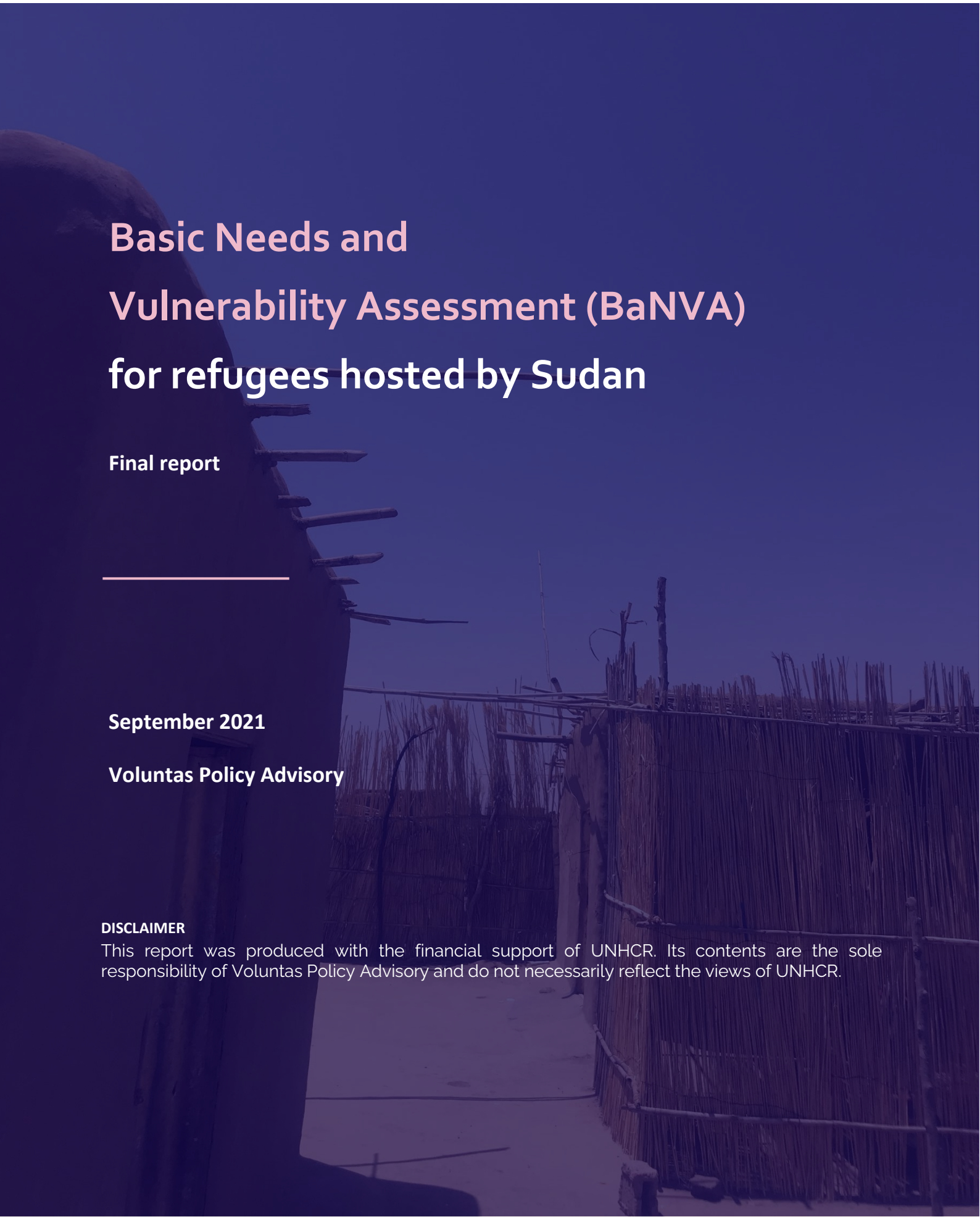

Basic Needs and Vulnerability Assessment (BaNVA) for refugees hosted by Sudan

Final report

September 2021

Voluntas Policy Advisory

DISCLAIMER
This report was produced with the financial support of UNHCR. Its contents are the sole responsibility of Voluntas Policy Advisory and do not necessarily reflect the views of UNHCR.

Preface

In Sudan, UNHCR works to provide protection and support to asylum-seekers, and refugees. To support these efforts, Voluntas Policy Advisory (Voluntas) was commissioned by UNHCR to carry out an assessment looking into the basic needs and vulnerabilities of refugees across Sudan. This report presents the findings of the assessment which help expand the understanding of refugee vulnerabilities in Sudan. Furthermore, the assessment provides recommendations for how refugees can be assisted in the future to reduce their vulnerability levels and meet their basic needs.

Acknowledgments

The assessment could not have been implemented without the dedicated support from UNHCR Sudan and the input from the Project Steering Committee, including representatives from a variety of partners in the sector – international organizations, donors, and international non-governmental organizations. In addition, the team received broad support from representatives from the international community who took the time to participate in key informant interviews. A detailed list of collaborators can be found in Annex 1.

The assessment was conducted by a team from Voluntas, consisting of Gabrielle Hubert, Claudia Picasso, Nour Sorour, and Sofia Terragni. Data collection across Sudan was carried out by Sudan Polling and Statistics Center (SPSC) with the support of the Voluntas team. Team Leader Niklas Kabel Pedersen provided executive oversight and quality assurance throughout the process.

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List of Acronyms

BaNVA	Basic Needs and Vulnerabilities Assessment
BVI	Basic Vulnerability Indicator
CAPI	Computer-Assisted Personal Interviewing
HHH	Head of Household
HNO	Humanitarian Needs Overview
IDPs	Internally Displaced Populations
KIIs	Key Informant Interviews
MSNA	Multi-Sectoral Needs Assessment
RCF	Refugee Consultation Forum
rCSI	Reduced Coping Strategies Index
SDG	Sudanese Pound
UNHCR	United Nations High Commissioner for Refugees
USD	United States Dollar
WASH	Water, Sanitation, and Hygiene

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Executive Summary

Sudan is currently estimated to host more than one million refugees and asylum-seekers from Chad, the Central African Republic, the Democratic Republic of Congo. Eritrea, Ethiopia, Somalia, South Sudan, Syria, and Yemen.[1] Most of the refugee population is currently living outside of official camps in remote and poorly developed locations with limited access to goods and services. Meanwhile, those residing in camp settlements are provided with modest assistance, which may not meet their basic needs.[2]

As part of its mandate in Sudan, the United Nations High Commissioner for Refugees (UNHCR) works to provide support and protection to refugees, and asylum seekers that are at risk of experiencing vulnerabilities. However, information about the reason, nature, and consequences of such vulnerabilities remains scarce and outdated.

In this context, Voluntas was commissioned to support UNHCR in Sudan by implementing a Basic Needs and Vulnerability Assessment (BaNVA) for refugees hosted in Sudan. To produce this assessment, an extensive inception desk review was carried out with 21 key informant interviews (KIIs) held with UNHCR, other UN agencies, and NGOs to include their respective inputs in the survey instrument design. Furthermore, a survey was carried out with 4,922 refugees and 1,409 host community members across 13 Sudanese states. The data collected allowed for the representativity of the refugee population in each state with a margin of error of around 5%.[3]

The findings of this assessment, as expanded upon below, will help create an understanding of refugees' vulnerabilities in different sectors. Furthermore, the findings can support the development of recommendations on how refugees can be better assisted in the future to reduce their vulnerability levels and meet their essential needs – including through cash-based assistance.

Vulnerability mapping

A Basic Vulnerability Indicator (BVI) was developed to inform vulnerability profiling of refugees. The BVI is the result of an average scoring in eight sectors' vulnerability indicators, with inputs encompassing unmet needs, as well as indicators of vulnerability to need. Each indicator is based on the average of a set of sub-indicators derived from questions within the survey.

Basic Vulnerability Indicator (BVI)	The majority of refugees in Sudan suffer from moderate to high basic needs vulnerability and experience greater vulnerability than their host communities. In Kassala, White Nile, and West Kordofan, however, refugees and host communities exhibit similar levels of vulnerability. Furthermore, refugees in-camps/camp-like situations have a higher overall vulnerability, especially in Blue Nile, and North and South Darfur.
Universal	High universal vulnerability[4] is an issue for refugees across all states, and refugees in North Darfur, West Kordofan, and East Darfur are the most adversely affected. Refugees in-camps/camp-like situations generally experience higher universal vulnerability compared to those settled out-of-camp.
Monetary	Across most states, refugees experience higher monetary vulnerability than their host communities. Refugees in Gedaref, White Nile, North Darfur, East Darfur, and North/South Kordofan have the highest monetary vulnerability, and those in-camps/camp-like situations report higher monetary vulnerability compared to those settled out-of-camp.

[1] UNHCR Sudan – Sudan: Population Dashboard, 31 July 2021

[2] OCHA – Sudan: Humanitarian Needs Overview, 22 February 2021

[3] At a 95% confidence level

[4] Universal vulnerability is comprised of household expenditure, possession of work permit/documentation, utilization of livelihood coping strategies, and dependency ratio.

Education	Overall, education vulnerability is not severe for refugees and host communities, but refugees in North Darfur and South Kordofan experience the highest level of education vulnerability.
Food	Refugees in West Kordofan and all respondents in Kassala and South Kordofan experience the highest food vulnerability. Looking at states with a significant difference between refugees settled in-camp/camp-like situations and out-of-camp, it was found that vulnerability was higher for the latter in Blue Nile and West Kordofan.
Health	Health vulnerability is not a major issue for refugees and host communities across most states, except for East Darfur. The Kordofan states, North Darfur, and South Darfur show the highest health vulnerability in Sudan. Refugees in-camps/camp-like situations were subject to higher health vulnerability compared to those settled out-of-camp.
Shelter & Energy	High shelter and energy vulnerability is an issue for refugees across all the surveyed states. Refugees in Blue Nile, especially those settled in-camps/camp-like situations, have the greatest shelter and energy vulnerability.
WASH	High WASH vulnerability is an issue for both refugees and host communities across all surveyed states. Except for refugees in White Nile, refugees have higher WASH vulnerability compared to their host communities.
Protection	Except for Kassala and White Nile, refugees have greater protection vulnerability compared to their host communities. Refugees in Blue Nile and East Darfur have the highest protection vulnerability.
Food	Refugees in West Kordofan and all respondents in Kassala and South Kordofan experience the highest food vulnerability. In Blue Nile and West Kordofan, out-of-camp refugees have higher food vulnerability than in-camp, but in Sennar, Khartoum, and Central Darfur the opposite is true.

Determinants of vulnerability

Key drivers of vulnerability. Age and level of education have a significant negative impact on overall vulnerability – as they increase, overall vulnerability decreases. Furthermore, male, single, engaged, or divorced refugees, as well as refugees from Ethiopia, Eritrea, Syria, and Iraq, experience lower vulnerability. Head of household (HHH) gender and education levels have a significant impact on BVI, with households that are male-led and have higher levels of education experiencing lower vulnerability. The refugee settlement situation also has a significant impact on BVI, with refugees settled in-camp/camp-like situations experiencing higher vulnerability.

Recommendations: Including the additional variables of HHH gender, HHH level of education, and refugee settlement situation in the ProGres dataset would improve UNHCR's capacities to forecast vulnerability on a household level to inform subsequent programming.

Key drivers of protection vulnerability. Protection need is higher for refugees with high overall vulnerability, older refugees, refugees living in-camps/camp-like situations, as well as those who are single, separated, or divorced. Refugees from Chad and the Central African Republic also experience higher protection vulnerability.

Recommendations: Additional protection support is recommended for refugee profiles that are correlated with high protection needs. Furthermore, programming should focus on ensuring that basic needs are met in order to reduce protection vulnerability.

Vulnerability profiling. Individuals exhibiting the highest vulnerability are uneducated older widowed women, living in-camps/camp-like situations, with a high number of dependents. The most vulnerable households are found to be led by heads of household with little to no education, a high number of dependents, and a low income.

Recommendations: Support should be targeted towards individuals and households with profiles correlated with high vulnerability.

Potential for cash-based assistance

Preferences and feasibility. Those who are single, living in-camps/camp-like situations, and working for pay have a higher preference for cash-based assistance. Cash-in-hand is the preferred modality for most refugees, but the states of Blue Nile, North and South Kordofan, and North Darfur show a preference for in-kind or combined assistance over solely cash-based assistance. Additionally, low levels of access to financial institutions pose a crucial challenge to cash-based assistance.

Recommendations: Cash-based assistance should utilize cash-in-hand modality to maximize feasibility and align with preferences. The impact can be augmented by facilitating refugee access to financial services.

Access to marketplace and availability of goods. Most refugees, except for those in East Darfur and Blue Nile, report being able to access a marketplace within one hour from their homes. Furthermore, most refugees report feeling mostly safe when traveling to the market alone, although those in Central and East Darfur feel the least safe.

Recommendations: Cash-based assistance should be targeted to states with higher levels of feasibility, including the safety of using cash, preference for cash, and market accessibility and sufficiency. Kassala, Sennar, and West Kordofan are especially promising across these areas, while White Nile and East Darfur seem to have less potential based on the indicators.

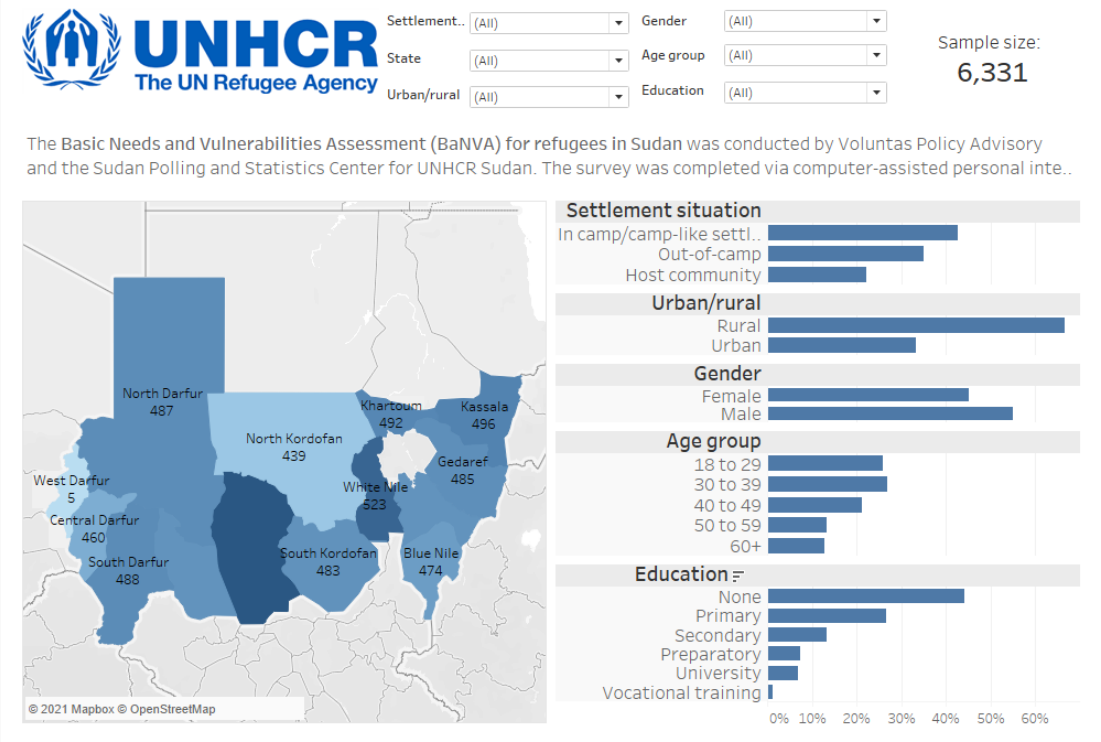
Use of cash-based assistance. Refugees somewhat differ in how they would spend cash-based assistance according to their demographics and state. The greatest proportion reports that they would use cash for paying off debts, followed by purchasing food and non-food items.

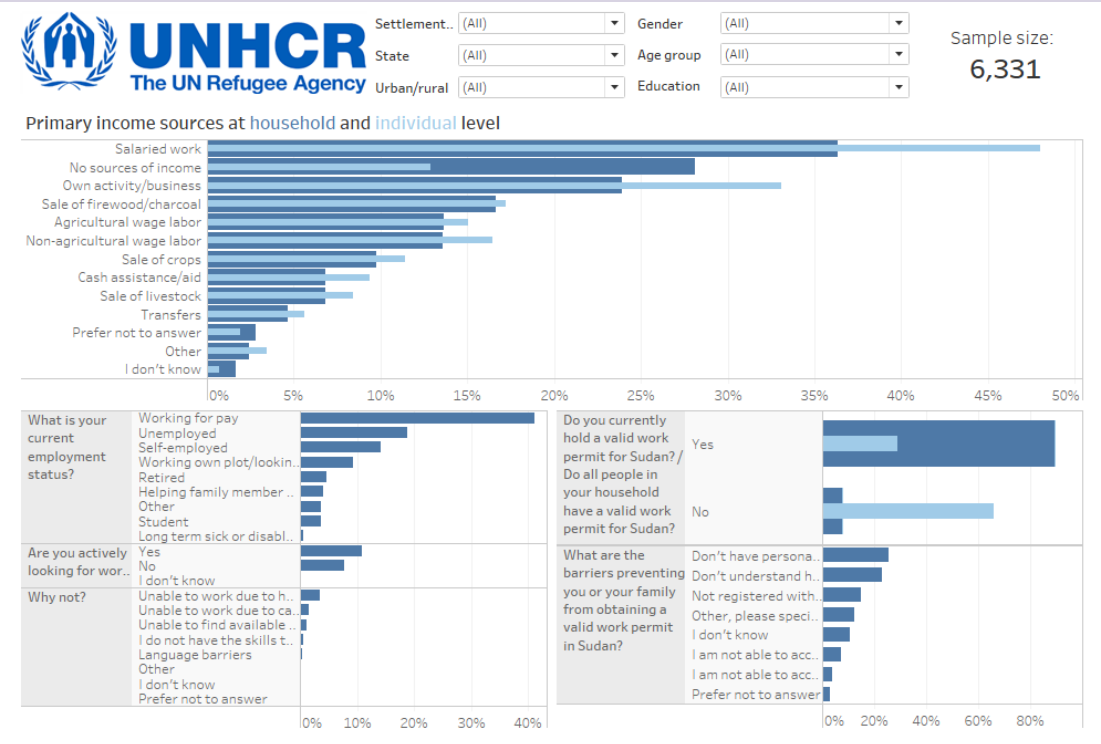
Recommendations: Differences in how states and demographics would use cash could be utilized to 'target' cash-based assistance by sector (e.g., education expenditure more likely by women in White Nile); however, this is only feasible in specific cases and care would need to be taken to ensure targeted beneficiaries do not encounter heightened security risks compared to non-beneficiaries.

Online dashboard

Complementary to this report, all survey data can be accessed in an **interactive dashboard available online.** The dashboard is accessible thought this link or by clicking on any of the below dashboard images.

Through the dashboard, it is possible to filter findings from the survey by state to allow for the exploration of state-level disaggregation. Moreover, it is possible to filter findings by demographics (age, gender, age group, education, and settlement situation) of the respondents.





1. Introduction

Context overview

As of August 2021, Sudan hosts an estimated 1,108,153 refugees and asylum-seekers from the Central African Republic, Chad, the Democratic Republic of Congo, Eritrea, Ethiopia, Somalia, South Sudan, Syria, Yemen, among others. The main refugee-hosting states are Khartoum, White Nile, Kassala, South and East Darfur, as well as West and South Kordofan.[5]

South Sudanese refugees are the largest refugee population, with a recorded number of 784,860 refugees living across all states.[6] Most of the current overall refugee population (70%) are living outside of official camps.[7] Out-of-camp settlements include large collective self-settlements, communities that are integrated with the host community, and urban areas. Many out-of-camp settlements are in remote and underdeveloped areas where resources, infrastructure, and basic services are extremely limited. In the camps, the assistance provided is modest and, in some cases, does not meet minimum living standards.[8],[9]

UNHCR, as a part of the Humanitarian Needs Overview (HNO) process and with the support and endorsement from partners in the Refugee Consultation Forum (RCF), has conducted a severity ranking of refugee-hosting localities in Sudan. This has allowed UNHCR and partners to prioritize the areas and sectors in which funding and investment are most needed. Furthermore, a multi-sectoral needs assessment (MSNA) was conducted in 2020 to provide a country-wide overview of needs for IDPs, returnees, vulnerable residents, and refugees. However, primary data assessing refugee vulnerabilities, as well as information about the reason, nature, and consequences of such vulnerabilities, remains scarce and outdated.

About the Assessment

In this context, Voluntas was commissioned to support UNHCR in Sudan by implementing a Basic Needs and Vulnerability Assessment (BaNVA) for refugees hosted in Sudan. As depicted in Figure 1, the outcomes of the assessment are two-fold. Firstly, it creates an understanding of refugees' overall and sectoral vulnerabilities. Secondly, it serves to identify recommendations for how refugees can be assisted in the future to reduce their vulnerability levels and meet their essential needs, including the potential use of cash-based assistance.

[5] UNHCR Sudan – Sudan: Population Dashboard, 31 July 2021

[6] Idem.

[7] Idem.

[8] OCHA – Sudan: Humanitarian Needs Overview, 22 February 2021

[9] Sphere Project, Sphere Handbook: Humanitarian Charter and Minimum Standards in Disaster Response, 2011.

Activities	Outputs	Outcome	Impact
Held inception meeting with UNHCR	Research concept, workplan and tools	Deepen the understanding of refugee basic needs, vulnerabilities and protection necessities of refugees hosted in Sudan	Assist UNHCR and partners in identifying and prioritizing household level vulnerability, taking a combined view of specific protection needs and socio-economic factors
Developed survey design and sampling			
Conducted desk research	Household survey across 13 states in Sudan		
Held initial consultations with RCF sector groups			
Developed indicator framework and survey instrument			
Piloted and conducted household surveys			
Analyzed the data collected	Comprehensive report and recommendations	Develop recommendations are for how refugees can be assisted to meet their essential needs as well assess the potential of multipurpose cash assistance to address basic needs and protection vulnerabilities	
Drafted comprehensive report			
Finalized comprehensive report			
Conducted a presentation of findings	Presentation of findings		

Figure 1. Assessment Logframe

2. Assessment methodology

2.1 Analytical Framework

Through desk review of (i) previous vulnerability assessments carried out in Sudan, (ii) existing national indicator frameworks, and (iii) the ProGres datasets, as well as key informant interviews (KIIs) with sector co-leads, Voluntas developed an analytical framework. This analytical framework informed the development of a survey instrument used for data collection as well as the subsequent analysis. The framework included three main components: (i) background and Demographic information, (ii) sectors' vulnerability, and (iii) response to needs.

Overall objective	Component	Sub-component
Identify, and help prioritize household level vulnerability taking a combined view of specific protection needs and socio-economic factors. It should assist with improving refugee assistance programming design, differentiating by context.	Background and Demographic information	Demographic/ background information
		Region and Settlement Situation
	Sectors	Livelihoods/Self-reliance
		Food security
		Health/Nutrition
		WASH
		Protection
		Shelter and NFI's
		Energy
		Education
	Response to needs	Coping Mechanisms
		Cash Assistance Modalities

Specific Objectives

1. Develop of a joint evidence-based understanding of refugees' basic needs in Sudan
2. Consider the protection vulnerabilities that have impact on the ability of vulnerable refugees to survive/cope
3. Assess the reasons why certain people are unable to meet their basic needs
4. Explore alignment of targeting, design and implementation of multipurpose cash assistance for basic needs to the Social Safety Net program implemented by the Government of Sudan.

