fragile zones.
- ♣ Support childcare, safe transportation, and accessible venues to boost attendance.
- ♣ Challenge harmful gender norms through school clubs, religious leader engagement, and media campaigns.

D. WLOs as Implementing Partners

- ♣ Contract WLOs to implement WASH, DRR, nutrition, and health activities.
- ♣ Provide core operating grants—not just project-based funding—to ensure sustainability.

E. Monitoring and Learning

- ♣ Disaggregate all data by gender and disability.
- ♣ Facilitate annual accountability sessions led by women.
- ♣ Document and share scalable models of WLO success.

F. Addressing Systemic Barriers

- ♣ Enact legal protections against GBV in public life.
- ♣ Require institutional partnerships with WLOs in funded resilience projects.
- ♣ Promote tech access and digital literacy for rural women.
- ♣ Integrate young women into innovation hubs and school resilience teams.