Public Health Settlement-Based Assessment

February 2024, Khanfar District, Abyan Governorate, Yemen

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Cover Image: "A room made of tree branches" by AYF. Photo collected through AYF field staff

About REACH

REACH facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACT Initiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT).
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About CARE

CARE has been active in Yemen since 1992, addressing poverty, promoting social justice, and enhancing people's ability to cope with crises through humanitarian response and development projects. CARE is operational in 14 governorates across Yemen, delivering programs through direct implementation or in partnership with local and international organizations. CARE contributes to strengthening Yemeni communities' resilience, helping them to recover from the effect of one of the world's largest humanitarian crisis.
For more information, please visit our website: www.careyemen.org.You can contact us directly at: yem.info@care.org

About Yemen Family Care Association (YFCA)

Yemen Family Care Association (YFCA) is a leading, independent, and neutral non-governmental organization that works nationwide at different levels to promote equitable and sustainable development, humanitarian response, and other relevant interventions for a better life and well-being for Yemeni communities. Since it was established in 1976, YFCA has worked closely with the government and local and international partners in urban and rural Yemeni communities in an endeavour to complement the efforts of other actors and stakeholders who work towards common purposes. The unique position of YFCA in Yemeni society has enabled the organisation to advocate for vulnerable groups' concerns to government, policymakers, and program implementers, as well as encourage active participation of civil society and local stakeholders at the community level.
For more information, please visit our website. You can contact us directly at: info@yfca.org

About Abyan Youth Foundation

Abyan Youth Foundation is an independent, non-profit, non-governmental organization that holds the ISO 9001-2015 certificate its headquartered in Abyan Governorate - the Republic of Yemen. It was established in 2011 and expands its geographical scope in Abyan Governorate, which contains (11 directorates) whose activities are managed by about 500 volunteers. The Foundation focuses its activities on social, charitable and legal development. The Foundation works in main sectors: education, child protection, water and sanitation, food security and livelihood improvement, women and youth empowerment, shelter and non-food items, capacity building for local communities affected by conflict, peace building and conflict resolution, and health, each sector has many of projects that benefit thousands of community members, whether resident or displaced.
For more information, please visit the organization's website: www.abyanyouth.org
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SUMMARY

The conflict in Yemen is entering its tenth year in 2024. Since the initial UN-brokered truce between the warring parties expired in October 2022 the humanitarian needs have remained alarmingly high. As the conflict persists, access to essential services such as clean water and healthcare is, at the time of writing, severely limited, leading to outbreaks of water-borne diseases. According to the 2024 Humanitarian Needs Overview,[1] an estimated 2.7 million pregnant and lactating women, as well as children under five, require treatment for acute malnutrition. Furthermore, approximately 70% of children three years old have not received a full course of basic vaccinations as recommended in the national immunization schedule.

The economic crisis has deepened, exacerbating food insecurity and livelihood limitations for many Yemenis. As of 2024, 17.6 million people, or half of the total population, are likely to be severely food insecure. Disruptions in public services, including education and sanitation, have further complicated the situation. Furthermore, mental health has emerged as a critical issue, affecting Yemenis in various sectors, including integration, livelihood, and trauma recovery. The United Nations Population Fund reports that 7 million Yemenis require mental health treatment and support, yet only 120,000 individuals have uninterrupted access to these crucial services.[2]

This settlement-based assessment (SBA) was carried out in Khanfar district, Abyan governorate, in the Internationally Recognised Government (IRG) territory, in February 2024 with a public health focus. This focus included the humanitarian sectors of food security and livelihoods (FSL), water, sanitation, and hygiene (WASH), health, nutrition, with analysis supported by indicators on cash and markets as well as accountability to affected populations (AAP) as well as climate and remote sensing, gender, and resilience to shocks dimensions. The assessment aims to fill the gap of limited, localised information by holistically assessing population needs related to public health both at the household (HH) and community level by understanding the availability and accessibility of services related to FSL, WASH, health, and nutrition.

REACH have partnered with ACAPS, CARE Yemen, Abyan Youth Foundation (AYF), and Yemen Family Care Association (YFCA) through the implementation of three data collection tools, including mapping focus group discussions (MFGD), semi-structured HH interviews, and a structured HH structured survey. The data was collected all through February 2024, and included 6 MFGD sessions, 60 semi-structured HH interviews, and 281 HH structured surveys. Using a probability sample based on population data received by the Yemen Food Security and Agriculture Cluster (FSAC) a 95% confidence level, 7% margin of error, and a 5% buffer means that the structured survey data collected is representative at the district level as well as for two internally displaced persons (IDP) sites. Al Noabah, a managed site, and Baer Al Sheikh, an unmanaged site, were selected due to reported high intersectoral needs, as captured by the Yemen Camp Coordination and Camp Management (CCCM). Collecting data representative at both the IDP site level and district level allow for findings to be compared between these categories.

The analysis of data collected reveals several limitations that need to be considered. Firstly, the MFGD data analysis was based on summaries of discussions rather than direct quotes or transcripts, potentially leading to generalizations and overlooking specific nuances. Moreover, the translation of these summaries from Arabic to English might have resulted in loss of context and detail. Additionally,

[1] Yemen Humanitarian Needs Overview 2024 (January 2024)

[2] 2024 UNFPA Humanitarian Response in Yemen

conducting sessions with 10 or more participants posed challenges in capturing detailed input from each participant.

Similarly, the semi-structured data collection encountered limitations, particularly regarding the coherence and consistency of responses. While efforts were made to transcribe interviews directly, the sensitivity of recording interviews in Yemen prevented us from achieving high levels of detail and consistency. Some topics, such as access to food and markets, were not consistently addressed across interviews, potentially skewing the analysis. Furthermore, certain questions were not directly answered by respondents, leading to repetitive or fragmented data that required synthesis for a comprehensive understanding.

In terms of the structured household surveys, the absence of GPS coordinates during household data collection limits the certainty regarding the exact locations where data were collected, despite meeting sampling requirements. Moreover, fluctuations in the Household Hunger Scale (HHS) results may occur due to seasonal changes and shocks, such as peak water prices and land preparation activities, affecting data collected one month before Ramadan, a period of significant agricultural activity and water scarcity in Yemen.

Key Findings

Khanfar district relies predominantly on salaried work and casual labour. Notably, a significant portion of the population is engaged in agricultural activities, although household production remains limited. **This agricultural sector, vital for local livelihoods, faces considerable vulnerabilities exacerbated by natural hazards such as flooding and cyclones.** Particularly vulnerable are coastal fishery communities, whose livelihoods are intricately linked to the marine environment. **The vulnerability to climate fluctuations is further underscored by increased rainfall in 2023, particularly impacting flooded areas close to Yarames community.**

Economic insecurity is a major concern, with **85% of households reporting serious problems accessing sufficient income to cover their needs**. **Debt levels exceed average income**, leaving many households vulnerable to financial instability. The use of emergency coping strategies such as borrowing cash (91%), purshasing food on credit (86%), and cutting down on health and education (59%) are very common, with food insecurity prevalent among households, as evidenced by **89% reporting food as the most unmet need due to lack of financial resources.**

In terms of access to services, communities in Khanfar district face challenges, particularly regarding water and healthcare. **Access to essential resources, notably water, exhibits significant variability, prompting communities to adopt negative coping mechanisms such as the use of less preferred water sources (incl. water from wells or paying for water through water trucks) and traveling long distances to far away water sources, due to inconsistent water network functionality.** Additionally, healthcare access is constrained by economic factors, disproportionately affecting vulnerable groups, particularly women. Sanitation services similarly show disparities, with shared facilities being common in certain areas, particularly in IDP sites where multiple households may share limited resources. Disparities in food consumption and livelihood opportunities highlight the socioeconomic divide, with marginalized groups facing heightened vulnerabilities.

The assessment of perceived needs across different areas in Khanfar district highlights that **a significant portion of households have serious problems related to physical health, with the highest percentages reported in Al Noabah (35%) and the general district (33%)**. Access to healthcare is a major concern, particularly among female respondents, with 8/8 respondents **in Baer Alsheikh indicating serious issues**. Additionally, cleanliness issues were notably higher among female

respondents, especially in Baer Alsheikh, where all female participants faced serious problems due to inadequate access to necessary hygiene resources.

CONTENTS

List of Acronyms

AA	Ansar Allah
AETI	Actual Evapotranspiration and Interception
AYF	Abyan Youth Foundation
CCCM	Camp Coordination and Camp Management
AFI	Acute Food Insecurity
FCS	Food Consumption Score
FSAC	Food Security and Agriculture Cluster
FSL	Food Security and Livelihoods
HH	Household
HoH	Head of household
HHS	Household Hunger Scale
IDP	Internally Displaced Person
IFRR	Integrated Famine Risk Reduction
IPC	Integrated Food Security Phase Classification
IRG	Internationally Recognised Government
JMMI	Joint Market Monitoring Initiative
KI	Key Informant
LCS	Livelihood Coping Strategy
LCSI	Livelihood Coping Strategy Index
LST	Land Surface Temperature
MFGD	Mapping Focus Group Discussion
NDVI	Normalized Difference Vegetation Index
NGO	Non-Governmental Organisation
SBA	Settlement-Based Assessment
SSM	Surface Soil Moisture
WASH	Water, Sanitation, and Hygiene
YER	Yemeni Rial
YHC	Yemen Health Cluster

Governorate: The highest form of governance below the national level in Yemen.
District: A collection of districts comprising a governorate, the second-highest form of governance below the national level in Yemen.
Sub-district: A collection of sub-districts comprising a district, the third highest form of governance below the national level in Yemen.
Community: A group of people commonly with a shared identity (cultural/social) and/or shared resources (natural, economic) that unite in a larger society.
Territorial unit: A territorial unit (TU) is a geographical area that is based on community and shared identity, services, or economy, it can also be based on natural boundaries. The TU can be, but does not have to be, aligned with administrative boundaries. It is selected to be the most impactful scale for localized humanitarian or development interventions. Findings of this assessment are representative on three TU: Khanfar general district, Al Noabah IDP site and Baer Al Sheikh IDP site, see Annex 1.
Host community: Urban refugees, migrants, refugees, or IDP may live within and together with host communities, with or without legal status and recognition by the host community. In the context of IDP sites, the host community may encompass the site, or may simply neighbor the site but have interaction with, or otherwise be impacted by, the IDPs residing in the IDP site camp.[3] For this

[3] UNHCR (2011) UNHCR-NGO Toolkit for Practical Cooperation on Resettlement. Community Outreach - Outreach to Host Communities: Definitions and FAQs

assessment, host-community refers to the population in a TU that hosts IDPs, refugees, or migrants in a territorial unit.

Internally Displaced Persons (IDPs): Persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made hazards, and who have not crossed an internationally recognized state border.[4]

Returnee: For this assessment this term refers to households who had previously been displaced from their community of origin (the assessed territorial unit) for more than one month, regardless of the length of time since their return.

Non-displaced: includes those who were displaced for a short time (less than 1 month, for example, to visit family members in another part of the country, etc.) and are not considered returnees under the above definition.[5]

Livelihood zone: A livelihood zone is an area within which people share broadly the same pattern of livelihood, including options for obtaining food and income and market opportunities. [6]

Agricultural zone: A zone in which agriculture is practiced – relating to either livestock herding and grazing; or growing crops, such as cash crops coffee or qat, vegetables, fruits, etc.

Floods: Floods are the most frequent type of natural hazard and occur when an overflow of water submerges land that is usually dry. Floods are often caused by heavy rainfall, or a storm surge from a tropical cyclone or tsunami in coastal areas.[7]

Flash floods: A flash flood is a flood of short duration with a relatively high peak discharge in which the time interval between the observable causative event and the flood is less than four to six hours.[8]

Coastoal floods: Coastal flooding is most frequently the result of storm surges and high winds coinciding with high tides. The surge itself is the result of the raising of sea levels due to low atmospheric pressure. In particular configurations, such as major estuaries or confined sea areas, the piling up of water is amplified by a combination of the shallowing of the seabed and retarding of return flow.[9]

Normalised Difference Vegetation Index: used to quantify vegetation greenness that is useful to understand vegetation health and density. Normalised Difference Vegetation Index (NDVI) values range between -1 to +1 with high NDVI values corresponding to healthy vegetation while low NDVI values corresponding to unhealthy or little vegetation. NASA Moderate Resolution Imaging Spectroradiometer (MODIS) Aqua and Terra Surface Reflectance 8-day (250m) products were used to calculate monthly NDVI medians.

Land Surface Temperature: NASA Moderate Resolution Imaging Spectroradiometer (MODIS) Aqua and Terra Land Surface Temperature (LST) and Emissivity Daily (1km) products were used to calculate monthly LST means.

Precipitation: Climate Hazards Group InfraRed Precipitation with Station Data, Version 2.0 Final (CHIRPS) (0.05 degrees ≈ 5.5km) were used to calculate monthly rainfall sums (mm).

Actual Evapotranspiration and Interception: FAO Water Productivity v3 Actual Evapotranspiration and Interception (100m) were used to extract monthly totals of AETI (mm). AETI is the sum of the soil evaporation, canopy transpiration, and evaporation from rainfall intercepted by leaves.

Surface Soil Moisture: SMAP L4 Global 3-hourly 9-km Surface and Root Zone Soil Moisture was used to calculate monthly medians of the volume fraction of top layer (0-5 cm) soil moisture.

Negative coping strategy: a set of responses to difficulties that may provide a temporary means of survival, but can seriously undermine vulnerable population's long-term security.

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[4] OHCHR, Training manual on Human rights monitoring, Chapter XI: Monitoring and Protecting the Human Rights of Returnees and Internally Displaced Persons. https://www.ohchr.org/sites/default/files/training7part1112en.pdf

[5] OHCHR (2001) Chapter XI: Monitoring and Protecting the Human Rights of Returnees and Internally Displaced Persons

[6] USAID, Application of the Livelihood Zone Maps and Profiles for Food Security Analysis and Early Warning, 2009

[7] WHO, 2006

[8] Ibid

[9] WMO, 2011

List of Figures, Tables and Maps

Figures

Tables

Maps

INTRODUCTION

The war in Yemen has been characterised by mass civilian casualties, mass displacement, widespread hunger, acute lack of water, and repeated outbreaks of communicable diseases with the results of reported famine-like conditions in different parts of the country over the time of the conflict.[10] [11] The conflict has resulted in a nation divided into territories controlled by different acting governments. In the southern Yemen, the area commonly mentioned as the territory of the internationally recognised government (IRG) of Yemen in Aden and the northern Yemeni territories controlled by the Ansar Allah (AA) in Sana'a. Through the division and conflict, Yemen's economy have been severely impacted which affects the livelihoods of the population as well as the ability to import food and other important items.[12] In the 2024 Yemen Humanitarian Needs Overview (HNO) it is estimated that 18.2 million people are in need of humanitarian assistance, of whom 23% are women, 53% children, and 15% have some sort disability.[13] Around 17.4 million people need WASH assistance, 17.6 million people are likely to be severely food insecure in Yemen.

Responding to the humanitarian crisis in Yemen, the main public health stakeholders are the sectoral clusters for WASH, nutrition, food security and agriculture, and health, as well the IFRR cluster which includes all of the aforementioned clusters, as well as the national ministries of water and sanitation, agriculture, and health. Through discussions with the clusters and partners, it has been identified that there is a persistent need for multi-sectoral assessments capturing household needs at the district level, infrastructural availability and access, as well as shocks impacting both service providers and households. It was identified that there is a need for more contextual understanding of the perceptions of Yemenis in relation to the services available. REACH and partners have also identified the need for mixed-method assessments, ensuring a variety of information to better understand challenges and possibilities in the assessment location. Without fully understanding the drivers behind needs, which could include economic, climatic, and infrastructural factors, there will be a gap in ensuring the most effective support for communities in need or affected by shocks.

This USAID Bureau for Humanitarian Assistance funded a SBA in Khanfar district, Abyan governorate, IRG territory in Yemen focused on public health and included important aspects related FSL, WASH, nutrition, and health. The analysis is supported by cash and market, accountability to affected populations (AAP) indicators as well as climate and gender dimensions. The assessment aims at capturing the impacts on public health from human-made and natural shocks as displacement, climate, and economic factors are central to understanding the living conditions of the population. Through this, the objective is to inform national classification systems such as the analysis for the IPC and the IFRR, cluster prioritisation, as well as programmatic planning of the collaborating partners.

In partnership with CARE, AYF, YFCA and ACAPS, REACH has led on the technical aspects of the assessment, including research design, coordinating with partners on data collection, data cleaning and data analysis. CARE have been the leading partner on data collection activities, supported by AYF and YFCA in the field. Data were collected using three tools, one quantitative HH survey, one MFGD tool, and one qualitative HH survey between 1st of February and 5th of March 2024, which falls just before the month of Ramadan. The time of data collection is normally a time of spring harvest of cereals, peak labour demands in the lowlands, and a semi-lean season (primarily in the highlands) and just before the first rainy season in Yemen.[14] Khanfar is a district with high reliance on agricultural, livestock, and fishery activities and includes livelihood zones, the Western and Central Wadi zone, with

[10] FAO, UNICEF, WFP (2017) Yemen needs urgent assistance to prevent famine
[11] UN NEWS (2022) Yemen facing 'outright catastrophe' over rising hunger, warn UN humanitarians
[12] ACAPS (2024) Yemen Economic Tracking Initiative (Yeti)
[13] OCHA (2024) Yemen Humanitarian Needs Overview 2024
[14] FEWSNET, Seasonal calendar

reported sorghum, millet, vegetable, and fruit agriculture and livestock activities central, the Greater Yemen Coastal and Island Fishing zone, the Central and Eastern Plateau Agro-Pastoral zone, and the Western Coastal Plain with a focus on sorghum, millet and livestock activities.[15]

This report answers the following research questions:

- What are the territorial unit's core demographic characteristics and key displacement dynamics?
- What are the territorial unit's main community boundaries and livelihood zone boundaries, and what public health services and infrastructure is present?
- Who are the key stakeholders and actors engaged in public health service provision?
- What are the public health needs of the assessed population?
- What are the self-perceived needs of the population? And how is shock resilience in the public health sectors perceived among the population?
- What are the main shocks impacting the assessed population and service providers in the territorial unit, and what is the perceived resilience to shocks?
- How can the public health needs in the territorial unit be understood through the connections and interdependencies of WASH, nutrition, health, FSL, and specific shocks?