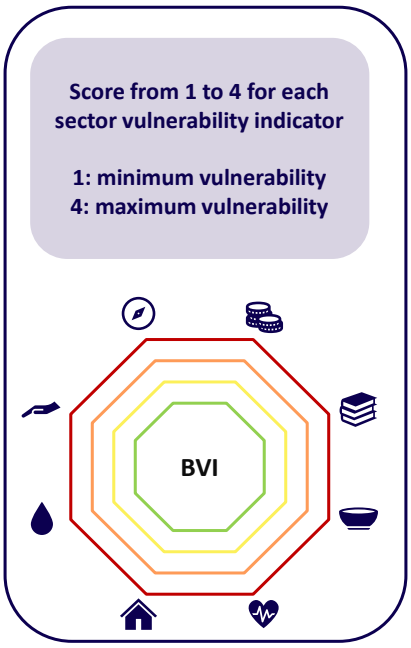
Figure 2. Analytical Framework

To accomplish the above-mentioned objectives, an analysis was conducted in a staged process. Firstly, overall and sector vulnerabilities were identified through a vulnerability mapping exercise. Secondly, a vulnerability profiling was carried out, and thirdly, building on key indicators from the ProGres database and other indicators collected in the survey, determinants of overall vulnerabilities and protection vulnerability were explored. Finally, based on findings, the potential of cash-based assistance to address the basic needs and vulnerabilities of refugees in Sudan was analyzed. All steps are described in more detail below.

Vulnerability Mapping

A Basic Vulnerability Indicator (BVI) was developed to inform the overall level of vulnerability of refugees and host communities. The BVI is based on eight sectors' vulnerability indicators: *universal,*

monetary, education, food, health, shelter and energy, WASH, and protection vulnerability. All vulnerability indicators are based on a score from 1 to 4, with 1 indicating the lowest level of vulnerability and 4 indicating the highest level of vulnerability.



BVI	**1. UNIVERSAL**	1.1 Expenditure	1.2 Work Permit and Documentation	1.3 Livelihood Coping Strategies	1.4 Dependency ratio
	2. MONETARY	2.1 Debt	2.2 Employment Status	2.3 Income level	
	3. EDUCATION	3.1 School aged children	3.2 Attendance	3.3 Reasons for not attending	
	4. FOOD	4.1 Food Expenditure	4.2 Coping strategies		
	5. HEALTH	5.1 Availability of healthcare	5.2 Healthcare needs	5.3 Healthcare expenditure	
	6. SHELTER and ENERGY	6.1 Shelter type	6.2 Shelter conditions	6.3 Availability of energy source	
	7. WASH	7.1 Latrine adequacy	7.2 Access to water	7.3 Availability of handwashing tools	7.4 Waste disposal
	8. PROTECTION	8.1 Availability of protection services	8.2 Perceived safety		

Figure 3. Basic and Sector Vulnerability Indicators Legend

Sector vulnerability indicators build on sub-indicators calculated based on specific survey questions. Figure 4 outlines the design of the indicators. More detailed information is presented in Annex 3.

Sector	Sub-indicator	Question assessed
1. Universal Vulnerability	1.1 Expenditure	Proportion of HH income spent in the past 30 days
	1.2 Work Permit and Documentation	Presence of civil documentation or work permits within a household
	1.3 Livelihood Coping Strategies	Measures taken to cover basic needs
	1.4 Dependency ratio	Number of working-age population within a household
2. Monetary Vulnerability	2.1 Debt	Proportion of HH income used to service debt in the past 30 days
	2.2 Employment status	Current employment status
	2.3 Income	Estimated monthly income in SDG
3. Education Vulnerability	3.1 School aged children	Number of school aged children living in a HH
	3.2 Attendance	Number of school aged children not attending school
	3.3 Reasons for not attending	Reasons for school absence
4. Food Vulnerability	4.1 Expenditure Pattern on Food	Proportion of HH income spent on food in the past 30 days
	4.2 Coping strategies	Food coping strategies used

Sector	Sub-indicator	Question assessed
5. Health Vulnerability	5.1 Availability of healthcare	Distance to the nearest healthcare facility
	5.2 Healthcare needs (avg)	Within a HH: • Number of children under 6 and adults over 60 • Number of people with disabilities • Number of people with recurring healthcare needs
	5.3 Healthcare expenditure	Proportion of HH income spent in the past 30 days
6. Shelter and Energy Vulnerability	6.1 Shelter type	Type of shelter
	6.2 Shelter conditions (avg)	• Condition of the shelter of residence • Presence of proof of ownership or rent
	6.3 availability of energy source	• Primary source of HH energy • Sufficiency of primary source of HH energy
7. Hygiene Vulnerability	7.1 Latrine adequacy	• Access to sanitation facilities • Type of sanitation facility (communal/family) • Latrine privacy
	7.2 Access to water	Sufficiency and access to water sources
	7.3 Hygiene	Access to handwashing facilities and soap
	7.4 Waste disposal	Access to solid waste disposal facility
8. Protection Vulnerability	8.1 Protection services	Awareness of services for legal aid/justice
	8.2 Perceived safety	Sense of safety leaving the house during the day

Figure 4. Basic Vulnerability Indicator (BVI)

Figure 5 shows an example of how the BVI is calculated.

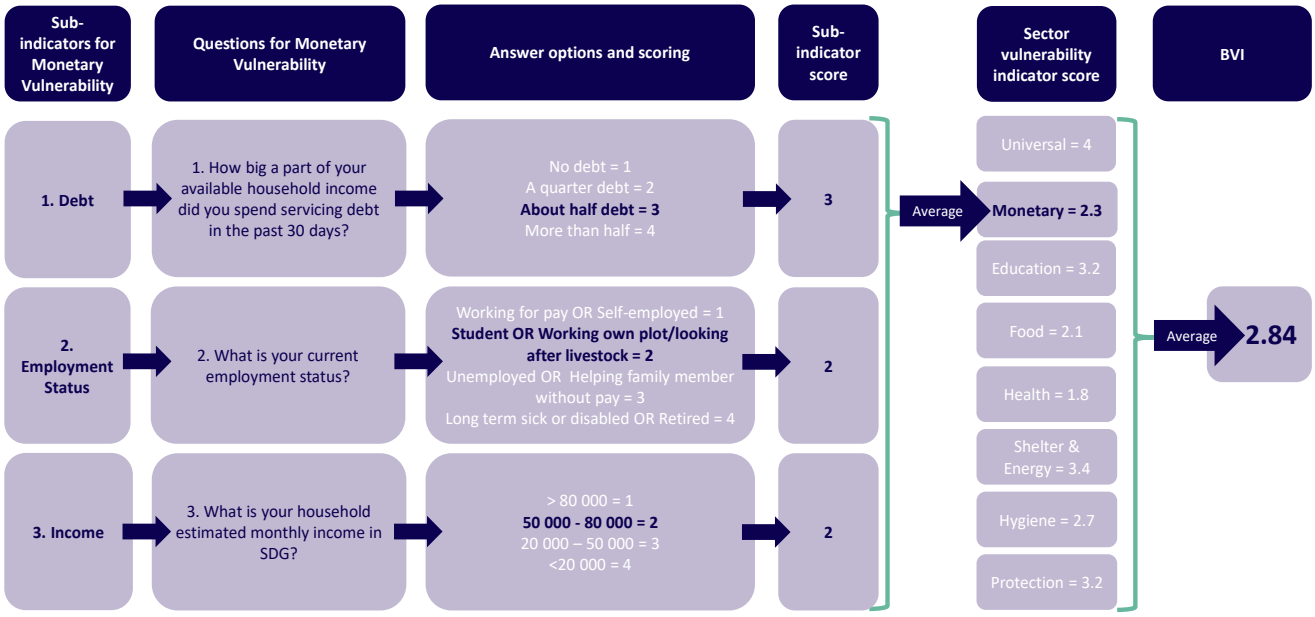


Figure 5. Calculation of the BVI - Example

Vulnerability Profiling

For this assessment, the objective of the vulnerability profiling was to identify groups with similar characteristics and overall vulnerability (using the BVI) that would otherwise not be apparent. Clusters developed by this analysis are internally coherent (same characteristics within the group) and externally differentiated (different characteristics between groups), which allows for the identification of specific profiles of personas within the refugee population.

The vulnerability profiling was carried out using a cluster analysis at the individual and household levels. On the individual level, characteristics taken into consideration were the settlement situation, marital status, age, and dependency ratio.[10] On the household level, the head of household (HHH) gender, HHH educational level, and dependency ratio were used as characteristics for the clustering.

Determinants of Vulnerability

For the BaNVA, determinants of vulnerability are defined as factors that impact the level of refugees' vulnerability in Sudan. The identification of these determinants can contribute to more effective targeting of programming.

The key factors determining the vulnerability of refugees were identified through linear regression analyses. The analysis explored determinants of overall vulnerability (using the BVI) and protection vulnerability. Possible determinants investigated were selected from the key indicators registered in the ProGres database and other indicators collected in the survey, as outlined in the table below.

Independent Variables	
ProGres indicators	**Additional indicators collected in the survey**
Age	HHH gender
Gender	
Marital status	HHH education level
Country of origin	
Year of arrival to Sudan	Refugee settlement situation
Highest level of education obtained	

[10] Dependency ratio is the ratio between dependent and independent household members (dependency ratio = household members not of working age/household members of working age). For example, a dependency ratio of 0.5 would mean that the household members that are not of working age are half as many as the members of working age.

Table 1. Variables used to identify determinants of overall vulnerability and protection vulnerability

Potential of Cash-Assistance

Finally, the potential of cash-based assistance to address the basic needs and vulnerabilities of refugees in Sudan was explored. This exploration was carried out through the collection of information on preferred assistance modality, the preferred mode of receiving cash-based assistance, spending of cash-based assistance, access to financial institutions, accessibility of nearest marketplaces, and sense of safety when traveling with cash to the marketplaces.

Descriptive analysis of these variables was carried out, with data disaggregated by state (13 assessed states) and gender (female vs. male). In addition, a linear regression analysis to determine drivers of refugees' preference for cash-based assistance was also carried out.

2.2 Data Collection Modes

Different data collection modes were used for this assessment including an extensive desk and secondary data review, key informant interviews (KIIs), and household surveys, as outline below:

- **Desk and secondary data review.** To design the assessment, structure the analysis, and inform the findings, Voluntas conducted a thorough desk review of (i) previous vulnerability assessments carried out in Sudan and neighboring countries, (ii) existing national indicator frameworks, and (iii) ProGres datasets.
- **Key Informant Interviews (KIIs):** To ensure that the BaNVA responds to sector-specific frameworks, indicators, and needs, 21 KIIs were conducted with partners and sector co-leads (Annex 1).
- **Face-to-face Survey.** In collaboration with our data collection partner, Sudan Polling Statistics Centre (SPSC), 4,922 household surveys were carried out with refugees and 1,409 with host communities from13 states in Sudan. The survey was implemented using computer-assisted personal interviewing (CAPI). The sample was developed following a multi-stage clustered-stratified approach with the settlement situation (inside/outside camp) and gender as strata. The final sample and in-state distribution were be developed based on the ProGres dataset. To be inclusive of refugees speaking different languages, the survey was first piloted in English and Arabic and then translated into Amharic (Ethiopia). The interviews were also conducted in Dinka and Tigrinya (Eritrea) as additional languages. The following sub-section looks deeper into the survey sampling profile and methodology. The survey instrument can be found in Annex 2.

2.3 Sampling

Key Informant Sample

KIIs were carried out with partners and sector co-leads to ensure that the BaNVA responds to sector-specific indicator frameworks while enabling a gap analysis for missing information related to vulnerability-specific needs. A total of 21 interviews were carried out with UNHCR, other UN agencies, and NGOs to include their respective inputs. Interviewees were selected based on recommendations of the UNHCR team and based on referrals from sector experts. Annex 1 includes a list of the key informants.

Survey Sample

The assessment was planned to be conducted across 14 states in Sudan including Kassala, Gedaref, Sennar, Blue Nile, Khartoum, White Nile, North Darfur, West Darfur, Central Darfur, South Darfur, East Darfur, North Kordofan, West Kordofan, and South Kordofan.

The sampling framework was designed based on the ProGres[11] database's estimated refugee population in each state and following a multi-stage clustered-stratified approach with the settlement situation (in-camp or camp-like situation/out-of-camp) and gender as strata. Moreover, in each state, 100 interviews were planned with host communities to enable the comparison with the refugee population's results.

Due to the changing situation on the ground, the obtained sample slightly differed from the sample originally scoped. Data collection in West Darfur was impossible due to the security situation in the area which restricted access during data collection. Thus, data collection took place in only 13 states. In total, the obtained sample consisted of 6,331 interviews including 4,922 interviews with the refugee population and 1,409 with host community representatives. The sample framework enabled state-level representativity of the refugee population in each state with a margin of error of around 5% (at 95% confidence level). The table below shows the obtained sample across the 13 assessed states:

State	State Refugee Population	Refugee Sample	MoE at 95% CL	Host Community Sample	Total
Kassala	123,987	389	4.96%	107	
Gedaref	53,151	385	4.98%	100	
Sennar	9,897	371	4.99%	111	
Blue Nile	4,233	361	4.93%	113	
Khartoum	298,053	383	5.00%	109	
White Nile State	271,444	403	4.88%	120	
North Darfur	24,602	380	4.99%	107	
West Darfur**	426	0	N/A	0	
Central Darfur	10,092	360	5.07%	100	
South Darfur	52,119	366	5.10%	122	
East Darfur	74,144	382	5.00%	100	
North Kordofan	6,469	334	5.22%	105	
West Kordofan	63,061	429	4.72%	106	
South Kordofan	38,658	379	5.01%	104	
		4,922		**1,409**	**6,331**

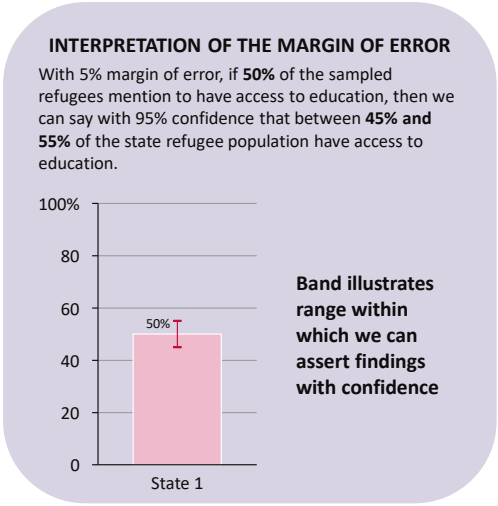


Figure 6. Obtained Sampling Strategy

2.4 Main Challenges and Limitations

The assessment was subject to some challenges and limitations, which the methodology has been designed to mitigate to the extent possible. Figure 7 outlines the main challenges and limitations faced during the inception and data collection phases, and the mitigation measures taken.

[11] Latest update on January 31st, 2021.

		Challenges/Limitation	Mitigation measure
Inception	**Inflation**	The rapidly changing inflation and value of the currency in Sudan affected the possibility of including indicator of expenses expressed in Sudanese pounds.	All sector expenditure questions were expressed as portion of total expenditure.
	Length of survey	The comprehensive and multisector scope of the assessment impacts the length of the questionnaire. Long interviews can lead to survey fatigue affecting the reliability of the responses.	Only some main dimensions were included for each sector to ensure an adequate length of the questionnaire and the highest reliability of the data collected.
	Sample frame	UNHCR ProGres database served as sample frame for the survey. However, UNHCR's ProGres database includes only around 60% of refugees hosted in Sudan.	UNHCR ProGres database is the most updated and comprehensive source of data regarding refugees in Sudan currently available. Based on the best information that is available, this sample is representative of the target population.
	Host community	Even after consultation with several organization operating in the context, no clear definition of host community emerged.	Host community was defined in collaboration with UNHCR as "national population living in the vicinity of refugee settlements."
Data Collection	**Festivities delay**	Ramadan and Eid festivities in Sudan prolonged the duration of data collection in the field.	Enumerators of non-Muslim religion continued operating to conduct survey data collection and minimize the impact of the festivities.
	Security on the field	The security situation in West Darfur posed a risk to the safety of enumerators and restricted access.	Data collection in West Darfur was not conducted and the state was excluded from the sample. Thus, only 13 states are considered in the analysis.
	Re-fielding	During the quality assurance procedures, it emerged that a number of interviews collected did not comply with the quality standards required - primarily related to the length of the interviews conducted.	The interviews not complying with the quality standards required were deleted from the dataset and re-fielded to reach the set quotas.
	Status verification	During data collection there were instances of discrepancy between the self-declared refugee/host community status of the respondent and the status registered by the researcher. This also related to the distinction between "in-camp" and "camp-like" settlement status.	Since the settlement status was registered by trained researchers, it was used as the determinant to distinguish between refugees in-camp/camp-like situations, out-of-camp refugees, and host communities to ensure uniformity.

Figure 7. Main challenges/limitations and mitigation measures

An overarching consideration to keep in mind for the interpretation of the assessment refers to different types of cognitive bias. The assessment's methodology relies on self-reported indicators as expenditure, income, debt, among others; therefore, it is subject to inaccuracies and bias. Moreover, data on some protection-related issues have been deliberately omitted from the questionnaire because the survey tool would be inappropriate as a means to collect such sensitive information. This is to be considered when evaluating the accuracy of protection-related indicators, especially within female respondents and/or female-headed households.

2.5 Survey sample profile

After data cleaning and quality assurance, the final sample included 6,331 interviews, 4,922 from refugees living in-camp/camp-like situations or out-of-camp, and 1,409 from host community representatives. The proportion of males in the sample is slightly higher than females. In addition, all refugees in White Nile and Gedaref state were living in-camp/camp-like situations. Moreover, almost half of the sampled refugees had no level of education. Furthermore, around one-fifth of the refugee sample was unemployed. This and other demographic information of the surveyed refugees is presented in the figures below.

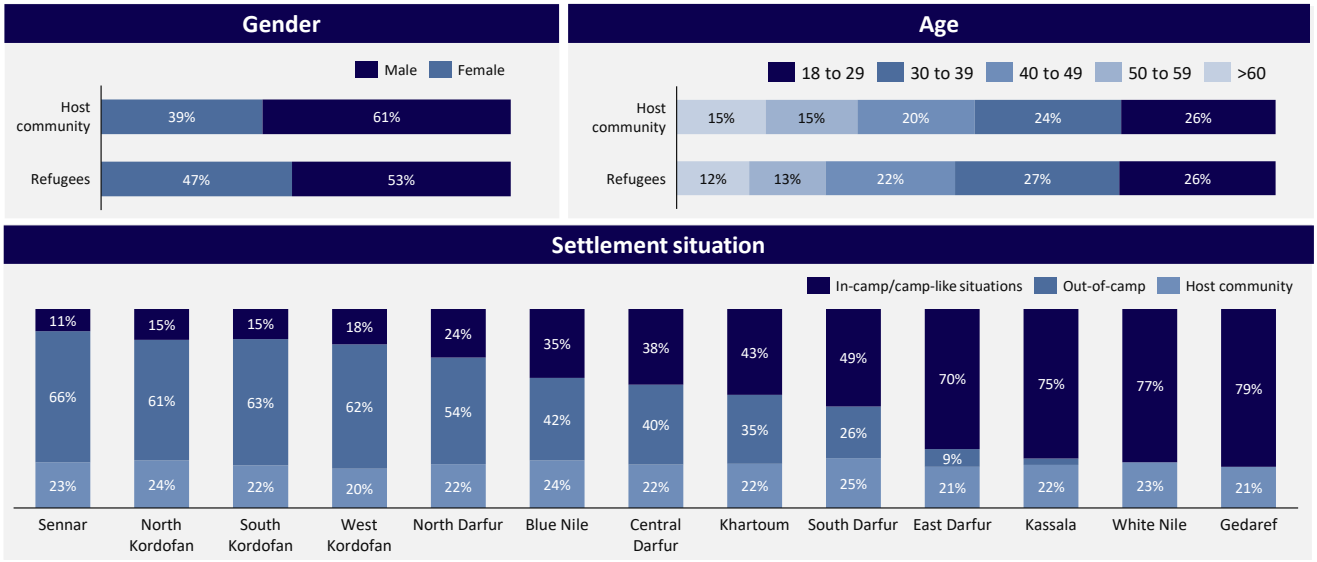


Figure 8. The demographic makeup of sample I

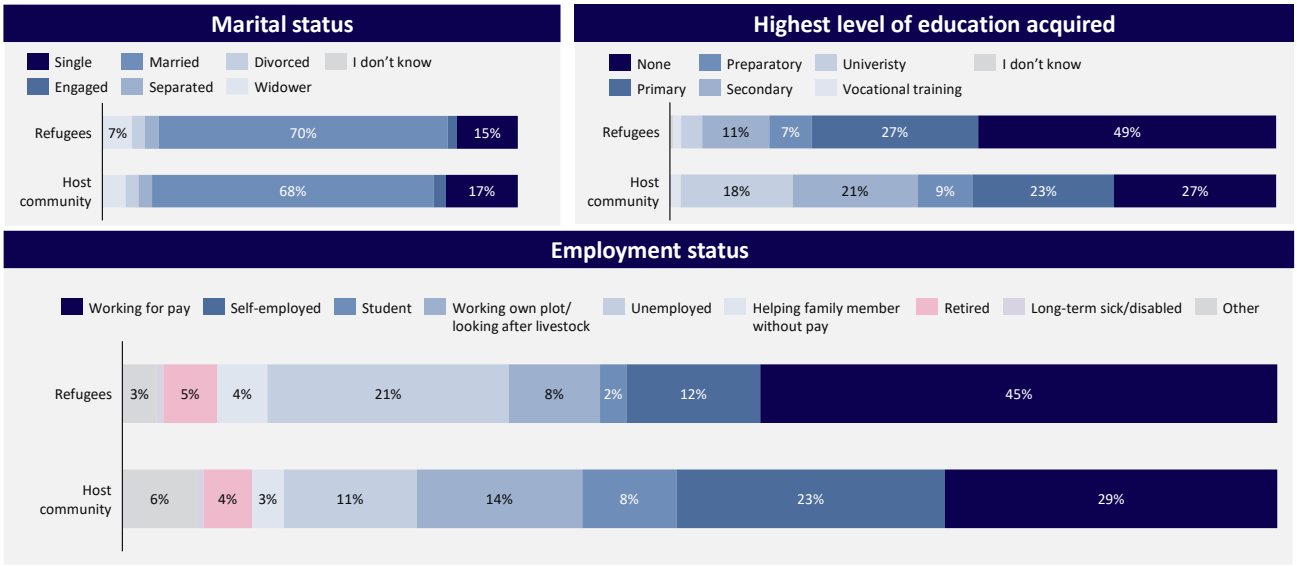
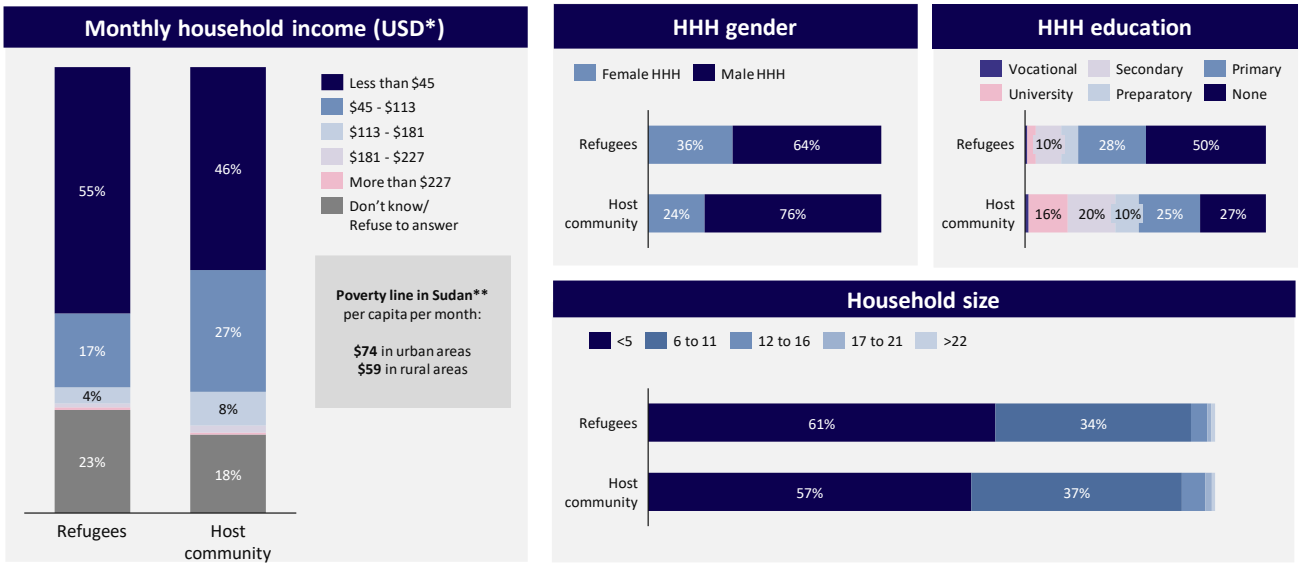


