SUDAN

2020 Multi-sector Needs Assessment

Final Report

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USAID FROM THE AMERICAN PEOPLE

SHF Sudan Humanitarian Fund

INTER-SECTOR WORKING GROUP

OCHA Office for the Coordination of Humanitarian Affairs

IOM UN MIGRATION

REACH Informing more effective humanitarian action

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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). For more information please visit our website: www.reach-initiative.org. You can contact us directly at: geneva@reach-initiative.org and follow us on Twitter @REACH_info.

EXECUTIVE SUMMARY

Rationale and foundation of the MSNA

Sudan is currently experiencing a combination of political uncertainty, economic fragility, poor service provision, continued civil conflict and vulnerability to flooding and other natural disasters.[1] According to the 2021 Sudan Humanitarian Needs Overview (HNO), 13.4 million people (29% of the population) are in need of humanitarian assistance,[2] an increase of 4.1 million people over 2020.[3] Sudan's Integrated Food Security Phase Classification (IPC) "Acute Food Insecurity Projection Update" (October-December 2020) indicated that almost 7.1 million people, or 16% of the population, were experiencing high levels of acute food insecurity (IPC Phase 3 or above).[4] Prior to that, Sudan's pre-harvest-season June-December 2020 IPC snapshot reported that 9.6 million people, or 21% of the population, were experiencing high levels of acute food insecurity,[5] which at the time represented the highest IPC figure for Sudan on record. Alongside these economic and food security challenges, Sudan – like most countries – is battling an outbreak of Corona Virus Disease 2019 (COVID-19). The first confirmed case of the virus was reported in Sudan on 12 March 2020, and as of 1 March 2021, there had been 28,505 confirmed cases and 1,892 deaths.[6] This outbreak occurred in the context of Sudan's chronically under-funded basic services, including healthcare and Water, Sanitation and Hygiene (WASH).[7] In addition, in 2020, Sudan experienced record-breaking floods that claimed the lives of 150 people and affected over 875,000 more.[8]

In the context of these challenges, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), in conjunction with REACH and the Sudan humanitarian community decided to conduct the first annual Multi-Sector Needs Assessment (MSNA) for Sudan in 2020. This assessment was intended to support the 2021 HNO and Humanitarian Response Plan (HRP), while addressing the lack of reliable and up-to-date data on humanitarian conditions for humanitarian planning and decision-making processes, a gap that especially affected parts of the country that historically have seen less presence of aid actors.[9] This MSNA was conducted in close cooperation with the Inter-Sector Coordination Group (ISCG) and the National Assessment Task Team (NATT). The International Organisation for Migration (IOM), with the assistance of 26 other partners, conducted the data collection.

The MSNA was designed, jointly with OCHA and the ISCG, as a multi-sectoral, mixed-methods assessment, whose scope was as follows:

- **Geographic scope:** All 18 states (185 localities[10] in total), plus the Abyei area.[11]
- **Population groups:** Non-displaced, internally displaced person (IDP) and refugee households.
- **Sectors:** Food Security and Livelihoods (FSL); Health; Nutrition; WASH; Emergency Shelter and Non-food Items (SNFI); Protection; and Education.

The assessment included a structured household survey, which covered 13,769 households in 18 states and 165 localities, plus the Abyei area, and 196 area of knowledge (AoK) key informant interviews (KIIs) providing qualitative information on 9 states and 42 localities. Non-probability sampling strategies were used; therefore, findings cannot be generalised to the overall population of interest with a known level of precision. Data collection for the household survey ran from 16 August to 27 October 2020, and AoK KIIs took place from 28 October to 16 November 2020. Due to limitations in partner availability and capacity, the final household-level dataset covered 162 out of 186 non-displaced strata, 22 out of 52 IDP strata, and 22 out of 84 refugee strata. This report will focus therefore on findings for non-displaced households, with limited findings for IDP and refugee households presented separately, in a

[1] OCHA, "Humanitarian Needs Overview: Sudan," January 2020, pp. 8-10.
[2] OCHA, "Humanitarian Needs Overview: Sudan," February 2021, pp. 6.
[3] OCHA, "Humanitarian Needs Overview: Sudan," January 2020, pp. 8.
[4] Integrated Food Security Phase Classification, "Sudan: Acute Food Insecurity Projection Update October - December 2020."
[5] Integrated Food Security Phase Classification, "Sudan: Integrated Food Security Phase Classification Snapshot: June-December 2020,"
[6] OCHA, "Sudan: COVID-19 Situation Dashboard 2020."
[7] OCHA, "Humanitarian Needs Overview: Sudan," January 2020, pp. 8.
[8] OCHA, "Floods in Sudan – Situation Report," 22 October 2020.
[9] IMPACT Initiatives, "Research Terms of Reference: Multi-Sector Needs Assessment (MSNA)," August 2020, pp. 2.
[10] The following three localities were excluded: Heiban, Um Dorein and Al Buram localities in South Kordofan State.
[11] Final geographic coverage was expected to be determined in part by access and security restrictions, as well as by data collection partner capacity.

dedicated chapter, due to lower coverage of these two population groups; findings for households residing in the Abyei area will also be presented separately, due to the special administrative status accorded to this geographic entity.

Key findings

MSNA results show that **92% of non-displaced households had multi-sectoral needs,**[12,13] at the national level and without any significant geographical differences found between different states. **More than half of households (67%) had severe multi-sector needs (MSNI score of 3), while 17% had extreme multi-sectoral needs (MSNI score of 4)**.[14] Further, a majority of households had unmet needs in two sectors or more, simultaneously; this means that the large majority of non-displaced households were not able to meet their basic needs in two or more of the sectors covered by this assessment.

Overall, health and Emergency Shelter and Non-Food Item (SNFI) were found to be the most common drivers of needs, with 62% and 61% of households having unmet needs in these two sectors, respectively. **At the state level, a majority of households (over 50%) had unmet health and SNFI needs in nearly all states, pointing towards the existence of country-wide, structural barriers limiting the ability of households to meet their needs in these specific sectors.** The combination of health and SNFI needs was also found to be the most common need profile of households (7% of households). Interviews with key informants indicate that a majority of the population was considered to be living in shelters that did not meet technical and performance standards, as defined by the SNFI sector. Further, it appears that the high cost of medicine and medical services, as well as a lack of medicine and health professionals at facilities, were significant barriers to households accessing healthcare. Health was also the most commonly self-reported priority need in Sudan (57% of all households, across all assessed population groups), in line with MSNA analysis results.

East Darfur and North Darfur had the highest proportions of households with extreme multi-sectoral needs, at 41% and 42% of all non-displaced households, respectively. Further, the percentage of households with unmet needs in any one sector was higher, for a number of sectors, in the Darfur states and in Blue Nile, compared to other states; households were thus more likely to have unmet needs in three or more sectors, simultaneously, in these states. For instance, over 70% of households had an unmet need in the health sector in North, South and West Darfur, and Blue Nile states, compared to 62% at the national level; over 75% of households had unmet SNFI needs in North, East and West Darfur, compared to 61% at the national level. This can be explained, notably, by the security context of these areas, where recurrent displacement and protection crises can be dated to as far back as the early 2000s,[15,16] resulting in significant strain on services and resources and difficult access for humanitarian partners.

Notable exception to this pattern was the WASH sector. **In fact, a majority of households (64%) had unmet needs in this sector in Red Sea state, as well as South Darfur state. This figure was the highest observed across all states and significantly higher than the 37% observed at the national level.** The dry climate, a lack of sufficient water, poor hygiene practices, as well as flood-related damage occurred in 2020, partly explain the significant WASH gaps in Red Sea state.[17,18] This highlights how significant needs exist outside of areas that are typically considered as being in a state of emergency.

At the national level, over half of non-displaced households (57%) were found to have at least one pre-existing vulnerability, as defined in this analysis (female- or child- headed household; age dependency

[12] Multi-sectoral needs: proportion of households with an MSNI severity score of at least 3, based on the severity of Living Standard Gaps (LSGs) identified in each household.
[13] The assessment does not provide estimates of the total number of people associated with the proportions presented in this report. Caseload estimates are beyond the scope of the MSNA and could lead to a misinterpretation of the results, due to the nature of data on population figures data – considered to be out of date - and the dynamic nature of the crisis. It is important to note, however, that population density varies significantly across Sudan. Depending on population density by state, the highest percentage does not automatically correspond to the highest number of households.
[14] See Annex V for descriptions of the MSNI severity levels.
[15] The Rift Valley Institute. The Sudan Handbook. 2012; Radio Dabanga. Unamid conference addresses land ownership in Darfur. November 2013
[16] Deutsche Welle. "More than 60 killed in fresh attacks in Sudan's Darfur region 27.07.2020".
[17] OCHA. Cluster Status: Water, Sanitation and Hygiene (WASH). October 2020.
[18] International Aid Service. WASH project in Red Sea state, Sudan. March 2018.

ratio[19] above the national average); among these, 94% had multi-sectoral needs. While the prevalence and severity of needs did not significantly vary between households depending on their vulnerability profile, differences were found in terms of the main drivers of need. **Notably, unmet needs in the Education sector were more prevalent (30% of households) among households with an age dependency ratio (ADR) above the national average, compared to those whose ADR was below the national average (10% households). Further, a higher proportion of female- or child-headed households had unmet FSL needs (45% of households), compared to households headed by an adult male (34% of households).** Different need profiles were therefore associated to different vulnerability profiles.

Similar to Sudan, in the Abyei area nearly all non-displaced households (98%) had multi-sectoral needs. Nearly half of these (47%) were found to have extreme needs (MSNI score of 4). The high prevalence of multi-sectoral needs, as well as their severity, hints at a concerning humanitarian situation in Abyei, overall. It is also worth noting that an overwhelming majority of households had needs in several sectors concurrently - 94% of households had needs in three or more sectors. **The main drivers of multi-sectoral needs were SNFI and WASH, with over two thirds of households (82% and 73%, respectively) having unmet needs in these two sectors.** The most common need profile among households was a combination of unmet needs in these two sectors and health, simultaneously (13% of households overall). Issues with shelter enclosures, a lack of access to improved sanitation facilities, and the high cost of health services and medicine were the most common issues underlying these drivers.

Finally, all IDP and refugee households were found to have unmet needs in at least one sector, with more than half of IDP households (59%) and about one third (27%) of refugee households having extreme multi-sectoral needs (MSNI score of 4). **Further, a majority of households among both population groups had unmet needs in three or more sectors, simultaneously.** The displacement context, size of displacement caseloads, as well as the existing barriers to the delivery of aid can partly explain the high proportion of households with multi-sectoral needs for these two population groups. For both groups, SNFI was the most common driver of needs; in fact, nearly all IDP households (92%) and refugee households (96%) had unmet needs in this sector. It is worth noting that the food security situation of both IDPs and refugees appeared problematic; more than two thirds of IDP households (78%) and more than half of refugee households (65%) had unmet FSL needs.

In conclusion, according to the findings of this first MSNA, humanitarian needs in Sudan are prevalent across all states. Although humanitarian programming has historically been concentrated in specific areas of Sudan, especially in states along the border with South Sudan, MSNA findings suggest that high levels of humanitarian needs are in fact widespread across the country for some sectors, notably health and SNFI. This said, combination of multiple sectoral needs for any given household, and extreme multi-sectoral needs (MSNI score of 4) do appear concentrated in some areas over others, notably areas traditionally affected by insecurity and displacement crises, and for IDPs and refugees more so than for non-displaced populations. This top-level finding is broadly consistent with the findings of other analytical exercises, such as the IPC and the 2021 HNO.[20] Further assessments will be needed to bridge remaining information gaps in some key areas, and further refine the understanding of needs across the country and across different population groups.

[19] Age dependency ratio: the ratio of dependent household members (defined as aged <15 or ≥65) to working-age household members (aged 15-64)
[20] The 2021 HNO was based in part on MSNA data, and in part on data from other sources.

Contents

List of Acronyms

ADR	Age Dependency Ratio
AOK	Area of Knowledge
COVID-19	Corona Virus Disease 2019
DTM	Displacement Tracking Matrix
FCS	Food Consumption Score
FGD	Focus Group Discussion
FSL	Food Security & Livelihoods
GBV	Gender-Based Violence
HH	Household
HNO	Humanitarian Needs Overview
HPC	Humanitarian Planning Cycle
HRP	Humanitarian Response Plan
IDP	Internally Displaced Person
IMF	International Monetary Fund
IOM	International Organisation for Migration
IPC	Integrated Food Security Phase Classification
INGO	International Non-Governmental Organisation
ISCG	Inter-Sector Coordination Group
JIAF	Joint Inter-Sectoral Analysis Framework
JIAG	Joint Inter-Sectoral Analysis Group
KI	Key Informant
KII	Key Informant Interview
LSG	Living Standard Gap
MSNA	Multi-Sector Needs Assessment
MSNI	Multi-Sector Needs Index
NATT	National Assessment Task Team
NFI	Non-Food Item
OCHA	United Nations Office for The Coordination of Humanitarian Affairs
OFDA	Office of U.S. Foreign Disaster Assistance
PCA	Permanent Court of Arbitration
RCF	Refugee Consultation Forum
rCSI	Reduced Coping Strategy Index
SDG	Sudanese Pound
SHF	Sudan Humanitarian Fund
SOP	Standard Operating Procedure
TOR	Terms of Reference
TOT	Training of Trainers
UNHCR	United Nations High Commissioner for Refugees, i.e. The UN Refugee Agency
USAID	United States Agency for International Development
WASH	Water, Sanitation & Hygiene
WHS	World Humanitarian Summit

Geographical Classifications

State The highest administrative subdivision of Sudan below the national level. There are 18 states in Sudan.

Locality The second administrative subdivision of Sudan, below the state. There are 188 localities in Sudan

Abyei area Abyei Permanent Court of Arbitration (PCA), hereafter referred to as the Abyei area, is an area on the border between Sudan and South Sudan, that has been accorded special administrative status.

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INTRODUCTION

Due to its location and geographical characteristics, Sudan faces significant climatic and environmental challenges, among which are the risk of locust invasions, droughts and recurrent floods. **In 2020 for instance, flooding occasioned significant damage to an estimated 103,320 ha of agricultural areas, which constitutes about 19.4% of the total cultivated land, and in the loss of more than 108,000 heads of livestock**.[21] These physical factors are associated to economic and macro-economic challenges, structural weaknesses in the provision of basic services, and conflict-related displacement,[22] which negatively affect the ability of part of the population to meet their basic needs.

The on-going economic crisis manifests in a high inflation rate, one of the highest in the world with an annual rate topping 200% in 2020.[23] For instance, staple food prices have more than tripled between the beginning of 2020 and early 2021;[24,25] moreover, after the abolishment on 27 October 2020 of all public fuel subsidies, fuel prices and power tariffs experienced a 400% and 500% increase, respectively.[26] The coronavirus 2019 (COVID-19) pandemic, with the implementation of lockdowns, border closures and the disruption of supply chains, had an additional negative impact on the availability and prices of goods.[27] According to the International Monetary Fund (IMF), the economy is projected to stagnate in 2021, having already shrunk by 8% in 2020.[28] This situation has resulted in decreasing purchasing power for the majority of the population, as well as in significant difficulties for humanitarian partners to secure and deliver aid.[29]

Food insecurity was widespread in Sudan in 2020: **an estimated 9.6 million people, representing 21% of the total population, were expected to experience high levels of acute food insecurity (Integrated Food Security Phase Classification, or IPC, Phase 3 or above) between June and September 2020, the highest on record since the introduction of the IPC analysis in Sudan.**[30] Increasingly high staple food prices are expected to have posed additional barriers to households accessing sufficient food to meet their needs, with further negative effects on an already concerning food security situation.

Prior to COVID-19, the health system in Sudan had already been weakened due to years of low funding, as well as lack of personnel and essential medicines; inflation and the COVID-19 related disruption of supply chains further hindered the population's access to healthcare, with rising prices of healthcare services and lower availability of medical items.[31] At the same time, the intense flooding events of 2020, which affected more than 875,000 people across 17 states, also resulted in increased exposure of the affected population to vector and water borne disease.[32]

Finally, more than 2 million IDPs are currently displaced in the country,[33] of which over 130,000 newly displaced due to increasing tensions in the Darfur states in early 2021.[34] Sudan also hosts more than 1 million refugees from various countries, with over 60,000 new refugees having crossed the border between November 2020 and early February 2021 as a result of the unfolding Tigray crisis, in neighbouring Ethiopia.[35]

Given the volatile security situation in some areas, humanitarian actors face serious challenges in collecting data in a systematic and comprehensive way, often resulting in significant gaps in the information required to design, plan, and evaluate their programming. Meanwhile, the deteriorating economic situation, as well the protracted and

[21] FAO. The Sudan 2020 Flood impact rapid assessment September 2020.
[22] OCHA. "Humanitarian Needs Overview: Sudan," February 2021
[23] Al Jazeera. Sudan: Annual inflation tops 200% in September, as food prices soar. September 2020.
[24] World Food Programme. Market Monitor Sudan, December 2020.
[25] FEWSNET. Sudan Price Bulletin, February 2021.
[26] Radio Dabanga. Sudan: New fuel prices set to combat shortages. January 26 - 2021
[27] FAO. Sudan: Revised Humanitarian response Coronavirus disease 2019. May-December 2020
[28] IMF. Sudan Overview. Accessed: February 2021.
[29] OCHA. Soaring inflation hits the most vulnerable and increase humanitarian needs in Sudan. October 2020
[30] Integrated Food Security Phase Classification, "Integrated Food Security Phase Classification Snapshot: June - December 2020."
[31] OCHA. SUDAN Situation Report Last updated: 28 Oct 2020
[32] OCHA. Sudan: Floods Situation Report - As of 22h00, 10 September 2020
[33] OCHA. Sudan Situation Report, 4 February 2020
[34] IOM. Sudan Emergency Event Tracking. Conflict in Saraf Omra, North Darfur Update 1: 8 March 2021; Ag Geneina, West Darfur Update 8: 4 March 2021; Al Fasher, West Darfur Update 1: 28 February 2021; Conflict in Gereida, South Darfur Update 2: 3 February 2021.
[35] UNHCR. Ethiopia Emergency Situation. Arrivals Update | Kassala & Gedaref - 9 March 2021; Arrivals Update Blue Nile - 28 February 2021.

recurring internal displacement and refugee crises, result in a constant need for up-to-date information. **In this context, the United Nations Office for The Coordination of Humanitarian Affairs (OCHA) and the humanitarian community decided to conduct the first annual Multi-sectoral Needs Assessment (MSNA) in Sudan in 2020. This assessment aimed to inform the 2021 Humanitarian Needs Overview (HNO) and Humanitarian Response Plan (HRP) processes and address the lack of reliable and up-to-date data on humanitarian conditions for humanitarian planning and decision-making processes, a gap that especially affected parts of the country that historically have seen less presence of aid actors.** The general objective of this MSNA was to contribute to a more targeted and evidence-based humanitarian response in Sudan by providing humanitarian actors with a nationwide, locality-level, multi-sector analysis of current population needs.