This report provides a detailed description of the methodology and why it was chosen, and then outlines the key assessment findings, organised into the following sections:

- Demographics and Displacement
- Livelihoods and Economy
- Service and Goods Availability and Accessibility
- Perceived Priority Needs
- Public Health Outcomes

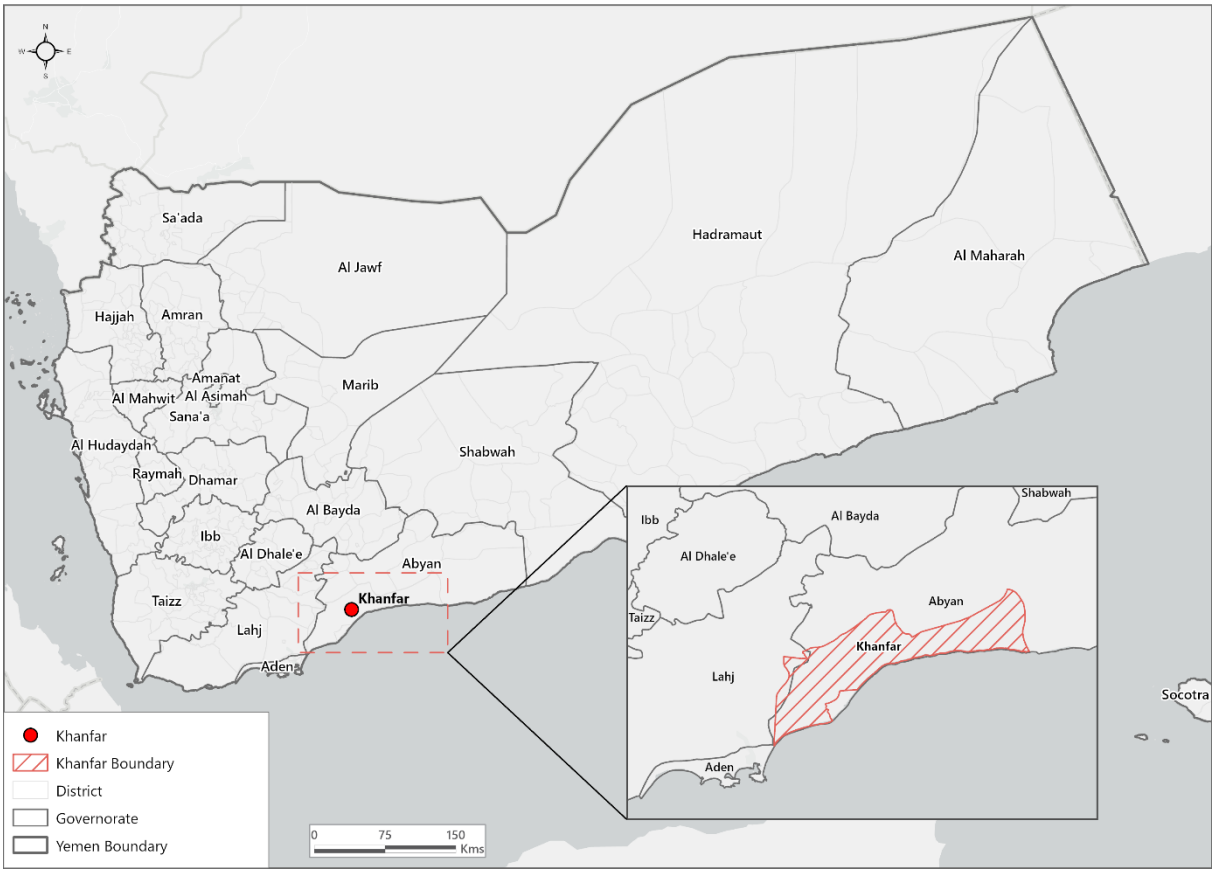
The final part of the report is a conclusion including recommendations for operational actors in Yemen on ways to alleviate the pressure on communities, reduce needs, and improve the public health in the district.

[15] FEWS NET (2010) Yemen Livelihood Zoning "Plus" Activity in Yemen – A special report by The Famine Early Warning System Network (FEWS NET)

METHODOLOGY

The SBA in Khanfar, Abyan governorate, utilized three data collection tools developed by REACH's Yemen team, with inputs from partner organizations, the FSAC and UNICEF. CARE led the data collection, supported by AYF and YFCA, conducting **four MFGD sessions, 281 structured household (HH) interviews, and 60 semi-structured HH interviews between February 1 and March 5, 2024**. The district (TU 1), selected due to high reported needs and projected IPC Phase 4 status, included two IDP sites, Al Noabah (TU 2) and Baer Al Sheikh (TU 3), for representative sampling. For the structured HH interviews, a random sample strategy ensured a 95% confidence level and 7% margin of error. The structured survey covered various public health indicators and utilized the Hesper scale to measure perceived household needs. Semi-structured interviews focused on health service access and perceptions. The MFGD sessions, divided Khanfar district into four zones, incorporated local knowledge and mapping to identify community challenges and access issues, see Annex 1.

Maps 1: Khanfar Settlement Based Assessment coverage map



Analysis

This analysis builds on data and information from all primary data collection tools utilised for this assessment. Using varied primary data sources enabled REACH to better understand public health needs, accessibility and availability of services, and drivers of public health needs in Khanfar. The MFGD and semi-structured interview data were translated from Arabic to English, and coded into discussion themes to aid the analysis of this data.

The analysis of the household quantitative survey data was aggregated on the TU level and on IDP site level for the identified sites. The representative data was used to compare information on drivers of needs and specific public health outcome indicators for the district population and IDPs in these sites. While not representative, data was further aggregated on different gender aspects, such as comparisons between male- and female-headed households. Across all locations, 37% of households were female-headed and 63% male-headed. However, 53% of respondents were female that could answer on behalf of the household. REACH analysis scripts to analyse connections and interdependencies of public health indicators have been used as well as cross-indicator analysis to enhance the understanding between access or availability to services and household needs.

Three standard FSL indicators were included in the analysis; the FCS[16], the HHS[17], and the LCSI[18]. These indicators were analysed on the TU and IDP site level to identify differences depending on geographical characteristics. The thresholds used for the FCS and HHS are standards used in Yemen and were provided by the FSAC ahead of analysis to ensure comparability over time and between locations.

Throughout the analysis primary data collection findings have been compared with, and contextualised, using secondary data. The analysis have benefitted from REACH and Yemen CCCM cluster Site Monitoring Tool (SMT), REACH and Yemen WASH cluster (YWC) WASH Needs Tracking System (WANTS) and cholera tracking system (CTS), and REACH JMMI data. National classification systems related to public health and the sectors included in this assessment are referenced throughout the analysis, including the Yemen 2024 Humanitarian Needs Overview (HNO), the IPC analysis for both Acute Malnutrition (AMN) and AFI, and the IFRR list of prioritised districts. All data used or referred to use the same unit of analysis as this assessment, either district or IDP site level.

Livelihood Coping Strategy Index

For the LCSI, households were categorised based on the most severe type of coping strategy currently used by the household or already exhausted. For example, if a household used two stress LCS, one crisis LCS, and one emergency LCS, the HH would be categorised as an emergency. Data were collected on 16 coping strategies and following the analysis protocol based on the Food Security version of the indicator, ten coping strategies were selected for analysis and household categorisation based on initial analysis of the collected data, see Annex 7.

Food Consumption Score

The FCS was calculated using international weight standards per food group and score thresholds used in Yemen, on the food consumed in the seven days before data collection. The following thresholds were used in calculating the FCS:

Acceptable food consumption: >42.5
Borderline food consumption: 28.5-42
Poor food consumption: 0-28

[16] INDDEX Project (2018) Data4Diets: Building Blocks for Diet-related Food Security Analysis. Tufts University, Boston, MA. https://inddex.nutrition.tufts.edu/data4diets
[17] INDDEX Project (2018) Data4Diets: Building Blocks for Diet-related Food Security Analysis. Tufts University, Boston, MA. https://inddex.nutrition.tufts.edu/data4diets
[18] WFP (2021) VAM Resource Centre: Livelihood Coping Strategies – Food Security

Household Hunger Scale

In calculating the Household Hunger Scale, REACH adopted international guidance standards for the scoring, and thresholds used by actors in Yemen:

No to little household hunger: 0-1
Moderate household hunger: 2-3
Severe household hunger: 4-6

Remote Sensing

A comparative analysis of the mapped agricultural, drought-affected, and flooded areas that resulted from the MFGDs was implemented using remote sensing derived environmental indicators such as Normalized Difference Vegetation Index (NDVI), Soil Surface Moisture (SSM), actual evapotranspiration and interception (AETI), precipitation, and Land Surface Tempreature (LST). The remote sensing data was processed and extracted to get monthly data for the period of January 2023-to January 2024. Monthly anomalies for NDVI, LST and precipitation were calculated using a 17-years baseline from 2000 to 2017. Trends for the flooded areas were aggregated into two different groups: those in Western Khanfar along the river Wadi Bana (Annex 3, Map 4), and those located around Yamares community in Northeastern Khanfar (Annex 3, Map 5).

In this analysis, an examination was carried out to explain the relationship between the findings from our mapping sessions and the remote sensing data at hand. The objective is to bridge observed data from our mapping efforts with insights derived from remote sensing techniques. Our analysis is powered by remote sensing methodologies implemented within the Google Earth Engine (GEE) platform, allowing us to extract valuable insights from a diverse array of datasets.
By integrating these diverse datasets, our analysis aims to provide a comprehensive understanding of the interplay between observed mapping data and remote sensing-derived information, thereby offering valuable insights for informed decision-making and resource management. In addition, our objectives to be extended to find the strength of using Remote Sensing data to identify areas of flood, drought, or agricultural lands in other areas with similar conditions.

Challenges and Limitations

Khanfar is a large district, with many communities and villages from the eastern to the western parts of the district. Due to the vastness of Khanfar, REACH and partners initially faced challenges in dividing the district into relevant zones for the MFGD exercises since the district was deemed too big to do in one session. Travelling long distances for data collection activities posed challenges for the enumerator teams of CARE, AYF, and YFCA and while the aim was to ultimately start collecting the MFGD data in each location, this was not possible to stick to for the areas that were harder to reach, or further away from the bases of the partner organisations. However, while the division of the district into zones, and travelling distance posed challenges for the partners, the granularity of the MFGD data, and the representative household quantitative survey data at both district and IDP site level allow for a rich analysis and findings on varying scales to better understand unique and common challenges across the district.

For the MFGD, the data analysed consist of summaries of the discussions held during the sessions, rather than quotes and/or transcripts from the MFGD participants. This has resulted in sometimes relatively general summaries that have needed clarifications from the field afterward. Additionally, the large number of participants in each session limited the amount of input each member was able to provide. The summaries were initially written in the native language Arabic, to then be translated to English. Due to this, the analysis and the understanding of the context in the field is defined by the

summaries and could therefore lack specifics and differences in opinion among the participants in the sessions.

There is a lack of endorsed, publicly available, and nationwide population figures. Due to this, the population figures for this assessment is based on figures received from the Yemen FSAC, thus, the population figures used in this assessment to compute the sample size could be outdated. However, this should not be seen as a major limiting factor as the district level sample size would have been similar, and the population in the IDP sites are deemed reliable through the coordination of CCCM cluster partners and the relative stability of these sites over time.

It's important to note that the sample is not representative of the entire district, but rather of the specific territorial units within the district (The general district and two IDP sites). Together with our partners, we employed a sampling strategy in the IDP sites that mirrors the approach used for the overall district. This ensures that the data collected from the IDP sites are representative at the site level. These IDP sites were purposefully selected based on identified needs, ensuring that our findings provide accurate insights into the conditions and challenges faced by these populations.

FINDINGS

This section of the report will highlight and present the findings of the analysis. The first section will go through the demographic and displacement dynamics in the district, what constitutes a community, and overall population figures. The second section will focus on livelihoods and household economy with a focus on agricultural activities and impact of climate, as this has been identified as a key driver of needs in Khanfar throughout the collected data and analysis. Since the economic situation in Yemen in general, and in Khanfar specifically have a reported direct impact on the availability and accessibility of services, the following two sections will highlight these issues, through both a sectoral, and multi-sectoral lens as well as the perceived needs and priorities as reported by households. The last section will handle the public health outcomes, including WASH, health, and food security, using standard indicators and qualitative data to understand how households are impacted by the current situation in the area.

Demographics and Displacement

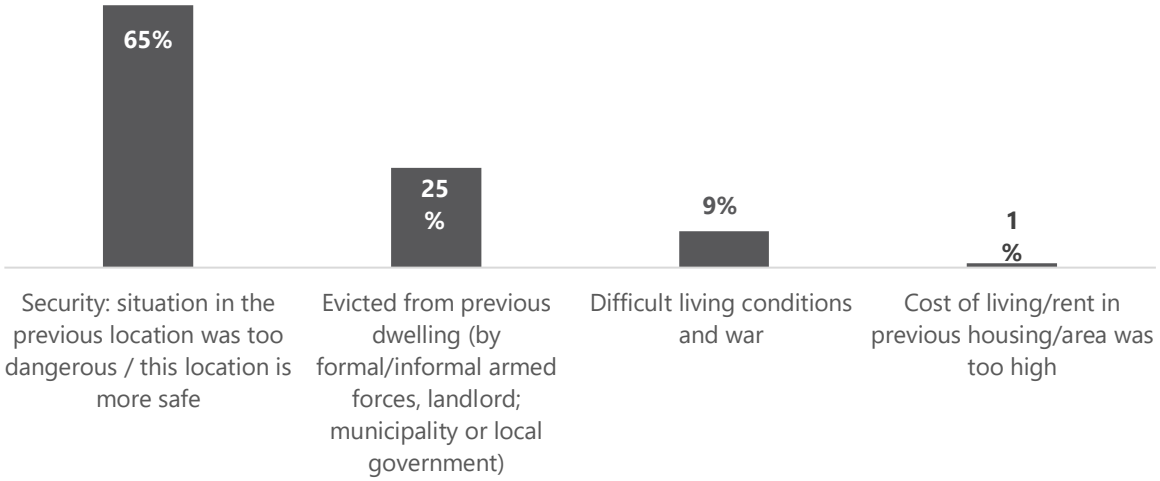
According to MFGD data, there are at least 43 communities across Khanfar, many in which the population practice agricultural, livestock, and/or fishery as income generating activities. REACH and the CCCM cluster data state that there are 13 IDP sites across the district, all managed, with a total estimated 1569 households. According to Yemen FSAC figures, there are around 50,260 households living in Khanfar, of which 14,015 are FSAC beneficiaries.[19] In this SBA, 34% of households in the quantitative survey were female-headed and 66% male-headed. Notably, 53% of the respondents for the household structured survey were female, oftentimes responding on behalf of the the HoH.

Across the identified communities in Khanfar, IDPs and non-displaced populations commonly live in the same communities, as this was reported in 19 of the 43 identified communities during the MFGD sessions. Many IDP locations in the district have been existing since before the most recent conflict outbreak in 2014, meaning that the definition of who is or is not an IDP ought to be seen as fluid in Khanfar specifically, but also in Yemen more generally. This was represented through the household structured survey data, where in and outside of the vicinity of the targeted IDP sites, Al Noabah and Baer Al Sheikh, the population identified as both IDP and host-community. Baer Al Sheikh IDP site is an unmanaged site while Al Noabah is managed by Norwegian Refugee Council (NRC) and was self-

[19] Yemen Food Security and Agriculture Cluster (2023)

settled in 2018 on private land, leaving households at risk of eviction.[20] According to primary household data, 86% of households in Al Noabah identified as IDPs and 12% (n=7) as host-community. The most commonly reported area of origin for IDP households in the Al Noabah site were various districts in Taizz, as reported by 82% of HHs (n=40), 16% (n=9) reported originating from Al Hodeidah governorate, and 2% (n=1) had their origins in Lahj governorate. Al Noabah is one of the largest IDP sites in Khanfar according to REACH SMT KI data, with around 300 households residing in this site.[21] In comparison, Baer Al Sheikh is one of the smaller sites according to REACH SRT data, with around 27 households.[22] Similar to Al Noabah, the community identified themselves both as IDPs and host-community, with all IDP (n=13) identifying households originating from Al Hodeidah districts (n=8) of Zabid (n= 3) and Al Jarrahi (n= 5), close to the Al Hodeidah and Al Mokha border. The most commonly reported pull factor of IDP identifying households were the security situation in the previous dwelling, and that the current location is deemed more safe as 65% reported this, followed by eviction from previous dwelling as reported by 25% of HH, see Figure 1. The same reasons with similar percentages were reported across the whole district.