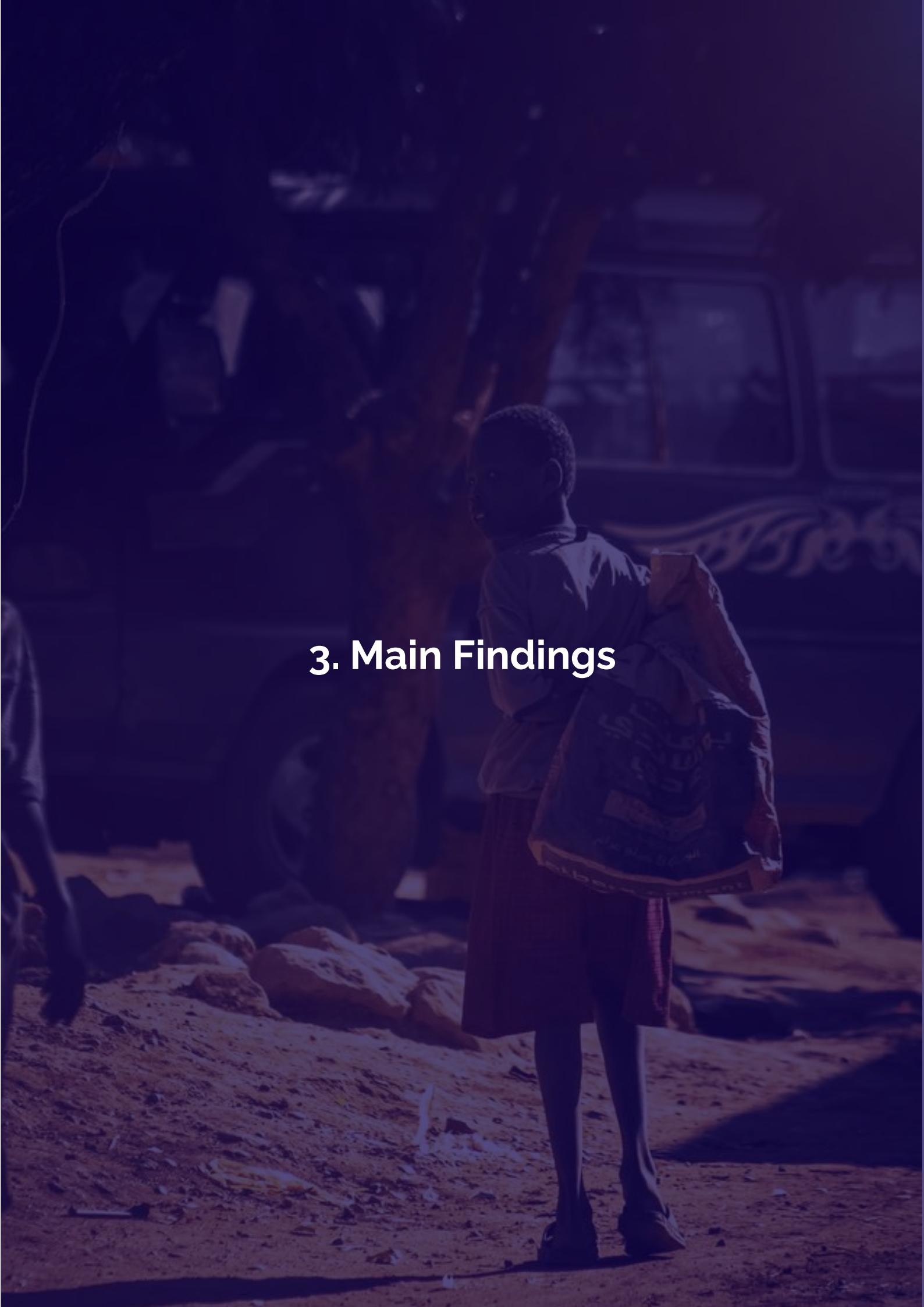
Figure 9. The demographic makeup of sample II

Additional demographic information on the household level was also collected. Data showed that the majority of heads of households (HHH) in both the refugee and host communities are male. In addition, more than half of the surveyed households had a household size lower than five individuals. In addition, 56% of refugee households had a household income lower than $45/month. Further household demographic information is shown in Figure 10.



** The exchange rate used to convert monthly household income levels to USD was 1 USD = 441.28 SDG*
*** The most recent official data of the poverty line in Sudan from 2014-2015 (426 SDGs/month for urban areas and 337 SDGs/month for rural areas) has been converted to USD based on the rates of 2014-2015 (1 USD = 5.76 SDG). Source: African Development Bank Group (2018).*

Figure 10. The demographic makeup of sample III



3. Main Findings

3. Main Findings

The following sections explore the main findings from the survey carried out. These findings provide insights into the basic and sector-specific vulnerabilities experienced by refugees and host communities, refugee determinants of vulnerability, profiles of refugee groups with higher levels of overall vulnerability and protection vulnerability, and the potential of cash-based assistance for refugees in Sudan.

3.1 Vulnerability mapping

The objective of the vulnerability mapping was to identify the overall and sector-specific levels of vulnerability experienced by refugees in Sudan.

The sector-specific vulnerability was assessed across the universal, monetary, education, food, health, shelter & energy, WASH, and protection sectors. Meanwhile, the overall vulnerability was measured by the Basic Vulnerability Indicator (BVI). More details on what each indicator means and how results can be interpreted are presented under each sub-section below. As mentioned above, all vulnerability indicators are based on a score from 1 to 4 with 1 indicating the lowest vulnerability and 4 indicating the highest vulnerability.

Basic Vulnerability Indicator (BVI)

The BVI was built on the vulnerability indicators of eight sectors: *universal, monetary, education, food, health, shelter & energy, WASH, and protection*. Therefore, the BVI is a measure of vulnerability – referred to as "overall vulnerability" for the purpose of this report – among refugees and host communities.

Results from the BVI analysis show that **at least one-third of refugees had high levels of overall vulnerability in all states, except for Sennar**. Within the refugee population, the states where refugees were found to be most vulnerable were Blue Nile, North Darfur, East Darfur, and West Kordofan. Furthermore, West Kordofan and East Darfur showed the highest levels of overall vulnerability for both the refugee population and the host community (Figure 11). When comparing the refugee population with the host community, significant differences were observed in Gedaref, Blue Nile, North Darfur, South Darfur, and North Kordofan, where refugees were significantly more vulnerable than their host communities. The opposite is true in White Nile.

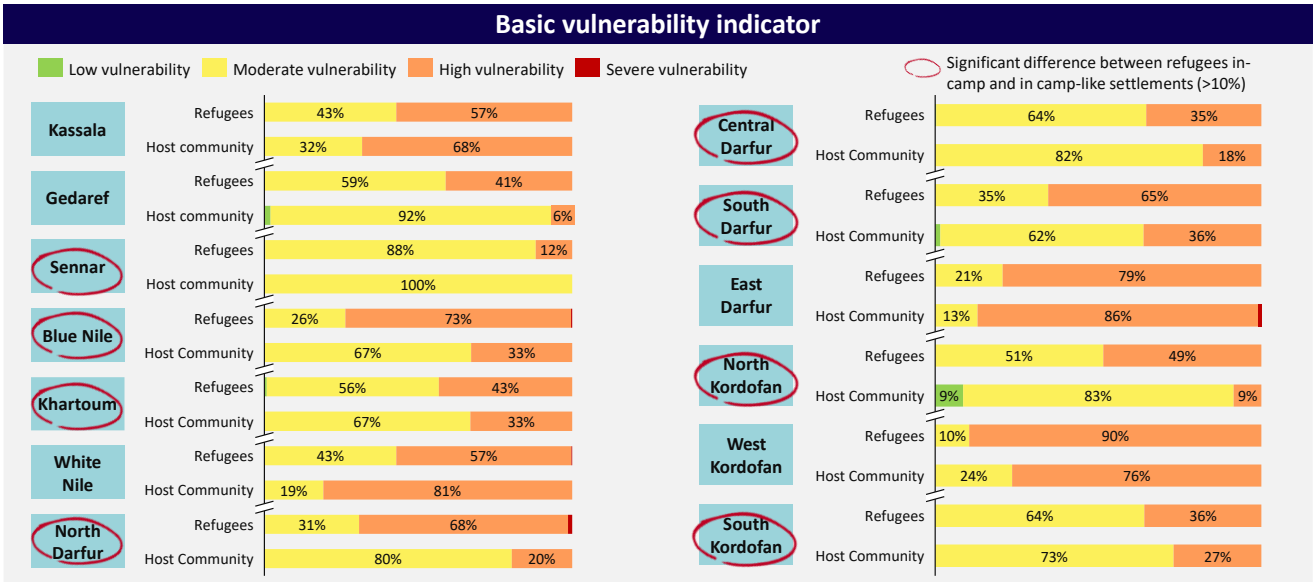
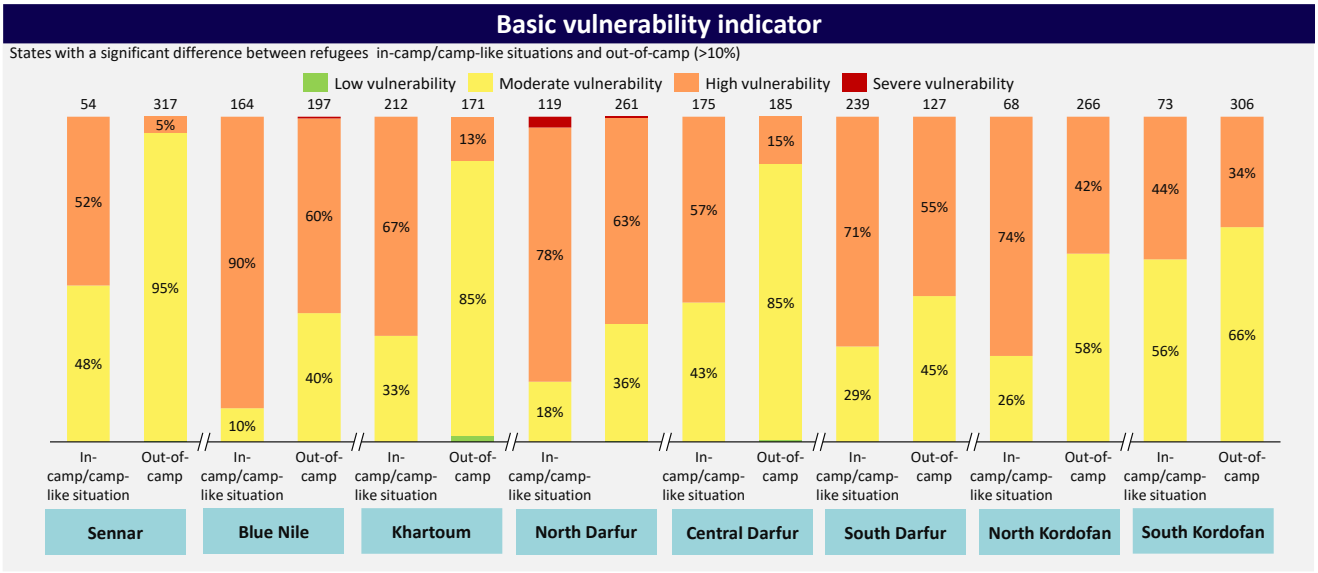


Figure 11. Basic Vulnerability Indicator

In-camp/camp-like situation and out-of-camp breakdown

Significant differences were found between in-camp/camp-like situations and out-of-camp refugees in the states of Sennar, Blue Nile, Khartoum, North Darfur, Central Darfur, South Darfur, North Kordofan, and South Kordofan. **Across all assessed states, refugees settled in-camp/camp-like situations are more vulnerable than those settled out-of-camp**. A high proportion of in-camp/camp-like situations refugees with high levels of overall vulnerability were found in Blue Nile, Khartoum, North Darfur, South Darfur, and North Kordofan. Refugees with the lowest levels of overall vulnerability were found in out-of-camp settlements in Sennar, Khartoum, and Central Darfur (Figure 12).



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Figure 12. BVI in-camp/camp-like situation and out-of-camp breakdown

KEY TAKEAWAYS

- Most refugees in Sudan have moderate to high levels of overall vulnerability, with at least one-third in every state experiencing high levels of overall vulnerability.
- In Kassala, White Nile, East Darfur, and West Kordofan, the majority of both refugees and host communities experience high overall vulnerability. Meanwhile, in Blue Nile, North Darfur, South Darfur, and North Kordofan refugees are more likely to experience higher overall vulnerability.
- Overall, refugees in-camp/camp-like situations experience higher levels of overall vulnerability compared to those settled out-of-camp. The highest proportion of refugees in-camp/camp-like situations with high to severe levels of vulnerability are identified in Blue Nile, Khartoum, North Darfur, South Darfur, and North Kordofan.

Universal Vulnerability

The universal vulnerability indicator measures how vulnerable refugee and host community households are according to their expenditure levels, their accessibility to work permits and documentation, frequency of use of negative coping strategies, and the degree of dependency of non-working age household members on working-age household members.

Across all states, the majority of both refugees and host communities were moderate to severely vulnerable to universal needs. Universal vulnerability is most dire amongst refugees in Kassala, Gedaref, Blue Nile, Khartoum, North Darfur, East Darfur, and West Kordofan where the majority of refugees experienced high or severe universal vulnerability (Figure 13). Moreover, host communities in Kassala, Khartoum, and East Darfur experienced slightly higher universal vulnerability compared to refugees (Figure 13).

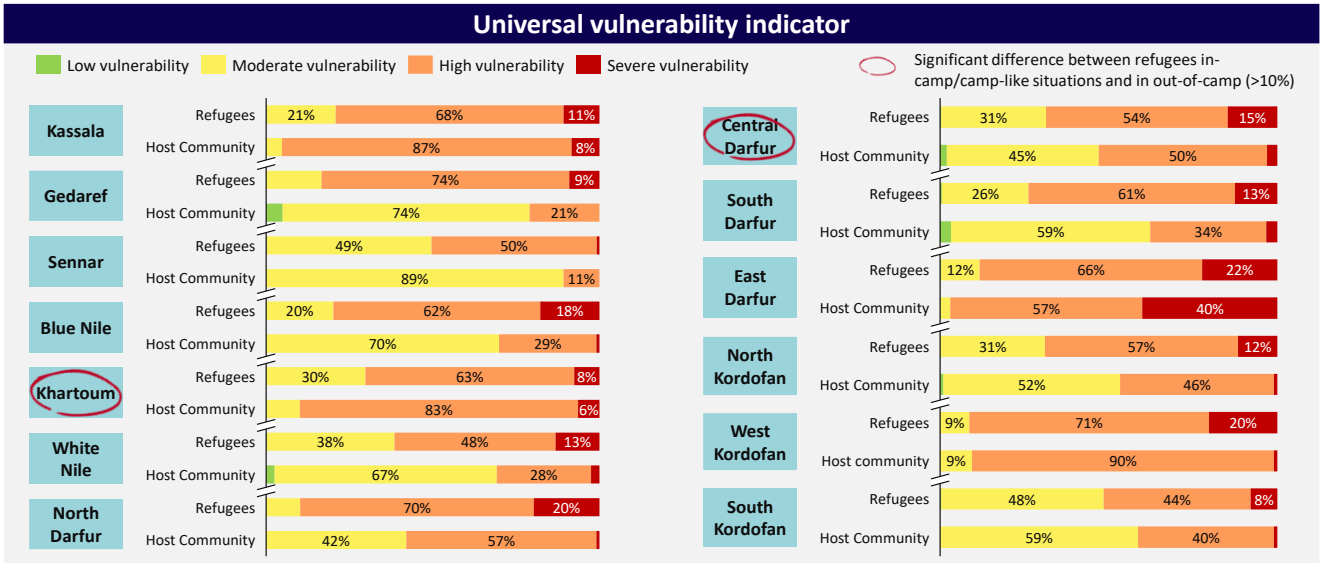


Figure 13. Universal Vulnerability Indicator

In-camp/camp-like situation and out-of-camp breakdown

Significant differences were found in universal vulnerability between refugees settled in-camp/camp-like situations and refugees settled out-of-camp in the states of Khartoum and Central Darfur. **Out-of-camp refugees were generally less vulnerable compared to those in-camp/camp-like situations**. The disparity in levels of universal vulnerability between settlement situations was greatest in Central Darfur, where refugees in camp/camp-like situations recorded significantly higher cases of severe vulnerability (Figure 14).

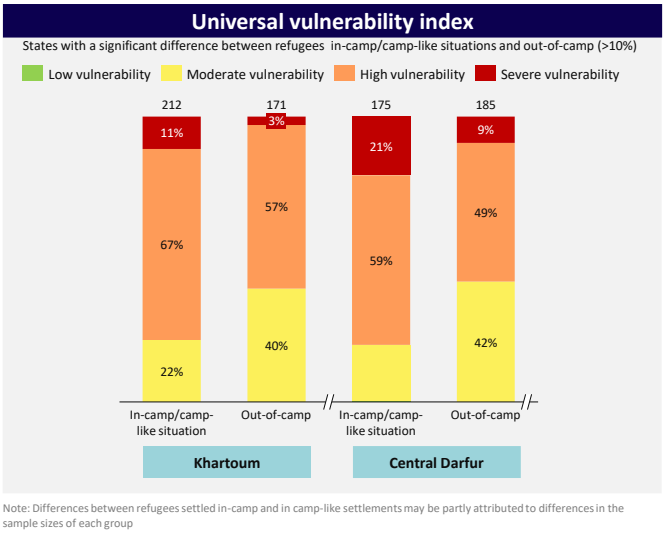


Figure 14. Universal Vulnerability in-camp/camp-like

Universal Vulnerability Sub-Indicators

Expenditure: higher vulnerability was attributed to households that spent more than half, almost all or all of their available household income in the past 30 days. The analysis of sub-indicators revealed that both the refugee population and the host community were highly vulnerable to expenditure-related vulnerability. Across all states, the majority of refugees and host community respondents reported spending more than half, almost all, or all their income in the past 30 days.

Work permit and documentation: higher vulnerability was attributed to households with only some documentation or no documentation. Results from the work permit and documentation sub-indicator showed that a high proportion of refugees had only some documentations or no documentation, leading to higher levels of vulnerability. **For this sub-indicator, vulnerability is significantly higher among the refugee population compared to the host community population in all states**, except for East Darfur where the host community was shown to be slightly more vulnerable.

Livelihood coping strategies index: medium, high, and severe vulnerability was attributed to households scoring in the stress, crisis, and emergency categories of the livelihood coping strategy

index, respectively.[12] Results of this sub-indicator showed that most refugees and host communities in all assessed states, except for Sennar, scored in the crisis or emergency category, leading to high levels of vulnerability

Dependency ratio[13]: medium, high and severe vulnerability were attributed to households with dependency ratios of 0.6-1.2, 1.2-1.8, and higher than 1.8, respectively. Results showed relatively low levels of vulnerability in this sense for both refugees and host community, indeed in all states around half of the households had a dependency ratio lower than 0.6.

Universal vulnerability sub-indicator results can be found in Annex 4.

KEY TAKEAWAYS

- Across all states, most refugees report high or severe universal vulnerability.
- Refugees in Kassala, Gedaref, Blue Nile, Khartoum, North Darfur, East Darfur, and West Kordofan have the highest levels of universal vulnerability.
- Out-of-camp refugees are generally less vulnerable with regards to universal vulnerability, compared to those in-camp/camp-like situations.
- Expenditure, and work permit and documentation, are the universal vulnerability sub-indicators showing the highest levels of vulnerability within the refugee population.

Monetary Vulnerability

The monetary vulnerability indicator measures how vulnerable refugee and host community households are according to the proportion of their household income spent servicing debt, their employment status, and their estimated household monthly income.

Levels of monetary vulnerability vary significantly across the assessed states. In Sennar, Blue Nile, and Khartoum, the host community presented higher levels of monetary vulnerability than the refugee population. The opposite in Kassala, the Darfur states, West Kordofan, and South Kordofan. In White Nile, Central Darfur, and North Kordofan, refugees, and host communities experienced similar monetary vulnerability levels. Within the refugee population, refugees in Gedaref and East Darfur presented significantly higher levels of monetary vulnerability compared to refugees in other states (Figure 15).

[12] Stress coping strategies: spend savings and borrow money; crisis coping strategies: reduce non-food expenses, sold animals or household assets, and sell house or land; emergency coping strategies: withdraw children from school and engage in begging or exploitation activities. More information on this indicator is available in the UNHCR's Vulnerability Assessment Framework: Population Study 2019, available here.

[13] Dependency ratio is the ratio between dependent and independent household members (dependency ratio = household members not of working age/household members of working age). For example, a dependency ratio of 0.5 would mean that the household members that are not of working age are half as many as the members of working age.