This assessment was made possible thanks to funding from the Office of U.S. Foreign Disaster Assistance (OFDA) and Sudan Humanitarian Fund (SHF), and thanks to the support provided by the International Organisation for Migration (IOM) and 26 other operational partners, who provided human and logistical resources to complete data collection. In order to ensure the pertinence of the assessment vis-à-vis existing data collection exercises, the methodology and tools were designed in coordination with sectors and technical partners. Please refer to the 2020 Sudan MSNA dashboard and 2020 Sudan MSNA Analysis results of household data for an overview of MSNA indicator results. **Please note that while indicator results were used to inform the HNO and HRP processes, results presented in this report are based on an analysis conducted by REACH, using a distinct analytical framework (see methodology section for more information).**

In order to present the main results concerning the scope and severity of multi-sectoral needs of non-displaced, internally displaced (IDP) and refugee households, this report is divided into five sections, preceded by a detailed description of the adopted methodology. The first section provides an overview of multi-sectoral needs at the national level, in terms of magnitude and severity. The second section focusses on the drivers of household needs. The third section examines the link between pre-existing vulnerabilities of households and the severity of their multi-sectoral needs. The fourth section provides a separate analysis of IDP and refugee household data, as well as an analysis of household needs in the Abyei area. Finally, the fifth section focusses on accountability to affected populations (AAP) indicators, providing results for all targeted population groups.

METHODOLOGY

The scope and methodology of the 2020 Sudan MSNA were determined jointly with OCHA and the Inter-Sector Coordination Group (ISCG). Based on this determination, the MSNA consisted of a multi-sectoral, mixed-methods assessment, which included a **structured household survey covering 13,769 households in 18 states and 165 localities, plus the Abyei area, and 196 area of knowledge (AoK) key informant interviews (KIIs) in 9 states and 42 localities**. Non-probability sampling strategies were used and findings cannot therefore be generalised to the overall population of interest with a known level of precision.

1. Specific objectives

The general objective of this MSNA was to contribute to a more targeted and evidence-based humanitarian response in Sudan by providing humanitarian actors with a nationwide, locality-level, multi-sector analysis of current population needs and dynamics.

Its specific objectives were to:

1. **Understand humanitarian needs in terms of:**
   a. the impact that the crisis has had on people;
   b. humanitarian conditions (i.e. living standard gaps and use of coping mechanisms); and
   c. current priority needs and concerns;

   And how these humanitarian needs differ by:
   i. geographic location (i.e. locality);
   ii. population group (i.e. non-displaced, IDPs and refugees); and
   iii. pre-existing vulnerability profile (i.e. female or child-headed households, relatively large age-dependency ratio).

2. **Identify the severity of humanitarian needs, and the proportion of households in each severity category, in order to provide robust evidence to support and inform:**
   a. Key milestone documents such as the HNO and the HRP for 2021;
   b. Sudanese humanitarian response planning in general, especially around inter-sectoral needs.

2. Scope

Geographic scope

This assessment covered all 18 Sudanese states, including 185 localities within these states. Three localities in South Kordofan State,[36] plus portions of localities in Blue Nile States, were excluded from the sampling frame due to access and security restrictions.

Additionally, the assessment covered the Abyei area, which is an area on the border of Sudan and South Sudan with special administrative status. Results for Abyei have been analysed and presented separately within this report.

Target population groups

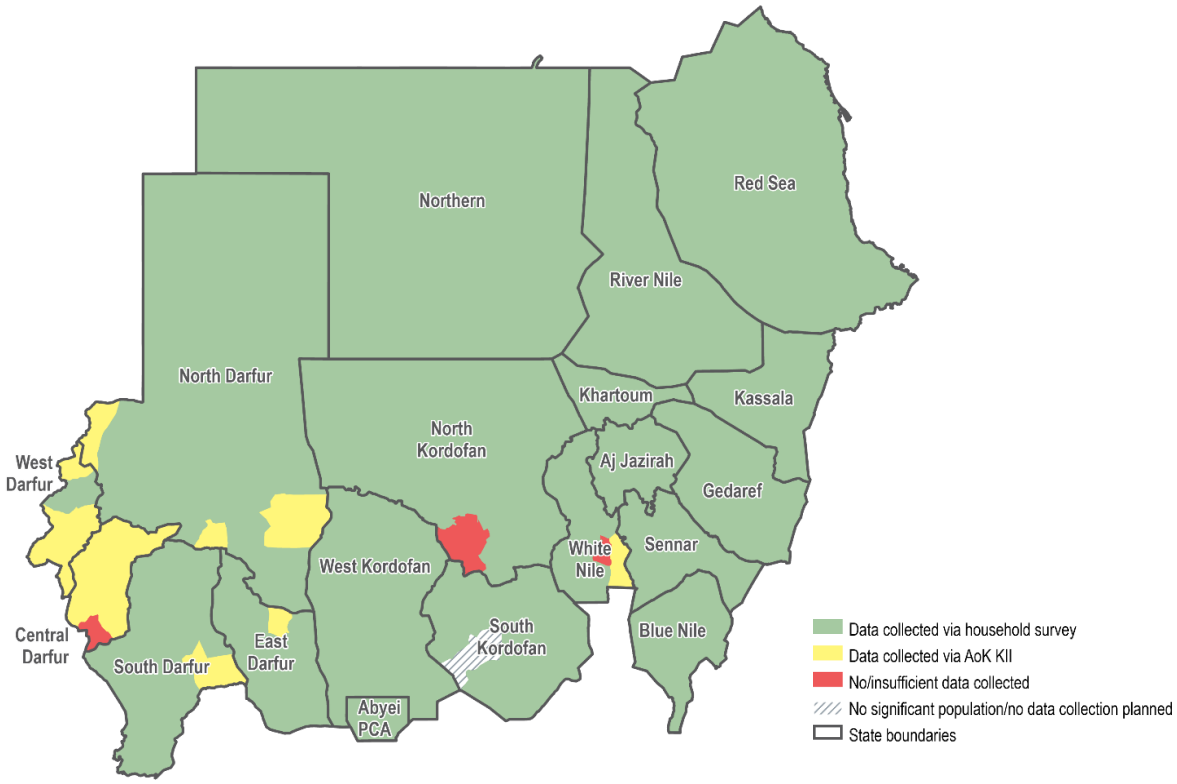
The assessment targeted the following three population groups, which were jointly determined by OCHA, the ISCG, and the Refugee Consultation Forum (RCF):

- **Non-displaced:** For the purpose of this MSNA, non-displaced people, also called "residents," were Sudanese nationals (whether native-born or naturalised) that either had never been displaced from their habitual residence, or that were formerly displaced and had returned to their habitual residence, or whose displacement occurred prior to 2003.

[36] The following three localities were excluded: Heiban, Um Dorein and Al Buram localities in South Kordofan state.

- **Internally Displaced Persons (IDPs):** IDPs are Sudanese nationals (whether native-born or naturalised) that had been displaced from their habitual residence by an event (e.g. violence or natural disaster) since 2003 and forced to seek safety in another village, neighbourhood, camp or gathering site in Sudan.[37]
- **Refugees:** Refugees are people living in Sudan who have fled war, violence, conflict or persecution and who had crossed an international border to find safety in another country.[38]

Figure 1. Non-displaced population group: data collection coverage



Sectors

All Sudan humanitarian sectors and sub-sectors were included in the assessment: Food Security and Livelihoods (FSL); Health; Nutrition; Water, Sanitation and Hygiene (WASH); Emergency Shelter and Non-food Items (SNFI); Protection; and Education. Within the Protection sector, the following sub-sectors were covered: General Protection, Child Protection, Gender-Based Violence (GBV) and Mine Action.

While the Nutrition sector was included in the MSNA, the collected Nutrition data was not included in the composite indicator analysis presented in this report, due to limitations in the data caused by the MSNA's remote data collection approach.

3. Sampling strategy

The assessment relied on a non-probability sampling approach for both household surveys and AoK KIIs. A non-probability approach was chosen due to limitations in the available population data for Sudan, as well as limitations in the logistics of collecting data and challenges in covering the entire population of interest using probabilistic methods.

[37] This definition of IDPs was drawn from the Sudan IOM-DTM Round Zero Report from October 2019, pp. 6:
"According to the Guiding Principles on Internal Displacement, internally displaced persons (IDPs) are '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 in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border.' (United Nations, 1998). Building from this, and for operational purposes, the DTM considers a person to be displaced if they have been forced or obliged to flee from their habitual residence by a causing event since 2003 and subsequently sought safety in a different location: village, neighbourhood, camp, or gathering-site."

[38] This definition was drawn from the 1951 Refugee Convention, pp. 3: "A refugee, according to the Convention, is someone who is unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion."

Household survey sampling

Households were selected using a combination of purposive and snowball sampling. Data collection partners collected lists of potential respondents in the targeted geographic areas, consisting of adults (18 years of age or older) from the target population groups who could answer on behalf of their entire household; respondents were also asked to provide referrals for other households that might consent to be surveyed.

Due to the ambitious scope of the MSNA, as well as to limitations in data collection partners' availability and capacity, it was anticipated that data collection partners would not be able to cover all strata with household surveys. Therefore, it was planned that any strata which could not be covered with household surveys would be transitioned to AoK KIIs partway through the data collection period.

For detailed information on the population data used to create the household survey sampling frame, as well as on how the household survey data collection targets were set, please see Annex I (Terms of Reference document).

Area of Knowledge Key Informant sampling

AoK KIs were selected purposively by data collection partners, under the supervision of REACH, based on three main criteria: recent, reliable knowledge of the stratum in question; preferably, special expertise in one of more sectors (e.g. health, education); and willingness to participate in the MSNA. For every stratum that was switched from the household survey approach to AoK KIIs, at least three AoK KIIs were conducted, to ensure that data could be triangulated.

4. Data collection

Two KoBo data collection tools were developed in collaboration with OCHA and the sectors: one for the household survey and the other for the AoK KIIs. OCHA oversaw translation of the tools from English to Arabic, and OCHA, IOM, and other partners assisted in reviewing and piloting the final, Arabic tools.

Because REACH was not physically present in Sudan either before or during most of the data collection period, and because Internet connections in Sudan are often unreliable, it was agreed among MSNA partners that REACH would provide enumerator training materials, and data collection partners would be responsible for training their enumerators using these. As with the data collection tools, OCHA oversaw the translation of training materials into Arabic. Topics covered in the materials included enumerator ethics, including special notes on GBV. For a full list of the topics covered by these training materials, please see Annex II.

Data collection for the household survey ran from 16 August to 27 October 2020, while data collection for the AoK KIIs took place from 28 October to 16 November 2020. For both tools, remote data collection via phone interviews was prioritised wherever possible due to the risks of COVID-19. Where phone-based data collection was not possible, data was collected face-to-face, using all reasonable precautions to prevent the spread of COVID-19; this was particularly the case for refugee households, due to the very low phone ownership rates within this population group. REACH monitored data quality throughout the data collection period and continuously provided feedback to data collection partners on any issues, in line with the Data Collection standard operating procedures (SOPs), found in Annex III, and in line with IMPACT Initiatives Personally Identifiable Information SOPs.

Due to limitations in both data collection partners' availability and capacity, the final household survey and AoK KII datasets covered 184 out of 186 non-displaced strata (162 via household survey and 22 via AoK KIIs); 50 out of 52 IDP strata (22 via household survey and 28 via AoK KIIs); and 27 out of 84 refugee strata (22 via household survey and 5 via AoK KIIs).

5. Analysis

This report focuses on inter-sectoral findings; for basic indicator results, organised by sector, please refer to the 2020 Sudan MSNA dashboard and 2020 Sudan MSNA Analysis results of household data. **Please note that while indicator results were used to inform the HNO and HRP processes, results presented in this report are based on an analysis conducted by REACH, using the distinct analytical framework outlined below.**

The analytical approach used for household-level data follows the analytical framework proposed by REACH and was based on the draft Joint Inter-Sector Analysis Framework (JIAF), a framework being developed at the global level aiming to enhance understanding of needs of affected populations. In summary, the framework aims to identify households with unmet needs by sector (living standard gaps – LSGs), and/or pre-existing vulnerabilities.[39] The framework then allows to calculate the proportion of households in a given area that are considered to have multi-sectoral needs.

KIIs results were the object of a qualitative analysis, and complemented quantitative findings, where relevant.

Living Standard Gap (LSG) composite indicators

The household LSG score for a given sector is calculated by aggregating individual MSNA indicators chosen for this sector. The aggregation of these indicators allows to obtain a deprivation score and categorise the household according to a severity scale. A detailed description of how each LSG composite indicator was calculated can be found in Annex IV.

The JIAF includes a severity scale with 5 classifications ranging from a score of 1 (none/minimal) to 5 (catastrophic). However, for the purposes of this analysis, only a scale of 1 (none/minimal) to 4 (extreme) is used; the details of the categories used are provided in Annex V. The maximum score of 5 is not used because the data that is needed for a score of "catastrophic" is primarily at area level (e.g. mortality rates, malnutrition prevalence, burden of disease), and this type of data is difficult to factor into a household-level analysis.[40]

A household was considered to have an unmet need in any given sector when its LSG score was "severe" or higher. Please note that in calculating the LSG scores, all data was weighted to compensate for any unexpected variations in survey submissions (e.g. survey over-submission for some strata).

Multi-Sector Needs Index (MSNI)

After the households' LSG scores were calculated, they were combined to produce a multi-sector needs index (MSNI) score for each household. The MSNI is a measure of the household's overall severity of humanitarian needs across sectors (expressed on a scale from 1 to 4), based on the highest sectoral LSG severity score identified for each household. For a full explanation of how the LSGs were combined to arrive at a MSNI score for each surveyed household, please see Annex VI.

Pre-existing vulnerabilities

Finally, the correlation between a household's needs and its pre-existing vulnerabilities were explored. Two measures of pre-existing vulnerability were used; these were: (1) whether the household was female- or child-headed and (2) whether the household's age-dependency ratio (ADR)[41] was above the national ADR of 0.78.[42] The purpose of this additional analysis was to assess to what extent these underlying conditions may have exacerbated the impact that the crisis had on households affected by these vulnerabilities.

6. Secondary data

The secondary data review (SDR) matrix was composed of a wide range of secondary sources. The main use of these secondary sources was to orient the assessment and ensure that the data collection tools, methodology and analysis were in line with the most critical humanitarian issues in Sudan, and that they effectively addressed current information gaps. A secondary use of these sources was to triangulate data collected through the MSNA. The topics covered by these sources included: political and economic background; peace-making and peacebuilding initiatives; humanitarian conditions; recent events; and humanitarian response (including 4Ws). The types of sources in the SDR included: HNOs and HRPs for 2020 and prior; IPC reports; IOM Displacement Tracking Matrix (IOM-DTM) data and reports; OCHA Situation Reports; sector publications (e.g. COVID-19 live dashboard); United

[39] Pre-existing vulnerabilities are the underlying processes or conditions that influence the degree of a shock and influence exposure, vulnerability or capacity, and which would subsequently exacerbate the impact of a crisis on those affected by the vulnerabilities.
[40] Additionally, as global guidelines on the exact definitions of each class are yet to be finalised, and given the response implications of classifying a household or area as class 5 (catastrophic), REACH is not in a position to independently verify if a class 5 is occurring.
[41] Age dependency ratio: The ratio of dependent household members (defined as aged <15 or ≥65) to working-age household members (defined as aged 15-64)
[42] World Bank, "Age dependency ratio (% of working-age population) - Sudan," 2019.

Nations High Commissioner for Refugees (UNHCR) reports on the conditions of refugees; reports and press releases published by humanitarian actors; and reports and press releases published by Government of Sudan technical ministries.

7. Ethical considerations

Ethical concerns were integrated into every stage of the MSNA. First, REACH undertook a "do no harm" analysis during the assessment's design phase. This meant that before any of the data collection tools were piloted, REACH assessed all questions against IMPACT Initiatives' Standard Operating Procedures on Personally Identifiable Information. Any sensitive questions, or questions which carried potential risks for the respondents, were weighed against the potential benefit of collecting such data. In nearly all cases, questions which carried potential risks for respondents were removed out of an abundance of caution. Also, the MSNA's data collection methodology was selected to minimize the risk of transmission of COVID-19, by prioritising remote data collection wherever possible.

Secondly, a module on survey ethics and the importance of informed consent was included in the enumerator training of trainers (ToT) materials which were provided by REACH to partners. Another module on COVID-19 transmission was included within the safety and security ToT materials, and all data collection partners were requested to adhere to a list of minimum standards.

Thirdly, an informed consent script was included at the start of both data collection tools. This script described the purpose of the data collection exercise and assured respondents that their participation was entirely voluntary and that their responses would be kept anonymous. If the participant did not give informed consent, data collection with them was immediately terminated.

REACH took all appropriate measures to ensure that MSNA data was appropriately protected after collection, in line with the Data Protection standard operating procedures outlined in Annex III. All potentially sensitive data, or data that could potentially allow respondents to be identified, was removed from the dataset versions before they were publicly shared. The final dataset was published only as aggregated data, in part to ensure that there was no personally identifiable information that could be traced back to respondents.