Figure 1: reported pull factors among IDP households in and outside of IDP sites



Throughout the MFGD sessions, the most commonly reported uniting factors for communities were livelihood zones (communities=30), shared services (communities =22), and physical boundaries (communities =19). Other uniting factors mentioned were displacement status or due to migration (communities =7), and ancestral or inter-communal connections (communities =3). According to MFGD data, communities in the south-eastern part of Khanfar were established following the unification of Yemen in the 1990s where households reportedly were given land for agriculture in the district. Furthermore, in the western part of the district, in and around the city of Shuqrah, shared livelihood zones was not mentioned as a uniting factor for any community. Communities in this area reported that shared services (including schools, health, and WASH) residential or geographical boundaries as main uniting factors, see Annex 5.

Livelihoods and Household Economy

Yemen's population have suffered from the country's sharp economic decline over the past years. In January 2020, the AA banned newly printed Yemeni Rial (YER) bills in their territories in northern Yemen resulting in deflation in IRG territories with severe negative impacts on household purchasing

[20] REACH & Yemen CCCM cluster (2024) Site Monitoring Tool (SMT) Key Informant Data
[21] REACH & Yemen CCCM cluster (2024) Site Monitoring Tool (SMT) Data
[22] Ibid.

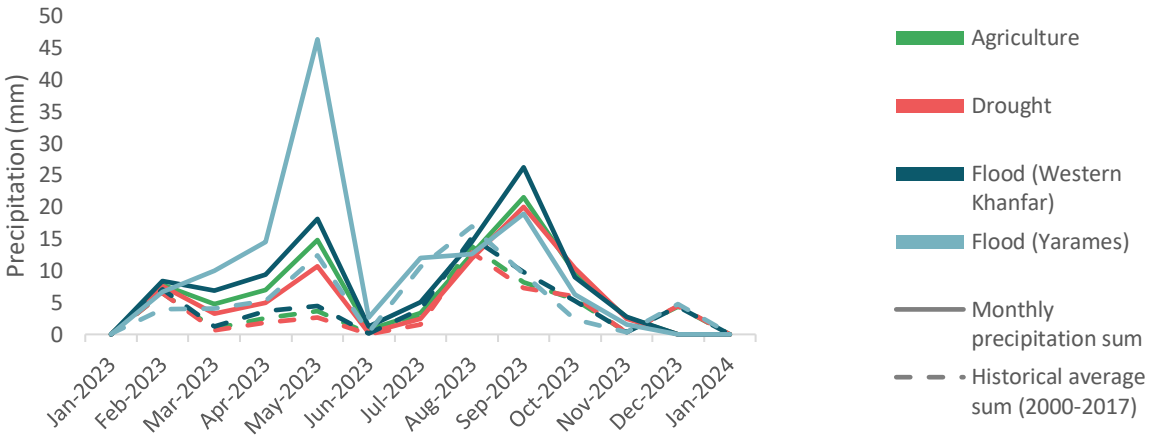
power. Cost of labour, commodities, and agricultural inputs have seen an increase since this period and household debt levels are reported to have increased significantly as households cope with the effects.[23] [24] This analysis section will discuss the economic situation for households and stakeholders in Khanfar based on primary data on livelihood activities and sectors in the district, prices of commodities, and how the economic situation impacts the availability of sustainable public health services from the community perspective.

Khanfar is an agricultural area with a significant coastline to the Indian Ocean. The district includes several different livelihood zones, a variety of crops are reportedly grown in the area, livestock activities are common practice as is fishery. Primary data and satellite imagery data show that large parts of the district consist of livelihood zones and cropland (Annex 3). According to MFGD data, grains and cereals, vegetables, and fruit are commonly grown across the district, with livestock herding prominent across all identified zones. It was reported in the south-eastern part of the district that communities grow cotton, as well as crops like peanuts, sesame, and regional crops like al mishmoom or al khaw that can be used for perfumery or sweets. 40% of households across the district reported salaried work and 39% reported casual or daily labour as the main income source. Of these, a 45% reported to work within the agricultural sector. Interestingly, only about 1% (n=3) of all surveyed households reported to grow crops on their own. While the area is largely agricultural, household production among surveyed households is limited. Furthermore, communities along the coast reportedly engage in the fishery sector with MFGD information pointing to challenges due to seasonality of these activities. Communities along Khanfar's Indian Ocean coastline are reportedly vulnerable to cyclones, rising sea levels, and torrential rainfall impacting communities in these areas in general, and fishery communities in particular.[25] Communities situated close to the coastline, in both the western and eastern parts of the district, are commonly engaging in fishery activities according to MFGD data.

As seen in the comparative remote sensing analysis, two distinct rainy seasons[26] spanning from March (one month after the data collection) to the end of May and from July to the end of October, as shown in Figure 2, sets the backdrop for agricultural planning and management. These seasons directly influence key agricultural milestones, such as the spring harvest occurring from mid-February to the end of June and the main harvest taking place from October to the end of December.
Most areas experienced an increase in rainfall throughout 2023 compared to the historical average. Notably, the flooded areas showed consistently higher cumulative monthly precipitation compared to other areas, particularly those located close to Yarames community during the first rainy season from March to May (see Figure 2). The onset of the second rainy season in 2023 was delayed by one month from June to July in all areas.

[23] REACH Initiative (2024) Joint Market Monitoring Initiative Dashboard
[24] ACAPS, Yemen Economic Tracking Initiative (YETI), Exchange rate and commodity prices
[25] Sana'a Center (2023) Cyclone Tej Underscores Yemen's Climate Crisis Ahead of COP 28
[26] FEWSNET, Seasonal calendar

Figure 2: Monthly precipitation sums compared with historical averages[27]



The flooded areas close to Yarames community consistently exhibit the highest surface soil moisture (Figure 3) which correlates with the pronounced influx of precipitation, particularly during the first rainy season. Moreover, they, particularly those in Western Khanfar, consistently exhibit high evapotranspiration estimates (Figure 4). These conditions, indicative of increased water content in the soil, underline the findings on flood occurrence in Yarames and Western Khanfar.

Figure 3: Surface moisture content and precipitation of the Yarames flooded area

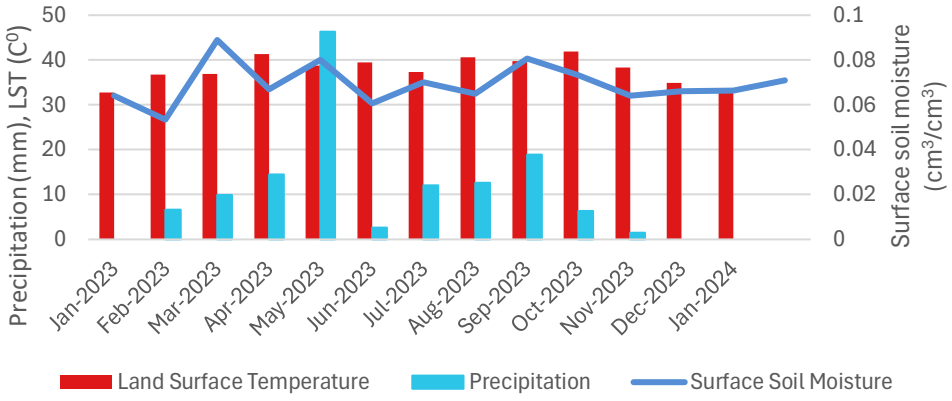
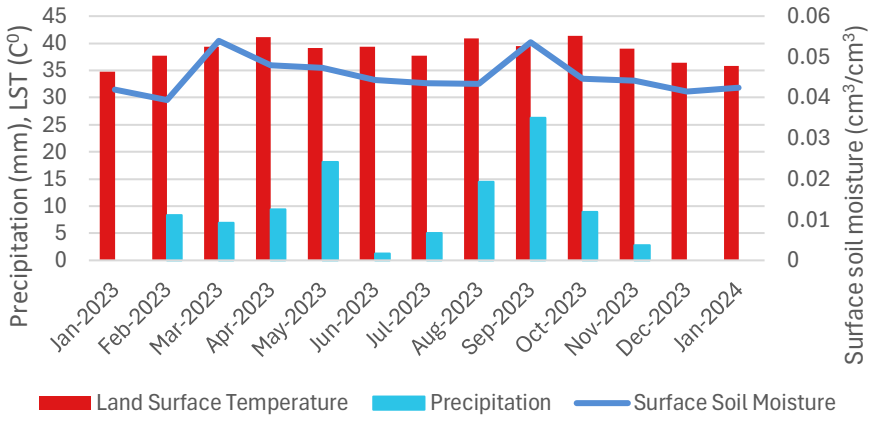


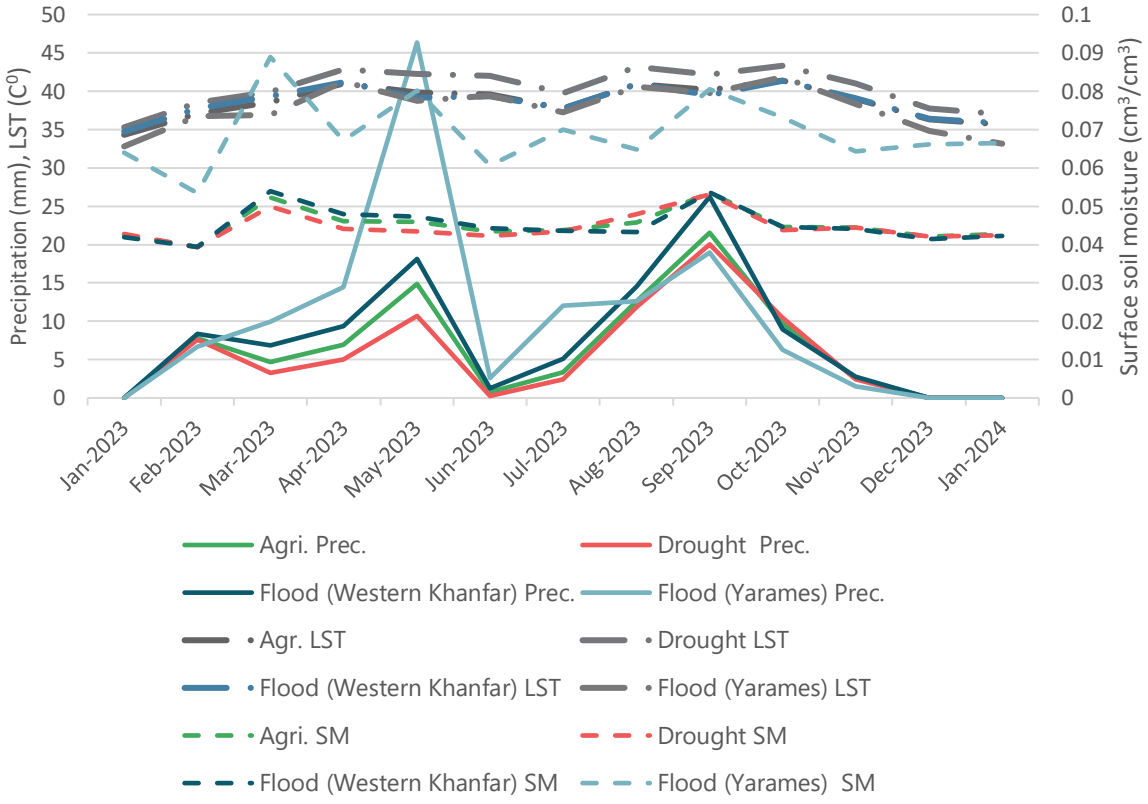
Figure 4: Surface moisture content and precipitation of the Western Khanfar community flooded area



[27] Agriculture, drought and flood represent the RS analysis performed in the respective areas during the MFGD

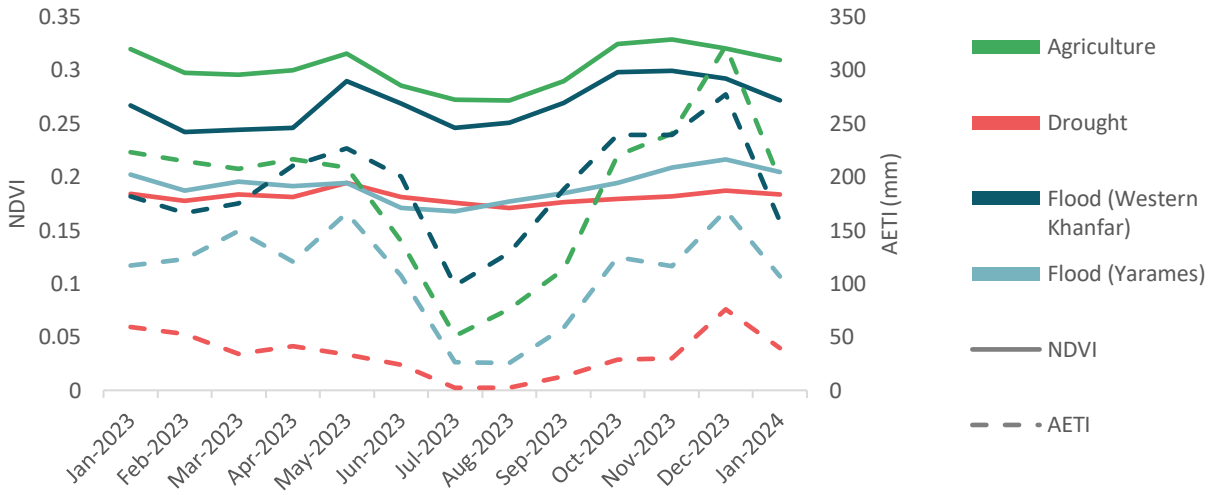
The mapped zones portray a contrasting picture between agricultural and drought-affected areas regarding their vegetation health and evapotranspiration processes. While the latter exhibit low NDVI with little seasonal variability and low evapotranspiration, agricultural zones show higher NDVI, with a more distinct seasonal cycle and higher evapotranspiration (Figure 5). This discrepancy in NDVI and evapotranspiration between agricultural and drought-affected areas may be attributed to different usage of water sources. Findings from the MFGD reveal for the mapped agricultural zones a diverse array of water sources including piped water, protected and unprotected wells, as well as springs. This additional water input sustains agricultural productivity, supports lush vegetation growth, and causes more water to evaporate from the soil and transpire from the leaves. The distinct seasonal NDVI cycle reaching maximums in May (first season) and October (second and main season) indicates the timing when the highest level in vegetative crop development was reached and harvesting activities followed.

Figure 5: Monthly precipitation sums, land surface temperature and surface soil moisture content



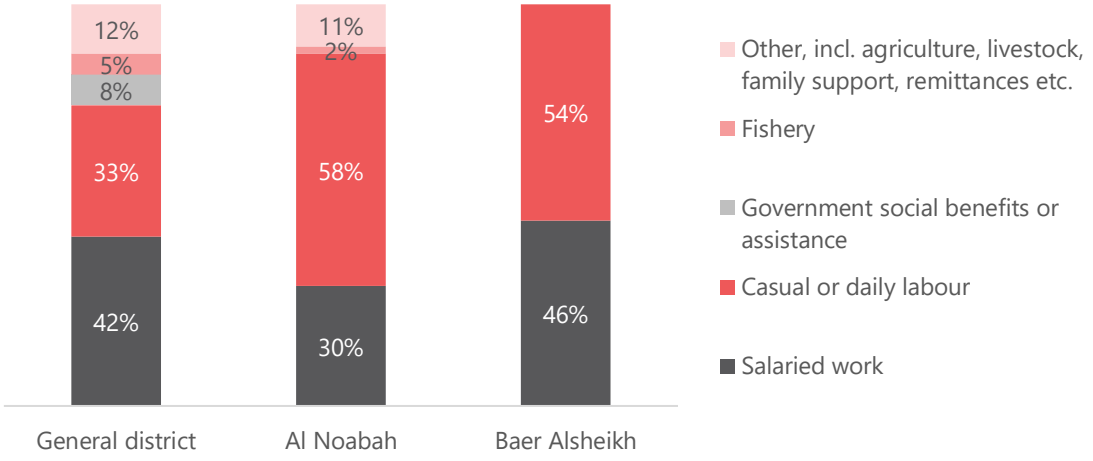
In contrast, drought-affected areas rely solely on natural precipitation, resulting in minimal NDVI values (Figure 6) indicative of diminished crop vegetation health and less vegetative cover potentially leading to elevated land surface temperatures (Figure 5) that exacerbate water stress conditions additionally. Diminished vegetation health and low evapotranspiration with a less pronounced reduction post rainy season may be attributed to the limited water resources available in these areas. (Figure 5) shows that areas with on average elevated temperature throughout 2023 received low annual rainfall totals while areas with low temperature received high rainfall totals. This inverse relationship further underscores the distinct environmental characteristics of the MFGDs identified zones.

Figure 6: Monthly NDVI and actual evapotranspiration and interception[28]



Households part of the general district sample reported to a larger extent that they engage in salaried work activities compared with population in Baer Al Sheikh and Al Noabah IDP sites. Of the 211 surveyed households on the district level, 42% reported salaried work, compared to the combined households in the two IDP sites where 32% reported this. 33% of general district households reported casual labour while 57% of IDPs reported this activity. Furthermore, only one IDP household reported to be engaged in fishery activities, compared to around 5% (n=11 HHs) of the general population.