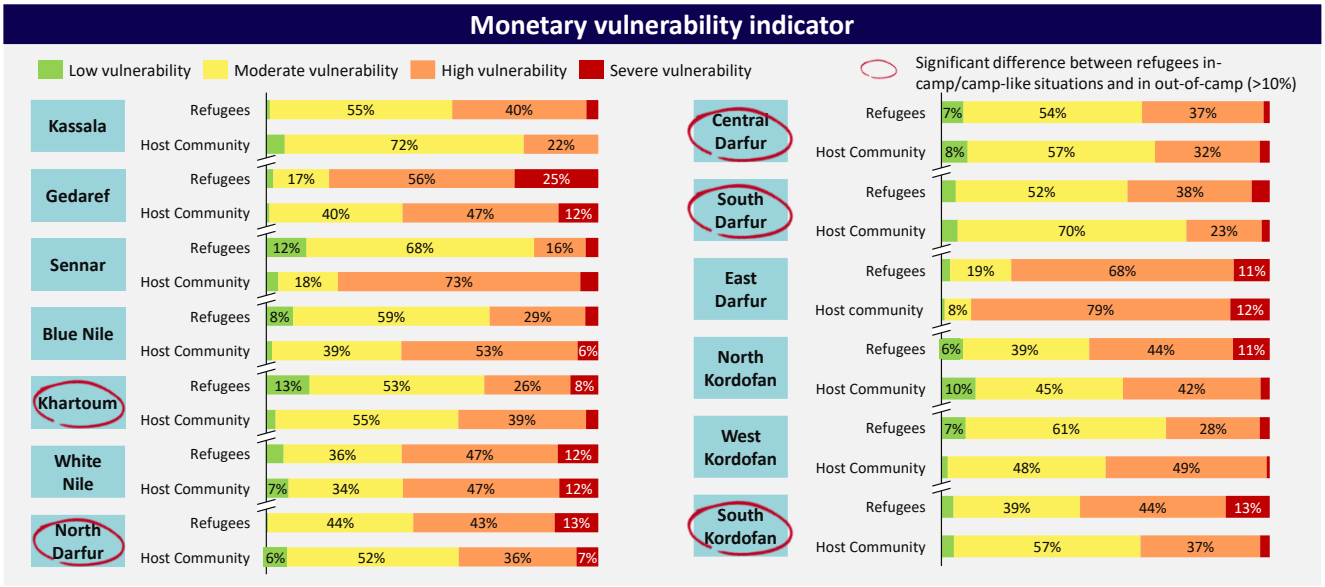
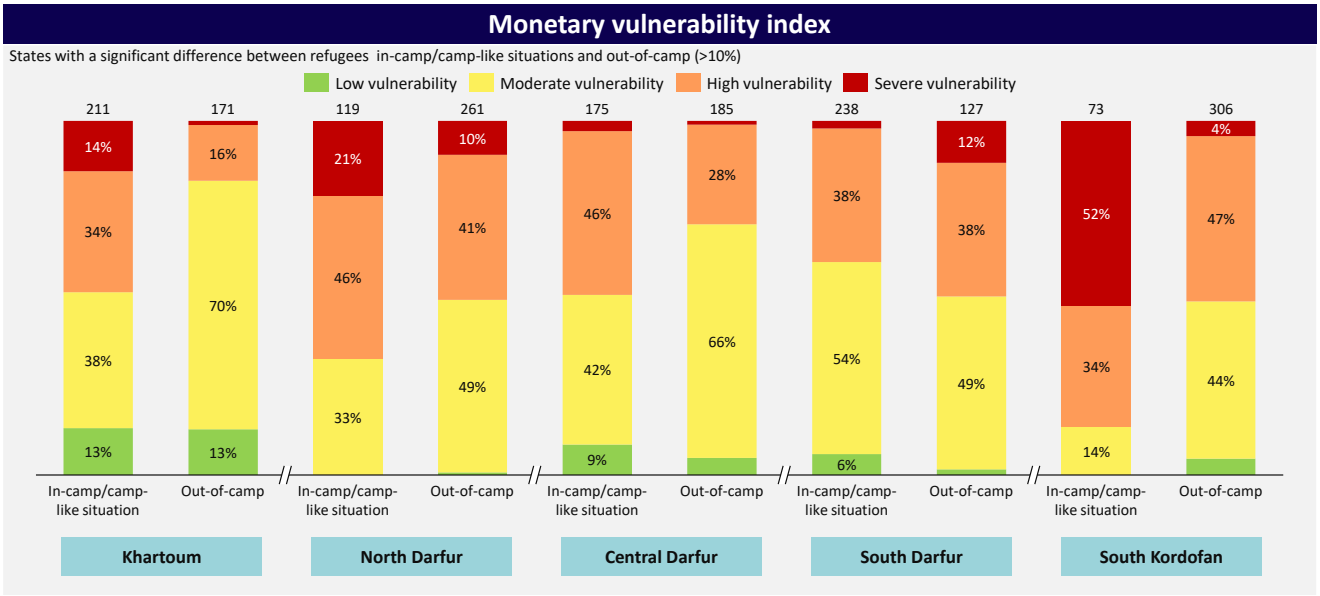


Figure 15. Monetary Vulnerability Indicator

In-camp/camp-like situation and out-of-camp breakdown

Significant differences in monetary vulnerability were found between in-camp/camp-like situations and out-of-camp refugees in the states of Khartoum, North Darfur, Central Darfur, South Darfur, and South Kordofan. In all these states, except for South Darfur, in-camp/camp-like situations refugees experienced higher levels of monetary vulnerability compared to out-of-camp refugees (Figure 16).



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Figure 16. Monetary Vulnerability in-camp/camp-like situation

Monetary Vulnerability Sub-Indicators

Debt: higher vulnerability was attributed to households spending about half and more than half of their household income towards servicing debt in the past 30 days. **Across most of the assessed states, around one-third of the refugee and the host community populations reported spending about half or more than half of their household income servicing debt**. This means that they can be classified as having high or severe vulnerability within this sub-indicator. Refugees in East Darfur, Gedaref, North Darfur, Central Darfur, and White Nile had the highest vulnerability levels concerning this sub-indicator.

Employment status: higher vulnerability was attributed to respondents that are unemployed or helping family members without pay, and to long-term sick, or disabled, or retired heads of households. **Overall, a high proportion of refugees in Gedaref, Blue Nile, White Nile, and North Darfur reported being unemployed or helping family members without pay, leading to higher levels of vulnerability**. The states with the lowest levels of vulnerability are Kassala, Sennar, North Kordofan, and West Kordofan, where a significant proportion of respondents reported working for pay or being self-employed.

Income level: a higher vulnerability was attributed to households with monthly income levels between 20,000 SDG (45 USD)[14] and 50,000 SDG (113 USD) and those with an income level lower than 20,000 SDG (45 USD). Income level is the sub-indicator that showed the highest vulnerability within the monetary vulnerability sub-indicators. Indeed, **in almost all states, more than half of the refugee population reported having a household monthly income lower than 20,000 SDG (45 USD)**. Kassala (84%), Gedaref (97%), Blue Nile (98%), White Nile (90%), and West Kordofan (96%) revealing the highest proportion of refugees within this level of income.

Monetary vulnerability sub-indicator results can be found in Annex 4.

KEY TAKEAWAYS

- Across most states, refugees have higher levels of monetary vulnerability than the host communities.
- Overall, refugees in Gedaref, White Nile, North Darfur, East Darfur, and North and South Kordofan have the highest monetary vulnerability.
- Refugees settled in-camp/camp-like situations experience higher levels of monetary vulnerability compared to those settled out-of-camp refugees
- A significant proportion of the refugee population and the host community is highly vulnerable to low-income levels and debt repayment.

Education Vulnerability

The education vulnerability indicator measures how vulnerable refugee and host community households were according to the number of school-aged children in a household, school-aged children attendance to school, and reasons for school-aged children not attending school.

The majority of refugees and host communities had low to moderate levels of education vulnerability. Generally, the level was comparable between refugees and host communities; however, in Blue Nile, North Darfur, South Darfur, and South Kordofan, the refugee population had a significantly higher level of education vulnerability than their host communities. The highest proportion of refugees with severe education vulnerability was found in North Darfur (Figure 17).

[14] The exchange rate used to convert monthly household income levels to USD was 1 USD = 441.28 SDG. This exchange rate was used throughout this report.

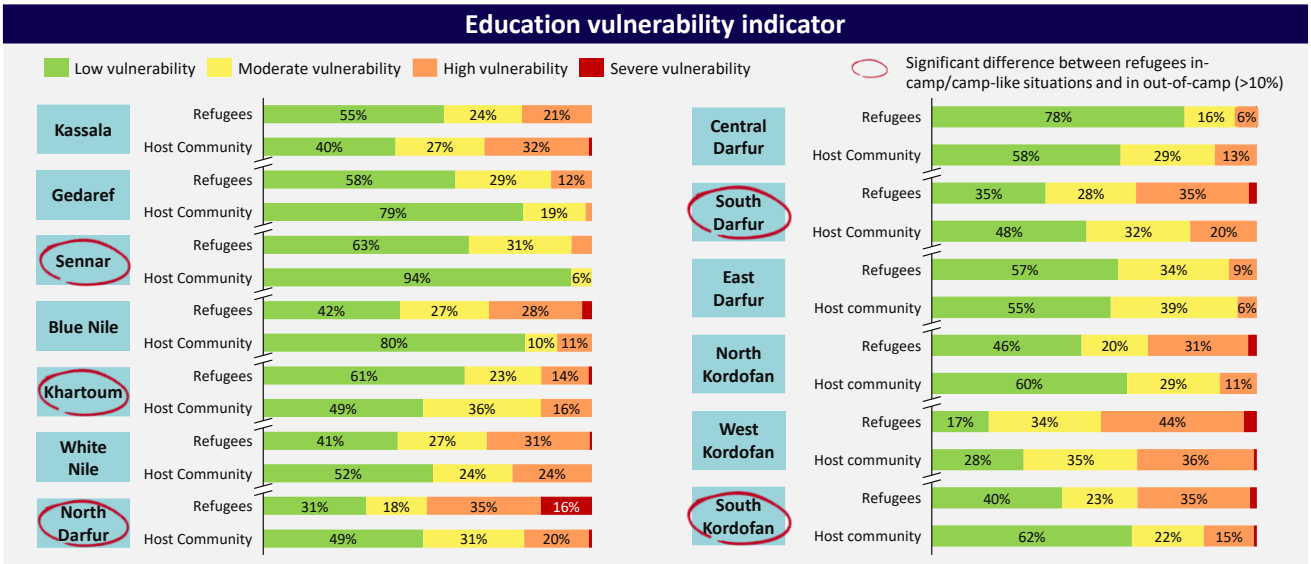
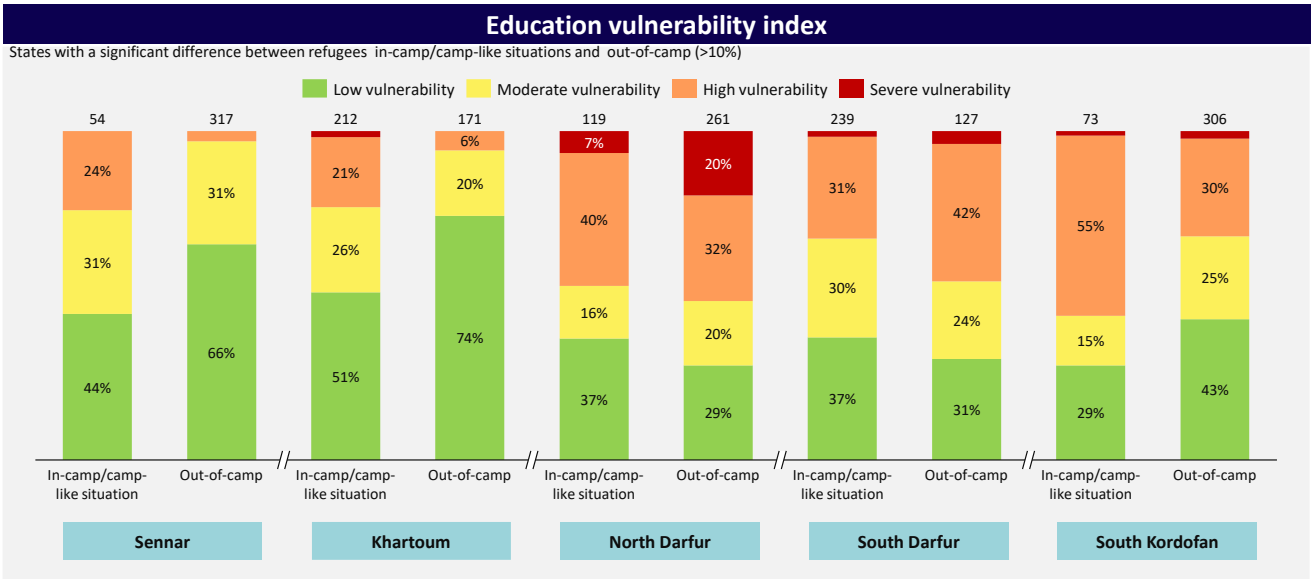


Figure 17. Education Vulnerability Indicator

In-camp/camp-like situation and out-of-camp breakdown

Significant differences in education vulnerability were found between in-camp/camp-like situations and out-of-camp refugees in the states of Sennar, Khartoum, North Darfur, South Darfur, and South Kordofan. In Sennar, Khartoum, and South Kordofan, out-of-camp refugees were less vulnerable education-wise compared to the ones in-camp/camp-like situations. However, the opposite was observed in North Darfur. It is important to note that North Darfur was also the state with the highest proportion of out-of-camp refugees with severe education vulnerability (Figure 18).



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Figure 18. Education Vulnerability in-camp/camp-like situation

Education Vulnerability Sub-Indicators

Number of school-aged children in the household: higher vulnerability was attributed to households with a higher number of school-aged children. **Survey results showed that there were no significant differences between refugees and their host communities with regards to the number of school-aged children in their households.** Across all assessed states, more than half of the households had a maximum of two school-aged children. In Kassala, White Nile, North Darfur, South Darfur, and West Kordofan, a slightly higher number of school-aged children per household was reported, leading to higher levels of vulnerability.

School attendance: higher vulnerability was attributed to households with lower levels of attendance of school-aged children. **Across all states, the majority of the refugee population and the host community reported school attendance of 100%.** However, more than one-tenth of refugees in Gedaref, Blue Nile, North Darfur, South Darfur, East Darfur, North Kordofan, West Kordofan reported having some school-aged children in their households not attending school. The highest proportion of refugee households that reported having school-aged children not attending school was found in North Darfur (44%).

Reasons for not attending school: moderate, high, and severe vulnerability was attributed to households reporting the reason for non-attendance being having no schools in their areas, followed by not being able to afford school/child labor and school being too far, respectively.[15] Across most states, both refugees and host communities reported that children did not attend school mainly due to their inability to afford it, children taking up work, and the absence of schools in the neighborhood. This means that levels of vulnerability within this sub-indicator in almost all states was high to severe. The highest proportion of refugee population that reported having no schools in their area were found in Gedaref (22%), North Darfur (40%), Central Darfur (35%), North Kordofan (30%), and South Kordofan (43%).

Education vulnerability sub-indicator results can be found in Annex 4.

KEY TAKEAWAYS

- Levels of education vulnerability are not as high as other sectors' vulnerabilities for both refugees and host communities.
- More than 10% of refugees in Gedaref, Blue Nile, North Darfur, South Darfur, East Darfur, North Kordofan, West Kordofan report having school-aged children in their households not attending school. Refugees in North Darfur experience the highest levels of education vulnerability in Sudan.
- In Sennar, Khartoum, and South Kordofan, refugees in-camp/camp-like situations experience significantly higher education vulnerability compared to those out-of-camp, although the opposite is observed in North Darfur.
- A high proportion of the refugee population and the host community is highly vulnerable to not attending school due to not being able to afford it, children needing to work instead of attending school, and having no school in their areas.

Food Vulnerability

The food vulnerability indicator measures food insecurity according to the proportion of household income spent on food in the past 30 days, and the reduced coping strategies index (rCSI).

Around half of the refugee population across all states reported a high to severe food vulnerability level. When comparing food vulnerability between the refugee population and the host community, results showed that refugees in Gedaref, Sennar, North Darfur, and South Darfur experienced higher food vulnerability compared to their host communities. Refugees in Kassala, West Kordofan, and East Darfur were found to be the most vulnerable to food insecurity, with more than 70% of those surveyed having high to severe levels of vulnerability (Figure 19).

[15] The scoring of this sub-indicator was based on UNHCR's Vulnerability Assessment Framework: Population Study 2019, available here.

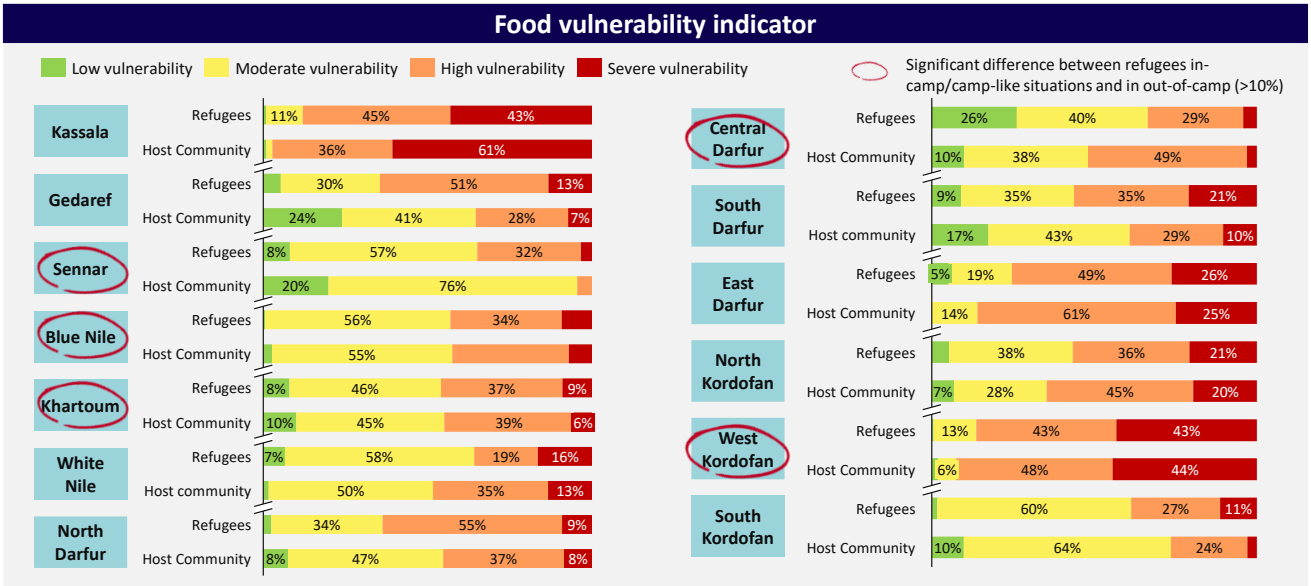
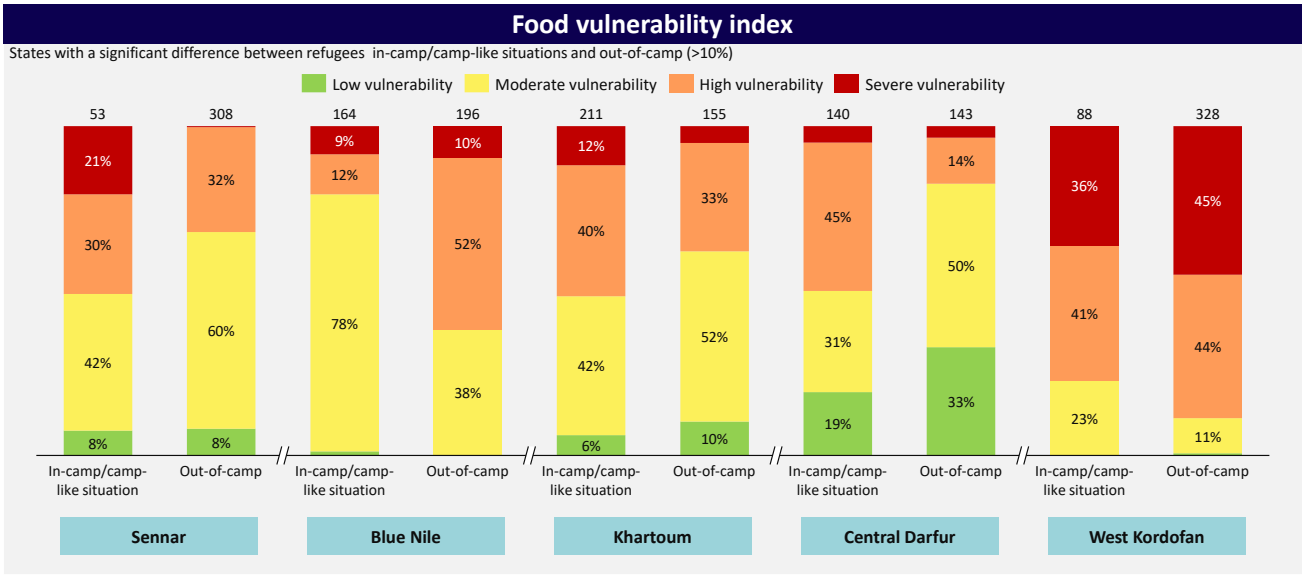


Figure 19. Food Vulnerability Indicator

In-camp/camp-like situation and out-of-camp breakdown

Significant differences were observed between in-camp/camp-like situations and out-of-camp refugees in the states of Sennar, Blue Nile, Khartoum, Central Darfur, and West Kordofan. In Blue Nile and West Kordofan, out-of-camp refugees had a higher level of food vulnerability compared to those in camp/camp-like situations, while the opposite is observed in Sennar, Khartoum, and Central Darfur (Figure 20).



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Figure 20. Food Vulnerability in-camp/camp-like situation

Food Vulnerability Sub-Indicators

Food expenditure: severe, high, and moderate vulnerability levels were attributed to households spending almost all or all, more than half, or about half of their household income on food in the past 30 days respectively. **Across all states, about one-third of households reported spending more than half or almost all of their household income on food in the past 30 days**. No significant differences were observed in food expenditure between the refugee population and the host community. High levels of food expenditure were reported for the refugee population in Gedaref, North Darfur, and East Darfur, and severe levels in Kassala and West Kordofan.

Reduced coping strategy index (rCSI): higher levels of vulnerability were attributed to households with higher scores of the rCSI.[16] **Across most states, except White Nile, South Darfur, East Darfur, and West Kordofan, the majority of the refugee and host community populations had a low rCSI of 0-14, indicating moderate vulnerability**. In White Nile, South Darfur, East Darfur, and West Kordofan, around half of the refugee population and the host community had an rCSI higher than 14, which translates into high and severe vulnerability

Food vulnerability sub-indicator results can be found in Annex 4.

KEY TAKEAWAYS

- Food vulnerability is high among the refugee population as well as host communities.
- Refugees in Kassala, East Darfur, and North and West Kordofan have the highest levels of food vulnerability across states.
- In Blue Nile and West Kordofan, food vulnerability is higher amongst out-of-camp refugees, however in Sennar, Khartoum, and Central Darfur, it is higher for refugees living in camp/camp-like situations.
- The refugee population and the host communities are highly vulnerable to spending a high proportion of their monthly household income on food. Coping strategies were also prevalent among both population groups.

Health Vulnerability

The health vulnerability indicator measures the availability of healthcare, average healthcare needs, and healthcare expenditure.

Across all states, healthcare vulnerability ranged between low and moderate. Across both the refugee population and the host communities, refugees in East Darfur were found to experience the greatest health vulnerability. On a state level, both refugees and host communities in the North, West, and South Kordofan, and North, East, and South Darfur were more likely to experience high health vulnerability (Figure 21)

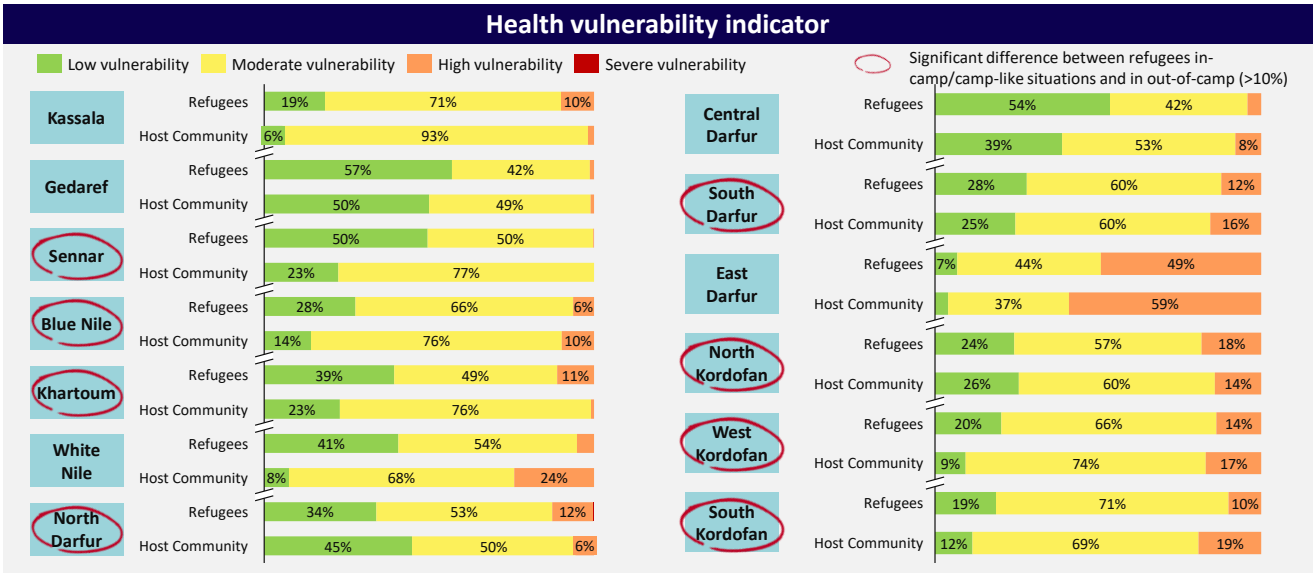


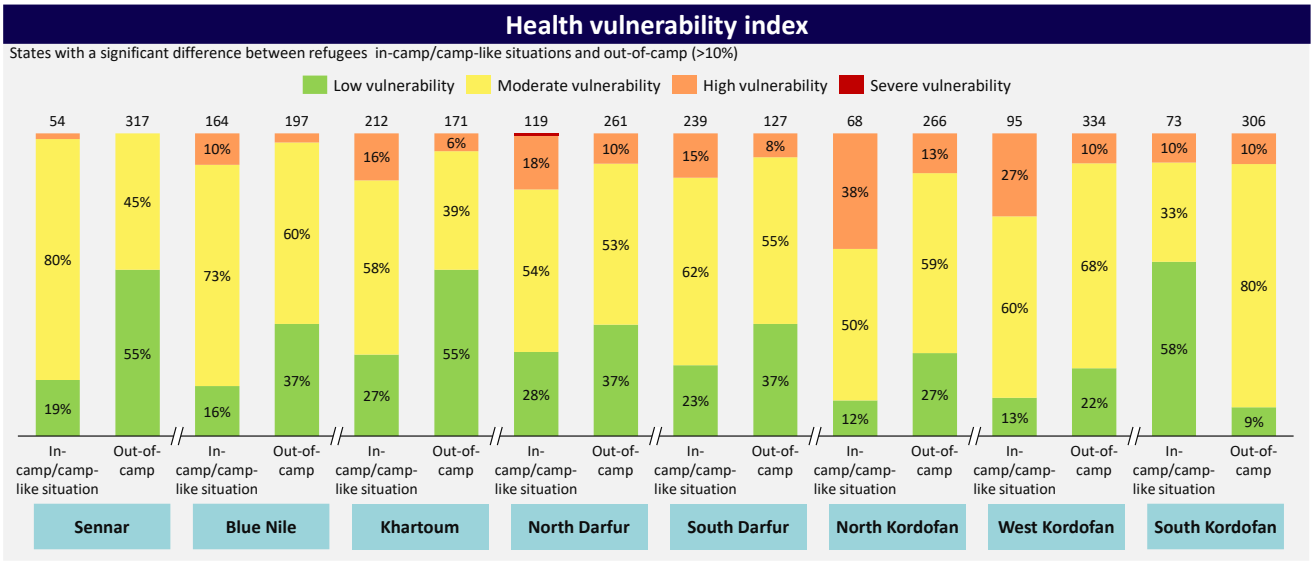
Figure 21. Health Vulnerability indicator

[16] The reduced coping strategy index (rCSI) scores range from 0-56. Low, moderate, severe, and high vulnerability were attributed to households with a rCSI score of 0; 0-14, 14-45, and >45, respectively. More information on the rCSI is available here.