Finally, the putting in place of strategies to prevent and address sexual harassment, exploitation and abuse during the assessment process, clarifying referral procedures and taking into account of cultural and communication preferences of target populations rested with data collection partners, based on their internal processes.

8. Challenges and limitations

The 2020 Sudan MSNA was subject to several challenges and limitations. These challenges, and their implications for the findings of this assessment, are summarised below:

Sampling approach

- **Non-probability sampling strategies were used and findings cannot therefore be generalised to the overall population of interest with a known level of precision.**
- **Limited comparability of household survey and AoK KII data:** Household survey and AoK KII results cannot be directly compared since they were conducted using different sampling approaches. Comparison between the results of the two datasets can be qualitative (i.e. through narrative) only.

Geographic coverage

- **Non-comprehensive geographic coverage:** Not all strata in the original sampling frame for all three population groups were covered in the final datasets. Refugee coverage was especially low, with only 32% of the originally targeted strata covered. This limits the extent to which findings can be considered indicative for the population groups as a whole, as well as for the country as a whole.
- **Some localities and portions of localities excluded:** Three localities in South Kordofan and portions of localities in Blue Nile were excluded from data collection due to security and access issues.

Data collection period

- **Long data collection period:** Data collection started in August and ended in November. Since certain indicators (e.g. problems with drinking water) may fluctuate seasonally, their data was likely affected by the relatively long data collection period.

Data collection methods

- **Limits of phone-based data collection:** Some of the household survey and AoK KII data was collected via phone, as a way of reducing COVID-19-related risks. However, using phone-based data collection may have excluded some vulnerable households or individuals that do not have access to a phone (theirs or borrowed) and/or who live in an area without mobile network coverage. It also limited the types of data that could be collected for certain sectors, such as nutrition. For other sectors, it meant that enumerators were unable to verify the information that respondents provided, such as for shelter condition.
- **Protection needs under-reported:** The data collection tools were designed to minimise the risk of harm to respondents. Accordingly, questions on particularly sensitive topics such as GBV incidents were not included. Also, most of the data collected was quantitative, collected via household survey and/or collected over the phone. For this reason, it is likely that protection needs were under-stated.
- **Proxy reporting:** Household survey data was reported by proxy by one respondent per household, rather than by all individual household members themselves, and therefore might not accurately reflect lived experiences of individual household members, who might be more vulnerable than the data suggests.
- **Respondent bias:** Certain indicators may be under- or over-reported due to the subjectivity and perceptions of respondents. For instance, respondents might have the tendency to provide what they perceive to be the "right" answers to certain questions (i.e. social desirability bias).
- **Limitations of household surveys:** While household-level quantitative surveys seek to provide quantifiable information that can be generalised to represent the populations of interest, the methodology is not suited to provide in-depth explanations of complex issues. Thus, questions on "how" or "why" are best suited to be explored through qualitative research methods. Also, since "households" are the unit of analysis, intra-household dynamics (including for instance intra-household power relations across gender, age, disability) cannot be captured. Users are reminded to supplement and triangulate household-level findings with other data sources.

Final dataset

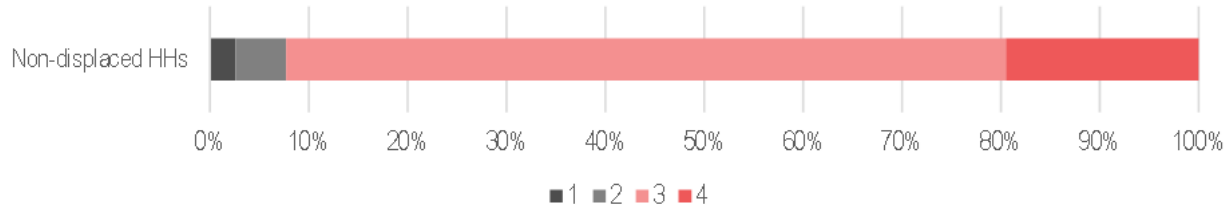
- **Female respondents under-represented:** Only 27% of all household survey respondents and 4% of AoK KII respondents were female. For this reason, it is likely that women's needs were under-stated in the final analysis.
- **Inaugural MSNA:** As this was the first-ever Sudan MSNA, it was not possible to compare the data to previous years'.

FINDINGS

1. Overview of multi-sectoral needs

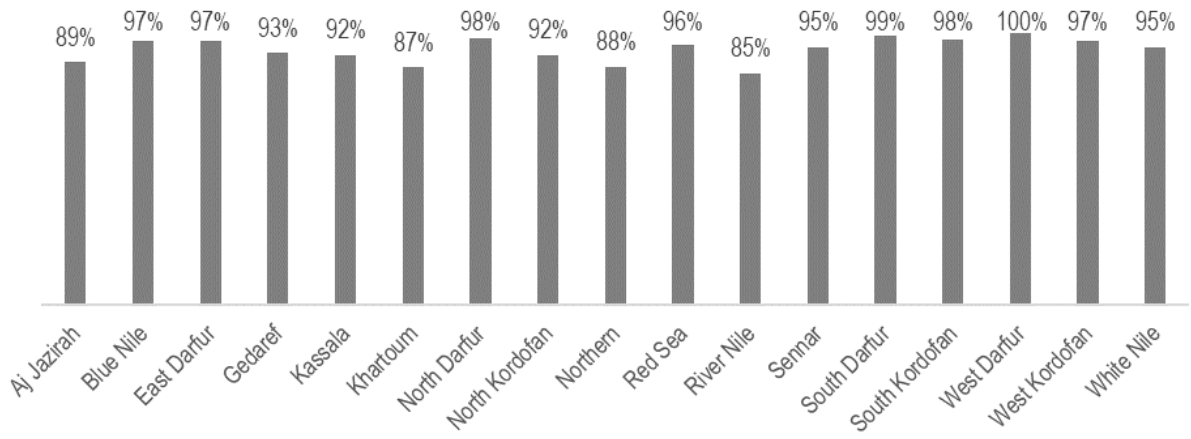
Overall, **92% of non-displaced households were found to have multi-sectoral needs,**[43,44] meaning they were unable to meet their basic needs in one or more sectors (MSNI score of 3 or above). Overall, 73% of households were found to have severe needs (MSNI score of 3) and 19% extreme needs (MSNI score of 4).

Figure 2. Percentage of households by MSNI severity score.



The proportion of households found to have multi-sectoral needs were relatively homogeneously distributed across different states in Sudan - between 85% and 100% of households in all 17 states covered by non-displaced household surveys. The lowest proportions were observed in River Nile, Khartoum, Northern and Al Jazirah states (between 85% and 89% of households), the highest in North Darfur, South Darfur, West Darfur and South Kordofan (between 98% and 100% of households). This distribution suggests that structural issues, independent of conflict and displacement crises, have a significant impact on the ability of households to meet their needs across the country, including in areas that are not considered in a state of emergency.

Figure 3. Percentage of households with multi-sectoral needs, by state

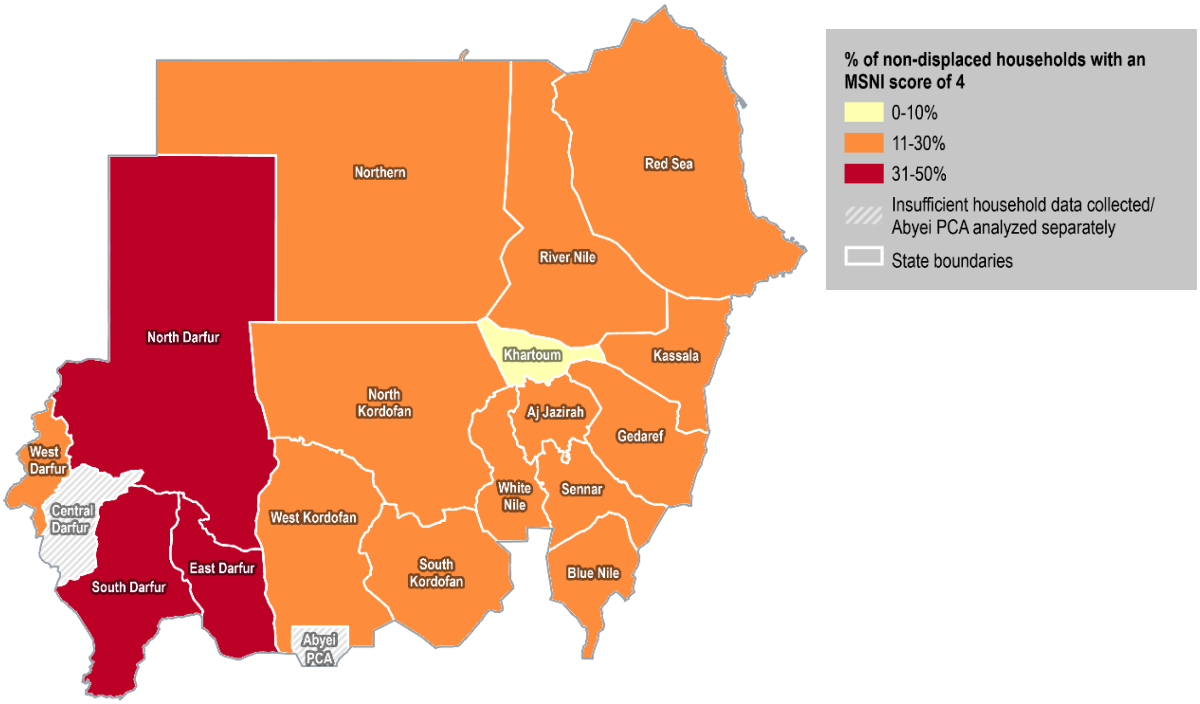


While the proportions of households with multi-sectoral needs are similar across states, extreme multi-sectoral needs appear more concentrated in North Darfur, East Darfur and South Darfur, where the highest proportions of households with extreme needs (MSNI score of 4) were found (42%, 41% and 31% of households, respectively). In these states, insecurity and recurrent displacement crises, along with periodic restrictions to movement and humanitarian access, can partly explain the higher severity of needs observed.[45] Conversely, the lowest proportion of households with extreme needs was found in Khartoum state (8% of

[43] Multi-sectoral needs: proportion of households with an MSNI severity score of at least 3, based on the severity of Living Standard Gaps (LSGs) identified in each household.
[44] The assessment does not provide estimates of the total number of people associated with the proportions presented in this report. Caseload estimates are beyond the scope of the MSNA and could lead to a misinterpretation of the results, due to the nature of data on population figures – considered to be out of date - and the dynamic nature of the crisis. It is important to note, however, that population density varies significantly across Sudan. Depending on population density by state, the highest percentage does not automatically correspond to the highest number of households.
[45] Internal Displacement Monitoring Centre. Sudan: Overview and Latest News on Displacement. Accessed: February 2021.

households), the most populous state and economic centre of the country, which has historically attracted, along with other central states, the bulk of public and private investments;[46] households residing in this state likely have better access to public services and employment opportunities as a result.

Figure 4. Percentage of households with extreme multi-sectoral needs (MSNI score of 4), per state



2. Most common drivers of needs

According to the results of the analysis, about three quarters of households had multiple co-occurring sectoral needs (two or more LSGs), with 51% of non-displaced households having needs in two or three sectors simultaneously, and 24% of households in four sectors or more. While having co-occurring needs in multiple sectors should not necessarily be interpreted as a "worse" situation, compared to having unmet needs in only one sector, this finding highlights that a majority of households were experiencing barriers to meeting their needs across multiple domains.

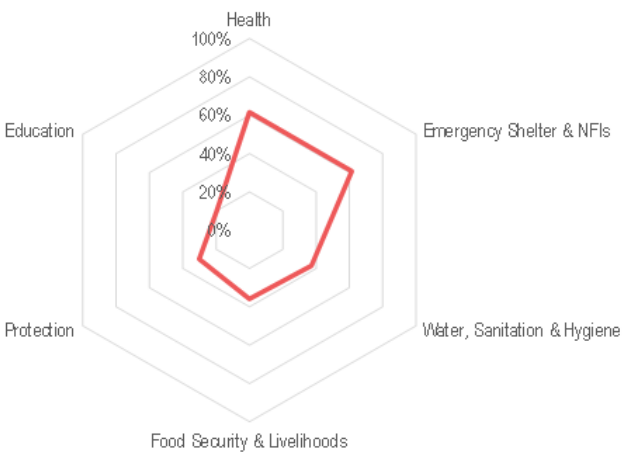
Figure 5. Proportion of households by number of sectoral LSG(s)

Number of sectoral LSGs						
0	1	2	3	4	5	6
7%	18%	26%	25%	17%	6%	1%

At the national level, the most common drivers of needs were needs in the health and SNFI sectors. Among households, 62% had unmet health needs and 61% had unmet SNFI needs, followed by households having unmet needs in the WASH and FSL sectors (37% and 36% of households, respectively).

[46] World Bank. SUDAN State-level Public Expenditure Review. 2014

Figure 6. Proportion of non-displaced households with LSG(s) per sector



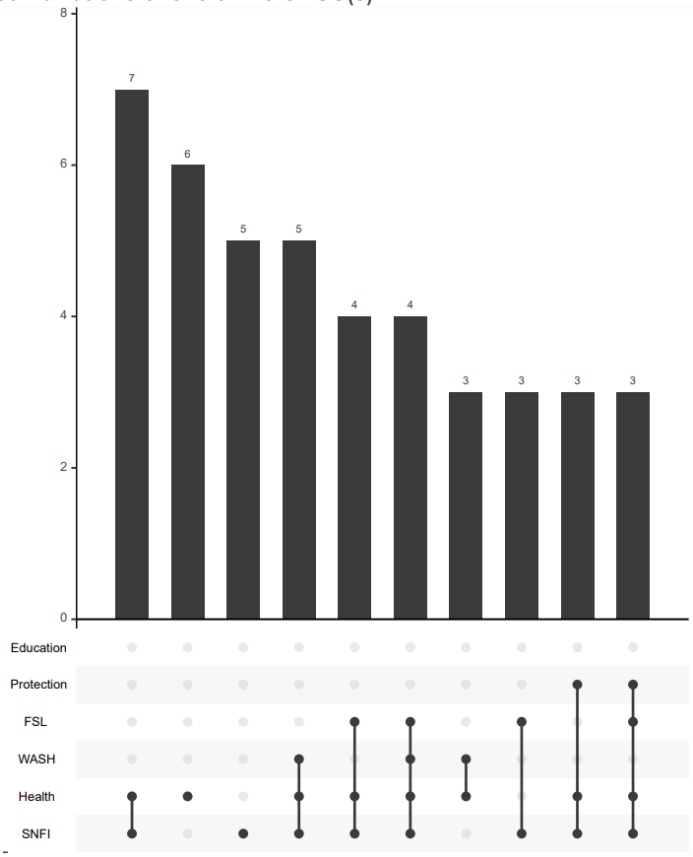
The fact that over half of households had unmet health needs underlines the existence of structural barriers at the national level, limiting the ability of households to meet their needs in this specific sector. At the state level, over half of households were found to have unmet health needs in all states except Red Sea (48% of households). This points strongly towards country-wide, systemic barriers, that are independent of more punctual shocks such as insecurity, displacement or the COVID-19 pandemic, and that denote a low capacity of the population to cope with the negative consequences of any new shock in this sector. These findings echo households' responses when asked to identify their top three priority needs: "health" was the most commonly self-reported priority need at the national level, reported by 62% of non-displaced households.[47] According to MSNA results, the most commonly reported barriers to accessing healthcare at the country level were a lack of medicine at the health facility (supply-related barrier) and a high cost of medicine and services (financial barrier).[48] KIIs results also indicate that while health facilities were considered to be available for a majority of households in the areas covered through KIIs, services had to be paid for and barriers related to the high cost of medicine, services and transport to the health facilities were considered prevalent, along with shortages of qualified workers and medical items or medicine at health facilities.

Similar to health, over 50% of households were found to have unmet needs in the SNFI sector in 15 out of 17 states (except River Nile and Northern states, where 49% of households had unmet needs in this sector). Indeed, a majority of households were found to live in shelters that did not meet agreed technical and performance standards (i.e. had damage or structural problems) at the time of data collection. Chronic problems related to shelter, as well as land rights issues, are acknowledged by the SNFI sector.[49] While KIIs findings also indicate that a majority of households were living in shelters that did not meet technical and performance standards, as defined by the SNFI sector, results may have been influenced by the use of a remote methodology for this assessment (independent verification of shelter conditions, by observation, was not possible) and are therefore entirely based on self-reporting on the part of households.

As shown in the graphic below, the combination of health and SNFI needs was the most commonly found combination of sectoral needs for non-displaced households, observed for 7% of all households and followed by households who had unmet needs in the health sector only (6%).

[47] See AAP section for more details
[48] The HeRams dashboard, partially covering health services in the Darfur states, similarly indicates a lack of medical supply as the main cause of health service dysfunction in these areas; WHO. HeRams Sudan. Accessed: February 2021.
[49] OCHA. Cluster status: Emergency Shelter and Non-food Items. October 2020.