Figure 7: Households' main source of income, per territorial unit



Casual labour is a more insecure job form for households, often relying on seasonal work, like in agriculture, with risks of long periods without employment compared to salaried work which often relates to work within public sector or government entities, see Figure 7. In total, 80% of surveyed households that reported to engage in casual labour or salaried work as the main income source reported access work on a seasonal or occasional basis, compared to the 9% that reported to have access to regular employment and the 10% that did not know or preferred not to answer.

[28] Agriculture, drought and flood represent the RS analysis performed in the respective areas during the MFGD

Households reporting casual or daily labor in Khanfar district work across various sectors, with significant variations by location. In the Al Noabah IDP site, 84% are engaged in agriculture,[29] and 10% work as porters. In the Baer Al Sheikh IDP site, 69% of households work in agriculture, 8% in the military, 8% in government/public services, and another 8% in transportation. However, in the general district, 31% of households reported working in agriculture, while 10% each reported employed in construction, the military, and marketplace vending, with an additional 9% in unspecified sectors.This distribution highlights agriculture as a dominant sector across all areas, particularly in the IDP sites, with other sectors like construction and public services more prominent in the general district.

Overall in the district, households reported to have serious problems with accessing sufficient income to cover households needs as 85% of households reported this. The pattern was similar across the territorial units, between male- and female-headed households, and between different population groups as well, with over 85% of households in these groups respectively reported to have serious problems with accessing sufficient resources to live.

The monthly average household income from all types of sources in Khanfar over the three months prior to data collection was around 111 600 YER, equivalent of around 73 U.S. Dollar (USD) (as of January 2024) according to primary data household data. In January 2024, the cost of the minimum expenditure basket including both food and WASH items, was 228 838 YER (150 USD), according to REACH Joint Market Monitoring (JMM) data.[30] This indicate severely limited possibilities of meeting household needs among those with income in Khanfar district. The difference between IDPs in Baer Al Sheikh and Al Noabah sites, and the general district population was also significant in the aspect of income. In Baer Al Sheikh, households reported an average income of 103'846 YER (68 USD) over the three months before data collection, and 85'495 YER (56 USD) was the average monthly income reported in Al Noabah. The general district population reported 119'103 YER (78 USD). Combining the average across the two IDP sites, the average income was 89'608 YER (59 USD) over the three months prior to data collection. These findings indicate a reinforcement of the notion that IDP households are more marginalised from income generating activities or at least a salary of at the same level as the general population. Since January 2020, the purchasing power in the area have been severely impacted by the economic crisis in Yemen as the exchange rate of the YER in Khanfar, compared to the USD have increased by over 104% between June 2020 and January 2024 while the price of the minimum food expenditure basket have increased by over 117% in the same period.[31] As prices of key commodities increase and household income is insufficient to meet needs, households are accumulating debt for all types of expenditures as well as engaging in other negative coping strategies.

High prices and limited income generating opportunities mean that households need to resort to negative coping strategies, as debt accumulation and borrowing is a common and widespread coping strategy reportedly used across Yemen. Of the general district households interviewed, 82% reported to be indebted, for Al Noabah and Baer Al Sheikh the share of households were 84% and 92% respectively. The average amount of debt of households on the district level was 349'240 YER (229 USD), 215'417 YER (141 USD) in Baer Al Sheikh, and 191'563 YER (126 USD) in Al Noabah. As mentioned, debt accumulation is a very common type of coping strategy among Yemeni households, as have previously been widely reported by ACAPS.[32] Households accumulate debt through purchasing key commodities at vendors, paying for healthcare services, or through borrowing from their social

[29] Agriculture was recorded in the answers related to the question: "What is the main source of income of your household?" and recoded in the other section. Respondents who reported casual or daily labour were asked later "Within which sectors does members of your household work?" and agriculture was one of the recorded answers.
[30] REACH Initiative (2024) Joint Market Monitoring Initiative Dashboard
[31] Ibid (REACH Initiative (2024) Joint Market Monitoring Initiative Dashboard
[32] ACAPS (2024) Coping strategies in Al Habilin and Al Jiblah

networks and connections.[33] This is also confirmed throughout the primary data collected for this assessment, as households in the qualitative data mentioned all of these. In each of the territorial units, the amount of debt exceeds the average generated income among households over the three months before data collection. For indebted households at the district level, the average debt is almost three times the average income and in the IDP sites close to twice the income levels. Across all three analysis units, food, purchasing medicine, and paying for healthcare services were the most reported reasons for debt, see Table 1: Top three most reported reasons for debt. Through the MFGD sessions carried out in Khanfar, it was identified that communities can sometimes offer financial support for those in need, especially when it comes to accessing healthcare services. MFGD participants reported that this could be done through collecting money from community members to support those in need of support. However, while this was reported as a way for some communities to cope, it was more widely reported that most communities had exhausted this coping strategy and could only offer moral or psychosocial support for households facing distress.

Table 1: Top three most reported reasons for debt, per territorial unit

Reason for debt	General district	Al Noabah	Baer Al Sheikh
Purchasing food	94%	84%	100%
Purchasing medicine	40%	46%	17%
Paying for healthcare services	31%	46%	33%

Livelihood Coping Strategy Index (LCSI)

Widespread usage or exhaustion of negative coping mechanisms were common at the time of data collection in Khanfar as households face challenges to meet their daily needs. Overall across the different territorial units, 35% of households reported to use emergency coping strategies in the 30 days prior to data collection, of these 5% reported exhausting this coping strategy. 37% reported crisis coping strategies, 27% stress, and 1% reported none coping strategies, see Figure 8: % of HHs by Livelihood Coping Strategy category in the 30 days prior to data collection for all surveyed households. Households surveyed in the sampled IDP sites showed higher levels of emergency coping strategy usage or exhaustion. In Baer Al Sheikh, 62% of households reported to have either used or exhausted emergency coping strategies and 42% reported this in Al Noabah, compared to 31% in the general district. As mentioned, IDPs in general have reported higher level of economic insecurity through temporary casual labour or daily wage jobs. The differences in socio-economic prerequisites could thus explain why higher share of IDP households resort to emergency coping strategies compared to the general district population.

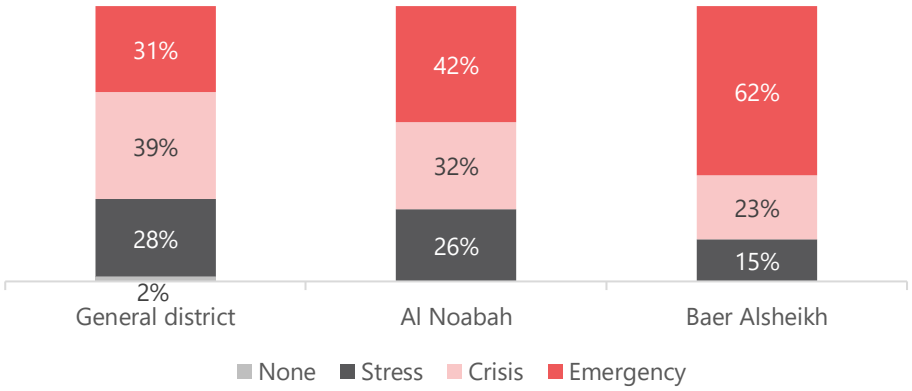
Figure 8: % of HHs by Livelihood Coping Strategy category in the 30 days prior to data collection for all surveyed households

[33] Ibid. ACAPS (2024) Coping strategies in Al Habilin and Al Jiblah

86% of households reported to purchase food on credit (stress), and 91% of households reported to borrowing money (stress), the two most commonly reported coping strategies among households in the district. Other commonly reported used or exhausted livelihood coping strategies in Khanfar were to cut down on expenditures such as healthcare and/or education (crisis) as 59% reported this and 30% reported to send family members to eat outside of household (stress). The most reported used emergency coping strategy was to have boys under the age of 15 in the household working, as 26% of reported this of all surveyed households (see Figure 8). Other reported emergency coping strategies was to sell the last female animal, 16%, and migration of family members due to lack of resources in household, as 8% of all households surveyed reported this.

Of the 35% of households that reported to use or having exhausted emergency coping strategies in the 30 days before data collection, 45% reported to have serious problems to pay for childrens education, and 43% of these households also reported to either use or having exhausted the coping strategy for cutting down on health and/or education expenditures. Furthermore, these households spent an average of 70% of their income on food each month, and reported spending an average of 51% of their income on debt.

Figure 9: % of households by Livelihood Coping Strategy category, per territorial unit



Service and Goods Availability and Accessibility

This section will highlight and discuss the availability of public health related services for the population in Khanfar. The section will focus on WASH, Health and nutrition, and food availability and rely on all primary data sources of this assessment as well as secondary data and information.

Water, Sanitation, and Hygiene

This part of the report will discuss the WASH findings through access and availability to WASH services, as well as findings regarding cholera presence in Khanfar over the past months before data collection. The section include information captured from the MFGD sessions, the household structured survey, and the qualitative hosuehold survey where participants highlighted WASH related issues.

Water

Throughout the primary data collection, households and communities consistently emphasized the presence of piped water networks in most areas of the district with sufficient quantities all year as reported by 86% of households. However, it became evident during the MFGD sessions that there is variability in the functionality and sufficiency of this network across the district leading to the adoption

of various coping strategies to access water at the community, stakeholder, and household levels. Out of a total of 43 communities surveyed, 13 reported having no or limited access to the available water network, and 10 communities lacked access to any water network at all. Notably, all communities in and around the city of Shuqra in the western part of the district reported facing challenges with water accessibility. Similarly to REACH Water Needs Tracking System (WANTS), the primary water source in Khanfar is an improved water source, with most KIs indicating that the quality is acceptable.

During the MFGD sessions, participants indicated that the main stakeholders and providers of WASH services in the district are primarily national actors, along with community-based actors, particularly in the Batis and Al Khamla communities, as well as humanitarian organizations. The challenges faced by these stakeholders in provision of water included the need for maintenance of the old water network, insufficient energy sources for water pumping, water scarcity or inadequate water supply for networks, and limited financial resources.

Throughout the district, households commonly resort to coping mechanisms to address the lack of access to drinking water. Among these, collecting water from wells or purchasing water from water trucks emerged as the most frequently reported strategies. Particularly in communities with limited or no availability of piped water networks, women are often tasked with the responsibility of fetching water. This observation is consistent with findings from household interviews, where 12 out of 28 households that reported resorting to fetching water identified adult women aged between 18 and 59 as the primary individuals responsible for this task. Furthermore, insights from MFGD sessions revealed that women navigate insecure and sometimes inaccessible roads while fetching water, thereby encountering security risks. To mitigate these risks, women reportedly travel in groups.

Sanitation

Overall, households in the district reportedly have access to basic sanitation services, with 98% of households indicating access to improved* sanitation facilities[34]. Among these, 76% of households do not share their sanitation facilities with other households. However, there are exceptions to this trend, notably in the Al Noabah IDP site, where sanitation services are limited (shared between two or more households)[35]. Despite 95% of households having access to improved sanitation facilities, 60% of them share these facilities with two to ten other households.

As a general trend, 32% of households, both within and outside of IDP sites, indicated that they do not face serious problems due to lacking easy and safe access to a clean toilet. However, it is noteworthy that within the Al Noabah IDP site, a higher proportion (49%) reported encountering serious problems, suggesting poorer sanitation conditions in this IDP site compared to both the Baer Alsheikh IDP site and the communities outside of IDP sites.

*Improved sanitation facilities are those designed to hygienically separate excreta from human contact, and include flush/pour flush toilets connected to piped sewer systems, septic tanks or pit latrines; pit latrines with slabs (including ventilated pit latrines), and composting toilets

[34] The JMP ladder for Sanitation

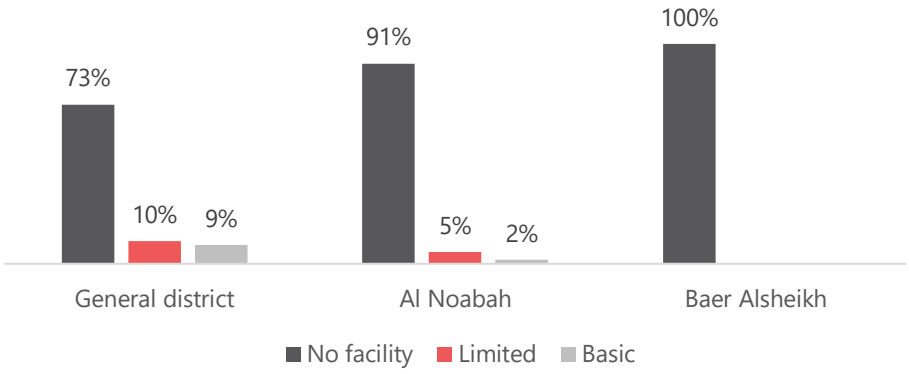
[35] Ibid

Hygiene[36]

Observations by enumerators also reveal that 78% of households in Khanfar district lack access to basic[37] handwashing facilities** equipped with soap and water, a trend observed in both assessed IDP sites as well, see Figure 8.

**Basic handwashing facility refers to a handwashing facility with water and soap (No facility refers to no handwashing facility available in the household, a limited handwashing facility refers to a facility available with only soap or only water)

Figure 10: Observed households' most used hand washing facility, per territorial unit



56% of women in the district, including those in IDP sites, reported having access to a separate sanitation facility with a lock. Additionally, 81% of women reported using disposal pads as menstrual materials during their last monthly period, a practice observed both inside and outside IDP sites.

Household data reveals a notable gender disparity in experiencing serious cleanliness issues because of difficulties keeping clean, with 64% of female respondents reporting such problems compared to only 45% of male respondents. This discrepancy is particularly pronounced in the Baer Alsheikh IDP site, where all eight female respondents indicated facing serious issues due to inadequate access to soap, sanitary materials, water, or a suitable place for washing

Health and Nutrition

HESPER scale questions, reveals the prevalence of serious health problems and challenges in accessing adequate healthcare among households in different areas within Khanfar district. In the general district, **33% of households report serious physical health issues, compared to 35% in Al Noabah and 23% in Baer Al Sheikh**. Access to adequate healthcare is a significant concern, particularly among male respondents, with 52% in the general district, 58% in Al Noabah, and 50% in Baer Al Sheikh reporting serious problems. Female respondents highlight even greater difficulties, especially **in Baer Al Sheikh, where 100% report serious issues with accessing healthcare during pregnancy or childbirth**, compared to 65% in the general district and 68% in Al Noabah, see Table 2.

[36] The JMP service ladder for hygiene.

[37] Ibid

Table 2: Perceived healthcare needs as reported through the HESPER scale, by TU

		General district	Al Noabah	Baer Alsheikh
Does your household have a serious problem with your physical health? For example, because someone in your household have a physical illness, injury or disability.	Serious problem	33%	35%	23%
	No serious problem	63%	56%	69%
	Not applicable to household	4%	9%	8%
	Decline to answer	0%	0%	0%
For male respondents: Do you have a serious problem because you are not able to get adequate health care for household members? For example, treatment or medicines.	Serious problem	52%	58%	50%
	No serious problem	45%	43%	50%
	Not applicable to household	3%	0%	0%
For female respondent: Do you have a serious problem because you are not able to get adequate health care for household members? For example, treatment or medicines, or health care during pregnancy or childbirth.	Serious problem	65%	68%	100%
	No serious problem	29%	33%	0%
	Not applicable to household	5%	0%	0%
	Do not know	1%	0%	0%

Throughout the qualitative data collected for this assessment, interviewees and MFGD participants mentioned that there are often health units available for households and communities across Khanfar. Despite that there are available health units, households reported to often having to seek medical care or assistance at other health facilities as well as all services needed are not available.

***"There is a health unit available, but there is no medicine in it. It is very deteriorated and needs support, and we do not go to it" Non*-Displaced Host-community interviewee, Al Hisn**

Similar quotes to the one above were common throughout the qualitative household data collected through this assessment. Households can access a local health unit, but the services available are limited to only check-ups and/or simpler examinations. According to YHC data, there are reportedly 40 health facilities across district, 65% (n=26) being health units, 25% (n=11) health centres without beds, 3% (n=1) health centre with beds, and 5% rural district hospitals (n=2). According to the YHC data, 75% percent of all health facilities in the district are deemed to be fully functioning with either no or partial damage to the facilities reported.[38] In the qualitative household data collected, households overall reported that a health facility was available to them, aligning with the quote above and the secondary data from the YHC. However, many households reported that there are available health units, but that the facilities lacked certain specialised services, such as scans or tests of different kinds. If the public health unit could not provide services, it was commonly reported in the qualitative

[38] Yemen Health Cluster HeRAMZ data, 2023

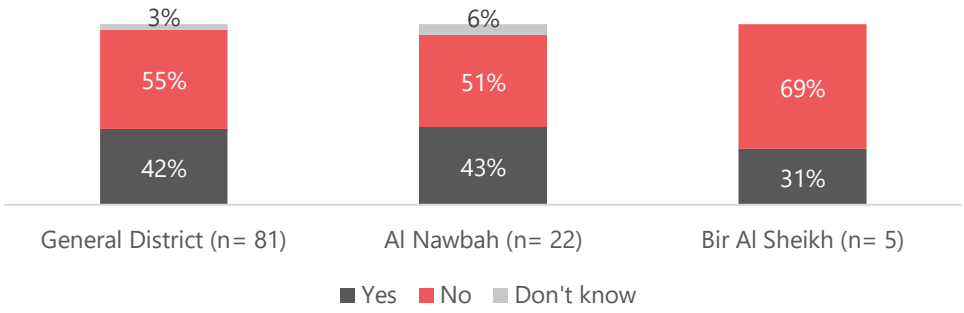
household data that there was an option of private health centres or pharmacies available to support patients.