In-camp/camp-like situation and out-of-camp breakdown

When looking at states with significant differences between in-camp/camp-like situations and out-of-camp, refugees settled in the former experienced higher health vulnerability compared to the latter, except for those in South Kordofan.

In Sennar and Khartoum, refugees settled out-of-camp, as well as those settled in-camp/camp-like situations in South Kordofan were found to have the most favorable health situation with more than half experiencing low levels of health vulnerability. Opposite to this, refugees in-camp/camp-like situations in North and West Kordofan recorded the greatest instances of high health vulnerability (Figure 22).



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Figure 22. Health Vulnerability in-camp/camp-like situation and out-of-camp breakdown

Health Vulnerability Sub-Indicators

Availability of healthcare: healthcare availability was measured by the time needed to walk to the closest healthcare facility. Severe, high, and moderate vulnerability levels were attributed to distances that took more than five hours, more than one hour, and between 15 minutes and an hour of travel, respectively. Refugees in Blue Nile and North Kordofan reported higher travel distances compared to their host communities. Meanwhile, in White Nile, East Darfur, and South Kordofan, host communities reported longer travel times compared to refugees. **Except for Blue Nile and East Darfur, surveyed states reported low travel times ranging between less than 15 minutes and 15 minutes to an hour**. It is worth noting that the majority of both refugees and host communities in East Darfur reported travel times of more than one hour and more than five hours.

Healthcare needs: household healthcare needs were assessed through both the number of dependents in the household and members with chronic healthcare needs or physical/mental disabilities.[17] Households with no members with healthcare needs were attributed a low vulnerability, those with one member a moderate vulnerability, those with two members a high vulnerability, and those with three or more a severe vulnerability**. Across all states, households reported low and moderate healthcare needs.** Refugees generally reported higher healthcare needs compared to their host communities, except for Khartoum and Central Darfur.

Healthcare expenditure: severe, high, and moderate vulnerability levels were attributed to households spending more than half/almost all/all, about half, and about a quarter, respectively, of their household income on healthcare in the past 30 days. Compared to host communities, refugees in Kassala and Khartoum were found to spend a greater proportion of their monthly income on

[17] Dependents are classified as non-working age members of the household which include children under six, school aged children, and adults over 60

healthcare. The opposite is true in White Nile and West Kordofan. Overall, the lowest healthcare expenditure was registered in Gedaref and Sennar, while the highest was in East Darfur.

Health vulnerability sub-indicator results can be found in Annex 4.

KEY TAKEAWAYS

- Overall, health vulnerability is not as severe compared to the other sectors' vulnerabilities.
- In East Darfur, the Kordofan states, and North and South Darfur the highest health vulnerability was observed.
- Refugees in camp/camp-like situations report higher health vulnerability than out-of-camp refugees.
- Refugees in Blue Nile and North Kordofan report higher travel distances compared to host communities.
- Blue Nile and East Darfur have the highest proportion of refugees reporting travel times of an hour or more. Meanwhile, across both refugees and host communities, in most surveyed states, low travel times ranging between less than 15 minutes and 15 minutes to an hour were reported.
- Except for refugees in Khartoum and Central Darfur, refugees report higher healthcare needs in the household compared to their host communities.
- Refugees in Kassala and Khartoum spend a larger proportion of their monthly income on healthcare compared to host communities. Meanwhile, both refugees and host communities in East Darfur allocate a large proportion of their household income to healthcare.

Shelter & Energy Vulnerability

The shelter and energy vulnerability indicator is based on the shelter type, shelter conditions, and availability of energy sources in the household.

Refugees across most states – except for Kassala and South Kordofan – experienced high to severe shelter and energy vulnerability. In Blue Nile, refugees recorded the highest levels of severe shelter and energy vulnerability. In all states, refugees recorded higher shelter and energy vulnerability than their host communities, except for White Nile (Figure 23).

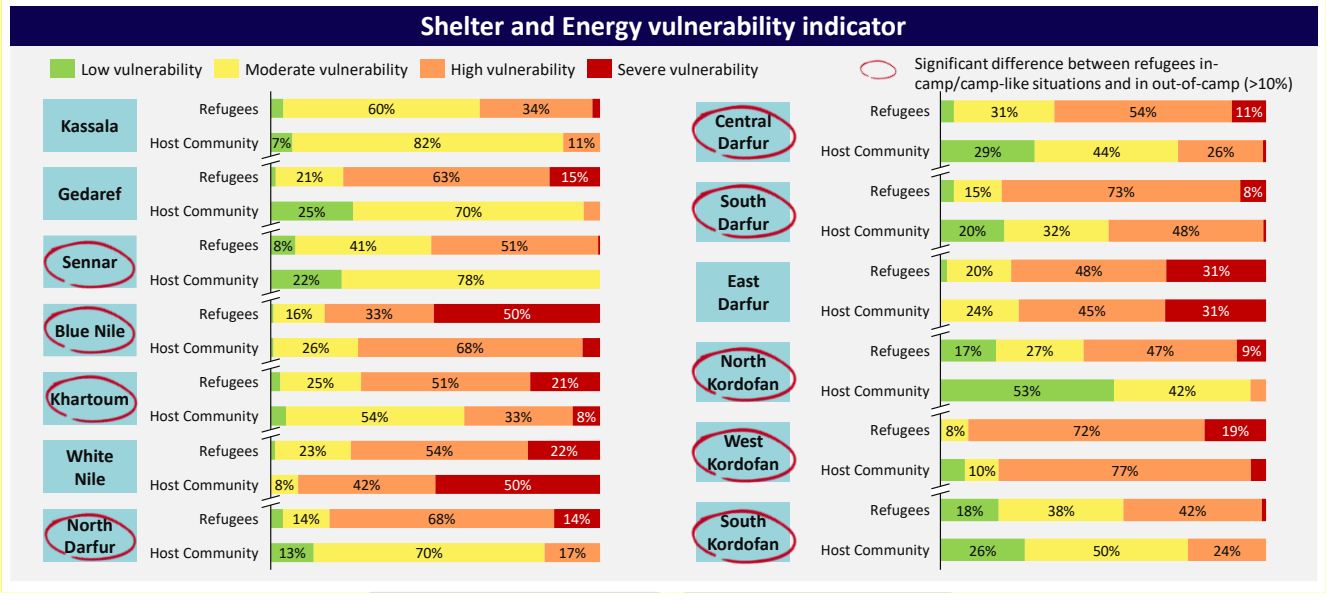
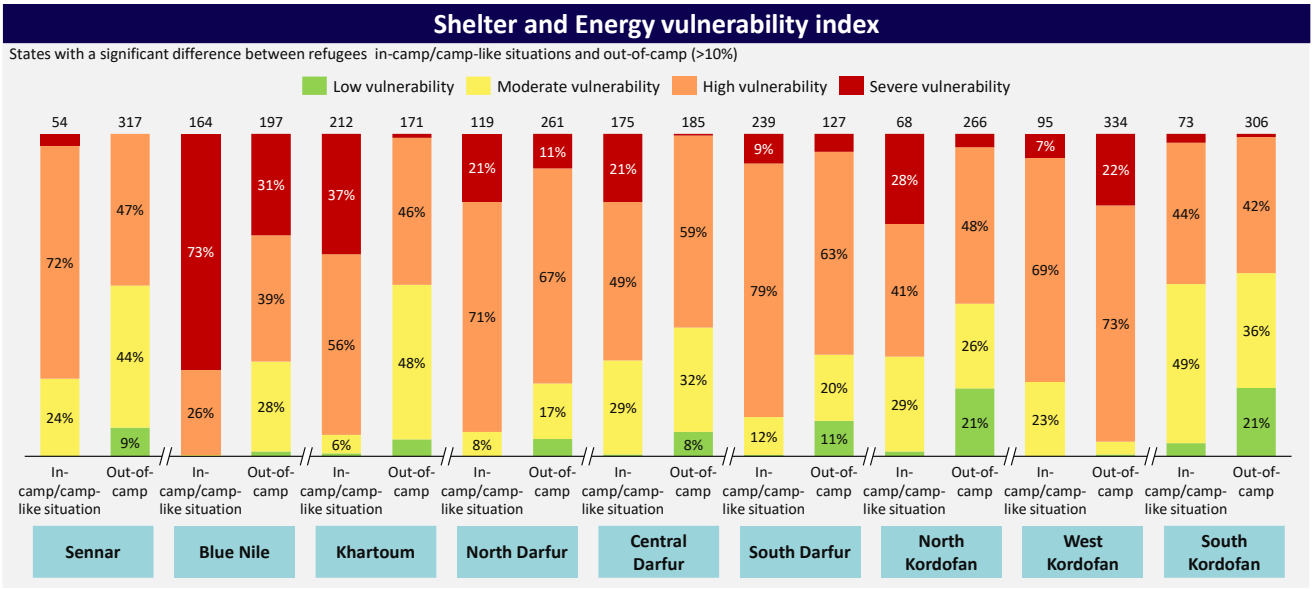


Figure 23. Shelter and Energy Vulnerability Indicator

In-camp/camp-like situation and out-of-camp breakdown

Looking at the states with statistically significant differences between the in camp/camp-like situation and out-of-camp refugee populations, generally the former experienced higher shelter and energy vulnerability. The opposite of this finding is true for West Kordofan. Meanwhile, the refugees in-camp/camp-like situations in Blue Nile were found to face the highest shelter and energy vulnerability across all states (Figure 24).



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Figure 24. Shelter and Energy Vulnerability in-camp/camp-like situation and out-of-camp breakdown

Shelter and Energy Vulnerability Sub-Indicators

Shelter type: Various types of shelters within this sub-indicator have been assigned different levels of vulnerability. Permanent shelters with a hard fixed roof were classified as a low vulnerability, permanent shelters without a hard fixed roof a moderate vulnerability, tents a high vulnerability, and emergency or makeshift/improvised shelter or no shelter a severe vulnerability. **With the exception of White Nile and West Kordofan, refugees were found to have higher shelter type-related vulnerability compared to their host communities**. Most refuges in Blue Nile, White Nile, Khartoum, North Darfur, Central Darfur, East Darfur, and West Kordofan were found to have a high shelter vulnerability. It is also worth noting that for White Nile, East Darfur, and West Kordofan the majority of both the refugees and host communities experienced high shelter vulnerability.

Shelter conditions: severe, high, moderate, and low vulnerability were attributed to shelters that have no protection from the elements, sub-standard and unsafe, sub-standard, and acceptable, respectively. Additionally, having proof of rental/ownership was assigned low vulnerability, while its absence was assigned severe vulnerability. **Except for refugees in East Darfur, refugees in most surveyed states were found to experience higher vulnerability compared to their host communities**. In East Darfur, almost half of the surveyed population had recorded severe vulnerability. Refugees in Blue Nile and West Kordofan experienced the highest shelter condition vulnerability levels with 49% and 68% reporting severe shelter condition vulnerability. Meanwhile, refugees in Kassala and Sennar were better off with the majority recording low/moderate vulnerability.

Availability of energy source: vulnerability in this sub-indicator was assessed by looking at the type of energy source available to the respondent and its sufficiency. Having sufficient access to electricity was categorized as a low vulnerability, a sufficient alternative source of energy as a moderate vulnerability, insufficient electricity as a high vulnerability, and an insufficient alternative source of energy as a severe vulnerability. **Overall, respondents are largely dependent on alternative sources of energy.** Except for West Kordofan, South Kordofan, and North Darfur, more than 50% of both refugees and host communities were found to be severely vulnerable with a dependency on insufficient alternative energy sources. Refugees in Gedaref, North Darfur, Central

Darfur, North Kordofan, and West Kordofan recorded significantly higher vulnerability compared to their host communities.

Shelter and energy vulnerability sub-indicator results can be found in Annex 4.

KEY TAKEAWAYS

- Refugees across all the surveyed states report high shelter and energy vulnerability.
- Refugees in Blue Nile, White Nile, East Darfur, and West Kordofan have the highest levels of shelter & energy vulnerability.
- In most states, refugees in camp/camp-like situations report higher levels of shelter & energy vulnerability compared to out-of-camp refugees.
- The majority of refugees in Blue Nile, White Nile, Khartoum, North Darfur, Central Darfur, East Darfur, and West Kordofan are found to have a high shelter vulnerability.
- In White Nile and West Kordofan, refugees are found to have higher shelter type-related vulnerability compared to their host communities.
- Refugees in Blue Nile and West Kordofan experience the highest levels of shelter condition vulnerability.
- Most of both refugees and host communities are found to be severely vulnerable with a dependency on insufficient alternative energy sources. In Gedaref, North Darfur, Central Darfur, North Kordofan, and West Kordofan refugees record significantly higher vulnerability compared to their host communities.

WASH Vulnerability

The WASH vulnerability indicator measures how vulnerable the refugee and host community households are according to their access to sanitation facilities, their access to enough water to meet their water needs, the time they take to reach the nearest water source, the availability of handwashing tools, and their access to waste disposal facilities.

The majority of refugees experienced high and severe WASH vulnerability in all states. In some assessed states, the levels of WASH vulnerability are similar between refugees and the host communities; however, in Gedaref, Sennar, Khartoum, North Darfur, Central Darfur and North Kordofan, refugees had a significantly higher level of severe vulnerability compared to their host communities. The opposite was observed in Kassala and White Nile, where refugees' WASH vulnerability was lower compared to that of the host community. Within the refugee population, those in Kassala, Sennar, Blue Nile, Central Darfur, South Darfur, and West Kordofan had higher levels of severe WASH vulnerability compared to refugees in other states (Figure 25).

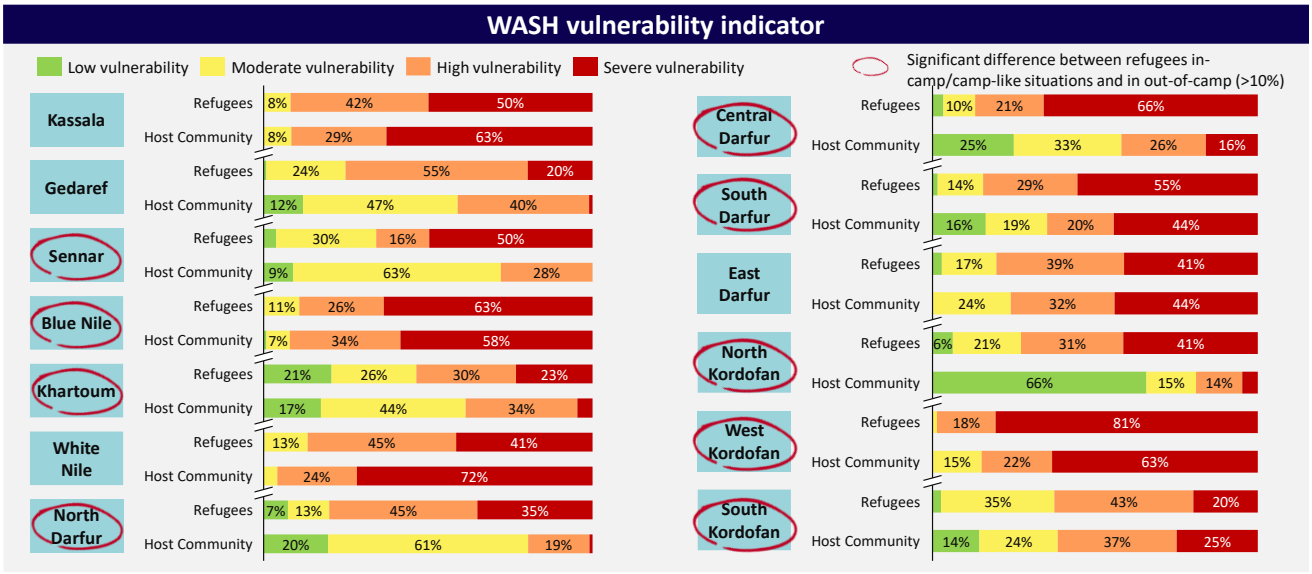
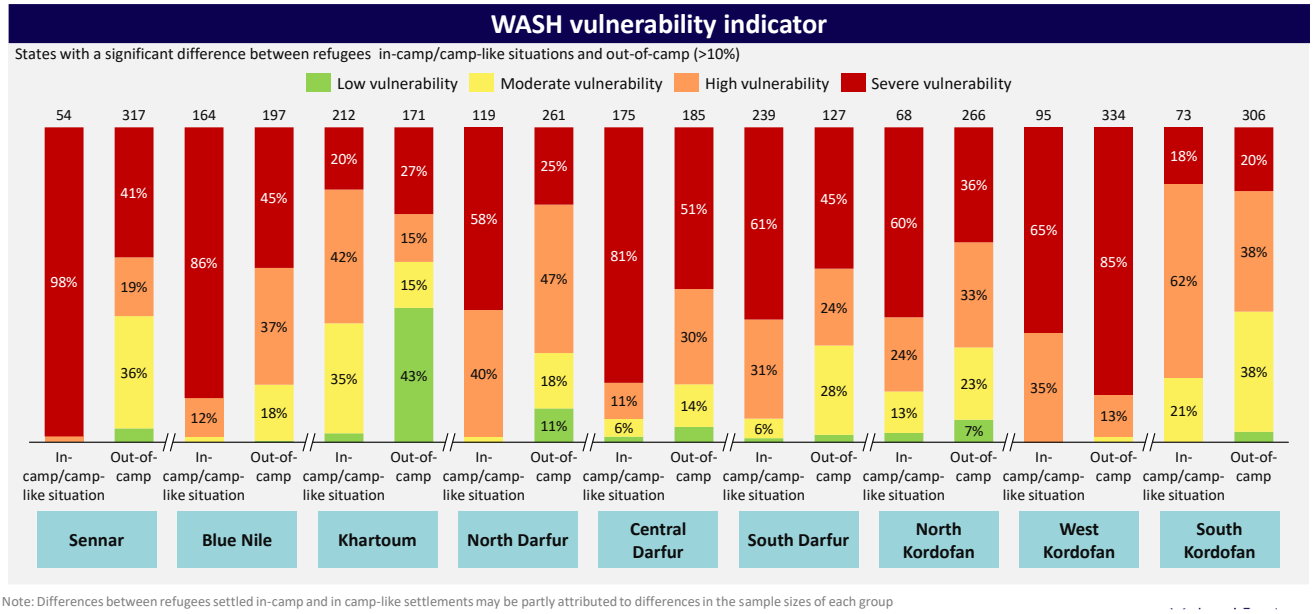


Figure 25. WASH Vulnerability Indicator

In-camp/camp-like situation and out-of-camp breakdown

In most states, significant differences were found between refugees settled in-camp/camp-like situations and those settled out-of-camp, with the former having higher levels of WASH vulnerability. Levels of severe WASH vulnerability were particularly high among refugees living in-camp/camp-like situations in Sennar, Blue Nile, and Central Darfur, and refugees living out-of-camp in West Kordofan (Figure 26).



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Figure 26. WASH Vulnerability in-camp/camp-like situation and out-of-camp breakdown

WASH Vulnerability Sub-Indicators

Latrine adequacy: moderate, high, and severe levels of vulnerability were attributed to households with shared latrines, unusable latrines, and no latrines, respectively. **Across all assessed states, more than half of the refugee population reported having unusable latrines or no latrines, meaning that they are high to severely vulnerable within this sub-indicator**. In some states, vulnerability is similar between the refugee population and the host community; however, in Gedaref, Sennar, Khartoum, North Darfur, Central Darfur and North Kordofan, the refugee population were significantly more vulnerable to having inadequate or no latrines compared to the host

community. Only in the state of Kassala the host community had worse levels of latrine adequacy compared to the refugee population.

Access to water: access to water was measured by water sufficiency and the time needed to walk to the nearest water source. High levels of vulnerability were attributed to households whose source of water was more than one hour away by foot. Severe levels of vulnerability were attributed to households that did not have access to sufficient water to cover their water needs or to households that took more than five hours to reach the nearest water source by foot. **In all assessed states, except for Gedaref, Khartoum, and South Kordofan, more than half of the refugee population was shown to have severe vulnerability within this indicator**. When comparing results between the refugee population and the host communities, the refugee population was shown to be more vulnerable in the states of Kassala, North Darfur, Central Darfur, North Kordofan, and West Kordofan. However, the opposite was observed in the states of Gedaref, Blue Nile, West Nile, East Darfur and South Kordofan.

Availability of handwashing tools: access to a handwashing device/station and access to soap was considered within this sub-indicator. Higher vulnerability was attributed to households with no access to soap, and households with no access to neither handwashing facilities nor soap. **In all assessed states, more than half of refugees reported having no access to soap and/or handwashing facilities**. States with higher levels of vulnerability within the refugee population were Kassala, White Nile, North, Central and South Darfur, and West Kordofan. Significant differences were observed between the refugee population and the host community in Gedaref, Khartoum, North Darfur, Central Darfur and North Kordofan, where a significantly lower proportion of the host community reported having no access to soap and/or handwashing facilities compared to refugees.

Waste disposal: higher levels of vulnerability were attributed to households that reported having no access to solid waste disposal facilities. **In all states, the majority of the refugee population reported having no access to waste disposal facilities, meaning they were highly vulnerable within this sub-indicator.** Blue Nile and West Kordofan were states of particular concern, as almost all the refugee population and the host community reported having no access to waste disposal facilities. When comparing results between the refugee population and the host community, no significant differences were observed except in the states of North Darfur, Central Darfur, and North Kordofan, where the host community was shown to be significantly less vulnerable than the refugees with regards to this sub-indicator.

WASH vulnerability sub-indicator results can be found in Annex 4.