Figure 7. Most common combinations of one or more LSG(s)[50]



It is worth noting that the percentage of households with unmet needs in any one sector was higher, for most sectors, in the Darfur states and in Blue Nile, as compared to other states; this also implies that households in these states were more likely to have a combination of needs across several sectors simultaneously. For instance, over 70% of households had an unmet need in the health sector in North, South and West Darfur, and Blue Nile states; over 75% of households had unmet SNFI needs in North, East and West Darfur, and between 45% and 60% of households had unmet FSL needs in North, South and West Darfur. This can be explained, notably, by the context of these areas, where land disputes and insecurity have occasioned recurrent displacement and protection crises since as far back as 2003, often associated to destruction of property and services.[51,52] An estimated 1.8 million IDPs were present across these areas in 2020,[53] resulting in significant strain on services and resources, including for non-displaced populations residing in locations receiving high IDP influxes. **Not surprisingly, unmet needs in the Protection sector were particularly high in some of these states, compared to the national average (30% of households), with between 40% and 52% of households found to have an unmet needs in this sector in North and West Darfur, Blue Nile and South Kordofan states.**

A notable exception to this pattern was observed for proportion of households having unmet WASH needs, found to be highest in Red Sea state, as well as South Darfur (64% of households). This was partly due to heavy rains in 2020 damaging or contaminating water sources: notably, the main water station in Twakar locality, Red Sea state, fully collapsed due to heavy rainfall.[54] However, the dry climate characterising this state and the lack of sufficient water, along with poor hygiene practices, also seem related to significant WASH gaps in this state, which is not typically considered as being in a state of emergency.[55]

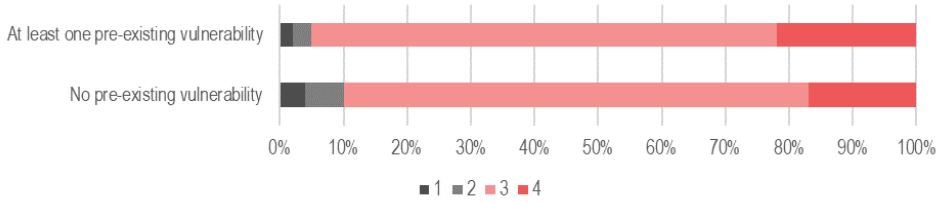
[50] See Annex VII for guidance on interpreting this type of graph.
[51] The Rift Valley Institute. The Sudan Handbook. 2012; Radio Dabanga. Unamid conference addresses land ownership in Darfur. November 2013
[52] Deutsche Welle. "More than 60 killed in fresh attacks in Sudan's Darfur region 27.07.2020".
[53] OCHA. Sudan HNO 2020. January 2020
[54] OCHA. Cluster Status: Water, Sanitation and Hygiene (WASH). October 2020.
[55] International Aid Service. WASH project in Red Sea state, Sudan. March 2018.

3. Pre-existing vulnerabilities

MSNI scores of non-displaced households were compared with two criteria of pre-existing vulnerability, referring to conditions that "influence the degree of shock and influence exposure, vulnerability or capacity,"[56] and which may therefore have a cross-cutting effect on needs. These two criteria of pre-existing vulnerability were: (1) whether the household was female- or child-headed and (2) whether the household's age-dependency ratio (ADR)[57] was above the national ADR of 0.78.[58]

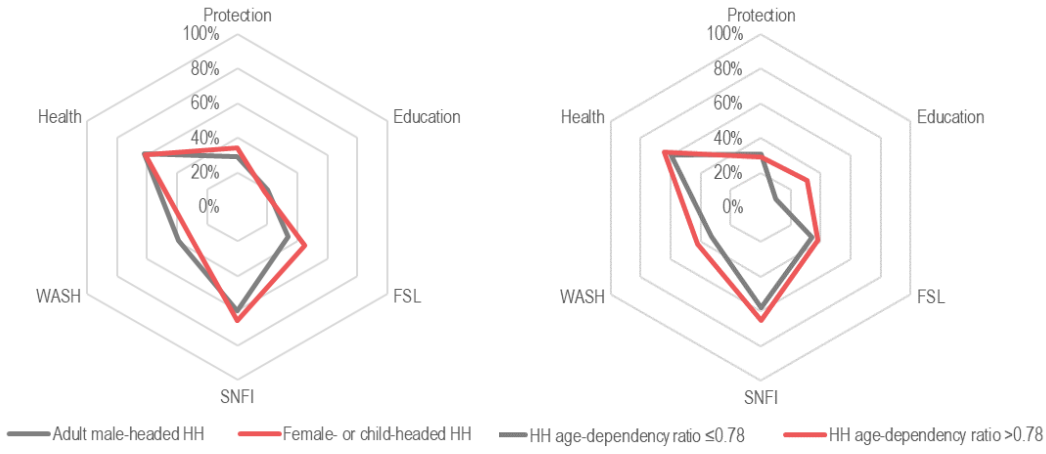
At the national level, 57% of households were found to have at least one pre-existing vulnerability; among these, 94% were found to have unmet needs in at least one sector. However, as shown in the figures below, little difference was found, by this analysis, between households having and households not having either of these vulnerability profiles, in terms of prevalence or severity of needs: among households with at least one pre-existing vulnerability, 95% had multi-sectoral needs; the proportion was 90% for households having no pre-existing vulnerabilities. This was also true when comparing households headed by an adult male to households headed by an adult female or a child, and households with an ADR below the national average to households with an ADR above national average. Similarly, no major difference was found in terms of severity of needs between households having or not having pre-existing vulnerabilities: 23% of households with at least one pre-existing vulnerability had extreme needs (MSNI score of 4), compared to 17% among households without at least one pre-existing vulnerability.

Figure 8. Percentage of households by MSNI severity score, by pre-existing vulnerability



Some differences were found when looking at drivers of needs through a vulnerability lens; notably, unmet needs in the education sector were much more prevalent among households with an ADR above the national average (30% of households), compared to households with an ADR below the national average (10% of households). This indicates a higer difficulty of households with few working-age members, compared to the number of dependent members, to cater for the education of children in the household. **Indeed, among households with an ADR above national average and with children aged 4-16, nearly three quarters (73%) had at least one child who was not attending school regularly (≥4 days/week) during the 2019-2020 school year, before the schools were closed on 15 March 2020 due to COVID-19;** this proportion was markedly lower for households with children aged 4-16 and an ADR below national average (31% of households).

Figure 9. Proportion of non-displaced households with LSG(s) per sector



[56] IMPACT Initiatives, "MSNA Guidance: Analysis," September 2020, pp 13.
[57] Age dependency ratio: the ratio of dependent household members (defined as aged <15 or ≥65) to working-age household members (aged 15-64)
[58] World Bank, "Age dependency ratio (% of working-age population) - Sudan," 2019.

Finally, it is worth noting a difference in the proportion of households having unmet needs in the FSL sector, depending on the age or sex of the head of household: nearly half of households headed by an adult female or child (45%) had unmet needs in this sector, compared to about one third (34%) of households headed by an adult male. Indeed, female or child headed households had overall poorer food consumption scores (FCS) and Reduced Coping Strategy Index (rCSI) scores, and more often reported facing barriers to accessing sufficient income to meet their needs, when compared to households headed by an adult male.

The above considerations denote that, while the prevalence and severity of needs do not significantly vary when considering the two selected measures of pre-existing vulnerability, differences exist in terms of need profiles.

4. Populations of particular concern

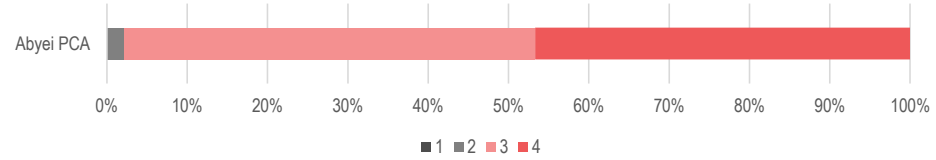
A zoom-in on areas and population groups not covered thus far in this report is necessary to complement the overall picture of needs. MSNI analysis results indicate that extreme needs are concentrated in areas of Sudan located along the South Sudan border. The Abyei area is located in this region, as are most IDP and refugee households assessed within the scope of this assessment. This section will thus focus, in turn, on multi-sectoral needs of non-displaced households residing in the Abyei area, followed by a zoom-in on overall multi-sectoral needs of IDP and refugee households.

Non-displaced households in the Abyei area

The Abyei area, otherwise known as Abyei PCA, is a region along the border between Sudan and South Sudan that has been afforded special status by the 2005 Comprehensive Peace Agreement that ended the Second Sudanese Civil War.[59] As part of this agreement, this region was meant to hold a referendum in 2011 to decide if it would end up joining South Sudan or remain with Sudan. However, this vote never took place due to disagreements over voter eligibility.[60] Since then, the Permanent Court of Arbitration redrew its borders, while the referendum is yet to take place.[61] Due to the special administrative status of this area, the data on non-displaced households which was collected here was analysed separately from the rest of the MSNA data.

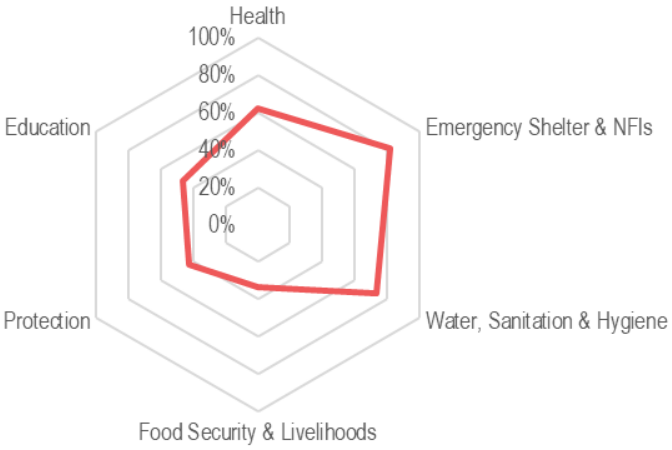
In Abyei, **nearly all non-displaced households (98%) were found to have multi-sectoral needs, with nearly half (47%) having extreme multi-sectoral needs (MSNI score of 4).** The high prevalence of multi-sectoral needs, as well as their severity, hints at a concerning humanitarian situation in Abyei, overall. **It is also worth noting that an overwhelming majority of households had needs in several sectors concurrently, with 94% of households having needs in three sectors or more.**

Figure 10. Percentage of non-displaced households by MSNI severity score, Abyei area



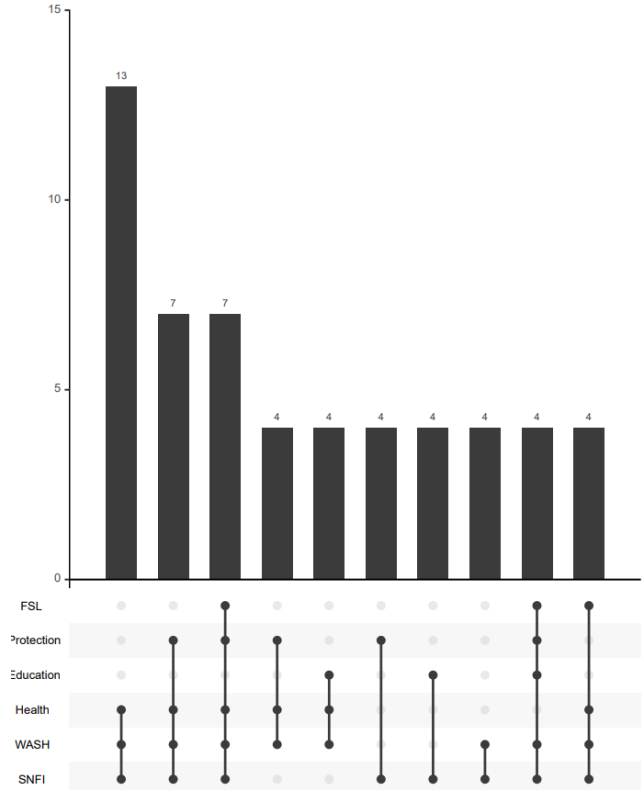
The main drivers of multi-sectoral needs were SNFI and WASH needs, with over two thirds of households (82% and 73%, respectively) found to have unmet needs in these two sectors; these were followed by unmet needs in the Health sector (62% of households). The most common need profile among households consisted of a combination of unmet needs in the above-mentioned sectors, simultaneously (13% of households).

Figure 11. Proportion of households with LSG(s), per sector.



[59] Crisis Group. Sudan: Breaking the Abyei Deadlock. October 2017.
[60] Pulitzer Center. How a Residency Dispute in One Key Town Could Lead Sudan Back to War. November 2010.
[61] Permanent Court of Arbitration. The Government of Sudan / The Sudan People's Liberation Movement/Army (Abyei Arbitration).

Figure 12. Most common combinations of one or more LSG(s)[62]



With regards to SNFI needs, more than two thirds of households (69%) were found to be living, at the time of data collection, in unfinished/unenclosed buildings, or collective, or emergency shelters, while 66% percent of households reported that their shelter had moderate or significant structural damage. As mentioned earlier in the report, it was not possible to verify the degree of shelter damage through direct observation, due to the remote methodology used; however, these figures may indicate very poor shelter conditions in Abyei overall. In addition to this, about one quarter of households (24%) reported that they did not own two or more vital NFIs, among mattresses, sleeping mats or other types of beds, kitchen sets, jerry cans and heating or cooking fuel.

Unmet WASH needs were largely related to a lack of access to improved sanitation facilities; in fact, 40% of households primarily relied on unimproved sanitation facilities and another 42% reported to mainly rely on open defecation. Further, more than one third (36%) of households reported being unable to access sufficient water to meet all their needs, at the time of data collection.

Finally, health needs had a similar pattern as the one observed across Sudan: while a majority of households (87%) reported that they were living in relative proximity of a primary healthcare facility - within one hour's walking distance of their dwelling-, more than half of the households (62%) who attempted to access health services in the three months prior to data collection reported experiencing barriers to accessing care, mostly due to the high cost of services and medicine, or lack of medicine.

As humanitarian access to the Abyei area has been restricted due to its special political and administrative context, and secondary sources to triangulate findings are scarce, significant information gaps on humanitarian needs remain.[63] Persisting insecurity, as well as difficult access and operating environment for humanitarian actors, are certainly related to the particularly high severity of needs observed.[64] However, more comprehensive and in depth assessments of the needs situation in this area are critical in order to better triangulate and contextualise MSNA findings.

[62] See Annex VII for guidance on interpreting this type of graph.
[63] UN. The situation in Abyei - Report of the Secretary-General (S/2020/308). April 2020.
[64] IOM. Event Tracking Report. Abyei Administrative Area. February 2020

Accountability to Affected Populations

With regards to self-reported needs in the Abyei area, overall 98% of households reported that they were in need of humanitarian assistance, a result that aligns with MSNA analysis results. Self-reported needs also broadly aligned with MSNA analysis findings, with "drinking water", "healthcare" and "shelter/housing" appearing among the most common self-reported top three priority needs. The most commonly preferred source of information on assistance, among households that reported needing assistance, was "community clubs / committees" (38% of households), followed by "mobile phone" (23%) and "aid workers from international NGOs" (18%).

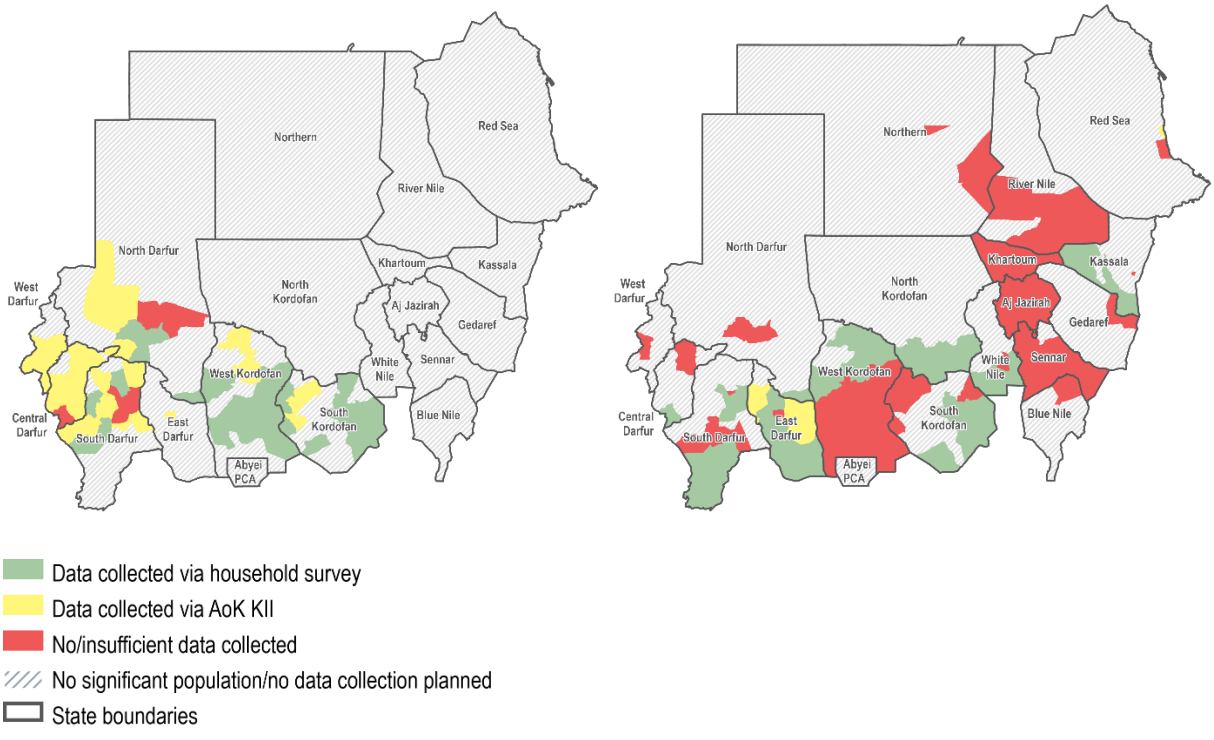
About half of the households (47%) reported being aware of people who may be unable to access available information about humanitarian assistance because of their specific needs, this was most commonly due to a lack of access to radio, television or a mobile phone, or due to discrimination. Also, over half of households (60%) reported "face to face at home, with aid worker" among their preferred means of providing feedback to aid providers about the quality, quantity and appropriateness of aid; this was followed by "face to face at office or other venue, with aid worker" (48% of households).

Finally, 22% of households reported that they considered it "ok" to pay for humanitarian assistance, and another 16% reported that it might be ok to pay for humanitarian assistance, depending on the situation; this is a concerning finding, indicating that about one third of households would consider acceptable paying in return for aid.

Internally-displaced person and refugee households

As outlined in the methodology section of this report, only 42% and 26% of the assessment's targeted IDP and refugee strata, respectively, were completed via household surveys. In total, 820 IDP household surveys and 884 refugee household surveys were conducted. Because the data collection achievement rates were relatively low for IDPs and refugees, the analysis of their results describes only the conditions of the specific IDP and refugee populations that were surveyed, and not the conditions of Sudan's IDP and refugee populations as a whole.