Depending on the service, households commonly reported that healthcare service providers ensured support for communities through either home visits or information that they would be present at the local health unit for services such as vaccination or immunisation services for children primarily, but also for adults. Over the past years, it has been reported that immunisation and vaccination rates in Yemen have dropped.[39] According to the WHO-UNICEF National Immunization Coverage Estimate for 2022, about one third (27%) of children aged under 1 year in Yemen are not immunized against measles and rubella. Nor have these children received the minimum remaining vaccines required for full protection.
According to primary data collected for this assessment, there have been successful information campaigns, raising awareness of the positive aspects of vaccination services, and funding to make the vaccination available for households in Khanfar. Vaccination is reported commonly be free, and vaccination against e.g. tetus, Covid-19, and polio, are commonly available. The primary reason mentioned why households vaccinate children and adults was due to good information campaigns and knowledge among community members that vaccines are good for disease prevention, that the services are free, and available due to being either at, or close to, home.

"In general, it [vaccine] is available at the [health] centre. There is a large demand, and most families have been immunised and vaccinated" non-displaced host-community interviewee, Al Musaymir

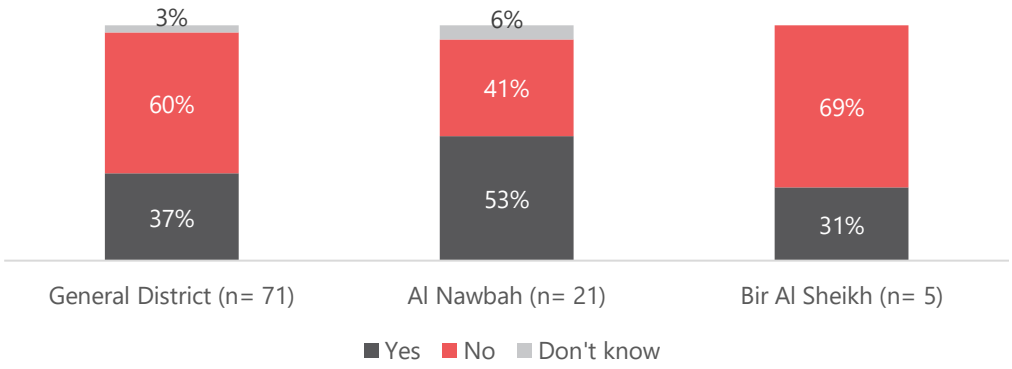
Overall, health services are reportedly made available to the population through initiatives from both local public actors and humanitarian organisations, who are reportedly often responsible for initiatives such as immunisation programs as well as making nutrition programs available to the population. Vitamin A supplements and deworming treatments are common in Khanfar but most households across the different territorial units reported not to have received either of these in the 6 months before data collection. Overall, 38% of children between 9-59 months old in surveyed households had received deworming treatment, and 42% of children aged 6-59 months had received Vitamin A supplements in the same period. Data at the TU level follow the same patterns in terms of coverage of these supplements for children, where over 69% of children in Baer Al Sheikh IDP site reportedly had not had these supplements or treatments available to them (See Figures 11 and 12). Thus, household data points to a potential inadequate and inconsistent coverage of these services for households and children.

Figure 11: % of children in surveyed households aged 6-59 months that received Vitamin A supplements in 6 months before data collection, per territorial unit (n=106)



[39] UNICEF (2023) Children battle preventable childhood diseases in Yemen as immunization coverage declines

Figure 12: % of children in surveyed households aged 9-59 months that received deworming treatment in 6 months before data collection, per territorial unit (n= 95)



According to household and MFGD data, there are reportedly clinics across the district available for women-specific healthcare services. In the MFGD data, services commonly reported included gynaecologists or obstetrics, family planning, maternity, pregnancy or childcare services. However, many communities in the MFGD data reported that their closest health unit needed rehabilitation or support to establish delivery or maternity services. According to primary household data, most women that have given birth in the past 2 years gave birth at a health facility, as an overall 67% of households reported this. However, 48% (n= 95) reported that the delivery was done at a health facility outside of their community, while 19% reported at a health facility in the community. Across the district, the majority of those who reported going to a health facility outside of their community, reported having access to a health center or a health unit, see Table 3.

Table 3: % of reported available health facilities outside of the community, by TU (n= 95)

	General district	Al Noabah	Baer Alsheikh
District hospital	11%	8%	0%
Health center	21%	67%	50%
Health unit	48%	25%	33%
Inter district hospital	18%	0%	0%

For Baer Al Sheikh households, 50% reported that the delivery had been at a health facility outside of the community, and the other 50% to have given birth at home. When rural communities have no health unit with women specific services available, women must travel to reach these, which could put pregnant or delivering women at risk for complications. Community health worker initiatives are common in Yemen, where local health practitioners, such as midwives, provide services at home for people.[40] This was reported in primary household data for both Baer Al Sheikh (n=1/3) and at the general district (n=17/18) as households that reported to deliver at home commonly did so together with a midwife. Thus, while it was widely reported in primary data that health units with female-specific services were available, more services are made available through more mobile initiatives aimed at supporting women in need of support.

While there is a general need to support the healthcare system in Khanfar for local health units to offer specialised treatments, both female-specific and general, there are reportedly financial gaps faced by local stakeholders. The main stakeholders for health service provision are reportedly public actors, including local and national authorities, and humanitarian organisations, both national and international. According to the MFGD participants across Khanfar, the key challenge faced by stakeholders are financial restrictions which in extension impact other challenges reported such as the lack of qualified staff at health facilities and lack of medical supply, including tools or medicine. It is

[40] UNICEF, Community health workers in Yemen

widely reported that Yemen's humanitarian system is underfunded, and the health cluster reported a deficit of around 60% for 2023 and for 2024 89% is currently unmet in terms of humanitarian funding.[41] For a health system reportedly reliant on the support of humanitarian actors, the lack of funding could mean less health facilities are available for the population, which could have detrimental effects on the public health in the near and not-so-near future.

In extension this means limited access to important public health services such as food at the market, water, or healthcare through both services and medication. It was heavily reported throughout the semi-structured interviews that the household economic situation was a severely limiting factor to access various services, especially healthcare. Through the semi-structured interviews, it was heavily reported that the economic situation has an extreme or serious impact on households' ability to access healthcare. Households mention repeatedly that services, mostly medicine, are expensive and unaffordable, and many resort to negative coping strategies to cover healthcare needs.

The identified coping strategies encompass various measures such as borrowing money from family, community members, or shop owners. Additionally, households reported traveling outside of the area to access healthcare services. Female respondents reported they need a male companion to travel to services such as health facilities. Travelling with a mahram is common practice in Yemen and directly impacts women's freedom of movement and privacy when needing to visit a doctor or the market.[42] As reported by ACAPS, the Mahram requirement ought to be seen as a component of gender-based violence, denying women resources, access to services, and opportunities.

It was commonly observed that households prefer to stay at home and utilize non-prescription or traditional medicine to treat diseases or illnesses, including painkillers such as Panadol, as well as traditional herbs or roots. Furthermore, households resort to selling household assets such as gold, livestock, or other productive assets to cover healthcare expenses. Given that gold ownership is often attributed to women as gifts received upon marriage, the necessity to sell gold adversely affects women's autonomy and financial security, particularly if they lack alternative sources of income.[43] Other coping mechanisms mentioned in the MFGD data include relying on pharmacists instead of seeking formal healthcare services, discontinuing prescribed medication once health improves to conserve costs, begging, reducing other expenditures, and seeking solace through prayer. Notably, while these coping strategies were mentioned infrequently, the prevalence of borrowing money underscores its significance not only for covering treatment expenses but also for addressing transportation costs.

Food

Food availability is reportedly limited in Khanfar as many communities reportedly have long distances to travel to markets. Throughout the MFGD sessions, participants reported that nearby markets are a gap in service availability. Due to the unavailability of markets or grocery shops, and due to the high living costs including fuel or transportation costs, MFGD participants reported that communities commonly cope through sharing transportation to market to ease and limit the economic burden on constrained households. There are differences also between households residing in the sampled IDP sites compared with the general population, as 40% of households in the general district reported to have less than 15 minutes to the closest market, compared to 19% in Al Noabah, and 7% in Baer Al Sheikh. The vast majority, 70% of households in Al Noabah reported to have between 30 and 59 minutes to the closest market, 31% of households in Baer Al Sheikh reported this and 25% in the general district. Baer Al Sheikh households reportedly perceive to have the furthest travelling distance

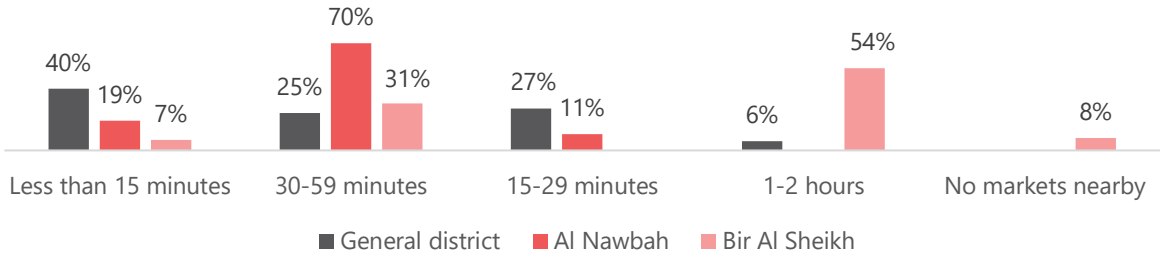
[41] OCHA, Financial Tracking System: Yemen Humanitarian Response Plan 2023

[42] ACAPS, Dynamics and effects of the Mahram practice in Yemen, 2023

[43] ACAPS, Coping strategies in al Habilin and Al Jiblah, 2024

to the closest market, as 54% reported that the closest market is 1-2 hours away, and 8% reported there are no markets nearby, see Figure 13.
Partner information and primary semi structured data indicates that households sometimes can access smaller, less detailed shops or grocery stores closer to their communities. These shops cannot necessarily provide households with food enough to meet household food needs as markets are deemed a vital source for food in Yemen.

Figure 13: Distance to market, by TU and % of population



Market reliance was reported at high rates across Khanfar, across all surveyed households, cash purchase from the market was the most common way for households to access food as around 73% reported this. Other reported sources of food as shown in Table 4.

Table 4: % of households per reported primary food sources in each TU (multiple choices possible)

	General district	Al Noabah	Baer al sheikh
Own production	0%	0%	0%
Gift/donation	5%	0%	0%
Begging	1%	7%	0%
Cash purchase	**74%**	**68%**	**69%**
Credit purchase	**34%**	**46%**	**38%**
Borrowing	**55%**	**46%**	**54%**
Humanitarian Assistance	**20%**	**23%**	**38%**
Other	2%	4%	0%

Participants in the MFGDs reported that communities were reliant on agriculture (39 out of 43 communities), yet own production was not mentioned as a significant source of food for households in any surveyed locations. Although no further explanation was provided, this suggests that communities may face significant challenges such as low productivity, economic constraints, or disruptions due to conflict, preventing them from relying on their own production as a primary food source. Overall, national food production in Yemen only stands for a small share of the total available food for consumption in the country. Yemen relies on imported food to cover needs, a system that is vulnerable due to local conflicts and tensions for international trade.[44] MFGD data points to a situation where both cash crops, such as cotton, and food crops, including fruits and vegetables.

As previously mentioned, household purchasing power is central to the accessibility of food for communities and households in Khanfar. While markets are commonly made available for households, the cost of transportation, fuel, and food is a severely limiting factor for households. Through the semi-structured interviews it was reported that the most common barriers to accessing food were that food is expensive, the distance to the market, and specifically that travel to the market is expensive.

[44] Thomas, E. (2022) Food security in Yemen: the private sector and imported food

While not consistent, households also mentioned the type of food they receive as part of humanitarian assistance. The package received reportedly consisted of flour, lentils, and cooking oil.

Self-perceived priority needs

The Humanitarian Emergency Settings Perceived Needs Scale (HESPER) is a multi-sectoral tool produced to provide population-based quantitative assessments of perceived needs, based directly upon the views of those affected by the disaster.[45] It aims to provide "a quick, scientifically robust way of assessing the perceived serious needs of people affected by large-scale humanitarian emergencies, such as war, conflict or major natural hazard. Perceived needs are needs which are felt or expressed by people themselves and are problem areas with which they would like help."[46] By identifying self-perceived needs, the tool enables the identification of affected populations' stressors and likely areas the affected populations require help with.

In this assessment, the HESPER scale was used to identify the top three most serious problems reported by households. The Hesper scale consists of 26 questions covering physical, psychological and social needs. Ratings are made by interviewers in a face-to-face interview with affected persons by defining whether each of the 26 questions are perceived by respondents to be a 'serious problem' (unmet need) or 'no serious problem' (no need). In the general district, food was reported as the most serious problem (45%), followed by income and money (29%), and then income and money again as the third problem (19%). In the IDP sites, food was also the top concern, mentioned by 43% of households in Al Noabah and 33% in Baer Alsheikh. For the second most serious problem, households in Al Noabah again cited food, while 36% of those in Baer Alsheikh reported shelter.[47] It is worth noting that IDPs are 86% more likely to report shelter or a place to live as a serious problem compared to 36% of hosts. This trend is also evident in their prioritization of this issue, with 50% of IDPs ranking it as a top priority, compared to 13% of host community. The third most serious problem in Al Noabah was shelter (29%), whereas in Baer Alsheikh it was income and money (36%).

Overall, the most serious problems reported were similar across the different territorial units. The HESPER scale is valuable for both analysing the top three needs, as households are asked to choose their top three, and for understanding widespread serious problems that may not rank as top priorities. To gain deeper insights into perceived challenges, the HESPER scale assessed 27 different types of problems to determine households' perceived needs. The problem areas with the most reported serious problems across the district were.

Income or livelihood with 85% of households reporting having serious problems because they do not have enough money or resources to live.

Food as reported by 82% of households

Female health as reported by 70% of households

[45] The Humanitarian Emergency Settings Perceived Needs Scale (HESPER): Manual with Scale, p.11.

[46] Ibid, p.8.

[47] Eighteen households reported the presence of snakes and scorpions in their homes, making it difficult to live there. These responses were initially recorded in the "other" section but were later included in the Shelter section to align with the HESPER indicators.

Other heavily reported problem areas with serious problems across the district include: keeping clean (females) (67%), being displaced from home (63%), clothes, shoes, bedding or blankets (63%), the way aid is provided (55%), health (males) (54%), place to live (52%), information for displaced people (50%), keeping clean (males) (47%), drinking water (46%), care for family members (43%), and too much free time (41%). See Annex 6 for the full list of problem areas.

The HESPER scale serious problems' findings align with the assessment of public health needs discussed in previous sections, as well as with the results from the semi-structured data and MFGD data. Moreover, they reveal that households across the district of Khanfar face serious problems in many more areas than the three identified as top priorities.

The HESPER scale findings also highlight differences in the scope of serious problems, emphasizing that gender and displacement dynamics play a crucial role. Females reported more serious problems across different areas than males, and similarly, households living in IDP sites (Al Nawbah and Baer Alsheikh) reported more serious problems compared to those in the general district. Similarly, households living in IDP sites (Al Noabah and Baer Alsheikh) reported more serious problems compared to households in the general district. See Figure 14 and Figure15.

Figure 14: Median number of serious problems by TU

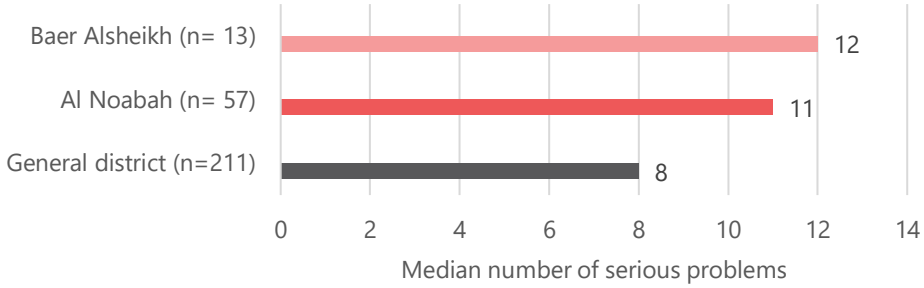
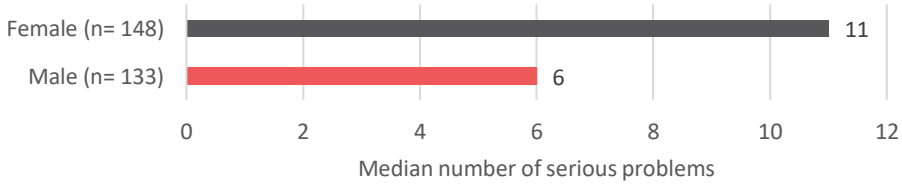


Figure 15: Madian number of serious problems by gender across Khanfar district



Public Health Outcomes

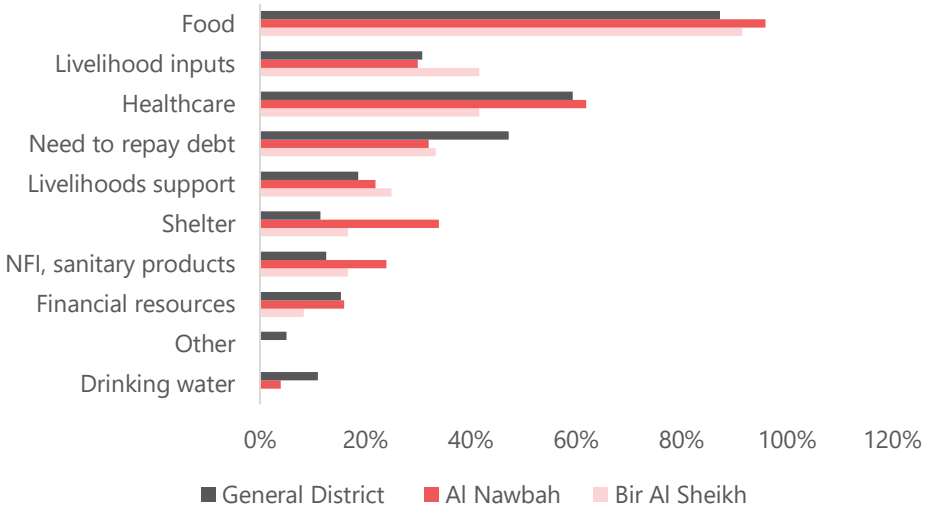
Based on the findings presented throughout this chapter of the report, this section will focus on the outcomes and needs of households and communities in Khanfar. Having highlighted the main drivers of needs, this section will analyse and discuss how the unavailability and inaccessibility households and communities face impact the public health situation in the areas and who are most marginalised and vulnerable to the effects of the identified drivers.