KEY TAKEAWAYS

- Refugees and their host communities experience very high levels of WASH vulnerability. Levels of WASH vulnerability are higher when compared to the vulnerability recorded across the other sectors. Generally, a focus on WASH among refugees and the host community in Sudan is of great need.
- In all states, a higher proportion of refugees are shown to be severely vulnerable to WASH compared to their host communities – except for those living in Kassala and White Nile.
- Overall, refugees in-camp/camp-like situations have higher WASH vulnerability compared to those living out-of-camp.
- Analysis of the four WASH sub-indicators (latrine adequacy, access to water, availability of handwashing tools, and access to waste disposal) shows that the majority of refugees experienced high to severe vulnerability across each respective sub-indicator.

Protection Vulnerability

The protection vulnerability indicator measures access to protection services and respondents reported sense of safety.

Generally, refugees experienced higher protection vulnerability compared to their host communities except for Kassala, Sennar, White Nile, and North Darfur. On the one hand, the most severe protection vulnerability was observed for refugees in Blue Nile. However, East Darfur was the state with the highest proportion of refugees experiencing high/moderate protection vulnerability. Meanwhile, Kassala and Gedaref were the states where refugees were found to be least vulnerable to protection issues (Figure 27).

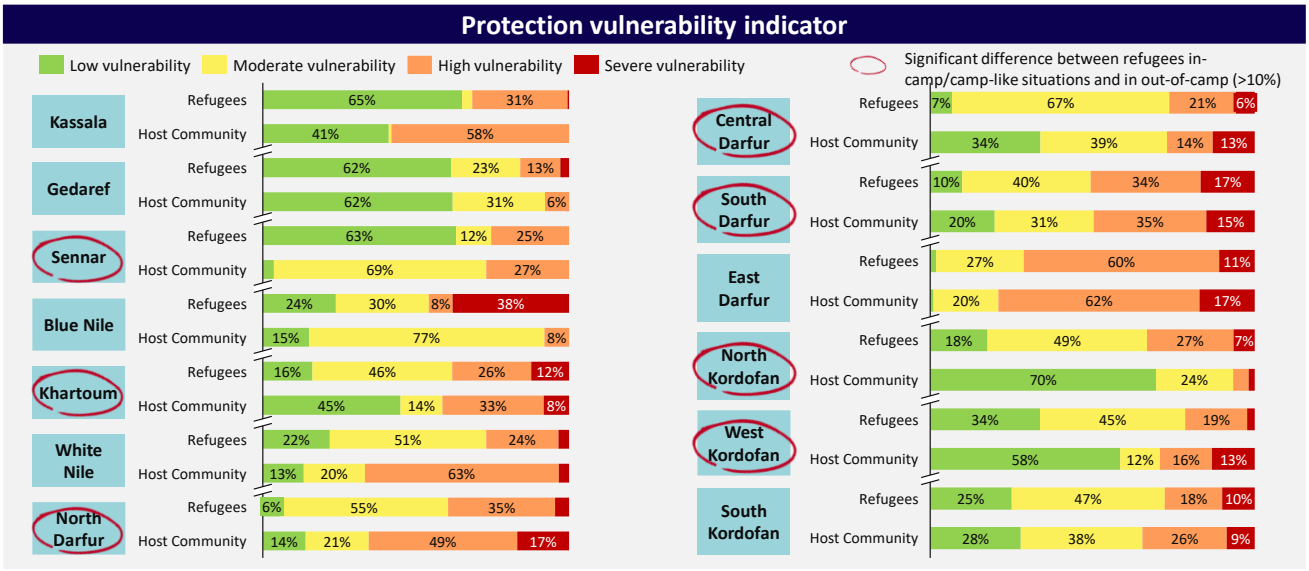
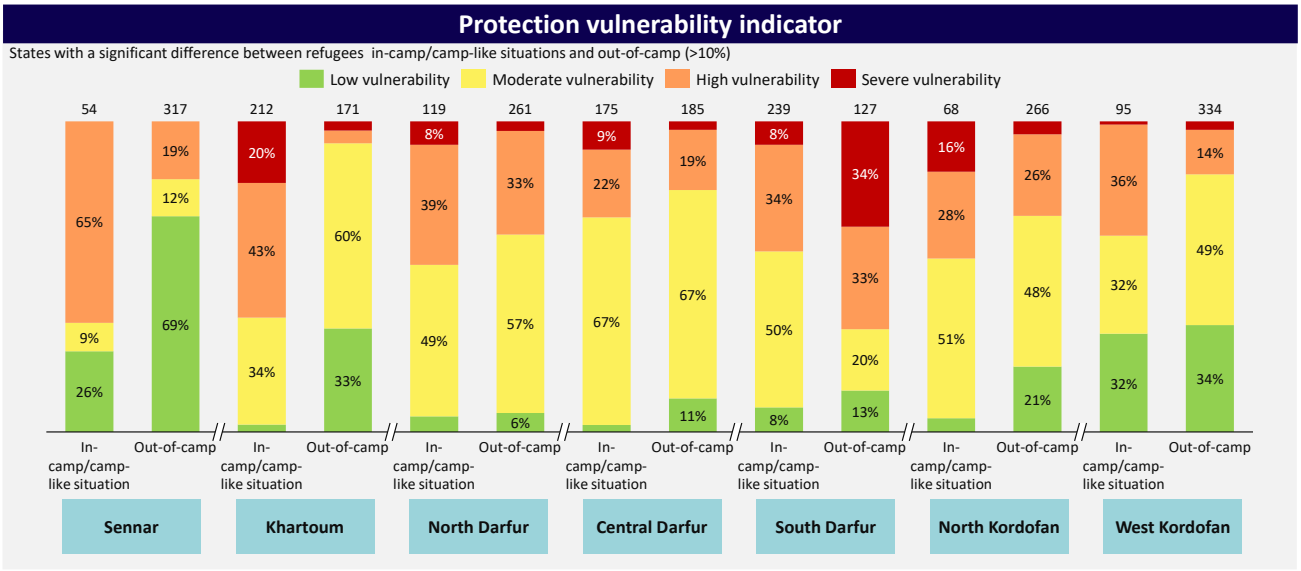


Figure 27. Protection Vulnerability Indicator

In-camp/camp-like situation and out-of-camp breakdown

Looking at the states with a statistically significant difference between their in-camp/camp-like situation and out-of-camp refugee populations, the former experienced higher protection vulnerability, with the exception of South Darfur. Sennar, Khartoum, North Darfur, and North Kordofan were the states with the highest proportion of refugees living in-camp/camp-like situations experiencing high/severe protection vulnerability. Furthermore, the refugees least vulnerable to protection-related needs were those living out-of-camp in Sennar, Khartoum, and West Kordofan (Figure 28).



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Figure 28. Protection Vulnerability in-camp/camp-like situation and out-of-camp breakdown

Protection Vulnerability Sub-Indicators

Availability of protection services: severe vulnerability was attributed to respondents that reported no awareness of legal aid/justice in their communities. Meanwhile, awareness of informal protection services was attributed moderate vulnerability and awareness of formal protection services a low vulnerability. In Gedaref, Blue Nile, Khartoum, Central and South Darfur, and North and West Kordofan refugees were found to experience higher vulnerability compared to their host communities. Refugees in Kassala, Blue Nile, and South Darfur reported the highest proportion of severe vulnerability. In White Nile, Central Darfur, and North Darfur, the majority of refugees were dependent on informal protection services. Meanwhile, in East Darfur, informal protection services were found to be the most prominent.

Perceived safety: severe, high, moderate, and low vulnerability was attributed to those who reported always feeling unsafe, feeling unsafe most of the time, feeling safe most of the time, and always feeling safe, respectively. With the exception of East Darfur, the majority of respondents across the surveyed states reported feeling some degree of safety with low/moderate vulnerability. Most of both refugees and host communities in East Darfur, as well as refugees in Khartoum, reported feeling some degree of unsafety with high/severe vulnerability.

Protection vulnerability sub-indicator results can be found in Annex 4.

KEY TAKEAWAYS

- In most states, protection vulnerability is higher in the refugee population than in the host community.
- Refugees in Blue Nile and East Darfur have a significantly higher protection vulnerability than in other states.
- Refugees in-camp/camp-like situations have higher levels of protection vulnerability compared to out-of-camp refugees, except in South Darfur.
- In Gedaref, Blue Nile, Khartoum, Central and South Darfur, and North and West Kordofan, refugees are found to experience higher vulnerability compared to their host communities.
- Refugees in Kassala, Blue Nile, and South Darfur are found to be the most vulnerable with regards to the availability of protection services.
- The majority of refugees and host communities in East Darfur, as well as refugees in Khartoum, report feeling some degree of unsafety with a high/severe vulnerability.

Vulnerability Mapping Summary

Figure 29 below shows the overall and sector vulnerability scores of the surveyed refugee population on a national level and across the 13 states.

The scale for overall vulnerability (BVI) spanned from 1 (lowest vulnerability) to 4 (highest vulnerability). For overall vulnerability, the national average was 2.6 out of 4. Across the surveyed states, refugees in West Kordofan had the highest overall vulnerability (2.9) and refugees in Sennar had the lowest overall vulnerability (2.1).

On a national level, the highest vulnerability experienced by refugees was within the universal vulnerability sector (3.2) and the lowest vulnerability was within the health sector (1.8).

Comparisons can be drawn between the overall and sector-specific vulnerability of refugees and their host community by looking in Annex 4 on slides 41-44.

Vulnerability Score: 1 – 4

	BVI	Education	Food	Health	Monetary	Protection	S&E	Universal	WASH
National	2.6	1.8	2.7	1.8	2.5	2.2	2.7	3.2	3.1
Khartoum	2.4	1.6	2.5	1.7	2.3	2.3	2.8	3.0	2.5
White Nile	2.7	1.9	2.5	1.8	2.7	2.2	3.1	3.2	3.4
North Darfur	2.7	2.2	2.7	1.7	2.6	2.4	2.7	3.4	2.8
South Darfur	2.6	2.0	2.6	1.9	2.4	2.5	2.7	3.1	3.3
East Darfur	2.8	1.5	3.0	2.5	2.9	2.8	3.1	3.1	3.2
Central Darfur	2.3	1.3	2.2	1.5	2.3	2.2	2.6	2.9	3.2
West Kordofan	2.9	2.3	3.3	2.0	2.3	1.9	3.0	3.6	3.7
South Kordofan	2.4	1.9	2.4	1.9	2.6	2.1	2.2	3.0	2.8
North Kordofan	2.4	1.8	2.7	1.9	2.5	2.0	2.2	3.1	2.7
Blue Nile	2.7	1.8	2.5	1.8	2.4	2.4	3.2	3.2	3.5
Gedaref	2.4	1.5	2.6	1.5	3.0	1.5	2.7	3.3	2.8
Kassala	2.7	1.7	3.4	1.9	2.4	1.8	2.3	3.3	3.4
Sennar	2.1	1.4	2.2	1.6	2.3	1.8	2.3	2.9	2.9

S&E – Shelter & Energy

Figure 29. Refugees' vulnerability indicators scores across states

3.2 Vulnerability profiling

As part of the methodology used to assess the profiles of vulnerable refugees, a cluster analysis was carried out to identify groups with similar characteristics and overall vulnerability (using the BVI) that would otherwise not be apparent. Clusters developed by this analysis are internally coherent (same characteristics within the group) and externally differentiated (different characteristics between groups), which allows for the identification of specific profiles of personas or households within the refugee population. This can underpin targeted programming based on specific vulnerabilities and needs identified.

Two cluster analyses were run – one to assess the profiles of vulnerable individuals, and another to assess the profiles of vulnerable households.

Individual vulnerability profiling

The cluster analysis was carried out using data collected for refugees based on the following characteristics: settlement situation, marital status, age, and dependency ratio[18] as pattern predictor variables. This process identified four main profiles of refugees, two with moderate overall vulnerability and two with high overall vulnerability (Figure 30).

Moderate vulnerability

Both the profiles that were identified to have moderate overall vulnerability reported no formal education while working for pay to support their households. The two profiles identified to have moderate overall vulnerability are:

- **Out-of-camp fathers:** This profile group is predominantly composed of married men living in out-of-camp settlements. Refugees within this group have no educational qualifications

[18] Dependency ratio is the ratio between dependent and independent household members (dependency ratio = household members not of working age/household members of working age). For example, a dependency ratio of 0.5 would mean that the household members that are not of working age are half as many as the members of working age.

and work for pay to support their households. Given that members of this group are married and had an average age of 41, it is concluded that the dependency ratio reflects the presence of children within the family.

- **Out-of-camp young males**: This profile group is predominantly composed of single men living in out-of-camp settlements. Refugees within this group have no educational qualifications and work for pay to support their households. Since members of this group are single with an average age of 29, it was concluded that the dependency ratio of 2.0 indicates that these young males work to support their families.

High vulnerability

Both the profiles that were identified to have high overall vulnerability have no formal education and work for pay to support their households. It is important to note that the proportion of individuals working for pay in these two profiles is significantly less compared to the profiles with moderate vulnerability. In addition, one of the identified profiles has a higher dependency ratio than the profiles with moderate vulnerability. The two profiles with high overall vulnerability are:

- **In-camp/camp-like situation mothers**: This profile group is predominantly composed of married women living in-camp/camp-like situations. Refugees in this group have no educational qualifications and work for pay. Given that members of this group are married and have an average age of 41, it was concluded that the dependency ratio reflects the presence of children within the family.
- **In-camp/camp-like situation older women**: This profile group is predominantly composed of widowed women living in-camp/camp-like situations. Refugees in this group have no educational qualifications and work for pay. Since this group's marital status is widowed and they had an average age of 46, it was concluded that the dependency ratio reflects the presence of children within a single-parent household.

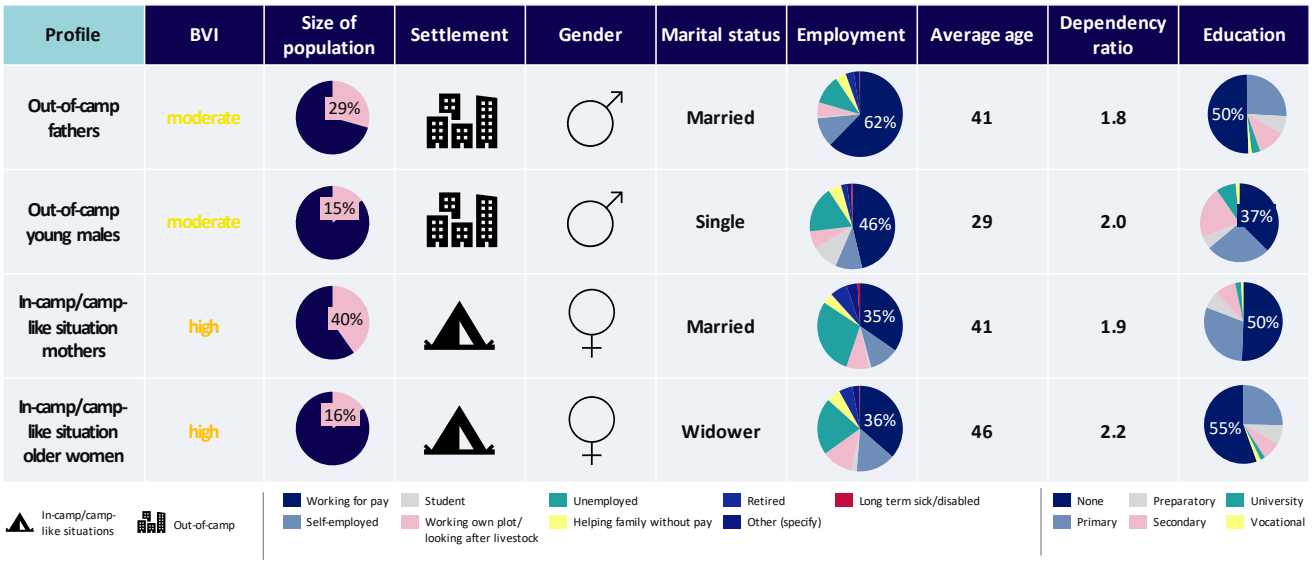


Figure 30. Individual-level vulnerability profiling

Household vulnerability profiling

To identify groups of vulnerable households, a cluster analysis was carried out on refugees based on the following characteristics: head of household (HHH) gender, HHH educational level, and dependency ratio as pattern predicator variables. The clustering process identified five main profiles of refugee households – one with moderate overall vulnerability and four with high overall vulnerability (Figure 31).

Moderate vulnerability

The profile identified to have moderate overall vulnerability is:

- **Secondary-level educated male-led households**: This profile group is predominantly composed of households led by males with a secondary level education living in-camp/camp-like situations, with a monthly household income lower than 20,000 SDG (45 USD), considered as the lowest level of household income in the assessment. These households reported a high dependency ratio of 1.6.

High vulnerability

The profiles identified with high overall vulnerability were households led by individuals with little to no education, uneducated women living in-camp/camp-like situations, and uneducated males living out-of-camp. These profiles also have a monthly household income lower than 20,000 SDG (45 USD), considered as the lowest level of household income in the assessment. In addition, profiles with high vulnerability have a high dependency ratio ranging between 1.7-2.0, indicating that few members of the household are in the working-age group, and many members depend on them to meet their needs. The four profiles identified to have high overall vulnerability are:

- **Primary level educated male-led household:** This profile group is predominantly composed of households led by males with a primary level education living in-camp/camp-like situations, and with a household income lower than 20,000 SDG (45 USD). These households present a high dependency ratio of 1.7.
- **Out-of-camp uneducated male-led household:** This profile group is predominantly composed of households led by males with no education living out-of-camp, and with a household income lower than 20,000 SDG. These households have a high dependency ratio of 1.7.
- **Primary level educated female-led household:** This profile group is predominantly composed of households led by females with a primary-level education living in-camp/camp-like situations, and with a household income lower than 20,000 SDG (45 USD). These households show a very high dependency ratio of 1.9.
- **In-camp/camp-like situation uneducated female-led household:** This profile group is predominantly composed of households led by females with no education living in-camp/camp-like situations, and with a household income lower than 20,000 SDG (45 USD). These households present a very high dependency ratio of 2.0.

Profile	BVI	Size of population	Settlement	HHH* Gender	HH monthly income (SDG)	Marital status	Dependency ratio	HHH* Education
Secondary-level educated male led HH	Moderate	17%	▲	♂	<20,000	Married	1.6	47%
Primary-level educated male led HH	High	18%	▲	♂	<20,000	Married	1.7	100%
Out-of-camp uneducated male led HH	High	29%	🏢	♂	<20,000	Married	1.7	100%
Primary-level educated female led HH	High	15%	▲	♀	<20,000	Married	1.9	64%
In-camp/camp-like situation uneducated female led HH	High	21%	▲	♀	<20,000	Married	2.0	100%

*HHH: Head of Household HH: Household

▲ In-camp/camp-like situations 🏢 Out-of-camp

None Preparatory University Primary Secondary Vocational

Figure 31. Household-level vulnerability profiling

KEY TAKEAWAYS

- At the individual level, profiles with high levels of overall vulnerability were identified in mothers and older women, living in-camp/camp-like situations, having no formal education, and working for pay to support their households. They also have a high dependency ratio.

Moderate levels of vulnerability were identified in out-of-camp fathers and out-of-camp young males, having no formal education, and working for pay to support their households. Dependency ratio varied within profiles with moderate and high vulnerability

- At the household level, profiles with high levels of overall vulnerability were identified in both male and female-headed households, with primary or no level of education, living in-camp/camp-like situations, with a monthly household income lower than 20,000 SDG (45 USD), and with a high dependency ratio ranging between 1.7-2. High levels of vulnerability were also identified in out-of-camp uneducated male-led households with the same characteristics as above. Moreover, moderate levels of overall vulnerability were identified in male-led households, with a secondary level education, living in-camp/camp-like situations, and with a monthly household income lower than 20,000 SDG (45 USD).

3.3 Determinants of vulnerability

Throughout this section, factors affecting the degree of overall vulnerability experienced by refugees in Sudan are explored. Finally, this section also focuses on protection vulnerability drivers.

ProGres dataset

With a focus on utilizing the data collected through UNHCR's ProGres dataset, linear regression models were designed to understand the key factors impacting overall vulnerability levels. Through this, the impact of the ProGres variables; *age, year of arrival, gender, level of education, marital status, and country of origin on* the overall vulnerability (using the BVI) were assessed.[19]

*P>0.05 **P>0.01 ***P>0.001

Dependent Variable	Coefficients	Independent variables
Basic Vulnerability Indicator (BVI)	-0.002***	Age
	-0.000	Year of arrival
	-0.041***	Gender: Male (Base: Female)
	-0.057***	Highest level of education obtained
	-0.099***	Marital status: Single
	-0.173***	Marital status: Engaged
	0.032	Marital status: Separated
	-0.095**	Marital status: Divorced
	0.030	Marital status: Widower
	0.048	Country of origin: Chad
	-0.315	Country of origin: Egypt
	0.005	Country of origin: Kenya
	-0.154***	Country of origin: Ethiopia
	-0.126***	Country of origin: Eretria
	-0.194	Country of origin: Somalia
	-0.067	Country of origin: Uganda
	-0.540*	Country of origin: Iraq
	-0.551***	Country of origin: Syria
	0.124*	Country of origin: Central African Republic
	-0.565	Country of origin: Congo

Figure 32. ProGres determinants of vulnerability

The results show that **refugees that are male, older in age, or with a higher level of education, experience lower overall vulnerability**. As for marital status, it was found that single refugees, engaged, or divorced also experience lower overall vulnerability. For single or engaged refugees, the reduced vulnerability may be driven by a lower number of dependents in the household (Figure 32).

Looking at the country of origin, on the one hand, coming from Ethiopia, Eritrea, Syria, and Iraq lower overall vulnerability levels. Lower levels of vulnerability in Syrian refugees may be attributed to the policy of the Government of Sudan that does not require Syrian and Yemeni refugees to register with UNHCR and COR upon arrival. On the other hand, coming from the Central African Republic were found to increase vulnerability.

[19] South Sudan was included as a Country-of-Origin variable but was excluded by SPSS due to its statistical insignificance.

*P>0.05 **P>0.01 ***P>0.001

Dependent Variable	Coefficients	Independent variables
Basic Vulnerability Indicator (BVI)	-0.035*	Head of household gender: Male (Base: Female) NEW
	-0.030**	Head of Household education level NEW
	0.074***	Refugee Settlement: In-camp/camp-like situation (Base: out-of-camp) NEW
	-0.002***	Age
	-0.000	Year of arrival
	-0.015	Gender: Male (Base: Female)
	-0.031**	Highest level of education obtained
	-0.083***	Marital status: Single
	-0.152***	Marital status: Engaged
	0.034	Marital status: Separated
	-0.075*	Marital status Divorced
	0.046*	Marital status: Widower
	0.030	Country of origin: Chad
	-0.311	Country of origin: Egypt
	-0.047	Country of origin: Kenya
	-0.170***	Country of origin: Ethiopia
	-0.154***	Country of origin: Eretria
	-0.328	Country of origin: Somalia
	-0.083	Country of origin: Uganda
	-0.511*	Country of origin: Iraq
	-0.517***	Country of origin: Syria
	0.112*	Country of origin: Central African Republic
	-0.528	Country of origin: Congo

Figure 33. Additional determinants of vulnerability

Looking into additional variables to support the forecasting of overall vulnerability, the regression model was augmented to include three additional variables: *head of household (HHH) gender, HHH level of education, and settlement situation*.

The results of the model showed that all added variables have a significant impact on overall vulnerability. Indeed, **households led by women have a higher level of overall vulnerability compared to male-headed ones. Lower education of the head of household also increases overall vulnerability.** Finally, refugees who live in-camps/camp-like situations experience higher overall vulnerability levels compared to those living out-of-camp (Figure 33).