Figure 13. Data collection coverage of IDP, and refugee populations



All (100%) IDP and refugee households were found to have multi-sectoral needs; **more than half of IDP households (59%), and about one third of refugee households (27%) were found to have extreme multi-sectoral needs (MSNI score of 4).** Further, the overwhelming majority of households in both population groups, 97% of IDP households and 93% of refugee households, had a combination of sectoral needs (unmet needs in two sectors or more), indicating that nearly all households were experiencing barriers to meeting their basic needs across multiple domains concurrently. In particular, more than half (65%) of IDP households had unmet needs in four or more sectors simultaneously, compared to only about one third (33%) of refugee households and one fourth (24%) of non-displaced households.

Figure 14. Proportion of households per MSNI severity category, by population group

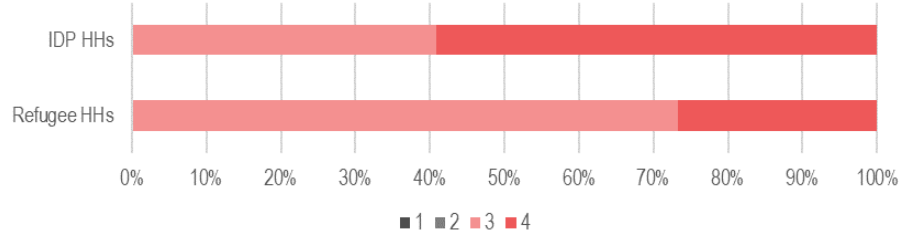
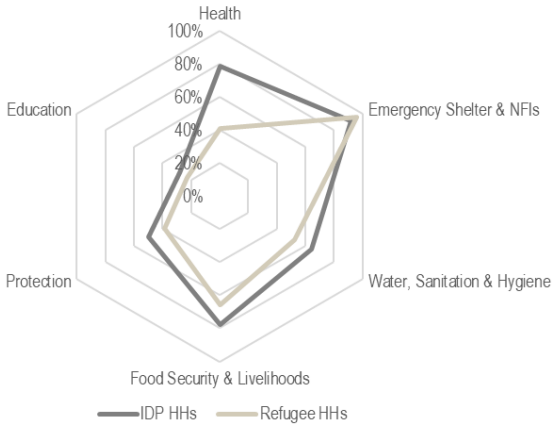


Figure 15. Proportion of households by number of sectoral LSG(s), by group

	Number of sectoral LSGs						
	0	1	2	3	4	5	6
IDP	0%	3%	7%	25%	33%	27%	5%
Refugee	0%	7%	22%	35%	22%	10%	3%

For both populations groups, SNFI was the most common driver of needs; in fact nearly all IDP households (92%) and refugee households (96%) had unmet needs in this sector. For IDP household, this was followed by health and FSL needs, with over three quarters of households having unmet needs in these two sectors (79% and 78%, respectively). The FSL sector was also the second most common driver of needs for the refugee group, as 65% of refugee households had unmet FSL needs. It is worth noting that, in terms of the food security situation, 21% of IDP and 19% of refugee households were found to have a poor FCS, and over a third of IDP households (38%) and one fourth (26%) of refugee households reportedly resorted to negative strategies to cope with a lack of food, with a "high" reduced coping strategy index (rCSI).

Figure 16. Proportion of households with LSG(s) per sector, by population group



The extreme severity of needs observed for IDPs can be explained, among others, by the security factors that typically occasion displacement in their areas of origin, by the frequency of displacement crises, and the size of IDP caseloads. In the Darfur states, land disputes and insecurity have occasioned recurrent displacement and protection crises since as far back as 2003, with households being often displaced multiple times.[65] In 2020, several

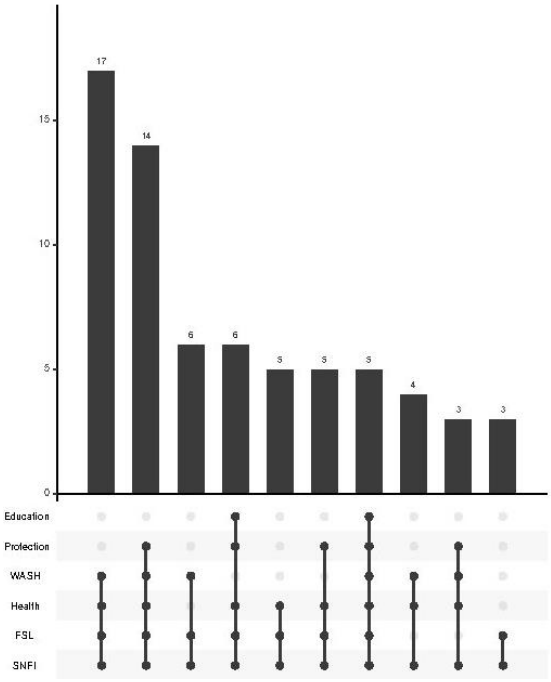
[65] The Rift Valley Institute. The Sudan Handbook. 2012; Radio Dabanga. Unamid conference addresses land ownership in Darfur. November 2013

attacks affected North, West and South Darfur states, with killings, including of children, and the destruction and looting of property and services, including the destruction of entire villages, significantly hampering attempts of IDPs to return to their area of origin even when the security situation improves.[66] These incidents have occasioned waves of internal displacement, often from rural or camp areas towards urban areas, in a region that was already hosting 1.8 million IDPs in early 2020.[67] This increases the strain on existing services and resources in the areas receiving high IDP influxes, resulting in poorer access to shelter and services. It was suggested by the UN that some of these incidents were tied to land disputes and that insecurity poses a particular threat to farmers returning to their fields for the farming season;[68] as insecurity drives away farmers from their lands, food production activities are disrupted and households are cut off from their main source of sustenance. This is aggravated by difficulties related to the delivery of aid, both due to access restrictions and to increasing fuel prices across the entire country in 2020.[69]

Similarly to the Darfur states, pockets of conflict persist in South Kordofan and Blue Nile states, near the border with South Sudan, where armed groups are still active; violent crimes, including incidents of robbery, killing, and looting are common, as well as recurrent internal displacement due to conflict or natural hazards.[70,71] Here, after over eight years of ongoing conflict, it is extremely challenging for aid partners to negotiate access to certain areas and reach affected populations in a timely and effective manner; this remains the most significant barrier to providing assistance and needed services, as well as to collecting essential information on needs.[72]

As shown Figure 17, the combination of SNFI, FSL, health and WASH needs was the most common need profile for IDP households (17% of households).

Figure 16. Most common combinations of one or more sectoral LSG(s), for IDPs[73]



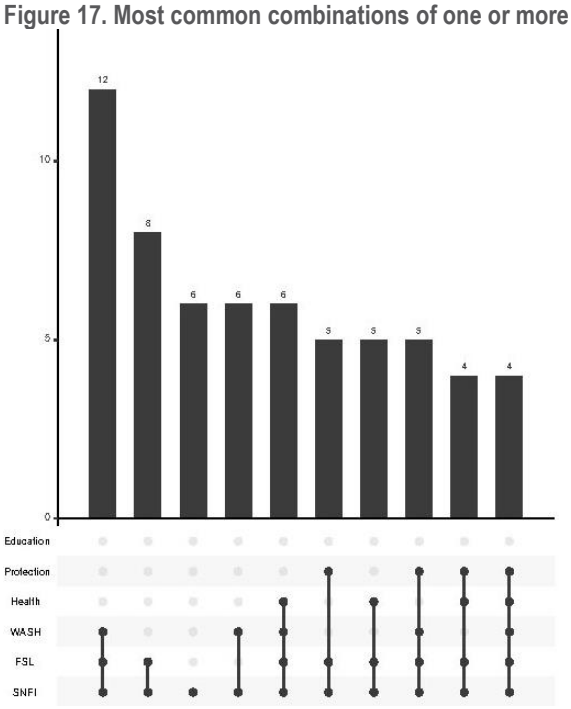
With regards to refugees, 75% of refugee households were of South Sudanese origin, typically fleeing the sporadic surges in violence affecting South Sudan, with many travelling on foot with no belongings, having witnessed

[66] Al Jazeera. UN condemns deadly violence in Sudan's North Darfur; Attackers kill at least 20 in Sudan's Darfur, says tribal chief; Dozens killed in renewed violence in Sudan's Darfur: UN. July 2020.
[67] OCHA. Sudan HNO 2020. January 2020
[68] BBC. Sudan to send more troops to Darfur after attacks. July 2020
[69] Radio Dabanga. Sudan: New fuel prices set to combat shortages. January 26 - 2021
[70] Radio Dabanga. Protests against insecurity and violence in South Kordofan. January 2021
[71] Asylum Research Centre. Sudan Country Report: the situation in South Kordofan and Blue Nile. January 2021.
[72] Ibid.
[73] See Annex VII for guidance on interpreting this type of graph.

traumatic scenes of violence and experiencing high malnutrition rates.[74] Displacement can explain the high proportion of households having SNFI and FSL needs, similar to IDPs. The fact that 82% of refugee households were living in camps may partly explain the lower proportion of households with extreme multi-sectoral needs observed for this population group, as opposed to IDPs, given easier access to aid within the camp setting. However, it was not possible within the scope of this assessment to distinguish between the situation of refugees living in camps as opposed to refugees living out of camps; information regarding the exact whereabouts of out-of-camp refugees in Sudan and their profiles is limited, although efforts are underway to address some of the main remaining information gaps.[75]

As shown Figure 17, the combination of SNFI, FSL and WASH needs was the most common need profile for refugee households (12% of households).

Figure 17. Most common combinations of one or more sectoral LSG(s), for refugees[76]



Results for these two population groups indicate higher percentages of households having severe needs (MSNI score of 4) and having co-occurring needs across multiple sectors among IDPs and refugees, as opposed to the non-displaced, with needs profiles also differing among the three population groups. However, as mentioned earlier in this section, results for the three population groups cannot be reliably compared due to low data collection achievements for IDPs and refugees; these difference could be further explored in future assessments. In addition, a disaggregation of MSNI results based on length of displacement of households was not possible within the scope of this assessment. Future assessments could look at how severity of needs and need profiles of IDP and refugee households change in relation to the length of their displacement, to provide a more rounded picture of the needs of these population groups.

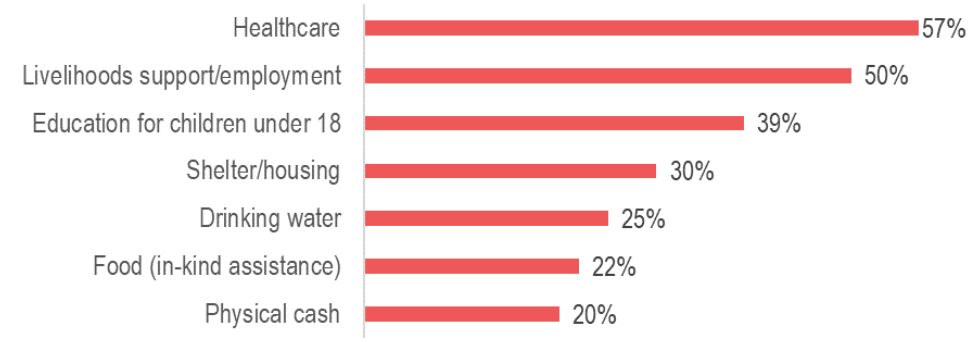
[74] MSF. Four things you need to know about South Sudanese refugees in Sudan. February 2021.
[75] UNHCR. Basic Needs and Vulnerabilities Assessment. Forthcoming.
[76] See Annex VII for guidance on interpreting this type of graph.

5. Accountability to Affected Populations (AAP)

AAP refers to the humanitarian commitment of including communities in decisions that have an influence on their lives and well-being. Due to the remote methodology used and the need for a survey length adapted to phone interviews, only a limited number of AAP-related questions were added to the questionnaire; the following section presents the preferences and experiences of humanitarian assistance by households, across all three population groups.

Overall, 97% of households reported that they were in need of humanitarian assistance. In order to better understand how households perceived their own circumstances, respondents were asked to list their household's top three priority needs: **the most common self-reported needs were healthcare (57%), and livelihoods support/employment (50%).**

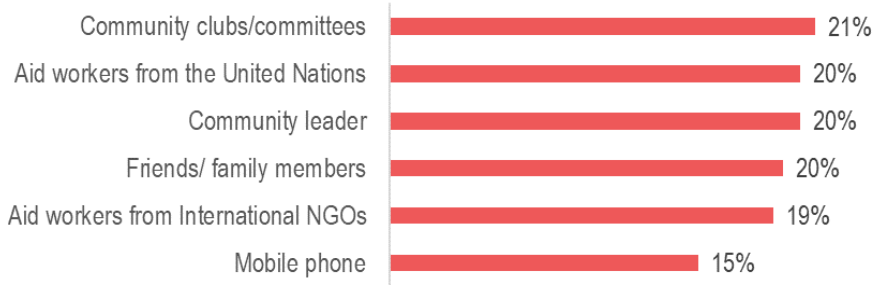
Figure 18. Most commonly self-reported top three priority needs



Self-reported education needs were significantly more prevalent than what initially suggested by the MSNA analysis. Analysis of both household- and of KI-level data suggest that these needs may be directly tied to the closure of schools during 2020, due to the COVID-19 pandemic: while regular attendance of children was considered to be the norm prior to the closure of schools in 2020, a lack of educational support for home-based learning was mentioned as a common barrier for children accessing education during the 2020 school closure.

The most commonly preferred sources of information on assistance, among households that reported needing assistance, varied, with about 20% of households reporting alternatively "community clubs / committees", "aid workers from the United Nations", "community leaders", "friends / family members" or "aid workers from International Non-governmental Organisations (INGOs).

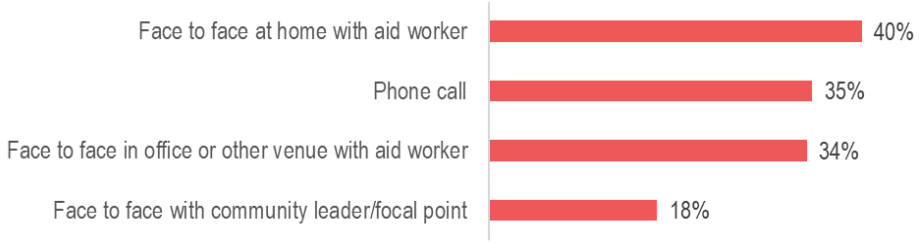
Figure 19. Most commonly preferred sources of information on assistance



It is worth noting that 48% of households reported that they were aware of others who may be unable to access information on humanitarian assistance because of specific barriers, the most common of which, reported in about one third of cases, were an inability to read or write, discrimination and lack of access to a mobile phone. KIIs results seem to align with this finding, as a lack of means of information/communication (e.g. radio, TV, phone) and physical impairments such as poor hearing or sight were reported to be the most common barriers to accessing information on assistance in areas assessed through KIIs.

Similarly, households were asked about their experiences and preferences when interfacing with humanitarian aid providers to provide feedback on the quality, quantity and appropriateness of aid; households reported to largely prefer face to face feedback with aid workers, whether at home (40% of households) or at a different venue (34%), as well as phone calls (35%).

Figure 20. Most commonly reported preferred means of providing feedback to aid providers about the quality, quantity, and appropriateness of aid



Abuse in the humanitarian system can be greatly detrimental to those in need of it, while also being difficult to trace. In order to gauge their experience with humanitarian assistance, all households were asked how they felt about paying money in exchange for receiving humanitarian aid. On this topic, 16% of households reported that they felt payment in exchange for humanitarian aid was acceptable. A further 11% of households thought paying for assistance *might* be okay, depending on the situation

While results for the three population groups cannot be reliably compared due to low data collection achievements for IDPs and refugees, it is worth noting that certain self-reported needs were noticeably more prevalent among certain population groups, compared to others. For instance, “livelihoods support/employment” was self-reported by 73% of IDP households, and “education for children under 18” by 52% of IDP households. “Food (in-kind assistance)”, “physical cash” and “drinking water” were much more prevalent top three self-reported priority needs among refugee households, compared to the two other population groups, and were reported by 40%, 37% and 36% of refugee households, respectively. This partly reflect MSNA analysis findings, indicating that a higher proportion of IDP and refugee households had FSL and WASH needs, compared to the non-displaced.

A higher proportion of IDP households, compared to the other two groups, reported that they were aware of others who may be unable to access information on humanitarian assistance because of specific barriers (72% of households); further, some differences among population groups were found in terms of preferred sources of information on assistance: 61% of IDP households and 62% of refugee households, among those in need of assistance, reported “places of worship” as the preferred source of information, as opposed to the non-displaced for whom “aid workers from international INGOs” was the most commonly reported preferred source of information (35% of non-displaced households, among those in need of assistance).

More AAP-related assessments will be needed to have a more comprehensive picture of consultation and inclusion of target populations, as well as the experiences and preferences of households with regards to aid and interfacing with humanitarian actors. Information on preferred languages as well as on access of populations to different means of communication (e.g. phones, radios) would be particularly useful complementary information in this respect.

CONCLUSION

The general objective of this MSNA was to contribute to a more targeted and evidence-based humanitarian response in Sudan by providing humanitarian actors with a nationwide, locality-level, multi-sector analysis of current population needs and dynamics.[77] The assessment was intended to help address the lack of reliable and up-to-date data on humanitarian conditions that humanitarian actors require for planning and decision-making processes. This gap has especially affected parts of the country that historically have seen less presence of aid actors and few, if any, comprehensive needs assessments. The MSNA was also intended to support the 2021 HNO and HRP and was conducted in close cooperation with the ISCG, the NATT, IOM and 26 other data collection partners.

MSNA results found that nearly all non-displaced households had multi-sectoral needs at the national level, and about one fifth of households had extreme needs. The proportion of households found to have needs was overall homogenously spread across different states, suggesting the presence of structural, nation-wide barriers to accessing basic services. These high figures reflect the diverse array of challenges that were affecting the Sudanese population at the time of data collection: from flooding, to hyperinflation, to relatively high levels of food insecurity, to the inadequate availability of healthcare and other basic services.