Unmet needs

Primary household data show that food is the most reported unmet need due to the lack of financial resources of households in the 30 days before data collection across all territorial units (89%), see

Figure 16: % of households reporting on the most commonly unmet needs due to a lack of money over the 30 days before data collection Over 85% of households in each of the territorial units reported to be unable to meet the households food needs due to lack of financial reosources. The second most reported unmet need in all territorial units was healthcare need (59%). Furthermore, the need to repay accumulated debt was commonly reported in all locations, with a higher share of households reporting this in the general district (43%) compared to the IDP sites (32% and 33%). This could be explained by the relatively more secure income sources in more urban places, as part of the general district sample, compared to the IDP sites, and more service providers, such as market vendors, that households could either borrow from, or purchase on credit at.

Figure 16: % of households reporting on the most commonly unmet needs due to a lack of money over the 30 days before data collection, by TU

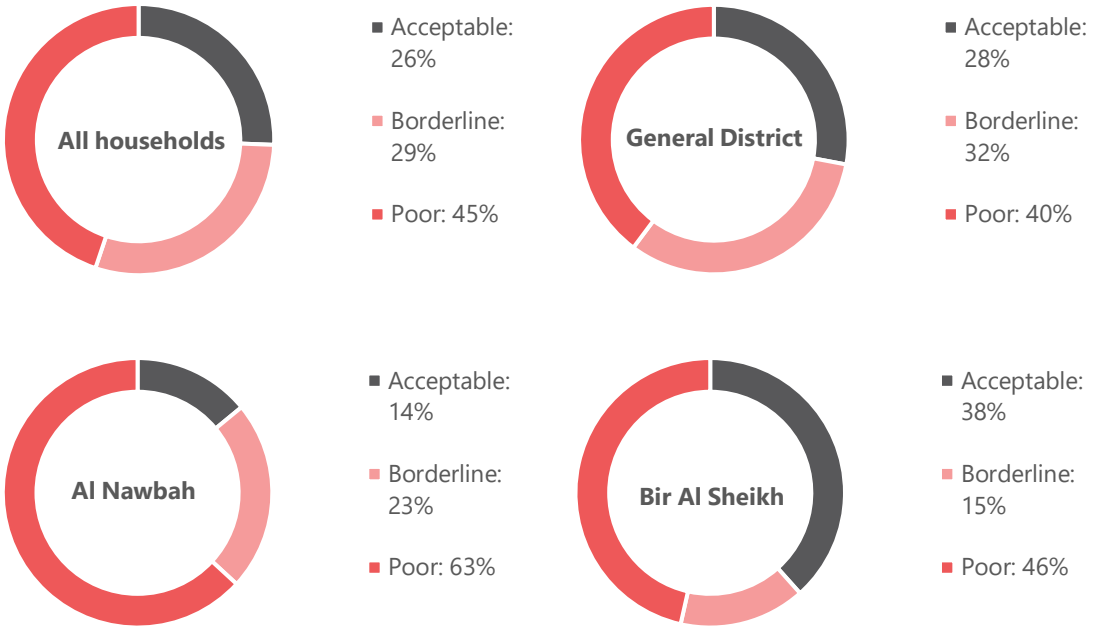


Food Security Outcomes

The limited availability and lack of access have resulted in a situation where households reportedly can access some sort of food, but with limited dietary diversity. Of all surveyed households, 45% reported poor food consumption in the 7 days prior to data collection, 30% reported borderline, and 26% acceptable food consumption. There are sharp differences between the territorial units in terms of the food consumed in the recall period as 63% of households in Al Noabah reported poor food consumption, while the host population households (poor = 40%) and Baer Al Sheikh households (poor = 46%) had a higher share of either acceptable food consumption, or borderline food consumption than the Al Noabah population, see Figure 17.

Notably, among female-headed households, 51% reported poor food consumption, 27% reported borderline, and 22% reported acceptable food consumption, in comparison with male-headed households where 43% reported poor food consumption, 31% reported borderline food consumption, and 27% had acceptable food consumption in the recall period. The data indicate that those more marginalised and with less possibilities of either free movement without male companions (women) or people with less available labour opportunities (IDP site population) can access a less varied diet compared to those that have larger freedom to move (male) or with more labour opportunities (population outside of IDP sites). Across all territorial units, the FCS results are indicative of IPC phase 4 outcomes.

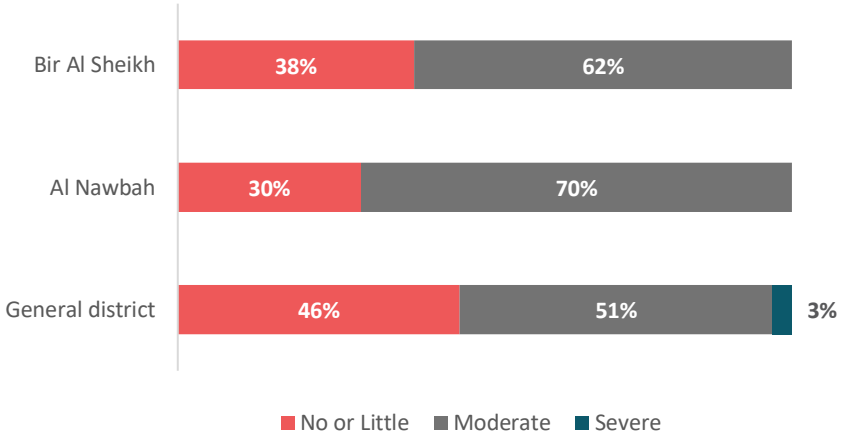
Figure 17: Food Consumption Score, by territorial unit



According to secondary data malnutrition in Yemen is affecting more than 2.7 million children, with 49% suffering from stunting, which hampers their physical and cognitive development.[48]

However, despite a reported limited dietary diversity among households, household hunger levels are not at IPC phase 4 levels, but more indicative of IPC phase 3. Across all surveyed households for this assessment, 3% reported severe household hunger, 51% reported moderate household hunger, and 46% reported no or little household hunger. This pattern is similar throughout the territorial units in this assessment, see Figure 18.

Figure 18: Household Hunger Scale, per territorial unit



[48] SANA'A/NEW YORK 26 March 2024, 9 years into the conflict in Yemen, millions of children are malnourished and stunted

Perception of Humanitarian assistance in covering households' unmet needs

According to the structured household data collected, only 2% of all interviewed households reported humanitarian assistance as their main source of income. However, semi-structured primary data indicates that humanitarian assistance plays a crucial role in accessing food, especially among displaced households. Approximately 22% of households across the district reported relying on humanitarian assistance as their primary source of food. In the Baer Al Sheikh IDP site, where displacement has disrupted traditional livelihoods, this figure reaches 38%.

Access to information is vital for households, particularly in understanding available aid and services. 49% of the displaced and 35% of the non-displaced assessed households reported a serious problem due to a lack of information. 54% of the respondents reported a serious problem because of inadequate aid, and as a top 3 priority by one out of 5 respondents. This highlights a significant information gap that needs to be addressed to ensure affected populations are aware of available support and resources. Targeted interventions are necessary to enhance communication channels and information dissemination, ensuring affected populations are well-informed about available support mechanisms and changes in their environment.

Perceptions of aid among households in Khanfar district reveal a complex interplay of need and delivery. While 49 households interviewed during the semi-structured data collection acknowledged the crucial role of humanitarian organizations in providing vital services such as health, nutrition, and water-related assistance, there are widespread concerns regarding the adequacy and equity of aid distribution. Key issues raised include the insufficiency of aid (reported by 20 households) and unequal distribution of resources (reported by 19 households). Additionally, 13 households reported needing other types of assistance despite receiving some aid, while 9 households highlighted the inconsistency of aid distribution over time, leaving food needs unmet in-between distribution rounds.
These challenges reflect broader issues such as funding shortages in Yemen, hindering organizations' ability to adequately address the growing needs of affected populations.[49] For example, in areas like Batis Al Sharqeyah, Al Rawa, and Al Hisn communities, female MFGD participants emphasized the continued need for support from humanitarian actors.

The data underscores the critical role of humanitarian assistance in supporting households in Khanfar district, particularly in ensuring access to food, healthcare, and other essential services. However, significant challenges persist, including gaps in information dissemination and perceptions of aid distribution. Addressing these challenges requires collaborative efforts from humanitarian actors, government agencies, and other stakeholders to ensure accountability to affected populations and an effective response to their needs.

CONCLUSION

The findings of this report shed light on the complex challenges facing the population of Khanfar district in Yemen, particularly in the sectors of health, nutrition, and food security. The analysis has underscored the significant impact of economic constraints on access to essential services, exacerbating vulnerabilities among households and communities.

The integration of environmental indicators derived from remote sensing provided insights into the complex interplay between climatic factors, water availability, and vegetation dynamics. By

[49] NRC, News and Press Release, Yemen: Funding cuts and escalation threaten peace prospects and recovery after nine years of crisis, March 2024

understanding the unique climatic and hydrological dynamics of agricultural, drought-affected and flooded areas, stakeholders can develop targeted interventions, for example in regards to water resource allocation to enhance agricultural productivity and, mitigate the risks associated with drought and flooding. Continued monitoring and analysis are essential to inform sustainable and adaptive land use practices in the face of evolving environmental challenges.

Limited access to healthcare services, including medication and specialized treatments, persists as a critical issue, with economic barriers hindering households from seeking necessary medical care. Coping strategies such as borrowing money or resorting to traditional medicine underscore the severity of the situation, particularly for marginalized groups such as women, who face additional challenges due to cultural norms and gender-based restrictions on mobility.

Similarly, food accessibility is hindered by economic factors, including the high cost of transportation and food itself. While humanitarian assistance provides some relief, households still struggle with inadequate dietary diversity and food consumption, particularly among marginalized populations such as female-headed households and those residing in IDP sites.

The public health outcomes of these challenges are stark, with unmet needs for food and healthcare prevalent across all territorial units. While households exhibit varying levels of food consumption and hunger, the overall situation reflects a precarious balance between moderate and severe household hunger, highlighting the urgent need for sustained interventions to address food insecurity and improve access to healthcare services.

ANNEXES

Annex 1: Methodology

The data for this assessment was collected across the district of Khanfar in Abyan governorate, using three data collection tools. The tools were designed by REACH's Yemen team, with the support and input from the partner organisations, the Yemen FSAC and UNICEF in Yemen. CARE participated and led on all data collection activities, with the support and collaboration of AYF and YFCA for the HH quantitative survey, all data was collected between 1 February and 5 March 2024, see Table 5.

Table 5: Number of MFGD sessions, HH structured interviews, and HH semi-structured interviews conducted, per territorial unit

Data collection method	Territorial unit	Date of collection	Number of interviews/sessions
MFGD	Khanfar	1 – 22 February	4 sessions
HH structured interview	Khanfar	19 – 25 February	281 HH Interviews
HH semi-structured interview	Khanfar	28 February – 5 March	60 HH interviews

Geographical scope

Khanfar was selected by REACH and CARE based on the reported high levels of needs in the district, as well as on CARE's access to the field of data collection. Khanfar district was projected to move from an IPC Phase 3 (Crisis) to Phase 4 (Emergency) between the analysis period January-May 2023 and the projection period June-December 2023.[50] According to the 2024 HNO and as of February 2024, Khanfar district is expected to be in severity 4 of 5, indicating high intersectoral needs projected for 2024.[51] In this assessment, REACH and CARE have also identified two IDP sites within Khanfar district for representative sampling, Al Noabah and Baer Al Sheikh. The sites were selected based on the reported levels of needs of these sites from the REACH and CCCM cluster Site Monitoring Tool and Site Reporting Tool.[52] Thus, the analysis will consist of three separate territorial units of analysis: the general district level (TU 1), Al Noabah (TU2) and Baer Al Sheikh (TU 3).

Sampling strategy

For the structured household survey, REACH and partners applied a stratified simple random sample with allocated interviews across 20 locations across the district and in two selected IDP sites. Before heading to the field, partners provided with GPS points of households within the territorial unit where the interviews are to be carried out. Partners were responsible to provide enumerators with information on what households to interview. The GPS locations have been randomly selected by REACH Yemen, using GIS and satellite imagery of the settlements to be assessed. The GPS points selected represent the number of interviews that were carried out in the territorial unit and make the findings representative of the territorial unit, see TOR. The sample is representative at the district level, and in the Baer Al Sheikh and Al Noabah IDP sites adopting a sample with a 95% confidence level, 7%

[50] IPC (2023) IPC Acute food insecurity and acute malnutrition analysis January – December 2023 (Partial analysis)
[51] OCHA (2024) Yemen Humanitarian Needs Overview 2024
[52] Yemen CCCM cluster (2023) Site Monitoring Tool data

margin of error, and a 5% buffer. The strategy was to proportionally distribute the interviews based on 14 villages and the population figures in each village. The number of households in each location differ between 11,800 HHs as the largest, and 450 HHs as the location with fewest HHs present. This strategy was implemented due to lack of official sub-districts in Khanfar. 5% was added to the target sample size to account for the non response rates.

In total, the partners collected 281 interviews across the district, including 53 interviews in Al Noabah, and 13 in Baer Al Sheikh. The allocated number of interviews were proportionally distributed based on approximate population figures received by the Yemen FSAC. In total, 53% of respondents were women, and 47% were men, noting that the female respondents was not always the HoH but could answer on behalf of the HH.

As part of the HH structured interviews, a question at the end was asked on whether the households would be open to answering questions again, referring to the semi-structured survey carried out in collaboration with ACAPS. In total, 223 households said yes to be contacted again as REACH, ACAPS, and CARE selected a preliminary list of 100 households based on early indications of high needs, household type, and displacement status. CARE managed to conduct a total of 60 interviews across the district, based on the list of households prepared by REACH. The aim was to select households with indications of challenges in accessing food, water, and healthcare, IDP, host-community, and Muhammasheen, as well as female- and male-headed households. Furthermore, extra attention was given to households adopting certain negative coping strategies. Ultimately, the aim was to identify households that were deemed as marginalised or vulnerable. Contacting households a second time for interview allowed for comparison and contextualisation of the findings collected through the different tools, with the aim of a rich analysis and understanding of the challenges faced by these households.

For the MFGD sessions, CARE and AYF identified relevant experts and community members with extensive knowledge about the selected area of the MFGD, using their local connections and understanding of the area. Khanfar district was divided into four zones for the MFGD sessions, based on geography and access to markets. The sessions were mixed with both men and women present in each of the sessions. For the female-specific questions in the survey, the male participants were asked not to be present in the room to ensure the women could speak freely on unique challenges faced by women in the communities mapped. The participants consisted of members of local foundations and organisations, local authority officials, community leaders and members, as well as business owners. In total across the four zones, 39 participants joined the MFGD. For the full list of communities and participants per zone, see Annex 2.