3.4 Protection vulnerability

*P>0.05 **P>0.01 ***P>0.001

Dependent Variable	Coefficients	Independent variables
Protection Vulnerability Indicator	0.160***	BVI (excluding protection indicator)
	0.003**	Age
	0.033	Gender: Male (Base: Female)
	0.155***	Refugee Settlement: In-camp/camp-like situation (Base: out-of-camp)
	-0.015	Highest level of education obtained
	0.129**	Marital status: Single
	0.015	Marital status: Engaged
	0.190**	Marital status: Separated
	0.209**	Marital status: Divorced
	-0.050	Marital status: Widowed
	0.306*	Country of origin: Chad
	0.072	Country of origin: Egypt
	-0.156	Country of origin: Kenya
	-0.522***	Country of origin: Ethiopia
	-0.647***	Country of origin: Eretria
	0.792	Country of origin: Somalia
	0.870	Country of origin: Uganda
	-0.572	Country of origin: Iraq
	-0.514***	Country of origin: Syria
	0.517***	Country of origin: Central African Republic
	-1.210	Country of origin: Congo

Figure 34. Protection vulnerability regression

To better target protection support to those in need, this model assesses factors affecting the impact of several elements on protection vulnerability (including overall vulnerability and demographic variables).[20]

The results show that **higher levels of protection vulnerability are found to be experienced by refugees with a higher overall vulnerability, older refugees, as well as those living in-camp/camp-like situations**. Moreover, being single, separated, or divorced increases the protection vulnerability of refugees. This may be due to the lack of family protection for this profile of refugees. Finally, refugees from Chad and the Central African Republic report higher protection vulnerability, while the opposite is true for refugees from Ethiopia, Eritrea, and Syria (Figure 34).

[20] The BVI, is composed of eight sector vulnerability indices, including Protection. To ensure a viable model that can assess the impact of BVI on protection, the Protection Vulnerability sub-indicator has been removed from the original BVI, producing BVI (excluding protection sub-indicator).

KEY TAKEAWAYS

- Gender, age, level of education, marital status, and country of origin showed to determine levels of overall vulnerability among refugees. Lower levels of overall vulnerability are associated with being male, of older age, having a higher level of education, being single, engaged, or divorced. Being from Ethiopia, Eritrea, Syria, and Iraq showed low levels of vulnerability. Higher levels of overall vulnerability were observed in refugees from the Central African Republic.
- Variables such as HHH gender, HHH education level, and refugee settlement situation, which are not included in ProGres database, showed to determine levels of overall vulnerability among refugees. Higher levels of overall vulnerability were prevalent in households led by women, households with lower levels of education, and refugees living in-camps/camp-like situations.
- Overall vulnerability, age, settlement situation, and country of origin showed to determine levels of protection vulnerability among refugees. Higher levels of protection vulnerability were found to be experienced by refugees with a higher overall vulnerability, older refugees, refugees living in-camp/camp-like situations, single, separated, or divorced refugees, and refugees from Chad and the Central African Republic.

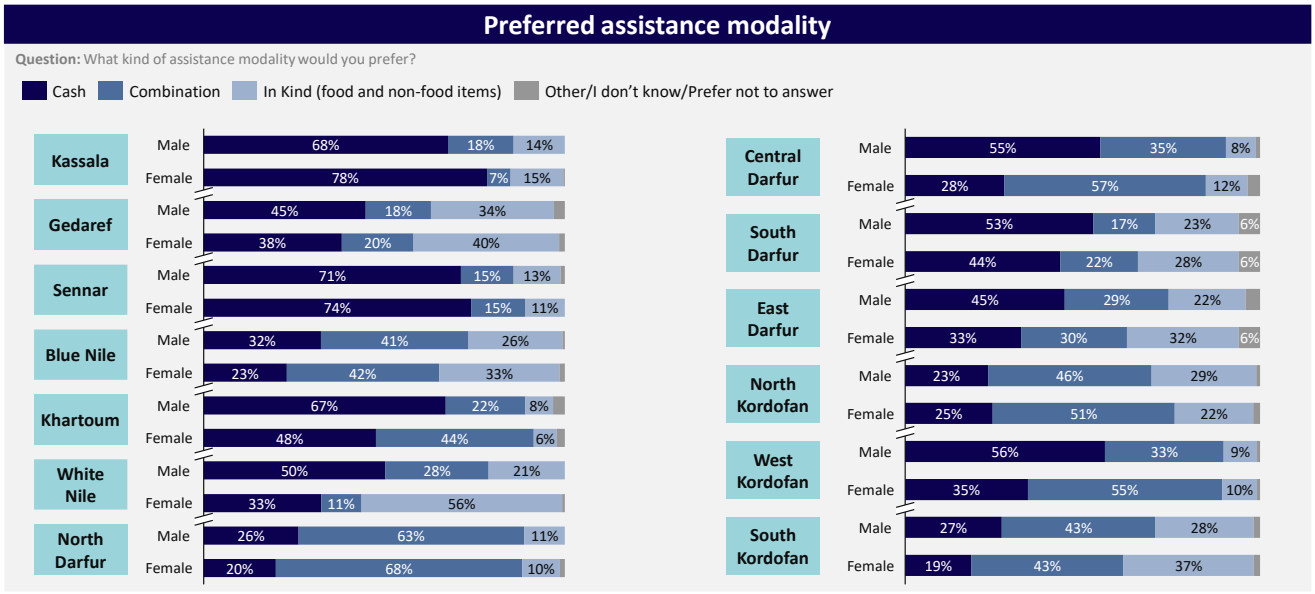
3.5 Cash-based assistance potential

To explore the potential of multipurpose cash-based assistance in supporting refugees to meet basic needs, this section focuses on evaluating the viability, attitude, and behaviors regarding cash-based assistance.

With a focus on enhancing the targeting mechanism of UNCHR's multi-purpose cash-based assistance, the preference for cash-based assistance, its mode of delivery, and refugees' access to financial institutions were assessed. Further supplementing the targeting processes, marketplace accessibility, availability of goods, and sense of safety traveling with cash were also assessed. To inform sector-specific cash-based assistance programming, the assessment also explored how refugees – if provided – would spend cash-based assistance.

Preferences and feasibility – targeting parameters

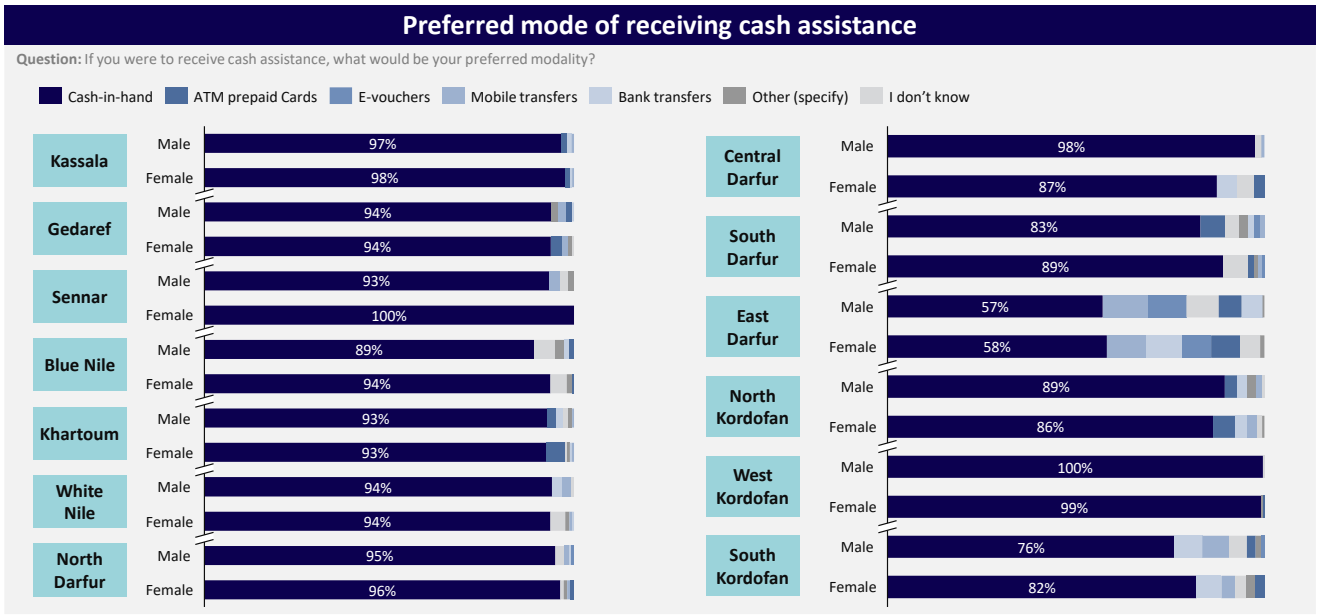
Looking at the cash-based assistance modalities preferred by refugees, it was found that **cash and a combination of cash and in-kind assistance were the most preferred modalities**. Refugees in Kassala, Sennar, and Khartoum were found to largely prefer cash-based assistance compared to other states. Meanwhile, refugees in Blue Nile, North Darfur, Central Darfur, North Kordofan, and South Kordofan reported a greater preference for a combination of both cash and in-kind assistance (Figure 35).



Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

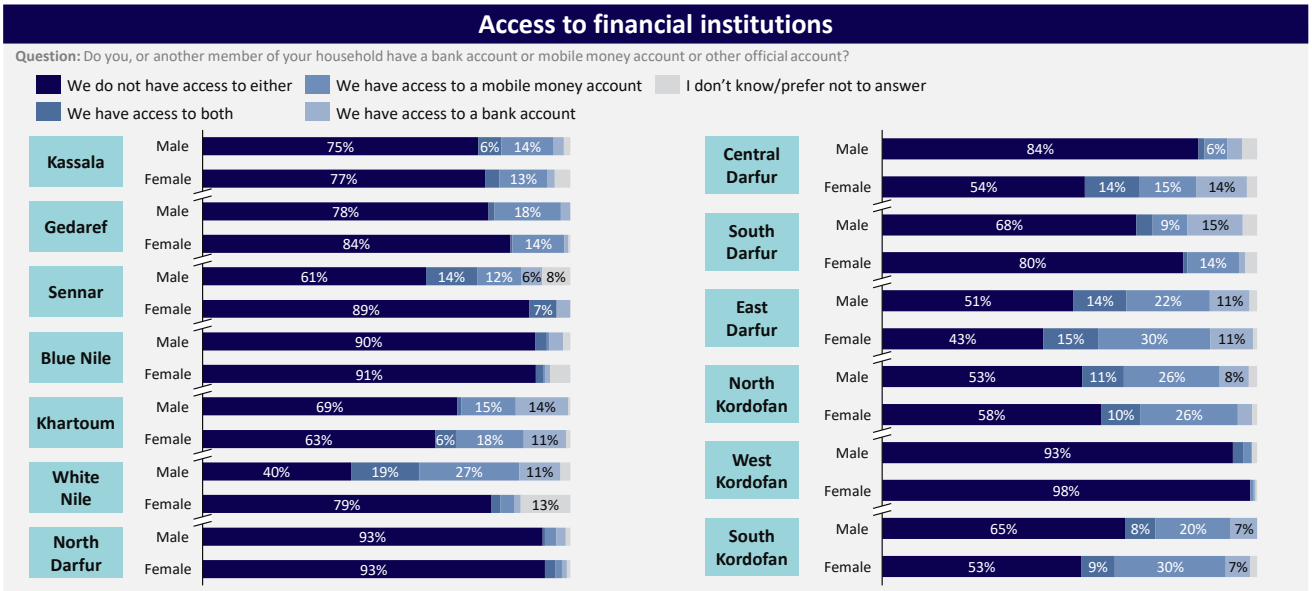
Figure 35. Preferred assistance modality

As for the delivery of cash-based assistance, **across most states, more than 90% of refugees reported preferring cash-in-hand**. In East Darfur, the majority of refugees preferred cash-in-hand, although a significant portion would rather deal with e-vouchers, mobile transfers, and bank transfers (Figure 36). This may be partially attributed to the access to financial institutions where, despite some gender disparities intra-state, the majority of refugees across most states did not have access to banks nor mobile money accounts. Furthermore, although not a majority, a greater proportion of refugees had access to financial institutions in East Darfur, North Kordofan, and South Kordofan. Looking into gender differences, while it was found that males in White Nile had significantly better access to financial institutions compared to females, the opposite was true in Central Darfur (Figure 37).



Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

Figure 36. Preferred mode of receiving cash-based assistance



Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

Figure 37. Access to financial institutions

To assess the factors driving preferences for cash-based assistance, a linear regression model was designed to look at the impact of demographic factors, sense of safety traveling with cash, as well as access to credit/microloans.

The results showed that **refugees living in-camp/camp-like situations had a higher preference for cash-based assistance**. Additionally, refugees that were single or working for pay also reported a higher preference for cash. The former may be partly attributed to a reduced risk of domestic violence associated with cash control dynamics. On the other hand, it was found that **refugees with a higher sense of unsafety traveling to the market with cash had a lower preference for cash-based assistance** (Figure 38).

*P>0.05 **P>0.01 ***P>0.001

Dependent Variable	Coefficients	Independent variables
Preference for cash assistance*	-0.002	Age
	0.106	Gender: Male (Base: Female)
	0.254***	Refugee Settlement: In-camp/camp-like situation (Base: out-of-camp)
	-0.037	Highest level of education obtained
	0.256*	Marital status: Single
	-0.087	Marital status: Engaged
	-0.007	Marital status: Separated
	0.080	Marital status: Divorced
	0.183	Marital status: Widower
	0.269*	Employment Status: Working for pay
	-0.005	Employment Status: Self-employed
	0.207	Employment Status: Student
	0.054	Employment Status: Unemployed
	-0.236	Employment Status: Helping family member without pay
	-0.060	Employment Status: Retired
	0.538	Employment Status: Long term sick or disabled
	0.025	Sense of unsafety leaving the house during the day
	-0.101***	Sense of unsafety going to the market with cash
	0.028	Access to credit: No access to micro credit/loans

Figure 38. Preference for cash assistance regression

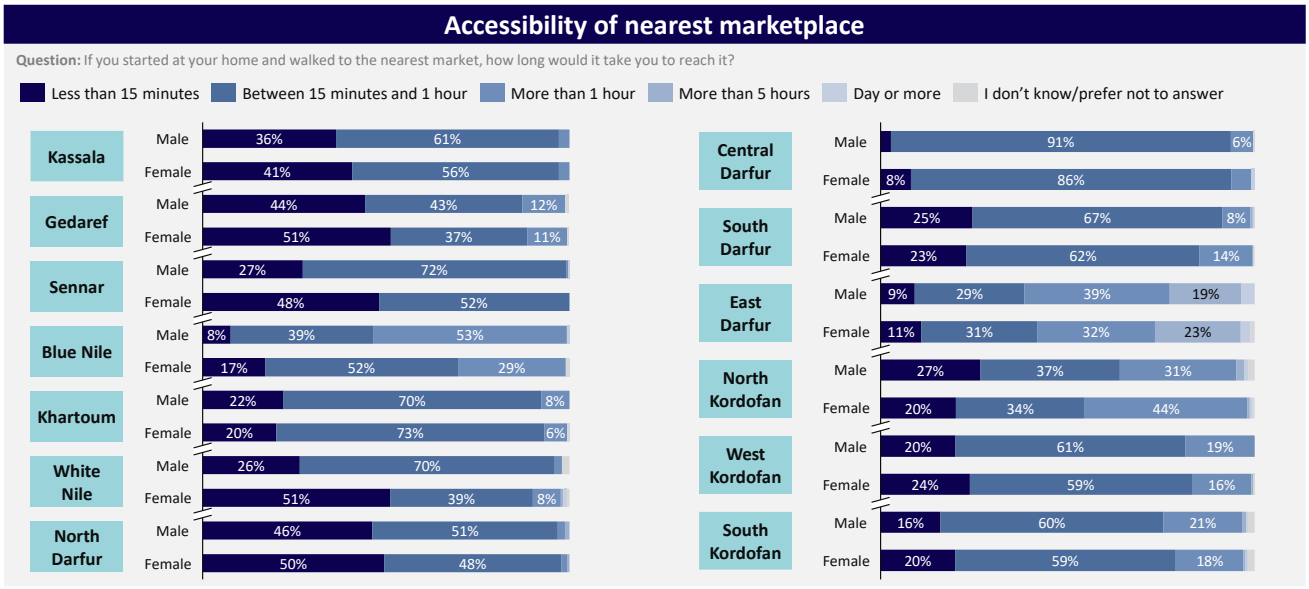
KEY TAKEAWAYS

- Cash-based assistance and a combination of cash and in-kind assistance were the most preferred modalities of assistance by refugees.
- Kassala, Sennar, and Khartoum had the greatest proportion of refugees preferring cash-based assistance over other modes. Meanwhile, Blue Nile, North Darfur, Central Darfur, and North and South Kordofan had the greatest proportion of refugees showing a preference for a combination of cash and in-kind assistance.
- Cash in-hand was the preferred mode for delivery of cash-based assistance.

- Across all states, the majority of refugee households did not have access to either a bank account or mobile money.
- Although not a majority, a greater proportion of refugees had access to financial institutions in East Darfur, North Kordofan, and South Kordofan, compared to other states.
- Men in White Nile had greater access to financial institutions compared to their female counterparts. The opposite is true in Central Darfur where women were found to have better financial access.
- Refugees residing in-camp/camp-like situations, single, working for pay as well as those with a higher sense of safety traveling with cash had a higher preference for cash-based assistance.

Accessibility to marketplaces, availability of goods, sense of safety

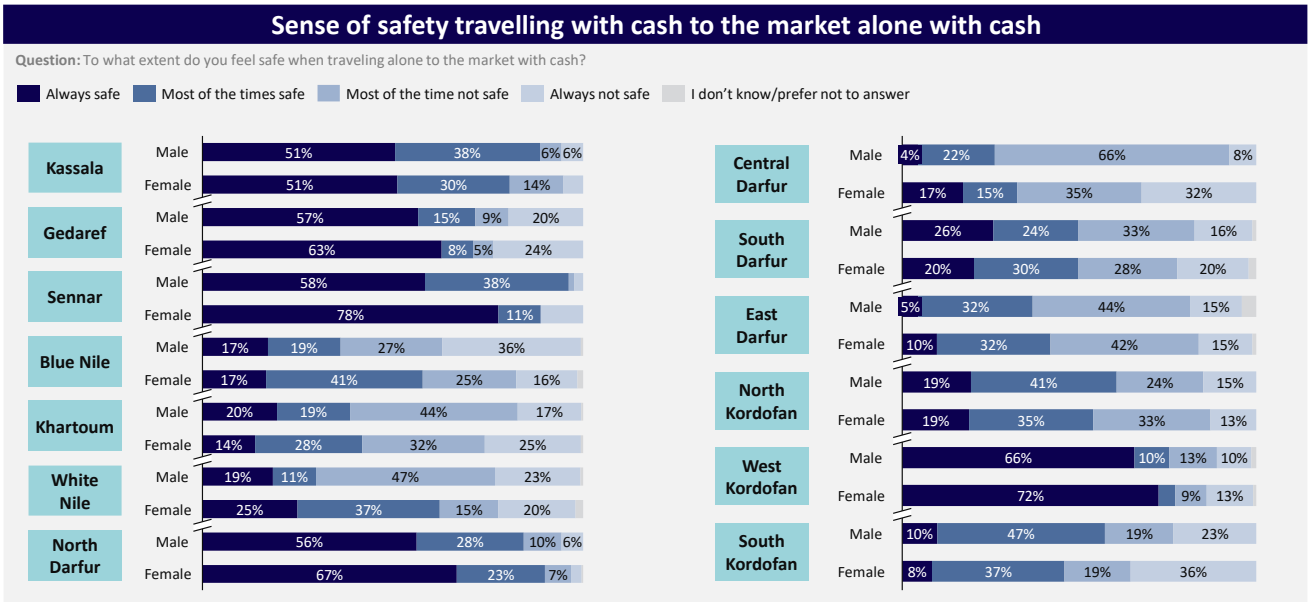
To allow for effective cash-based assistance targeting, the assessment looked into marketplace accessibility. **Refugees in Kassala, Gedaref, and North Darfur had the most accessible marketplaces.** Meanwhile, marketplaces in East Darfur were the least accessible.



Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

Figure 39. Marketplace accessibility

It is essential to ensure that the provision of cash-based assistance does not increase the protection vulnerability of its beneficiaries. By assessing the sense of safety traveling with cash, additional protection support can be better targeted. Refugees in Kassala, Gedaref, Sennar, North Darfur and West Kordofan always felt safe traveling to the market alone with cash. In the other eight states, refugees reported feeling some degree of safety traveling to their nearest market with cash. On the other hand, refugees in Central and East Darfur had the highest reports of feeling unsafe when traveling to their nearest marketplace. This finding may be a driver for refugees in East Darfur's preference for modes other than cash in hand.



Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

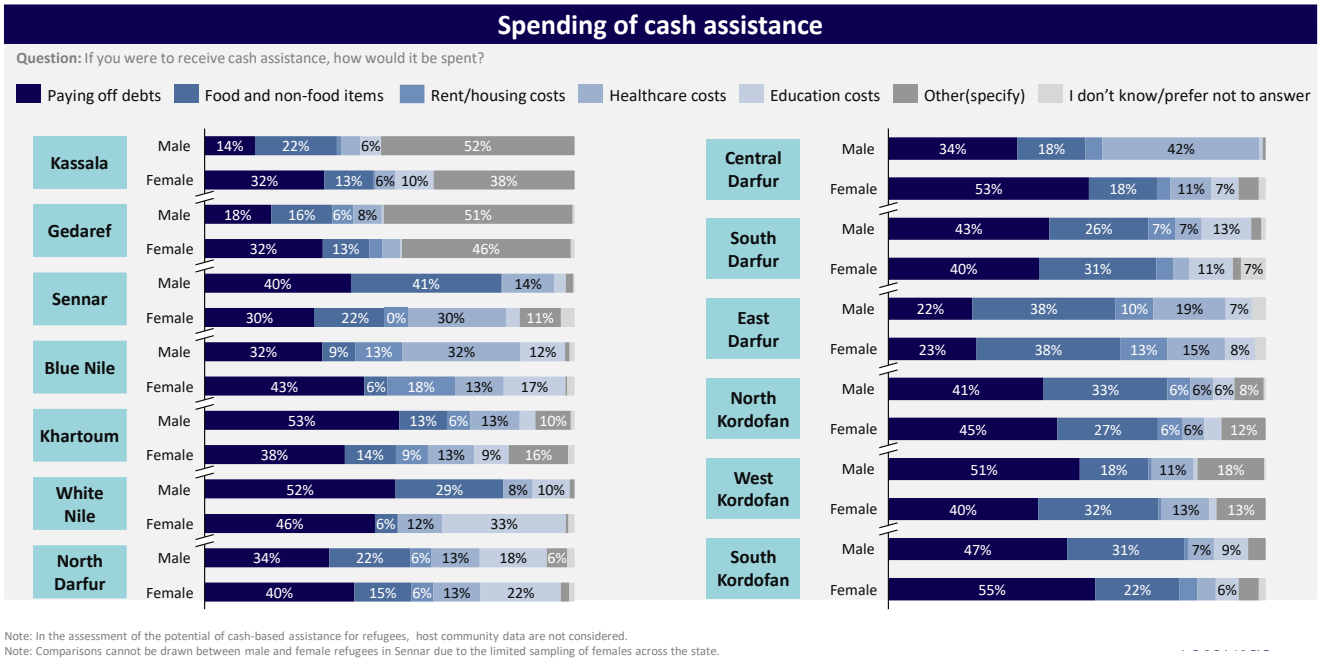
Figure 40. Sense of safety traveling with cash

KEY TAKEAWAYS

- Kassala, Gedaref, and North Darfur were the states with the most accessible marketplaces for refugees.
- Marketplaces in East Darfur were the least accessible, with more than half of refugees reporting the nearest market is more than one hour away.
- Most of the refugees in Kassala, Gedaref, Sennar, North Darfur, and West Kordofan always felt safe traveling to the market alone with cash. Meanwhile, in the other surveyed states, most refugees reported feeling some degree of safety traveling to their nearest market with cash.
- Refugees in Central and East Darfur felt the most unsafe when traveling to their closest marketplace with cash.