The higher percentages of households having extreme needs in areas closer to the border with South Sudan, including the Darfur states, South Kordofan and Blue Nile, as well as the Abyei area, highlight the impact that an unstable security situation, recurrent displacement crises, and barriers to delivering aid can have on the needs of non-displaced populations.

At the level of households, the main drivers of need were found to vary based on pre-existing vulnerabilities, such an above-average ADR, or the household being headed by a female or child. Female- or child-headed households were more likely to have FSL needs, compared to households headed by an adult male, while households with a small number of income-earning members, compared to the number of dependent members, were more likely to experience needs in the Education sector.

The nature and severity of multi-sectoral needs also seem to vary based on household displacement status, with all IDP and refugee households found to have multi-sectoral needs, and a higher proportion of households from these two groups found to have extreme needs, as compared to the non-displaced. Further, needs in the SNFI and FSL sectors were much more prevalent for these population groups when compared to the non-displaced. The food security situation of both IDPs and refugees appeared concerning, with around one fifth of households from these two groups having a “poor” FCS, and one third resorting to negative strategies to cope with a lack of sufficient food.

Significant information gaps remain, inviting the humanitarian community in Sudan to strengthen its monitoring and data collection systems, particularly in areas that have suffered, so far, from poor access conditions. This is true of the Abyei area, of areas in Blue Nile and South Kordofan states, but also of those states, such as Red Sea, that are not typically considered as priority for emergency response. Significant information gaps also remain for some sectors; in particular, protection needs were likely under-reported in this MSNA due to the methodology adopted, calling for more qualitative approaches in future exercises to address this limitation. Additional rounds of the MSNA exercise will be useful in establishing trends and monitor the evolution of needs.

[77] IMPACT Initiatives, “Research Terms of Reference: Multi-Sector Needs Assessment (MSNA),” August 2020, pp. 2. Available at https://www.impact-repository.org/document/reach/5fdeb998/SDN2001_ToR_MSNA2020_August2020_external.pdf.

ANNEXES

ANNEX I. Available MSNA documentation

Please find below links to all available MSNA documentation. All documents are available on the REACH Resource Centre's Sudan page.

Technical documents

- Terms of Reference of the research cycle – technical documentation regarding the scope and objectives of the assessment, including details regarding the coordination framework, methodology adopted, survey sampling frame, indicators and data analysis plan.

Data

- Analysis results of household data – database including household-level results for all indicators collected, at the locality, state and national level and per population group wherever relevant.

Information products

- Key findings presentation: ISCG
- Key findings presentation: Education
- Key findings presentation: Emergency shelter and NFIs
- Key findings presentation: FSL and Nutrition
- Key findings presentation: Health
- Key findings presentation: Protection
- Key findings presentation: Refugee Consultation Forum
- Key findings presentation: WASH
- Brief on key findings
- Interactive online dashboard

ANNEX II. Summary of enumerator training of trainers (ToT) materials provided to data collection partners

The following training modules were provided to all data collection partners in both English and Arabic:

- Introduction to the MSNA
- Key terms and definitions
- Scope and timeline
- Data collection methods
- Data collection process and overview
- Communication and reporting
- Data collection ethics, including managing expectations of affected communities
- Safety and security
- How to use KoBo for data collection
- Review the data collection tools
- Training post-test and enumerator IDs
- GBV pocket guide

ANNEX III. Data Collection SOPs

The purpose of these Standard Operating Procedures (SOPs) is to guide data collection of the 2020 Multi-Sector Needs Assessment (MSNA) in Sudan. They highlight the key milestones to be achieved before data collection starts and sketch the setup of data processing during data collection. They also explain the roles and responsibilities of all partners involved in data collection. These SOPs are meant for all stakeholders involved in MSNA data collection. They do not intend to cover all aspects that may need to be checked but are rather a compilation of guidelines and should be duly updated every time a new version of the data collection tool comes out.

Contents

I. Before data collection

This phase will run until the start of data collection in mid-August/early September. This critical preparatory phase will be coordinated under OCHA, with the technical assistance of REACH, as well as the involvement of stakeholders that include the ISCG, the NATT, the INGO Forum and the individual sectors.

I.a Roles and responsibilities

1. REACH

- Finalize sampling frame
- Produce ODK/KoBoCollect tools for household (HH) surveys and Area of Knowledge (AoK) Key Informant (KI) interviews
- Produce data collection guidance and training material
- Draft Terms of Reference (ToRs)
- Support Training of Trainers (ToT) with partner MSNA focal points
- Set up data collection monitoring tools
- Provide enumerator teams with the phone numbers of respondents to call per stratum by allocating submitted "seed HH" numbers, as well as referrals from completed surveys

2. OCHA

- Lead coordination around MSNA planning
- Lead efforts to secure all needed government authorisations for data collection

3. MSNA partners

- Determine localities where they have the capacity to conduct data collection
- Designate MSNA focal points
- Identify "Contact Points" (CPs) (local experts who are well connected in the target population) and/or Key Informants (KIs) in each locality assigned to them
- Establish an enumerator team(s) in each locality
- Sample "seed HHs" in each stratum
- Allocate all necessary resources for data collection in each assigned locality
- Train data collection teams using MSNA training modules and data collection SOPs

I.b Steps

1. Confirmation of partners' capacities

In July, each MSNA data collection partner will designate/allocate for their assigned localities:

- 2-5 contact points (CPs) per locality, each with large network of contacts within the populations of interest (i.e., residents, IDPs and/or refugees).
- If needed, 3 or more KIs per locality, with excellent knowledge of sectoral indicators in the population of interest.
- Preferably 5-10 staff members per state/locality, with prior survey experience, who can serve as data collectors (must be proficient in spoken and written Arabic and/or English). Partners are encouraged to select enumerators that speak the local dialect of the area of data collection.
- 1 staff member per state/locality who can serve as MSNA area focal point. Preferably with experience working with data collection + having time in their schedule for close follow-up during the data collection period (Aug-Oct). Must be proficient in spoken and written Arabic and/or English.
- Technical equipment needed for data collection, including but not limited to:
    - Phones and (if possible) headsets to place calls
    - Android-based mobile devices or PCs to record responses
    - Vehicles to be used for face-to-face data collection, if relevant
    - Hygiene material (e.g., face masks) to be used for face-to-face data collection, if relevant

Partners will communicate to REACH the localities in which they have the above-listed capacities. They will also provide REACH and OCHA with a list of their focal points and enumerator team leaders to facilitate smooth communication.

After partners have confirmed their capacities to conduct data collection in their assigned localities, and after REACH has organised this data, NATT/ISCG members will jointly confirm which data collection approach will be employed in each locality. The possible data collection approaches are listed below, in order of preference:

1. HH phone surveys
2. HH face-to-face surveys
3. Area of Knowledge (AoK) KI phone interviews
4. AoK KI face-to-face interviews
5. No data collection

Based on this allocation of surveys and/or interviews per locality, REACH will produce the final sampling frame for the MSNA.

2. Government engagement and authorisation

OCHA will lead efforts to ensure that all needed government authorisations are secured prior to the start of data collection. REACH will support these efforts by providing the finalised data collection tools and any other required supporting documentation.

3. Sharing of data collection and data cleaning SOPs

In July, REACH will share with NATT and ISCG members, as well as data collection partner focal points, a draft of these data collection SOPs, as well as a draft of the data cleaning SOPs. Data collection partner focal points are kindly requested to review the SOPs and provide feedback as to their feasibility. NATT and ISCG member feedback which draws on prior data collection experience in Sudan will also be particularly welcome. Stakeholders will have one week to provide REACH with feedback on the draft guidance. REACH will incorporate the feedback and submit the revised version to partner focal points.

4. Drafting of Terms of Reference (ToRs)

In early August, once the MSNA methodology has been validated by the ISCG, REACH will draft the assessment's Terms of Reference (ToRs). The ToRs will consolidate previously-agreed details of the assessment, such as its geographic and demographic scope, its methodology, its division of responsibilities, its analysis approach and its outputs.

5. Coding and translation of tools

Once consultations with all sectors on MSNA survey questions have concluded and the questionnaires for the HH surveys and Key Informant Interviews (KII) have been finalized, REACH will code the two corresponding ODK questionnaires to be used with KoBo toolkit for data collection:

1. HH survey tool
2. AoK KI survey tool

The two tools will be tested on an Android phone and on an Android tablet. REACH will use for those tests a dummy raw dataset with all possible response combinations. Once the survey is finalised, production and testing of the English-language coded tools will take approximately one week and will be coordinated by REACH.

Once the English-language tools have been finalized, they will be shared with OCHA for translation into Sudanese Arabic. Once the Sudanese Arabic version of the tool is prepared, REACH and OCHA will also coordinate field testing of the Arabic versions of the tools with volunteer partner staff. This round of field testing will help ensure that the total time required to complete the questionnaire is within the maximum time frame. It will also help pinpoint any questions or answer options that are difficult for enumerators or respondents to understand (e.g., because they have inadvertently been phrased in a confusing way).

In early August, REACH will upload the two tools to a password-protected KoBo toolkit server physically located in Geneva, Switzerland, and administered by REACH headquarters in Geneva.

6. Preparation of data collection monitoring tools

In early August, the REACH team will share with partners the drafts of two data collection monitoring tools: an online dashboard and (offline) data verification sheets. The publicly accessible **online dashboard** will be updated once every business day during the data collection period, and it will serve as a countrywide data collection monitoring platform. The dashboard will have the following elements:

- Interactive map showing survey target, number of completed surveys, and percentage of completed surveys for each stratum (population group / locality)
- Interactive table listing survey target, number of completed surveys, and percentage of completed surveys for each stratum, with filter function for population group, locality and state.
- Graph showing trend of accumulated number of surveys for every day of data collection
- Graph showing percentage of surveys per verification status: accepted, pending, refused
- Interactive map showing percentage of accepted surveys compared to the quota for each stratum (population group / locality)
- Interactive table listing quota, number of accepted surveys, and number of pending surveys for each stratum, with filter function for population group, locality and state.

Locality-specific **data verification sheets** will serve partners in verifying pending issues (potential errors) detected by REACH in recently collected surveys. The sheets will be sent bilaterally to each partner every day following data collection. The verifications sheets will contain the following elements:

- Information on survey target, number and percentage of completed surveys, percentage of currently pending surveys, and percentage of successful survey attempts per stratum (population group and locality)
- Summary statistics for each enumerator per stratum:
    - Percentage of "don't know" responses per enumerator
    - Percentage of responses per enumerator that did not pass data quality checks
    - Number of surveys per day per enumerator
    - Average interview duration per enumerator
    - Average duration of reaching informed consent per enumerator
- List of all issues related to the surveys collected in that stratum that need to be clarified with REACH before these results can be validated

7. Training of Trainers (ToT)

In early August, REACH will conduct a Training of Trainers (ToT) with the partner focal points for each state. The ToT consist of:

1. Partner state focal points' independent study of the training material (including the survey questionnaire) shared by REACH
2. MSNA state focal points' independent participation in an online test shared by REACH evaluating enumerators' knowledge of the training material
3. MSNA state focal points' joint participation in one or more of several virtual Q&A sessions organized by REACH in English (with Arabic translation), discussing remaining questions and lessons-learned regarding data collection

The training material of the ToT and the subsequent enumerator trainings will cover the following main points:

- Setting up response recording devices (tablet, phone or PC)
- Trust-building and informed consent-seeking
- HH survey tool
- Data quality checks
- Survey target quota tracking
- Data protection
- COVID-19 safety measures during face-to-face data collection

The Q&A sessions can be recorded (in English) and sent to partners, as an additional training tool for enumerators.

8. Training of enumerators

Once ToT is completed, partner focal points will disseminate the training material to all data collection teams and share the link to the online test. The outcome of the test will be communicated by REACH to the partner focal point, together with an enumerator ID assigned to that enumerator. Only enumerators that passed the test and received an enumerator ID may start data collection. If any data collection is done face-to-face, special focus of the training should be placed on respecting COVID-19 safety measures.

9. Setting up of data collection devices

Before starting data collection, each organization with enumerators creates one account for KoBo Collect. This account will be shared by all of its (and only its own) enumerator. Each organization should use the below-listed specific name for the creation of its account, and should assign a random password to that account. The password should not be shared outside the partner organization.
The organization should inform REACH once the account has been created. Then, REACH will authorize that account to download the blank form and submit raw data.
The following steps should be followed to set up an android device for data collection:

- Download the KoBoCollect app from the Google Play store to your phone or table
- Go to server settings in your KoBoCollect app and:
    - Enter URL: https://kc.humanitarianresponse.info
    - Enter user name: [your account name]
    - Enter PW: [your account password]
- Click on “get blank form” and download “SUDAN MSNA 2020 HOUSEHOLD TOOL”
- Click on “fill blank form” and select “SUDAN MSNA 2020 HOUSEHOLD TOOL”

Partner focal points and team leaders will ensure that each enumerator has a functioning phone with sufficient airtime, and (if the survey will be completed via Android mobile device) that the latest version of the KoBoCollect app has been installed on the smartphone or tablet. If data collection is done via web browser on a PC, all enumerators should be provided with the correct link to the KoBo online interface. (The link will be provided to focal points prior to data collection.)

10. Sampling of “seed households”

In discussion with the contact points (CPs), the partner’s enumerator team should compile a list of contacts of 20-30 “seed HHs” per stratum (population group in locality) to be used as entry points for the sampling of respondent HHs. The HH contacts should ideally:

- be geographically distributed according to the population sizes of settlements in that locality
- represent 50% percent female and 50% male respondents

The partner focal point sends the list of “seed HHs” to REACH before data collection starts. REACH will verify if the list of HHs corresponds to the sampling frame and then sends the final list of “seed HHs” back to the data collection team. Only respondents on that final list provided by REACH should be contacted.

11. Establishment and training of back-checking team

If partner staff capacity is available for this task, REACH and OCHA will establish and train an independent team of five experienced enumerators responsible for doing back-checking on (preferably) 10-20 percent of interviews conducted over the phone. The purpose of back-checking is to evaluate the quality of information collected during the HH surveys over the phone and to give enumerators feedback on things they can improve in their conduct of interviews.
Surveys to be back-checked will be sampled randomly from among all successfully-conducted phone surveys. The interview will only cover a subset of the normal questionnaire. Four types of questions will be asked by the enumerators:

- Questions to identify respondents and interview information
- Questions that ask straightforward information with no expected variation or room for error
- Questions for which capable enumerators should get the true answer but may need more training
- Questions that are expected to be difficult and which may indicate the need for further enumerator training or, in particular cases, questionnaire modification. (Such modification is to be avoided, if possible, once field testing of the questionnaire is complete.)

Survey back-checking will be conducted as efficiently as possible, with the aim of placing the minimum possible burden on respondent households. Preferably, this back-checking will take place continuously throughout data collection. However, if partner capacity is not available for continuous back-checking, this plan may need to be revised.

II. During data collection

Data collection is scheduled to start in mid-August or early September and will end in mid-October 2020. The final schedule for data collection will depend in part on when government authorisation for the assessment is received.

Due to the COVID pandemic, where possible, data collection will be conducted remotely. Face-to-face data collection will require careful assessment of the local health context by the data collection partner during the days before data collection starts. All data collection teams implementing face-to-face surveys or interviews should implement all necessary measures to prevent the spread of COVID-19.

Partners will determine based on the local health context and their resources whether enumerators will do phone surveys from one central location (respecting local COVID-19 regulations and safety measures) or from enumerators' homes. In the latter case, partners will ensure that the enumerators have all necessary resources, including headsets and airtime, to work from home. They also need to verify that enumerators are able to make calls from reasonably private spaces within their homes, free of loud background noises or other forms of distraction.

II.a Roles and responsibilities

Below is a breakdown of the main roles and responsibilities of the REACH team, partner focal points, and data collection teams during data collection:

1. REACH

- Download and backup raw data from KoBo server
- Conduct data quality checks
- Maintain online dashboard monitoring survey target achievement
- If partners are available for back-checking: Monitor back-checking of (preferably) 10-20 percent of all surveys, covering all enumerators
- Send daily data collection verification sheets to partners
- Provide partners with updated lists of respondent phone numbers to call
- Follow up with partner focal points on data quality checks and survey target achievement
- Produce clean dataset and cleaning protocol, in line with the Data Cleaning SOPs

2. MSNA data collection partner focal points

NOTE: If there are multiple data collection partners in one state, each partner is responsible for managing its own data collection teams. In some cases, certain data collection partners may act as the focal point for other partners, e.g., when there are several organisations, each responsible for a small survey quota.