Data collection methods

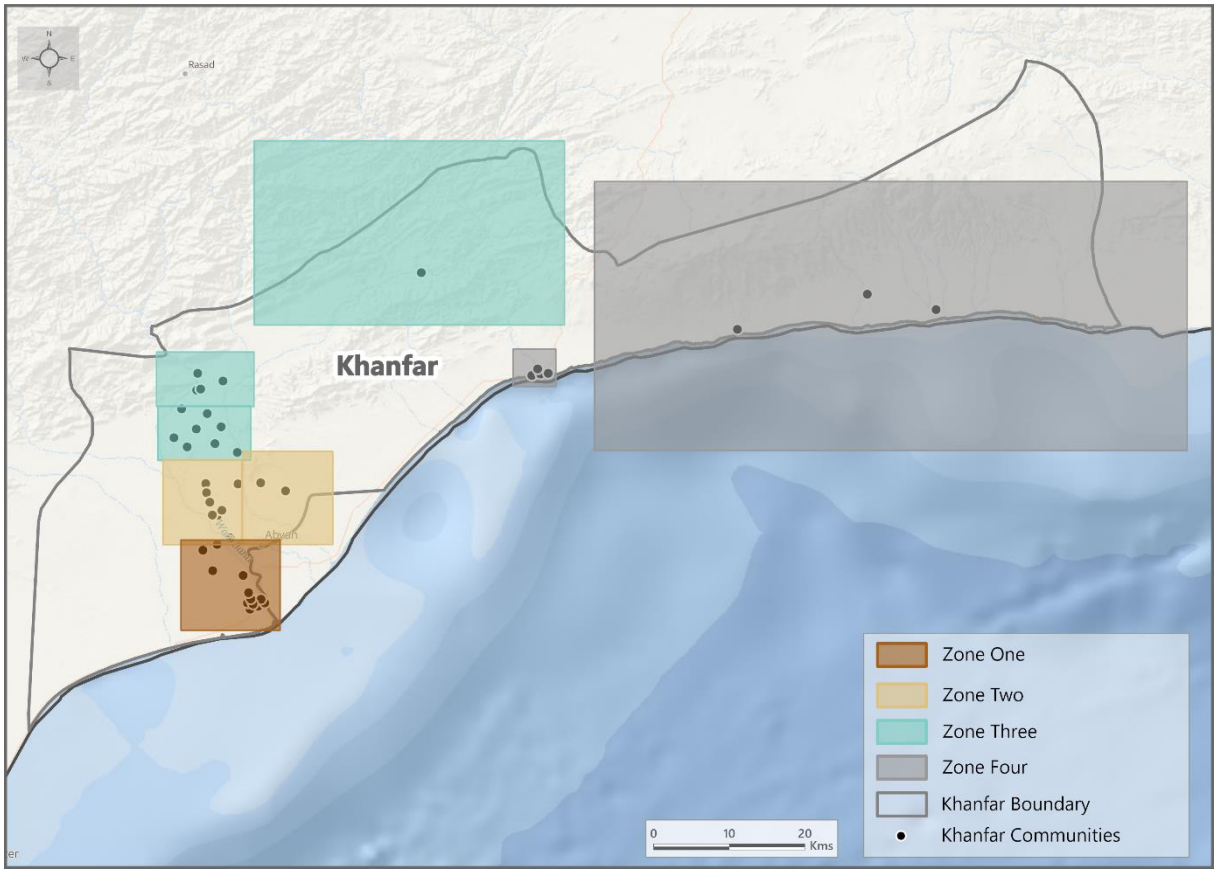
This section account for the methodology used for this assessment and the tools implemented during the data collection phase. Three tools were used, one MFGD tool, one multisectoral HH structured tool, and one semi-structured household tool. The tools were designed by REACH, with tool review support from CARE, ACAPS, and the Yemen FSAC Aden hub cluster coordinator. Ahead of the research and tool design, REACH discussed the aim of the assessment and potential indicators and approaches with the Yemen Health and WASH clusters. Both the review and scoping process served to ensure contextually relevant questions and indicators.

Mapping Focus Group Discussion

REACH and the partners identified potential participants for the MFGD sessions through field knowledge. As the aim is to carry out multiple sessions to better understand access issues and community needs among groups, a variety of community leaders, experts and community members were targeted as participants of these sessions, with attention paid to gender of participants. Together with the CARE, REACH divided Khanfar info four zones based on population density, geography,

livelihood activities, and pre-identified community boundaries. One session was carried out in each zone.

Maps 2: Map of the four identified and covered zones in Khanfar district



The MFGD tool of this assessment utilises local understanding and knowledge through the identification of communities with less access to public health services, the main service providers area, and the challenges faced by communities and service providers. The tool consists of both structured and semi-structured questions, ensuring both strict answers and discussions throughout the tool. The methodology differs from a regular focus group discussion as an important component is mapping out the area through drawing community boundaries, roads, agricultural zones, as well as areas commonly impacted by floods and/or droughts. As part of the mapping process, the participants identified and discussed which communities face restricted access to WASH, health, and markets or food in general as well as what types of livelihood activities were practiced across the identified zones. Identifying these general community characteristics builds a better understanding of the district and the unique or similar challenges faced by communities across the district. This will ultimately support the analysis with triangulation of data and the production of informative maps to aid the general understanding of Khanfar district.

Household Structured Survey

This multisectoral survey includes indicators related to public health sectors WASH, FSL, nutrition, and health. To support the understanding of the public health indicators, REACH included cash and markets indicators and the Humanitarian Emergency Setting Perceived Needs (Hesper) scale[53] aiming at measuring the subjective perception of the main needs or 'serious problems' faced by households at the time of data collection. Dimensions of gender and residence status was included to support the

[53] WHO, The humanitarian Emergency Settings Perceived Needs Scale

understanding of the collected data. The inclusion of the Hesper scale was decided on instead of a section focusing on accountability to affected populations (AAP) with the aim of better understanding the relation between standards for WASH, health, FSL, and nutrition indicators and the perceived problems or needs among households. Overall, the survey have collected information on area demographics, pull factors for displacement, socio-economic conditions, employment and income, FSL, access to services, and coping strategies used by households. This data will serve as the basis of the needs analysis of the assessment.

In addition to questions related to sectoral needs, the household survey was used to administer the HESPER scale. The HESPER scale was used to assess the perceived needs of households in Khanfar in a range of social, psychological, and physical problem areas. Respondents were asked whether or not they had serious problems related to a wide range of issues and topics. For each item, respondents can answer that they have a serious problem, or that they do not. The scale offers complementary information and data for comparison and contextualisation with other data sources and standard indicators commonly measured in Yemen.

Household Semi-structured Survey

The third tool used during the data collection phase was a semi-structured household survey focusing on availability and access to health-related services and households perceptions regarding these services. The survey also included questions related to the understanding of humanitarian actors and their role in the area. For this exercise, REACH and ACAPS created a joint tool consisting of REACH and ACAPS specific questions and in the data cleaning and analysis process, each organisation extracted the data related to their specific questions from the main dataset that included both REACH and ACAPS data. This approach allowed for an effective data collection process for CARE and for REACH and ACAPS to receive data specific for each assessment. In using this tool, the aim was to better understand household perceptions and understanding of health related services, what makes these accessible or inaccessible, to capture the households understanding of humanitarian action in the area, and the coping strategies used by households when they are unable to access healthcare or medicine when they need to. This approach will deepen the understanding of HH's coping and what actions could be taken to improve health related service accessibility.

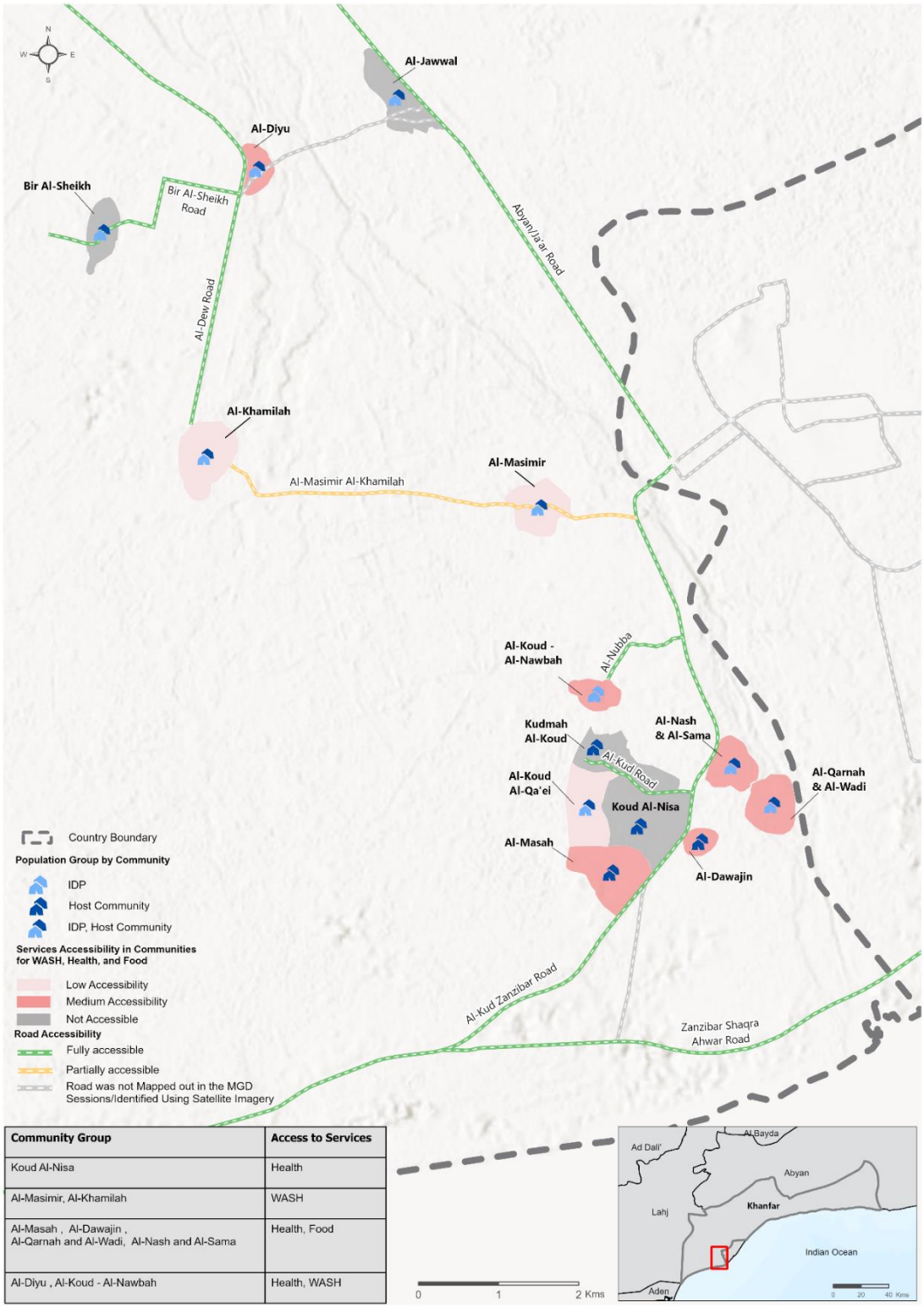
Annex 2: List of communities and participants in the MFGD sessions, per zone (n= 43)

Zone 1	
Participants' population group	Host community and IDPs
Gender	12 males and 2 females
Age group	29 - 55
Communities (n= 14)	Al-Koud - Al-Masah
	Al-Koud - Al-Abqar
	Al-Koud - Al-Dawajin
	Al-Koud - Al-Qarnah and Al-Wadi
	Al-Koud - Al-Nash and Al-Sama
	Al-Koud - Al-Koud Al-Qa'ei (The City)
	Al-Koud - Koud Al-Nisa
	Al-Koud - Kudmah Al-Koud
	Al-Koud - Al-Nawbah
	Al-Masimir
	Al-Khamilah
	Bir Al-Sheikh
	Al-Diyu
	Al-Jawwal
Zone 2	
Participants' population group	Host community
Gender	3 males and 4 females
Age group	23 – 53
Communities (n= 10)	Al Derjaj
	Kamb Al-Turiah
	Abar Othman
	Al-Turiah
	Qader Allah
	Al-Souq
	Al-Mothaleth
	The Eastern- Makhzen
	The Western- Makhzen
	Kademt Al-Said Qasem
Zone 3	
Participants' population group	Host community
Gender	8 males and 2 females
Age group	33 – 60
Communities (n= 12)	Habeel Barq
	Batis Al-Gharbieyh
	Al -Lakidah
	Batis Al-sharqeyah
	Al-Rawa
	Al-Hisn

	Hilma
	Al-Miyuh
	Al-Ramliyah Al-Sharqeyah
	Al-Ramliyah Al-Gharbieyh
	Arshan
	Yarames
Zone 4	
Participants' population group	Host community
Gender	5 males and 2 females
Age group	43 - 65
Communities (n= 7)	Birjebia
	Al-Khober
	EmSahela
	(Al-Madina/ Alcode / Al-Sada / Aozaiba)
	Al-Bander
	Al-Wans
	Behind the factory/Al Masl & Al Ghareeb

Annex 3: Maps of Administrative boundaries and Access to Services

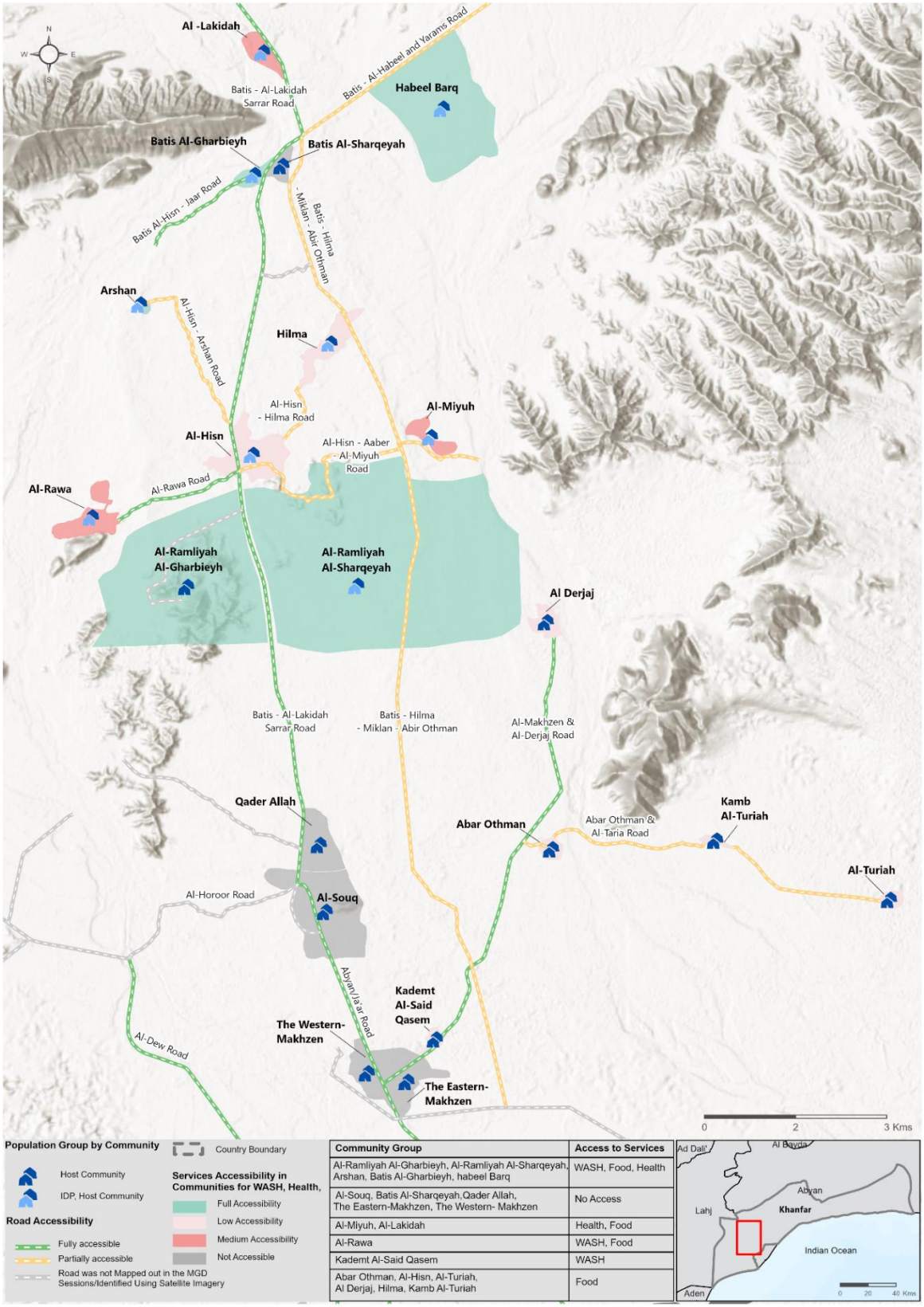
Map 3: Khanfar, zone 1, administrative boundaries and access to services*



Community Group	Access to Services
Koud Al-Nisa	Health
Al-Masimir, Al-Khamilah	WASH
Al-Masah , Al-Dawajin , Al-Qarnah and Al-Wadi, Al-Nash and Al-Sama	Health, Food
Al-Diyu , Al-Koud - Al-Nawbah	Health, WASH