- Closely monitor data collection in partners' assigned localities through: (1) the online dashboard, (2) data verification sheets provided by REACH and (3) regular communication with enumerator teams
- Daily follow-up with enumerator teams and REACH on data quality issues flagged in the data verification sheets
- Supervision of implementation of the present data collection SOPs by each data collection team
- Supervision of safety and security of all enumerators and respondents, reporting any security incidents related to data collection to REACH and OCHA
- Provision of sufficient resources to enumerator teams, including mobile phone airtime
- Communicate to REACH if the data collection team does not have enough phone numbers of potential respondents to call
- Ensure that all respondent contacts are safely stored during data collection and deleted after end of data collection

3. Enumerator teams

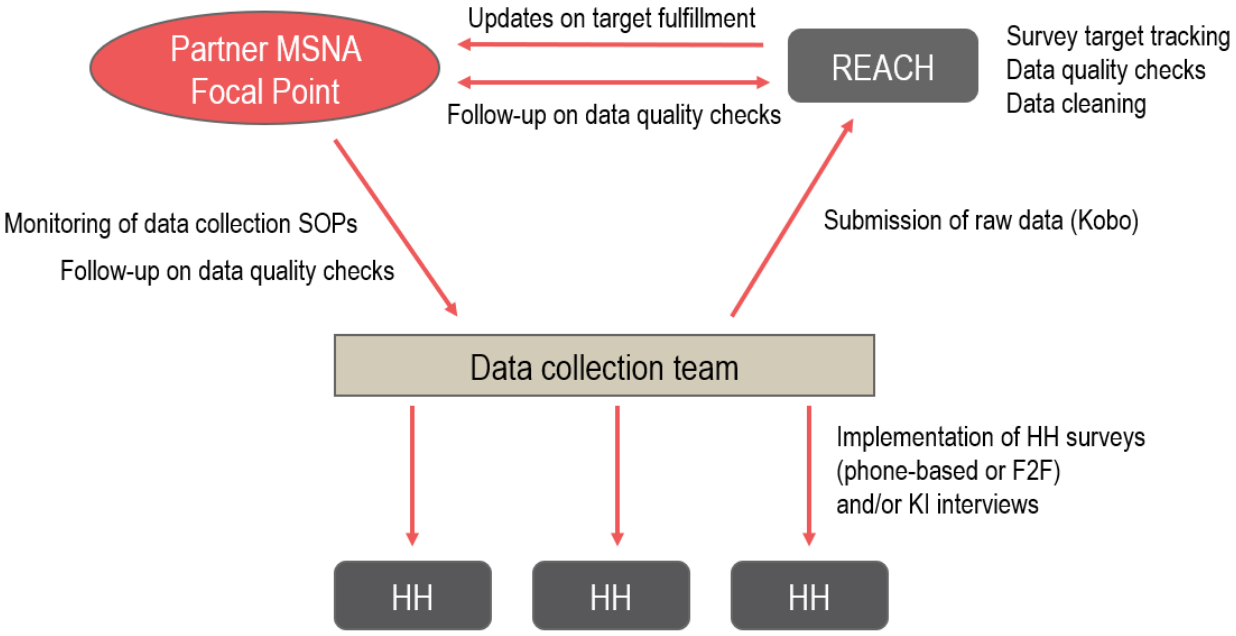
- Communicate to partner focal point if the data collection team does not have enough phone numbers of potential respondents to call
- Conduct HH and KI surveys using KoBo questionnaires
- Upload raw data from data collection device to KoBo server

- Follow up with partner focal points on the verification of data quality issues flagged in the data verification sheets
- Ensure that all respondent contacts are safely stored during data collection and deleted after end of data collection

II.b Steps

This portion of the SOP will outline the proposed data collection workflow. (See Figure 1 for an overview.) Since most data will be collected remotely for 2020, it will be crucial for all stakeholders involved in data collection to have supporting tools that can help monitor data collection.

Figure 1: Data collection workflow



1. Setting up technical equipment

Prior to every interview, enumerators will take the following steps to prepare their technical equipment:

- Prepare the response recording device (i.e., Android tablet, Android smartphone or PC with Internet connection):
  - Ensure full battery
  - Ensure sufficient memory
  - Ensure internet connection (e.g., WiFi or mobile)
    - If data is being collected via Android smartphone or tablet, data may be collected even without an Internet connection. In such cases, it is only necessary for there to be an Internet connection at the time when the surveys are being uploaded to the KoBo.
  - Ensure connection of KoBo Collect with MSNA KoBo server
  - Ensure the latest version of the MSNA questionnaire form is downloaded to the device (if Android tablet or smartphone is being used)
- (For phone surveys) Prepare the phone:
  - Ensure full battery
  - Ensure sufficient phone credit (airtime)
  - Ensure headset (if available) is connected to phone
  - Ensure phone is connected to mobile network

2. Continuous snowball quota sampling

As part of the survey questionnaire, enumerators will ask each interviewed HH to provide them with the names, gender, location and phone numbers (or addresses in case of face-to-face surveys) of up to five other Sudanese

HHs. In order to ensure women's participation in the survey, enumerators should try asking respondents to provide an equal number of women's and men's contacts.

Enumerators will continue calling the phone numbers on one list until all numbers are used. They will always record in the survey tool the presumed displacement status and locality of the potential respondent, as well as the status of the attempt:

- Number not available
- Number available but person does not pick up
- Refused to be interviewed
- Accepted to be interviewed

All provided contact details (including basic demographic information and location) are automatically submitted to REACH when the questionnaire is uploaded to the KoBo server. REACH will check if any of those phone numbers has been called before as part of the MSNA, and if not, allocate the phone numbers to strata according to the sampling frame (i.e. per population group and locality).

Every business day[78], REACH will send to the state focal point a list with new contacts to call, as well as scheduled call-backs, per stratum (depending on the availability of contacts from the previously-collected data). The focal point will share the stratum-specific contacts with the respective enumerator teams. The teams will indicate to the focal point if all their numbers are "depleted." In that case, the focal point should discuss with REACH alternative ways for the household selection in that stratum.

3. Establishing informed consent

Enumerators will strictly follow the questions and notes in the MSNA question tool that seek to establish informed consent by the respondent. These steps comprise, but are not limited to, the following:

- Verify whether the person is at least 18 years old
- Verify whether the person is either the head of household, or willing to speak on behalf of the head of household (if not, the person should refer enumerator to the right person)
- Inform her/him, in simple and clear words, about the purpose of the MSNA
- Inform her/him that the interview responses will be anonymised
- Inform her/him about the nature of the interview questions
- Inform her/him about the approximate length of the interview
- Inform her/him that there will be no remuneration for the interview
- Seek oral consent from the respondent to be interviewed

When a respondent accepts to be interviewed, enumerators should ask if this is the right time for the interview or if the respondent prefers another time for the interview. In the latter case, the enumerator should record the agreed time for the interview and call back the respondent at that time.

4. Terminating or rescheduling an interview that had already started

Respondents have the right to withdraw their consent at any point during the interview. If a respondent does not want to continue the interview after it had already started, the enumerator should thank the respondent, end the call, go back to the question on establishing consent ("Could you spare some time and take the survey now?") and select "No." Then, the enumerator should submit that survey together with all other surveys. If the respondent withdraws consent partway through the interview, the respondent's answers to the demographic and sectoral MSNA questions will not be included in the MSNA dataset. If a respondent asks the enumerator during the interview to pause it and complete it at a later day/time, the enumerator should note down the agreed time and resume the interview then.

5. Processing respondents' contact details

All stratum-specific contact lists shared with partner state focal points for the purpose of sampling respondent households are password protected. The password is provided by the REACH Data Officer specifically to each

[78] Was originally planned to be every week, but updated to every day at the request of data collection partners

MSNA focal point, and the focal point should share the password only with the data collection team leaders in that state. Data collection teams and focal points must safely store respondent contact lists on password protected computers and must not share those contacts (phone numbers and other contact details) with anyone outside the data collection team. **They must permanently delete all contact lists and any other records of personal information from respondents after all data collection is completed in Sudan (in October)**. For details on how personal information is being processed during data cleaning, please refer to the Data Cleaning SOPs.

6. COVID-19 safety measures

It is understood that data collection partners may have their own organisational COVID-19 SOPs for fieldwork, including data collection. If this is the case, then it is expected that data collection partners will follow their own organisational SOPs. However, if data collection partners do not have any specific COVID-19 SOPs for fieldwork, then they should follow the below-recommend COVID-19-specific safety measures.

Recommended measures to be taken both *before* and *during* any face-to-face data collection, face-to-face KIs or phone-based data collection performed in call centres is conducted:

- Check own temperature every morning. In case of a high temperature (above 37.5 Celsius), or any other mild symptoms such as tiredness, dry cough (common symptoms), shortness of breath, aches and pains, sore throat, or runny nose (other symptoms), inform the team leader. Any person with these symptoms should not engage in data collection and should self-quarantine for 14 days.
- Team leaders should ask if enumerators have been in contact with anyone with confirmed or suspected case of COVID-19. If yes, the person should not be participating in the activity and should self-quarantine for a minimum of 14 days.
- Wash hands thoroughly and regularly (ideally every 1 to 2 hours and definitely in between each face-to-face interview conducted) with soap and water or alcohol-based hand rub.
- Follow the recommended cough etiquette at all times
- Do not touch own (or anyone else's) face – particularly eyes, nose and mouth.
- Keep at least 1.5 meters distance from other people at all times. Close-up contact should be minimised. Keep distance also in cars, e.g., if possible, use enough cars so that there are maximum three people per car.
- Do not have any physical contact with other people. That includes, no greetings such as handshakes, cheek kissing, hugs, etc.
- Sanitise all data collection items prior to each interview (pens, phone, tablets, notebooks, ID cards, etc.)
- Ensure items are not shared among team members
- Provide pens for each individual staff member
- Provide zip-locked bags to place enumerator phones/devices
- Do not spit in public

Recommended measures to be taken *during* data collection:

- Conduct the interview outside (if possible)
- Maintain at least 1.5 meters distance from other people, specifically the respondents.
- Do not touch anything in or around the HHs / interview sites that are visited or pass any objects to other people
- If touching items in/near the interview sites cannot be avoided, enumerator hands should be washed or disinfected with gel both before and after touching the item(s)
- Avoid contact with the elderly or people with chronic diseases, if possible
- Regularly wash hands with soap, following WHO guidelines

Recommended measures *after* data collection:

- Ensure all staff returning from data collection (e.g., enumerators, drivers) thoroughly wash their hands with soap (at least 20 seconds)
- Ensure enumerators are reporting back to line managers as established in the protocols

- Enumerators should report to team leaders any health symptoms such as a high temperature (above 37.5 Celsius), or any other mild symptoms such as tiredness, dry cough (common symptoms), shortness of breath, aches and pains, sore throat, or runny nose (other symptoms). If any staff is experiencing symptoms, they should self-quarantine for at least 14 days/ until recovered.
- Enumerators should confirm location and report of any interaction with an interviewee that exhibited symptoms of fever, cough or shortness of breath
- Enumerators should wipe off all devices with disinfectant or soap and water before handing them back and place all phones in a zip-locked plastic bag with their name written on it.

The above recommendations are meant to apply to organisations that do not have specific COVID-19 SOPs for fieldwork. All partners, regardless of whether or not they have their own SOPs, are requested to follow the below basic principles for preventing the spread of COVID-19:

- No enumerators who may have COVID-19, or who have recently been in contact with someone with COVID-19, should participate in data collection. This includes enumerators who have symptoms consistent with COVID-19, even if they have not yet been tested. It also includes enumerators who have tested positive, even if they do not show symptoms.
- Enumerators conducting face-to-face data collection should wear masks while interacting with respondents and other community members.
- Enumerators should stay at least 1 meter away from respondents during data collection. This applies to both face-to-face data collection and data collection conducted over the phone, in call centres. Enumerators should frequently sanitize their hands and clean their data collection devices (e.g., phones, laptops).
- Enumerators should not conduct any face-to-face surveys with respondents who have or may have COVID-19. This includes respondents who are visibly ill, who mention that they are ill, who have tested positive for COVID-19 even if they do not show symptoms, or who have been in contact with others who have or may have COVID-19. In such cases, the enumerator should politely but quickly end the survey and leave.
- Data collection partners should report to their focal point and REACH if an area planned for face-to-face data collection is or may be experiencing a severe COVID-19 outbreak. In such cases, face-to-face household surveys may need to be suspended, to avoid exposing enumerators to the illness.
- Data collection partners should report to their focal point and REACH if enumerators who are planning face-to-face data collection live or work in an area experiencing a severe COVID-19 outbreak. In such cases, face-to-face household surveys may again need to be suspended, to avoid bringing the illness into respondents' communities.
- Enumerators who systematically fail to follow COVID-19 prevention measures and/or the organization's own COVID-19 policies should be taken off the MSNA data collection team. This should apply even in cases where the enumerator is surrounded by other people (e.g., community members) who are not following any COVID-19 prevention measures.

7. Submission of raw survey data

After they concluded all interviews of the day, enumerators individually submit / upload all their survey forms to the MSNA KoBo server. This includes:

- Surveys that did not start because respondent was not available
- Surveys that did not start because respondent did not give consent
- Surveys that started but, for whatever reason, were not concluded
- Completed surveys

Before submitting the data, enumerators will ensure that their personal enumerator ID is correct in each survey form. It is recommended that partner focal points and/or team leads confirm with their enumerator on a daily basis that they have submitted all their surveys for the past 24 hours.

8. Download, storage and back-up of raw data

Every morning during the data collection period, the REACH Data Officer will retrieve the raw data from the KoBo server. He will store it locally on password-protected computers. Downloaded raw data will be stored in two separate formats:

- All raw data collected up until that date
- Daily raw data files

For more details on data storage, please see the Data Cleaning SOPs.

9. High-frequency checks

The REACH data officer will perform a series of high-frequency checks (HFCs) on the raw data to assess the quality of the submitted surveys. For the details of these checks, please see the Data Cleaning SOPs. Accepted surveys will be automatically added to a dataset that comprises all validated surveys with correct values.

10. Follow-up on data quality checks

At the end of every business day during the data collection period, REACH will send excel sheets, so-called "data verification reports", via email to the respective MSNA focal point coordinating data collection of all partners in a specific state. The focal point will follow up with the data collection teams on the respective stratum-specific issues listed in the report. The data verification reports show issues detected during the HFCs, which require partner feedback. The reports will compose the basis for the feedback of partner focal points and data collection team leaders to enumerators. Data collection teams will specify in the designated cells of the verification sheets the reason for the issue of each of the pending surveys. Teams will send the filled-out sheets back to the focal points who will then send them to the REACH focal point. As regularly as possible, REACH and partner focal points will also communicate bilaterally over the phone to discuss progress of data collection in each locality for which the partner is responsible. They will also discuss potentially systematic issues with enumerators or devices detected through the HFCs. For more details on data quality follow-up, please see the Data Cleaning SOPs.

11. Data cleaning

REACH will follow up on the feedback from enumerator teams on pending surveys, submitted by state focal points. All data cleaning will be done according to clear rules defined in the Data Cleaning SOPs and agreed by partners beforehand. Throughout the cleaning process, the Data Officer will fill out a cleaning log which is used to automatically produce the clean dataset on the basis of the raw data. For more details on data cleaning, please see the Data Cleaning SOPs.

12. Target monitoring

REACH and the partner focal point will closely monitor progress in achieving each stratum's target quota. As mentioned in detail above, monitoring will be done through two main tools:

- An online data collection monitoring dashboard, which will be updated every business day during the data collection period
- (Offline) data verification tracking sheets sent to each partner bilaterally after each day of data collection

ANNEX IV. Identification of living standard gaps (LSGs)

The LSG for a given sector is produced by aggregating unmet needs indicators per sector. For the 2020 MSNA, a simple aggregation methodology was identified, building on the Multidimensional Poverty Index (MPI) aggregation approach. Using this method, each unit (household for example) is assigned a "deprivation" score according to its deprivations in the component indicators. All component indicators are classified as either "critical" or "non-critical":

- **Critical indicators:** Critical indicators could indicate a gap in the sector overall on their own, regardless of a household's score in the other indicators. Critical indicators were scored on a scale of 1 to 4 (see Annex V for a detail of scoring categories).
- **Non-critical indicators**: Non-critical indicators could indicate a gap in the sector only when combined with other indicators. Non-critical indicators were given binary thresholds: either "unmet need" or "no unmet need."

Once all individual household LSGs were calculated, the percentage findings were projected onto the population data that was used to build the sample, with accurate weighting to ensure best possible representativeness.

The following tables illustrate how each individual LSG was calculated for this analysis, for each sector.

JIAF pillar	JIAF sub-pillar	Sector	Relevant score	Sub-sector/Theme	# in the DAP	Unit of measurement	Population group	Indicator/Question	Severity score by indicator	
Humanitarian conditions	Living standard	Education	Education LSG score	Non-critical indicators					No unmet need	Unmet need
				Enrolment & attendance prior to COVID-19-related school closure	8.1	HH	ND IDP Refugee	Regular school attendance during the 2019-2020 academic year, prior to school closure on 15 March 2020 due to COVID-19	N/A (no children in HH aged 4-16 years at the time of data collection) OR All HH children aged 4-16 years attended school regularly (≥ 4 days per week) during the 2019-2020 school year before the schools were closed on 15 March 2020 due to COVID-19	≥1 HH child aged 4-16 years did not attend school regularly (≥ 4 days per week) during the 2019-2020 school year before the schools were closed on 15 March 2020 due to COVID-19
				Risk of drop-out upon schools' re-opening	8.2	HH	ND IDP Refugee	Risk of school drop-out (for any reason) upon schools' re-opening	N/A (no children in HH aged 4-16 years at the time of data collection) OR N/A (no HH children aged 4-16 were attending school prior to the 15 March 2020 school closures due to COVID-19) OR All HH children aged 4-16 would return to school (or had already returned to school) upon schools' re-opening	≥1 HH child aged 4-16 years would **not** return to school (or had not returned to school) upon schools' re-opening
				Remote learning activities during COVID-19-related school closure	8.4	HH	ND IDP Refugee	Remote learning activities during COVID-19-related school closure	N/A (no children in HH aged 4-16 years at the time of data collection) OR HH children aged 4-16 years attempted to continue learning activities remotely during period of COVID-19-related school closure	HH children aged 4-16 years did **not** attempt to continue learning activities remotely during period of COVID-19-related school closure

How the Education LSG score is calculated for each surveyed HH		
If...	**Then the HH's overall sector severity score is...**	**And this means that the HH has...**
The HH has unmet need in 2-3 out of 3 non-critical indicators	3	A living standard gap in this sector
The HH has unmet need in 1 out of 3 non-critical indicators	2	No living standard gap in this sector
The HH has unmet need in 0 out of 3 non-critical indicators	1	

JIAF pillar	JIAF sub-pillar	Sector	Relevant score	Sub-sector/Theme	# in the DAP	Unit of measurement	Population group	Indicator/Question	Severity score by indicator			
									None/Minimal 1	Stress 2	Severe 3	Extreme 4
Humanitarian conditions	Living standard	Emergency Shelter & NFIs	ES/NFI LSG score	Critical indicators								
				Safe and healthy housing enclosure unit	6.1	HH	ND IDP Refugee	Shelter type at the time of data collection	Permanent / finished house or apartment		Unfinished / non-enclosed building OR Collective shelter OR Tent OR Emergency shelter	None (sleeping in open)
					6.2, 6.3	HH	ND IDP Refugee	Shelter condition at the time of data collection (NB: HH may have chosen mutiple problems. The HH's severity score is determined by the highest score among all selected problems.)	No shelter damage or problems at the time of data collection	Broken or cracked windows OR Some cracks in some walls OR Damaged floors OR Foundation/floor damaged or shifted OR Gas, water or sewage system damaged OR Electricity supply line damaged and not functional	Exterior doors broken / unable to shut properly OR Opening or cracks in roof OR Exterior doors or windows missing OR Large cracks / openings in most walls	Roof partially collapsed OR Some walls fully collapsed OR Severe structural damage and unsafe for living OR Total structural collapse
				Non-critical indicators					No unmet humanitarian need		Unmet humanitarian need	
				Non-food items	6.4	HH	ND IDP Refugee	Possession of vital NFIs at the time of data collection	HH possessed all of the following at the time of data collection: mattresses / sleeping mats / other types of beds, kitchen sets, jerry cans and heating/cooking fuel OR HH did not possess 1 of the following types of items at the time of data collection: mattresses / sleeping mats / other types of beds, kitchen sets, jerry cans and heating/cooking fuel		HH did not possess ≥2 of the following types of items at the time of data collection: mattresses / sleeping mats / other types of beds, kitchen sets, jerry cans and heating/cooking fuel	
				Housing, land and property	7.8, 7.9	HH	ND IDP Refugee	Recent housing or land issues at the time of data collection (NB: HH may have chosen mutiple issues. The HH's severity score is determined by the highest score among all selected issues.)	HH had no recent housing or land issues at the time of data collection OR Disputes about rent (including payment) between landlord and tenant OR Rules and processes on housing and land not clear		Disputed ownership OR Property unlawfully occupied by others OR Inheritance issues OR Lack or loss of housing land tenancy or ownership documents OR Looting of private property OR Threat of eviction/harassment by landlord or others	

How the Emergency Shelter & NFIs LSG score is calculated for each surveyed HH		
If...	Then the HH's overall sector severity score is...	And this means that the HH has...
The HH scores a '4' for any critical indicator	4	A living standard gap in this sector
The HH scores a '3' for any critical indicator	3	
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 2 out of 2 non-critical indicators	3	
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 1 out of 2 non-critical indicators	2	No living standard gap in this sector
The HH scores a '1' or '2' for all critical indicators AND has no unmet need in any non-critical indicators	1	

JIAF pillar	JIAF sub-pillar	Sector	Relevant score	Sub-sector/Theme	# in the DAP	Unit of measurement	Population group	Indicator/Question	Severity score by indicator			
Humanitarian conditions	Living standard	Food Security & Livelihood	FSL LSG score	**Critical indicators**					None/Minimal 1	Stress 2	Severe 3	Extreme 4
				Food	2.5	HH	ND IDP Refugee	Food Consumption Score (FCS) based on the 7 days prior to data collection	Acceptable		Borderline	Poor
					2.6	HH	ND IDP Refugee	Reliance on food-based coping strategies to cope with a lack of food in the 7 days prior to data collection (Reduced Coping Strategy Index, or rCSI, score)	Low	Medium	High	
				Non-critical indicators					**No unmet need**		**Unmet need**	
				Access to enough money to meet needs	2.1	HH	ND IDP Refugee	Whether HH faced challenges obtaining enough money to meet its needs in the 30 days prior to data collection	No		Yes	
				Shocks	2.2	HH	ND IDP Refugee	Whether shock to the HH which resulted in a loss or disruption of income, livelihood, food and/or other essential needs occurred in the 6 months prior to data collection	No		Yes	

How the Food Security & Livelihoods LSG score is calculated for each surveyed HH		
If...	**Then the HH's overall sector severity score is...**	**And this means that the HH has...**
The HH scores a '4' for any critical indicator	4	A living standard gap in this sector
The HH scores a '3' for any critical indicator	3	
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 2 out of 2 non-critical indicators	2	No living standard gap in this sector
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 0-1 out of 2 non-critical indicators	1	

JIAF pillar	JIAF sub-pillar	Sector	Relevant score	Sub-sector/Theme	# in the DAP	Unit of measurement	Population group	Indicator/Question	Severity score by indicator			
									None/Minimal 1	Stress 2	Severe 3	Extreme 4
Humanitarian conditions	Living standard	Health	Health LSG score	Critical indicators								
				Access to healthcare	3.2, 3.5, 3.6	HH	ND IDP Refugee	Barriers to accessing healthcare in the 3 months prior to data collection (NB: HH may have chosen mutiple barriers. The HH's severity score is determined by the highest score among all selected barriers.)	N/A (HH did not attempt to access healthcare in the 3 months prior to data collection) OR HH accessed healthcare without experiencing any barriers in the 3 months prior to data collection	High cost of transportation to health facilities OR Health facility is too far away OR Health facility is not easily accessible for people who have difficulty (e.g., disability) OR Do not have trust in the health workers at the facility due to concerns about privacy or being mistreated OR Lack of trust in health workers other reasons (e.g., health worker skill level)	Cost of services and/or medicine was too high/ I cannot afford to pay OR Absence/shortage of qualified health workers at the health facility OR Specific people are being discriminated against when visiting the health facility OR Lack of medicines at the health facility OR Treatment for my condition/disease is not available at health facility OR Travel to health facility	
				Non-critical indicators					No unmet humanitarian need		Unmet humanitarian need	
				Access to healthcare	3.1	HH	ND IDP Refugee	Presence of primary healthcare facility within 1 hour's walk of HH's dwelling at the time of data collection	Nearest primary healthcare facility is ≤1 hour's walk from HH's dwelling		Nearest primary healthcare facility is >1 hour's walk from HH's dwelling	
					3.7	HH	ND IDP Refugee	Location where most-recently-pregnant woman in HH gave birth in the 2 years prior to data collection	N/A (no woman in the HH had given birth in the 2 years prior to data collection) OR In a health facility OR At home with professional care (e.g., trained midwife or doctor)		At home with non-professional care (e.g., untrained or traditional midwife) OR At home alone	

How the Health LSG score is calculated for each surveyed HH		
If...	**Then the HH's overall sector severity score is...**	**And this means that the HH has...**
The HH scores a '4' for any critical indicator	4	A living standard gap in this sector
The HH scores a '3' for any critical indicator	3	
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 1-2 out of 2 non-critical indicators	2	No living standard gap in this sector
The HH scores a '1' or '2' for both critical indicators AND has unmet need in 0 out of 2 non-critical indicators	1	

Protection LSGs

JIAF pillar	JIAF sub-pillar	Sector	Relevant score	Sub-sector/Theme	# in the DAP	Unit of measurement	Population group	Indicator/Question	Severity score by indicator			
									None/Minimal 1	Stress 2	Severe 3	Extreme 4
Humanitarian conditions	Living standard	Protection	Protection LSG score	**Critical indicators**								
				General Protection	7.3	HH	ND IDP Refugee	Whether the HH experienced ≥1 safety or security incident affecting HH members in the 3 months prior to data collection	No		Yes	
				Mine Action	7.11, 7.12	HH	ND IDP Refugee	Whether HH had ≥1 member who is a landmine and/or Explosive Remnants of War (ERW) victim/survivor who needed support at the time of data collection	No member of the HH was a landmine and/or ERW victim/survivor at the time of data collection	≥1 HH member was a landmine and/or ERW victim/survivor, but s/he did **not** need support, at the time of data collection	≥1 HH member was a landmine and/or ERW victim/survivor, and s/he needed support, at the time of data collection	
					7.14, 7.16	HH	ND IDP Refugee	Whether HH was impacted by contamination from landmines and/or Explosive Remnants of War (ERW) at the time of data collection and whether the HH had received awareness raising on ERW	HH was not impacted by contamination from landmines and/or ERW at the time of data collection		HH was impacted by contamination from landmines and/or ERW but had received awareness raising on ERW at the time of data collection	HH was impacted by contamination from landmines and/or ERW but had **not** received awareness raising on ERW at the time of data collection
				Gender-based Violence	7.17	HH	ND IDP Refugee	Whether women and/or girls in the HH avoided areas in their current location because they felt unsafe, in the 6 months prior to data collection	No		Yes	
				Child Protection	1.6, 1.7	HH	ND IDP Refugee	Whether HH had ≥1 child <18 years who was not living with the HH at the time of data collection	No OR Staying with relatives OR Left the house to study		Married and left the house OR Left the house to seek employment	Left the house to engage with the army or armed groups OR Kidnapped/abducted OR Missing (left and no news) OR Arbitrarily detained
					7.22	HH	ND IDP Refugee	Whether HH boys or girls aged 6-17 years were engaged in child labour in the 6 months prior to data collection (NB: HH may have chosen mutiple types of labor. The HH's severity score is determined by the highest score among all selected types.)	N/A (no children in HH aged 6-17 years) OR No HH children aged 6-17 years engaged in any form of child labour OR Helping on household plot, farm or with animals	Helping in family's or relative's business, either with or without pay	Producing or selling articles, handicrafts, clothes, food or agricultural products OR Any other activities in return for income, cash or in-kind	
				Non-critical indicators					**No unmet need**		**Unmet need**	
				General Protection	7.1, 7.2	HH	ND IDP Refugee	Movement restrictions in the 6 months prior to data collection	HH did not experience any movement restrictions in the 6 months prior to data collection OR Road closures OR COVID-related lockdown OR Other government-imposed lockdown (not COVID-related) OR Unable to afford travel		Did not have appropriate civil documents to move freely OR Discrimination because of my displacement status OR Discrimination because of other reasons OR Fear for safety and/or security	
					7.6	HH	ND IDP Refugee	Whether ≥1 HH member was missing ≥1 form of civil documentation (e.g., passport, national ID card, nationality certificate, birth certificate, marriage/divorce certificate, death certificate) at the time of data collection	No		Yes	
				Gender-based Violence	7.18	HH	ND IDP Refugee	Whether HH was aware at the time of data collection of services or programs in its location that were specifically for women	Yes		No	
				Child Protection	7.5	HH	ND IDP Refugee	Whether HH had ≥1 member who had shown signs of psychological distress in the 3 months prior to data collection (NB: HH may have chosen mutiple signs. The HH's severity score is determined by the highest score among all selected signs.)	N/A (no HH member had experienced any of these signs of distress) OR Withdrawal from family and friends OR Excessive crying OR Changes in appetite or eating habits OR Upset stomach or vague stomach pain OR Headaches OR Nightmares or sleep disturbances OR New or recurring fears (e.g., fear of the dark, fear of being alone, fear of strangers) OR Startled easily OR Unwilling to let you out of sight OR Bedwetting		Anger or aggressive outbursts OR Substance use/abuse	

How the Protection LSG score is calculated for each surveyed HH		
If…	**Then the HH's overall sector severity score is…**	**And this means that the HH has…**
The HH scores a '4' for any critical indicator	4	A living standard gap in this sector
The HH scores a '3' for any critical indicator	3	
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 3-4 out of 4 non-critical indicators	3	
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 2 out of 4 non-critical indicators	2	No living standard gap in this sector
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 0-1 out of 4 non-critical indicators	1	

Water, Sanitation & Hygiene LSGs

JIAF pillar	JIAF sub pillar	Sector	Relevant score	Sub-sector/Theme	# in the DAP	Unit of measurement	Population group	Indicator/Question	Severity score by indicator			
Humanitarian conditions	Living standard	WASH	WASH LSG score	**Critical indicators**					**None/Minimal 1**	**Stress 2**	**Severe 3**	**Extreme 4**
				Water	5.1	HH	ND IDP Refugee	Primary source of drinking water in the 30 days prior to data collection	Public tap/standpipe OR Handpumps/boreholes OR Protected well OR Piped connection to house (or neighbor's house) OR Protected spring OR Rain water collection*		Unprotected well OR Unprotected spring OR Water seller/kiosks OR Bottled water, water sachets OR Tanker trucks	Surface water (lake, pond, dam, river)
				Water	5.3	HH	ND IDP Refugee	Problems related to water at the time of data collection (NB: HH may have chosen mutiple problems. The HH's severity score is determined by the highest score among all selected problems.)	No problems related to water at the time of data collection	Water points are too far OR Water points are difficult to reach (for reasons other than distance) OR Insufficient number of water points / waiting time at water points is too long OR Water points are not functioning OR Water is too expensive OR Do not have enough containers to store the water OR Do not like the taste / quality of the water	Some groups or types of people do not have access to the water points OR Cannot get enough water to meet all needs OR Water is not available at the market OR Fetching water is a dangerous activity	
				Sanitation	5.4	HH	ND IDP Refugee	Access to a functional and improved sanitation facility at the time of data collection (PART 1)			Open defecation	
				Non-critical indicators					**No unmet humanitarian need**		**Unmet humanitarian need**	
				Water	5.2	HH	ND IDP Refugee	Whether HH's primary source of drinking water was functioning at the time of data collection	Yes		No	
				Sanitation	5.4	HH	ND IDP Refugee	Access to a functional and improved sanitation facility at the time of data collection (PART 2)	Flush or pour/flush toilet OR Pit latrine with a slab and platform		Pit latrine without a slab or platform OR Open hole OR Bucket toilet OR Plastic bag OR Hanging toilet/latrine	
				Hygiene	5.5	HH	ND IDP Refugee	Whether HH had access to soap at the time of data collection	Yes		No	

*Data collected did not distinguish between protected and unprotected rain water. Therefore, it is classified as neither 'improved' nor 'unimproved.'

How the WASH LSG score is calculated for each surveyed HH		
If…	**Then the HH's overall sector severity score is…**	**And this means that the HH has…**
The HH scores a '4' for any critical indicator	4	A living standard gap in this sector
The HH scores a '3' for any critical indicator	3	
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 3 out of 3 non-critical indicators	3	
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 2 out of 3 non-critical indicators	2	No living standard gap in this sector
The HH scores a '1' or '2' for all critical indicators BUT has unmet need in 0-1 out of 3 non-critical indicators	1	

ANNEX V. Joint Inter-Sectoral Analysis Framework (JIAF) Severity Scale[79]

Severity class	Name	Description	Response objectives
1	None / Minimal	• Living standards are acceptable (taking into account the context): possibility of having some signs of deterioration and/or inadequate social basic services, possible needs for strengthening the legal framework. • Ability to afford/meet essentially all basic needs without adopting unsustainable coping mechanisms (such as erosion/depletion of assets). • No or minimal/low risk of impact on well-being.	Building resilience & Supporting disaster risk reduction
2	Stress	• Living standards under stress, leading to adoption of coping strategies (that reduce ability to protect or invest in livelihoods). • Reduced quality or stressed social/basic services. • Inability to afford/meet some basic needs without adopting stressed, unsustainable and/or short-term reversible coping mechanisms. • Minimal impact on well-being (stressed physical/mental well-being) overall. • Possibility of having some localized/targeted incidents of violence (including human rights violations).	Supporting disaster risk reduction & Protecting livelihoods
3	Severe	• Degrading living standards (from usual/typical), leading to adoption of negative coping mechanisms with threat of irreversible harm (such as accelerated erosion/depletion of assets). Reduced access/availability of social/basic goods and services • Inability to meet some basic needs without adopting crisis/emergency - short/medium term irreversible - coping mechanisms. • Degrading well-being. Physical and mental harm resulting in a loss of dignity.	Protecting livelihoods & Preventing & mitigating risk of extreme deterioration of humanitarian conditions
4	Extreme	• Collapse of living standards, with survival based on humanitarian assistance and/or long term irreversible extreme coping strategies. • Partial collapse of social/basic goods and services. • Extreme loss/liquidation of livelihood assets that will lead to large gaps/needs in the short term. • Widespread physical and mental harm (but still reversible). • Widespread grave violations of human rights. Presence of irreversible harm and heightened mortality.	Saving lives & livelihoods

[79] JIAG, "Joint Inter Sectoral Analysis Draft Guidance," March 2019.

ANNEX VI. Estimating overall severity of needs

The MSNI is a measure of the household's overall severity of humanitarian needs, expressed on a scale of 1-4 and based on the highest sectoral LSG severity score(s) identified in each household.

The MSNI is determined through the following steps:

- First, the severity of each of the sectoral LSGs is calculated per household, as outlined in Annex IV.
- Next, a final severity score (MSNI) is determined for each household based on the highest severity of sectoral LSGs identified in each household.

As shown in the example in Figure 20 below, household (HH) 1 has a final MSNI of 4 because that is the household's highest severity score, across all LSGs within that household.

Figure 21. Examples of MSNI scores per household based on sectoral analysis findings[80]

	Sectoral LSG Severity Score						Final MSNI
	Food Sec	Health	WASH	Protection	Education	Etc.	
HH 1	**4**	**4**	**4**	**4**	3	3	**4**
HH 2	2	2	**4**	2	1	1	**4**
HH 3	3	3	3	**4+**	2	1	**4+**
Etc.	2	**3**	1	1	2	1	**3**

Key limitation: Regardless of whether a household has a very severe LSG in just one sector (e.g., WASH for HH2 above) or co-occurring severe LSGs across multiple sectors (e.g., food security, health, WASH, protection for HH1 above), their final MSNI score will be the same (4). While this might make sense from a "big picture" response planning perspective (i.e., if a household has an extreme need in even one sector, this may warrant humanitarian intervention regardless of the co-occurrence with other sectoral needs), MSNI summary figures should always be reviewed in conjunction with the additional analysis presented in this report, e.g., on the differences in magnitude of severity between households.

[80] The severity category of 4+, seen in this example, was not used in Sudan for the 2020 MSNA.

ANNEX VII. Guidance for interpreting multi-sector bar graphs

The multi-sector bar graph is used for visualizing the most common needs profiles of households. The graph enables the identification of sectors in which needs tend to co-occur or occur independently. Importantly, the graph does not visualize the severity of needs. Instead, it shows the prevalence of needs across sectors.

To illustrate, please see a more detailed explanation of the general multi-sector bar graph presented in the findings section:

1. Vertical bars in the top: Among all households, these bars indicate the proportion of households per needs profile. Only the 5 most common needs profiles are featured.

2. Dots and lines in the bottom right quadrant: The black dots and lines define the needs profiles. For example, out of all households, 7% had a health and SNFI LSG. An additional 6% had a SNFI LSG only.

3. Order of labels in in the bottom left quadrant: The labels are ordered from bottom to top in order of prevalence, among all households. For example, SNFI is the most common LSG, and Education the least common, in the sample below.