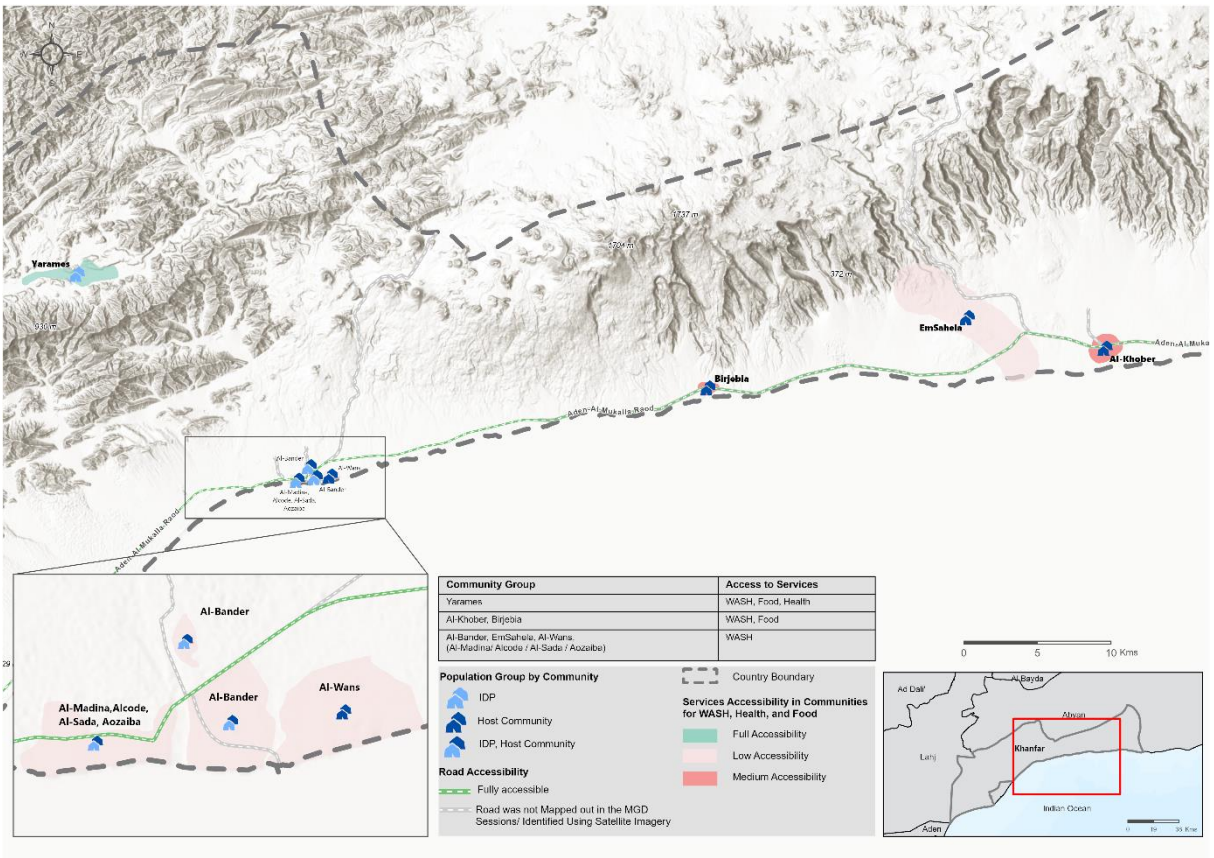
* Service low accessibility = access to one service; service medium accessibility = access to at least two services; Not accessible = no access to services

Map 4: Khanfar, zone 2 and 3, administrative boundaries and access to services*



* Service low accessibility = access to one service; service medium accessibility = access to at least two services; Not accessible = no access to services

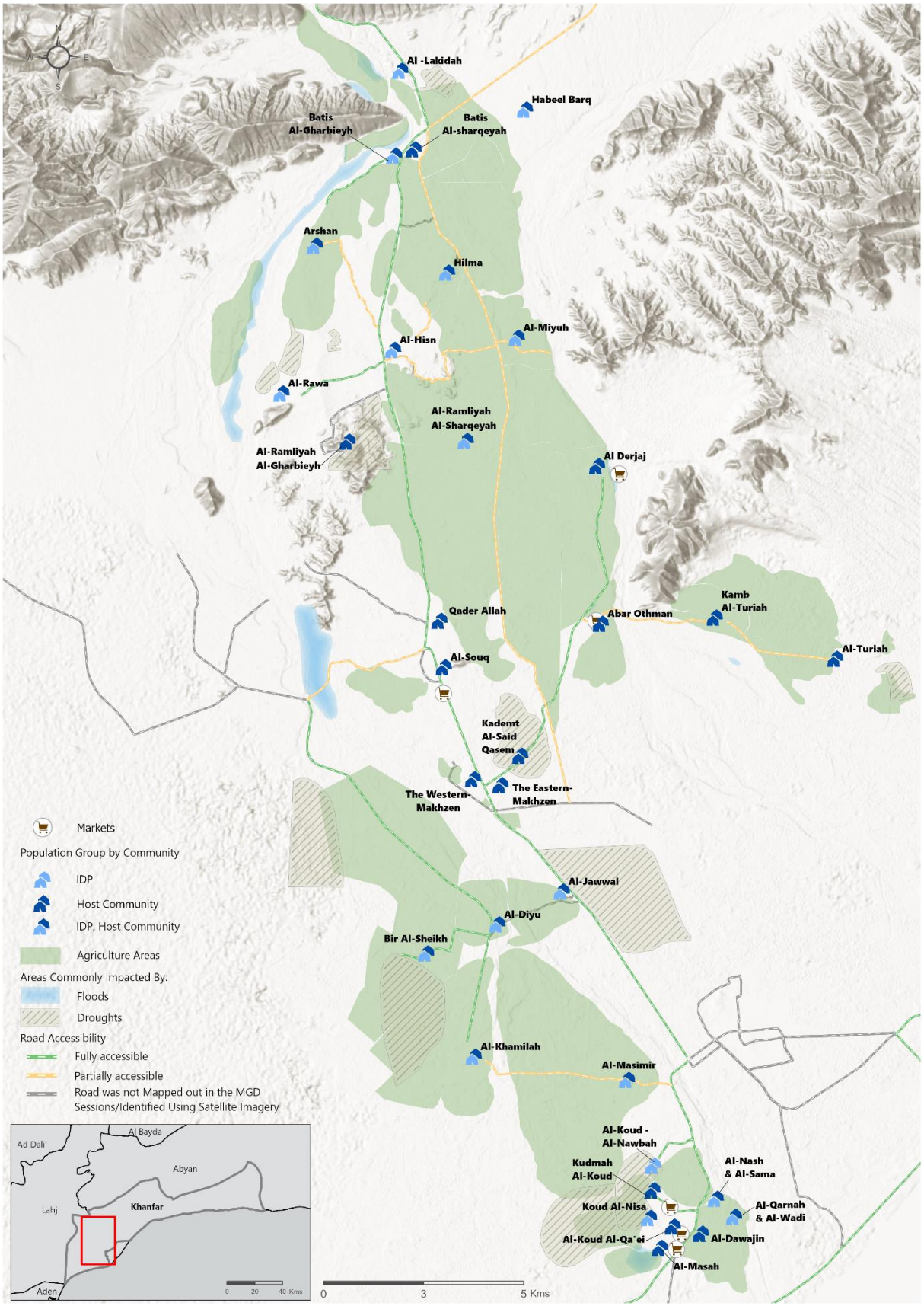
Map 5: Khanfar, zone 4, administrative boundaries and access to services map*



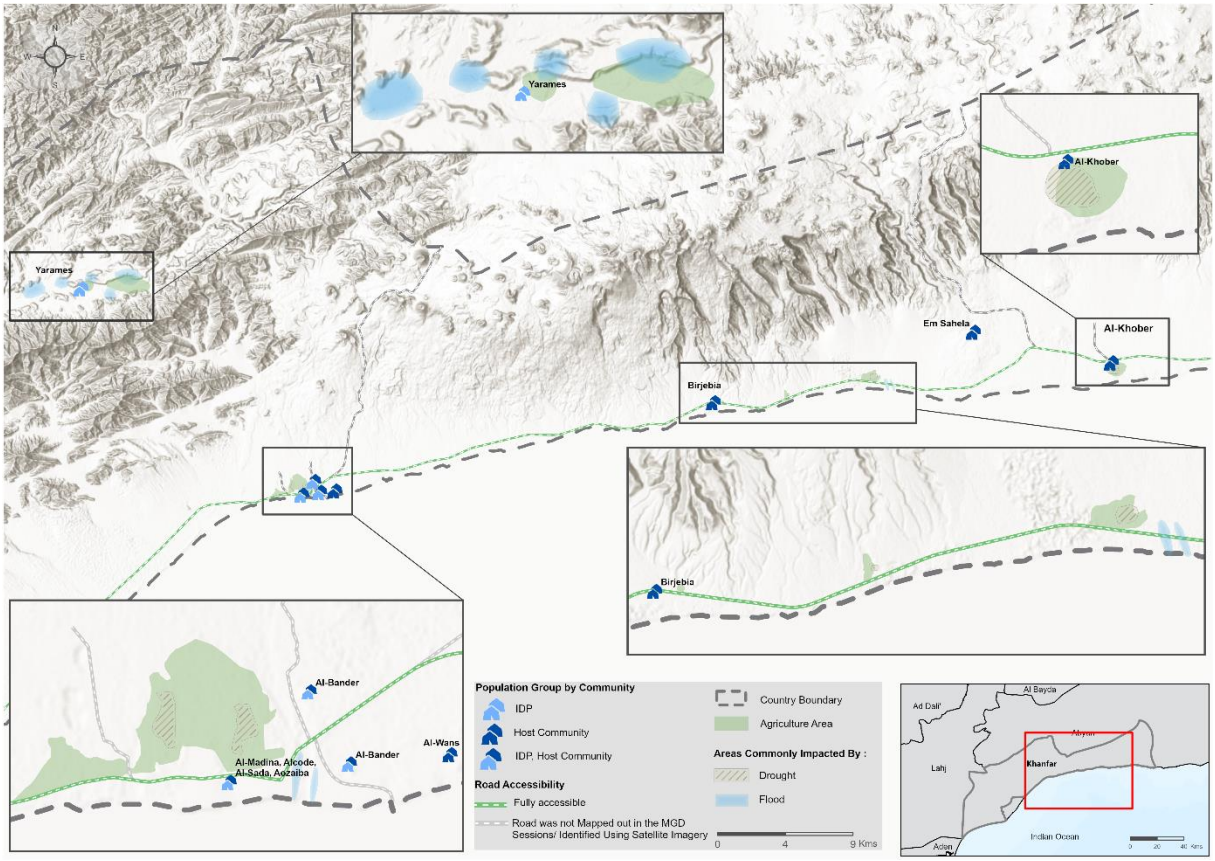
* Service low accessibility = access to one service; service medium accessibility = access to at least two services; Not accessible = no access to services

Annex 4: Map of Agricultural, Floods and Drought Zones

Map 6: Map of Agricultural, Floods and Drought Zones



Map 7: Khanfar, zone 4, Agricultural zones



Annex 5: Communities' Uniting Factors based on MFGDs data

Zone	Community	Shared livelihood Zone		Residential or geographical boundaries	Displacement /migration status	Ancestorial / inter-communal connection
		Agricultural lands, lands for livestock herding, or shared livelihood activities	Services such as schools, water sources, markets. Etc)			
Zone 1	Al-Koud - Al-Masah				X	
	Al-Koud - Al-Abqar	X			X	
	Al-Koud - Al-Dawajin	X			X	
	Al-Koud - Al-Qarnah and Al-Wadi				X	
	Al-Koud - Al-Nash and Al-Sama				X	
	Al-Koud - Al-Koud Al-Qa'ei (The City)		X			
	Al-Koud - Koud Al-Nisa				X	
	Al-Koud - Kudmah Al-Koud					X
	Al-Koud - Al-Nawbah	X			X	
	Al-Masimir	X				
	Al-Khamilah	X	X			X
	Bir Al-Sheikh	X				
	Al-Diyu	X	X			
	Al-Jawwal	X				
Zone 2	Al Derjaj	X	X	X		
	Kamb Al-Turiah	X	X	X		
	Abar Othman	X	X	X		
	Al-Turiah	X	X	X		
	Qader Allah	X	X	X		
	Al-Souq	X	X	X		
	Al-Mothaleth	X	X	X		
	The Eastern- Makhzen	X	X	X		
	The Western- Makhzen	X	X	X		
	Kademt Al-Said Qasem	X	X	X		
Zone 3	Habeel Barq	X			X	
	Batis Al-Gharbieyh	X				
	Al -Lakidah	X	X			
	Batis Al-sharqeyah	X	X			
	Al-Rawa	X				X
	Al-Hisn	X	X			
	Hilma	X				
	Al-Miyuh	X				
	Al-Ramliyah Al-Sharqeyah	X				
	Al-Ramliyah Al-Gharbieyh	X				
	Arshan	X				

	Yarames	X				
Zone 4	Birjebia		X	X		
	Al-Khober		X	X		
	EmSahela		X	X		
	(Al-Madina/ Alcode / Al-Sada / Aozaiba)		X	X		
	Al-Bander		X	X		
	Al-Wans		X	X		
	Behind the factory/Al Masl & Al Ghareeb		X	X		
Total uniting factors		**30**	**23**	**17**	**8**	**3**

Annex 6: HESPER Scale

HESPER Scale	Serious Problem	No serious problem	Not Applicable	Decline to answer	Don't know
Does your household have a serious problem because you do not have enough water that is safe for drinking or cooking?	45%	52%	2%	0%	0%
Does your household have a serious problem with food? For example, because you do not have enough food or good enough food, or because you are not able to cook food.	82%	18%	0%	0%	0%
Does your household have a serious problem because you do not have a suitable place to live in?	49%	46%	4%	0%	0%
Does your household have a serious problem because you do not have easy and safe access to a clean toilet?	32%	64%	4%	0%	0%
For male respondent: Does your household have a serious problem because in your situation it is difficult to keep clean? For example, because you do not have enough soap, water or a suitable place to wash.	45%	51%	4%	0%	0%
For female respondent: Does your household have a serious problem because in your situation it is difficult to keep clean? For example, because you do not have enough soap, sanitary materials, water or a suitable place to wash.	64%	31%	5%	0%	0%
Does your household have a serious problem because you do not have enough, or good enough, clothes, shoes, bedding or blankets?	61%	36%	4%	0%	0%
Does your household have a serious problem because you do not have enough income, money or resources to live?	85%	15%		0%	0%
Does your household have a serious problem with your physical health? For	33%	62%	5%	0%	0%

example, because someone in your household have a physical illness, injury or disability.					
For male respondents: Do you have a serious problem because you are not able to get adequate health care for household members? For example, treatment or medicines.	53%	45%	2%	0%	0%
For female respondent: Do you have a serious problem because you are not able to get adequate health care for household members? For example, treatment or medicines, or health care during pregnancy or childbirth.	68%	28%	3%	0%	1%
Does your household have a serious problem because you feel very distressed? For example, very upset, sad, worried, scared, or angry.	33%	63%	4%	0%	0%
Does your household have a serious problem because your household are not safe or protected where you live now? For example, because of conflict, violence or crime in your community, city or village.	16%	76%	8%	0%	0%
Does your household have a serious problem because the children are not in school, or are not getting a good enough education?	36%	61%	3%	0%	0%
Does your household have a serious problem because in your situation it is difficult to care for other household members? For example, young children in your household, or household members who are elderly, physically or mentally ill, or disabled.	40%	53%	6%	0%	1%
Does your household have a serious problem because you are not getting enough support from people in your community? For example, emotional support or practical help.	32%	62%	4%	1%	2%
Does your household have a serious problem because you are separated from family members?	11%	70%	19%	0%	0%

For displaced people: Does your household have a serious problem because you have been displaced from your home country, city or village?	62%	36%	0%	1%	1%
For displaced people: Does your household have a serious problem because you do not have enough information? For example, because you do not have enough information about available aid, or because you do not have enough information about what is happening in your home country or home town.	49%	49%	1%	0%	1%
For non-displaced people: Does your household have a serious problem because you do not have enough information? For example, because you do not have enough information about the aid that is available.	35%	60%	4%	1%	0%
Does your household have a serious problem because of inadequate aid? For example, because you do not have fair access to the aid that is available, or because aid agencies are working on their own without involvement from people in your community.	55%	44%	0%	0%	1%
Does your household have a serious problem because you do not feel respected or you feel humiliated? For example, because of the situation you are living in, or because of the way people treat you.	13%	77%	10%	0%	0%
Does your household have a serious problem because you are not able to move between places? For example, going to another village or town.	33%	57%	10%	0%	0%
Does your household have a serious problem because you or a household member have too much free time in the day?	39%	56%	4%	0%	1%
Is there a serious problem in your community because of an inadequate system for law and justice, or because	25%	71%	1%	0%	4%

people do not know enough about their legal rights?					
Is there a serious problem in your community because women does not feel safe in public spaces?	11%	84%	5%	0%	0%
Is there a serious problem in your community because people have a mental illness?	9%	87%	4%	0%	0%
Is there a serious problem in your community because there is not enough care for people who are on their own? For example, care for unaccompanied children, widows or elderly people, or unaccompanied people who have a physical or mental illness, or disability.	25%	66%	7%	0%	1%

Annex 7: Livelihood Coping Strategies, by % of usage among HHs in Khanfar

Livelihood coping strategy	Category	% of the population using LCS	% of the population that has exhausted LCS	% of the population that is Not Applicable to LCS	% of the population that had no need to use this LCS	Total % of the population that used or exhausted LCS
Sold household assets/goods (radio, furniture, refrigerator, television, jewelry, clothes, etc.)	Stress	9%	16%	51%	25%	**25%**
Purchased food on credit	Stress	79%	7%	8%	6%	**86%**
Borrowed money	Stress	85%	5%	5%	4%	**91%**
Send family members to eat outside of household	Stress	29%	1%	24%	46%	**30%**
Reduced essential non-food expenditure such as education and health (including medication)	Crisis	54%	5%	21%	20%	**59%**
Withdraw children from school because of lack of money	Crisis	21%	0%	30%	49%	**21%**
Sold productive assets or means of transport (sewing machine, wheelbarrow, motorcycle, car, etc.)	Crisis	3%	8%	70%	19%	**11%**
Boys under 15 working	Emergency	25%	1%	39%	36%	**26%**
Sold last female animal	Emergency	12%	4%	59%	25%	**16%**
Migration of family member	Emergency	8%	0%	35%	57%	**9%**