Use of cash-based assistance – potential for vulnerability mitigation:

When looking at how refugees would spend their cash-based assistance, debt repayment would be the primary use in every state, except for East Darfur. While the second preferred way of using cash-based assistance would be buying food or non-food items. Compared to other states, the coverage of healthcare costs was also mentioned by a high proportion of refugees in Sennar, Blue Nile, and Central Darfur.

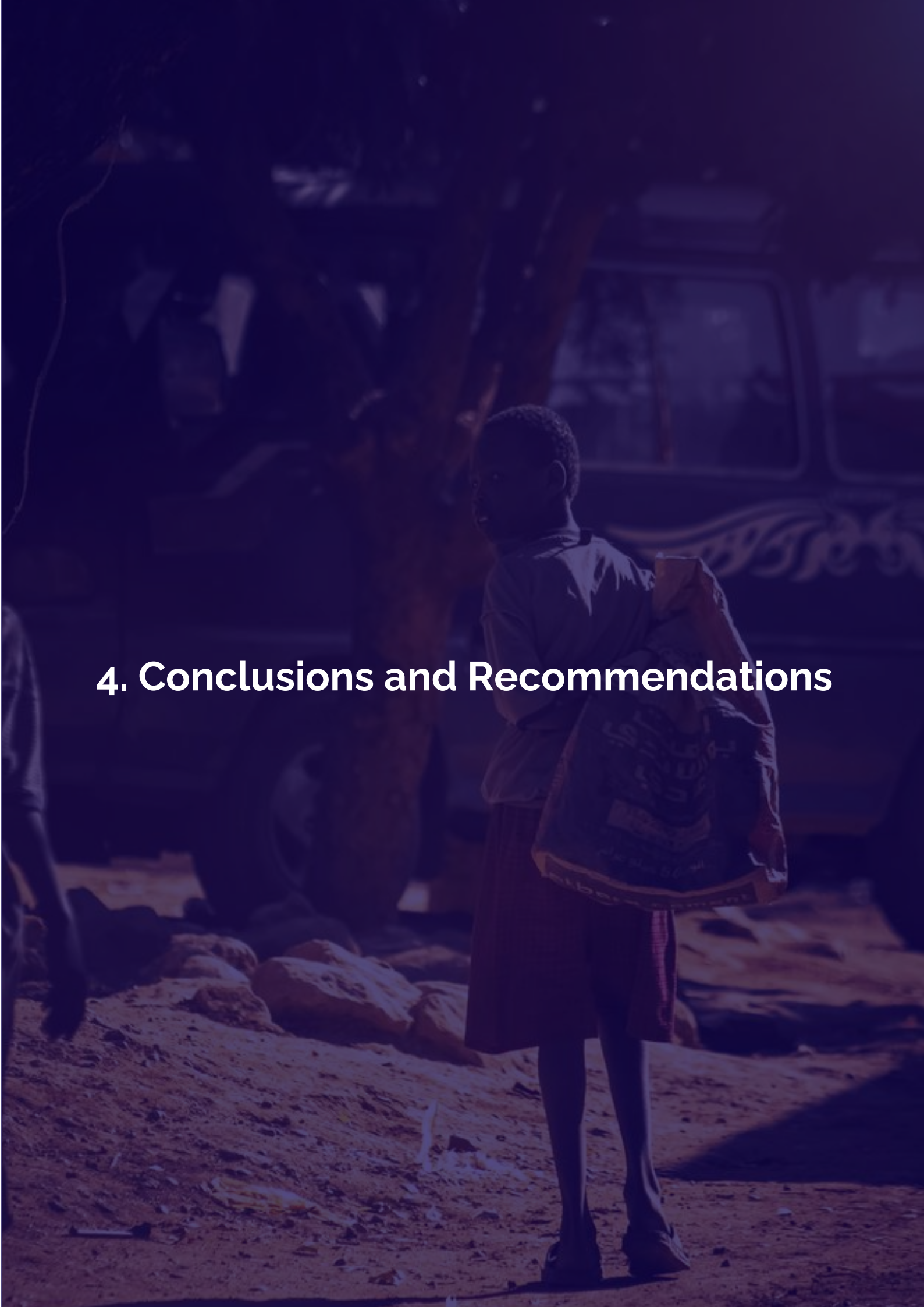


Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

Figure 41. Spending of cash-based assistance

KEY TAKEAWAYS

- Debt repayment was reported as the primary use for cash-based assistance in every state but East Darfur. Meanwhile, the second most popular way of spending cash-based assistance is on food or non-food items.
- Compared to other states, in Sennar, Blue Nile, and Central Darfur, a higher proportion of refugees reported that they would use cash-based assistance to cover healthcare costs.



4. Conclusions and Recommendations

4. Conclusions and Recommendations

4.1 Vulnerability mapping

Overall vulnerability

- In all states, except for Kassala, White Nile, and East Darfur, refugees had higher levels of overall vulnerability compared to the host community.
- Across all assessed states, West Kordofan and East Darfur had the highest level of vulnerability for both refugees and the host community. This means that the overall population in these states had high levels of vulnerability across the assessed sectors and sub-indicators.

Sectors' vulnerability

- Across all states, levels of universal, WASH, and shelter & energy vulnerability were the highest. Education and health were the sectors with the lowest levels of vulnerability; however, this does not mean that refugees are not vulnerable to education and health-related vulnerabilities.
- **Universal vulnerability** was high to severe across all assessed states. Expenditure, and work permit and documentation, were the universal vulnerability sub-indicators showing the highest levels of vulnerability within the refugee population.
- **Monetary vulnerability** was relatively high across all states, with Gedaref and East Darfur being the most vulnerable states where the majority of both refugees and host communities were recording high and severe vulnerability. A significant proportion of the refugee population and the host community were highly vulnerable to low-income levels and debt repayment.
- **Education vulnerability** was not as high compared to other sectors' vulnerabilities. North Darfur was the state with the highest proportion of school-aged children in their households not attending school. Not being able to afford it, children needing to work instead of attending school, and having no school in their areas were the main reported reasons for not attending school.
- **Food vulnerability** was moderate across all states, but particularly high in Kassala and West Kordofan. Across all states, a significant number of the refugee population and the host community were highly vulnerable to spending a high proportion of their monthly household income on buying food and using negative coping strategies to access food.
- **Health vulnerability** was not as severe for refugees and host communities compared to the other assessed vulnerabilities. Health vulnerability was particularly high in East Darfur. Low access to healthcare, represented by long travel times to the nearest health facilities and high expenditures on healthcare, was the main identified reason for high health vulnerability among refugees.
- **Shelter & Energy vulnerability** was high for refugees across all assessed states. In most states, refugees had higher shelter-type-related vulnerabilities compared to the host communities. Most refugees and host communities depended on insufficient alternative energy sources.
- **WASH vulnerability** reported very high levels across all states, both for refugees and the host community. In most states, WASH vulnerability was slightly higher for refugees than for the host community. WASH vulnerability was significantly high in West Kordofan, Blue Nile, and White Nile specifically. Lack of access to adequate latrines, enough clean water, hygiene items, adequate waste disposal systems, and long distances to nearest water points, were the main reasons explaining high levels of WASH vulnerability.

- **Protection vulnerability** was higher in the refugee population than in the host community in most states. Refugees in Blue Nile and East Darfur had a significantly high protection vulnerability. The low availability of protection services and the feeling of unsafety when leaving the house during the day had a significant impact on increasing levels of protection vulnerability among refugees.

- **Overall vulnerability**. There should be a specific focus on the provision of assistance to states with higher levels of overall vulnerability, such as East Darfur and West Kordofan. Additionally, further exploration of the drivers of high levels of vulnerability in refugees and the host community across these states is also recommended.
- **Universal vulnerability**. Due to high levels of universal vulnerability across all assessed states, a focus on assistance to regularize refugees' status, in terms of provision of work permits and documentation, should be given at the national level.
- **Monetary vulnerability**. Large proportion of refugee household's income was allocated towards servicing debt. Therefore, in-depth research into the main reasons for taking on debt would be needed to further understand the causes for many refugees spending a large proportion of their income repaying debt. Aligning with findings on the potential for cash-based assistance, multi-purpose cash assistance could be an option to support refugee families in reducing their expenditure on debt.
- **Education vulnerability**. Focus on access to education services and attendance to school should be given to households with school-aged children in Gedaref, Blue Nile, South Darfur, East Darfur, North Kordofan, West Kordofan, and, specifically, in North Darfur. To increase school attendance in the assessed states, assistance could be directed to assist households in covering school tuition fees and school-related expenses (e.g., transport). In addition, attention is also needed towards child labor among refugees as it was reported as one of the main reasons for school-aged children not attending schools.
- **Food vulnerability**. A specific focus on increasing food security in the states of Kassala and West Kordofan is needed. Aligning with findings on the potential for cash-based assistance section, multi-purpose cash-based assistance could be an option to support refugee families in reducing their expenditure on food. However, other interventions focusing on increasing long-term food security among refugees are of high need.
- **Health vulnerability**. To improve healthcare access among the refugee population, it is recommended to focus on the physical aspects (availability of healthcare facilities) and financial aspects (affordable health facilities) of access to healthcare. Specific focus on Blue Nile, East Darfur, Kassala, and Khartoum is needed.
- **Shelter and energy vulnerability**. To decrease shelter & energy vulnerability among refugees, assistance towards improving shelter conditions and reducing the risk of eviction is needed. Access to sufficient energy sources would also decrease the vulnerability of refugees in this sector; however, this is an overarching issue at the national level for both refugees and the host community.
- **WASH vulnerability**. Major improvements in WASH are needed for refugees across all assessed states. To decrease WASH vulnerability, and therefore decrease the risk of health issues associated with low access to water, hygiene and sanitation, there is an urgent need to focus on increasing access to adequate latrines, waste disposal mechanisms, enough clean water and hygiene items among the refugee population.
- **Protection vulnerability**. To decrease protection vulnerability among refugees, there is a need to increase access to protection services, specifically in Blue Nile and East Darfur where protection vulnerability was the highest. Interventions to increase the feeling of safety when leaving the house during the day, specifically in East Darfur and Khartoum, are also needed to decrease protection vulnerability among refugees.

4.2 Determinants of vulnerability

CONCLUSIONS

Vulnerability profiling

- Individuals exhibiting the highest vulnerability were uneducated older widowed women, living in-camps/camp-like situations, with a high number of dependents.
- The most vulnerable households were found to be led by heads of household with little to no education, a high number of dependents, and a low income.

Determinants of vulnerability using variables from UNHCR ProGres

- Older refugees and refugees with a high level of education experienced lower overall vulnerability. Furthermore, male, single, engaged, or divorced refugees also experienced lower overall vulnerability. In terms of nationality, refugees from Ethiopia, Eritrea, Syria, and Iraq experienced lower vulnerability, meanwhile, refugees from the Central African Republic experienced higher vulnerability.
- Variables not included in UNHCR's ProGres with significant impact on the Basic Vulnerability Indicator (BVI):
    - Head of household gender: male-led households experienced lower overall vulnerability.
    - Head of household level of education: households with a highly educated head of household experienced lower overall vulnerability.
    - Refugee settlement situation: refugees settled in-camps/camp-like situations experienced higher overall vulnerability.

Determinants of protection vulnerability

- Protection vulnerability was higher in refugees with high levels of overall vulnerability, older refugees, refugees living in-camps/camp-like situations, and refugees who are single, separated, or divorced.
- In terms of nationality, protection vulnerability was higher in refugees from Chad and the Central African Republic.

RECOMMENDATIONS

- Support should be targeted towards individuals and households with profiles correlated with high vulnerability as illustrated across the assessment.
- It is suggested to include head of household gender, head of household level of education, and refugee settlement situation as variables in the ProGres dataset. This would improve UNHCR's capacities to forecast vulnerability on a household level to inform programming.
- Additional protection support, including access to protection services, is recommended for refugee profiles that are correlated with high protection vulnerability as illustrated.
- Furthermore, programming should focus on ensuring that basic needs are met to reduce protection vulnerability in turn.

4.3 Potential for cash-based assistance

CONCLUSIONS

Preference and feasibility

- Refugees who were single, living in-camps/camp-like situations, and working for pay had a higher preference for cash-based assistance.
- Cash-in-hand was the preferred modality for most refugees, but the states of Blue Nile, North and South Kordofan, and North Darfur showed a preference for in-kind or combined assistance over solely cash-based assistance.
- Additionally, the low levels of access to financial institutions posed a significant challenge to cash-based assistance.

Access to the marketplace, availability of goods and sense of safety

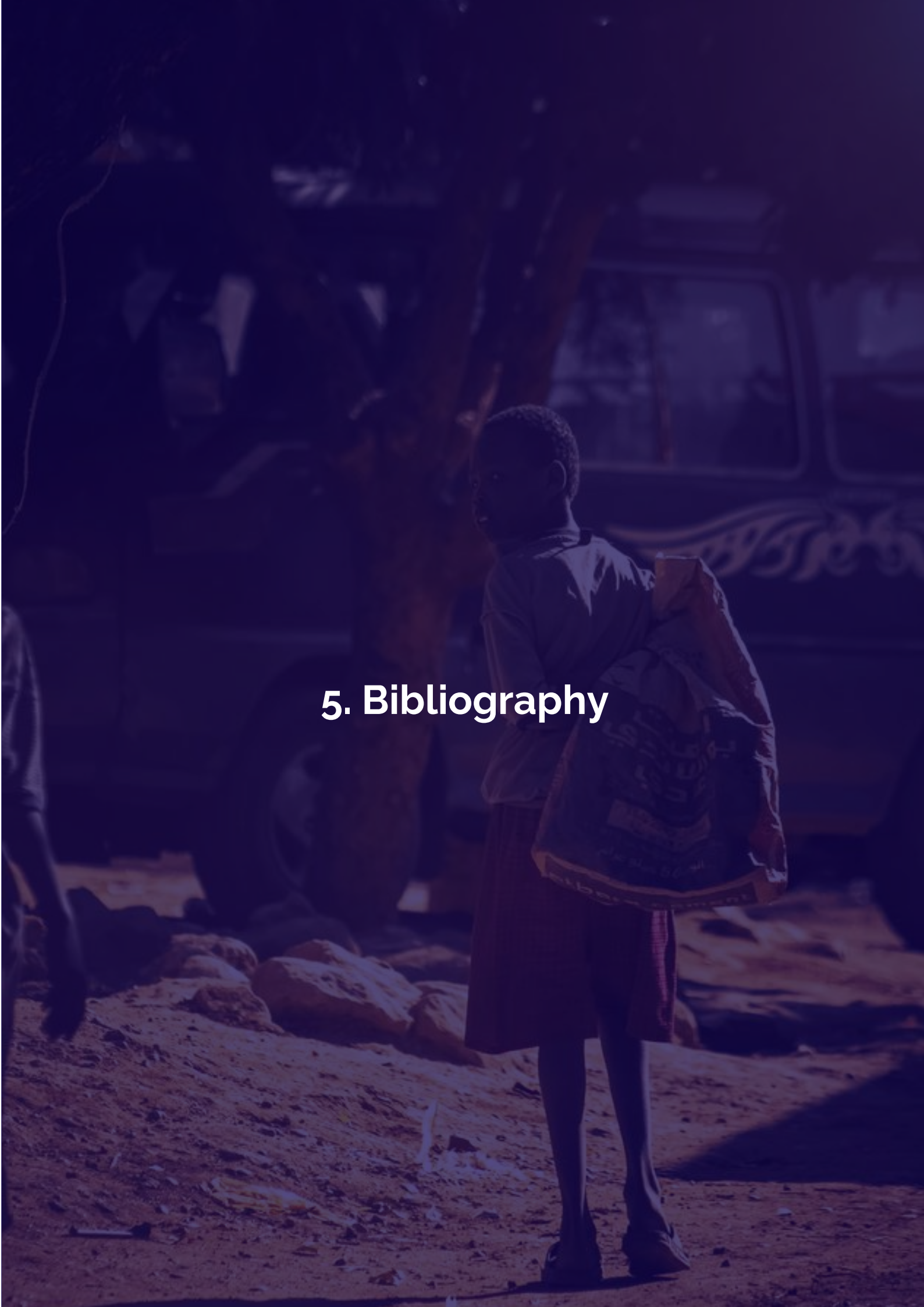
- Most refugees, except for those in East Darfur and Blue Nile, were able to access a marketplace within one hour from their homes.
- Furthermore, most refugees reported feeling mostly safe when traveling to the market alone, although those in Central and East Darfur felt the least safe.

Use of cash-based assistance

- Findings on the use of cash-based assistance were varied among refugees. An important proportion of refugees reported they would use cash for paying off debts, followed by buying food and non-food items. Specific states were more likely than others to report they would use cash to pay for rent and housing, healthcare, and education costs.

RECOMMENDATIONS

- Cash-based assistance should utilize cash-in-hand modality to maximize feasibility and align with preferences. The impact can be augmented by facilitating refugees' access to financial services.
- Cash-based assistance should be targeted to states with higher indicators related to feasibility, including the feeling of safety when traveling with cash, preference for cash, and market accessibility and availability of goods. In addition, a focus on improving the feasibility of cash-based assistance in White Nile and East Darfur is recommended as results show they have less potential for cash-based assistance based on the above-mentioned indicators.
- Sectoral or multi-sectoral targeted assistance is recommended for combined and in-kind assistance. Sectoral assistance should target sectors with the highest vulnerability which are Universal, WASH, Shelter & Energy, Food, and Monetary. Data on how states and demographics would use cash could be utilized to 'target' cash-based assistance by sector; however, this is only feasible in some states.
- Care would need to be taken to ensure beneficiaries do not encounter heightened security risks compared to non-beneficiaries.



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6. Annexes

6. Annexes

Annex 1: Key Informant Interviews

Organization	Date	Title
WFP	03/02/2021	Head of Emergency Unit
	02/02/2021	Food Security Analyst
	02/02/2021	Food Security and Livelihood Cluster Sector coordinator in Sudan
	02/02/2021	Information Management Specialist for Food Security and Livelihoods
REACH Initiative	02/02/2021	Country Director
	02/02/2021	Senior Assessment Officer
	02/02/2021	Assessment Officer
UN Sudan	02/02/2021	Humanitarian Affairs Officer
UNDP	04/02/2021	Program Officer
WHO	10/02/2021	Health Cluster Coordinator in Sudan
IOM	15/02/2021	Deputy Chief of Mission / Head of Programs
NRC	24/02/2021	Country Director
DRC	24/02/2021	Area Program Manager
	24/02/2021	Protection Manager
PLAN International	23/02/2021	Country Director
OCHA	18/02/2021	Head of information management and Communication in Sudan
UNICEF	01/03/2021	Cash Specialist
	01/03/2021	Chief of Social Policy
UNHCR	11/02/2021	Sectoral Focal Point - Education
	17/02/2021	Sectoral Focal Point - Health
	18/02/2021	Sectoral Focal Point - WASH

Annex 2: Survey Instrument

#	Survey Question	Answer options
A	State code	
B	Location code	
C	Site code	
D	GPS coordination	
E	Settlement situation	Refugee Camp; Dispersed Self Settlement; Sudanese host community house
F	Urban/Rural	Urban; Rural
G	What language would you prefer for this interview?	English, Arabic, Amharic, Tigrinya, Dinka, Shilluk, Nuer
	Hello. My name is _____ and I work for Sudan Polling: an independent, non-political survey company based in Khartoum. We are conducting this survey in partnership with Voluntas Policy Advisory and we have been assigned by UNHCR to conduct a survey on the basic needs and vulnerabilities of refugees, and host communities in Sudan. The findings of the survey will help UNHCR and other international organizations better support refugees and host communities in Sudan. This survey will take around 30 minutes to complete. Please note that your participation in the survey is voluntary and anonymous and can be terminated at any time. Your answers and data are confidential and are voluntarily contributing to improving the knowledge of needs and vulnerabilities in Sudan. Thank you.	
	You are not obliged to participate in the survey and that you will not be penalized if you decline to participate. Even if you agree to participate, you are free to end the survey at any point and you can decline to answer any questions that you do not want to answer. Please note that there is no financial compensation in return for your participation in the survey.	
	Do you consent to participate to the survey?	Yes; no
	Some of the following questions are about you and some are about your 'household'. A household is a group of people who live under the same roof and who share food and other key resources. This includes people that are not a part of your family but you are hosting and sharing expenses with. The 'head of household' is the main decision-maker in the household.	
1	Do you know your exact age? If not, an estimate is fine.	Yes; no
2	What is your age?	[number]
3	Are you a Sudanese citizen?	Yes; no
4	If no, did you come to Sudan as refugee?	Yes; no
5	If yes, what is your country of origin?	[list in 4.Country of Origin Codes tab]
6	If you are a refugee; what year did you arrive to Sudan? If you do not know exact	[YYYY]; IDK

	year, an estimate is OK.	
7	What month did you arrive? If you do not know exact month, an estimate is OK.	[month]
8	How long do you intend to stay in Sudan?	Less than a month; less than six months ; less than a year ; less than 5 years ; more than five years; Until the situation improves in my home country; Don't know; Prefer not to answer
9	What is your gender?	Male; female
10	What is your marital status?	Single; Engaged; Married; Separated; Divorced; Widowed
11	What is the highest level of educational you obtained ?	None; Primary; Preparatory; Secondary; University; Vocational training
12	How many people live in your household, including yourself?	[number]
13	Please tell me the age and gender of everyone who lives in your household, including yourself. If you do not know exact ages, estimates are OK.	[matrix age and gender for each person]
14	The 'head of household' is the main decision-maker in the household. Are you the head of your household?	Yes; no
15	Is the head of your household male or female?	Male; female; I live alone
16	What is the highest educational level of the head of household?	None; Primary; Preparatory; Secondary; University; Vocational training; Don't know
17	How many family dependents under the age of 18 do you have NOT living in your house?	[number]; IDK
18	If at least one family dependent under the age of 18 is not living in your household, we would like to understand why these are not living under your roof. Could you tell us why these dependents are not	Married; Staying with relatives; Left the house to study; Left the house to engage with the army or armed groups; Kidnapped/abducted; Missing (left and no news); Arbitrarily detained; Other (please specify); IDK

	living in your household? [select all that apply]	
19	How many people in your household have any difficulty seeing, hearing, moving or walking, communicating, taking care of themselves (e.g., washing, dressing), understanding, psychological impairment? Any of the above counts.	[number]; IDK
	Thank you for that information. I'm now going to ask you a few questions about your household's available money, income and expenditures. I will also ask about any difficulties your household has faced recently.	
20	What is your current employment status?	Working for pay; Self-employed; Student; Working own plot/looking after livestock; Unemployed; Helping family member without pay, Long term sick or disabled; Retired; Other
21	Are you actively looking for work?	Yes; no
22	Why not?	Unable to work due to health condition; Unable to work due to caretaking and household needs; Language barriers; Unable to find available employment opportunities; I do not have the skills to get the jobs available; Other (specify)
23	What is your household estimated monthly income in SDG?	Less than 20,000 ; 20,000 - 50,000; 50,000 - 80,000;80,000 - 100,000; above 100,000
24	Please rank your top three sources of income.	Salaried work; transfers; own activity/business; non-agricultural wage labor; sale of livestock; sale of crops; sale of firewood/charcoal; agricultural wage labor; other (specify); Cash-based assistance/aid; I have no sources of income
25	Please rank your household's top three sources of income.	Salaried work; transfers; own activity/business; non-agricultural wage labor; sale of livestock; sale of crops; sale of firewood/charcoal; agricultural wage labor; other (specify); Cash-based assistance/aid; Don't know; No sources of income
26	Do you currently hold a valid work permit for Sudan?	Yes; No; I don't know
27	Do all people in your household have a valid work permit for Sudan?	Yes; No; I don't know
28	What are the barriers preventing you or your family from	Not registered with COR or UNHCR; Don't have personal identity documentation; Don't understand how to apply; I am not able to access the registration facility due to distance; I am not able to

	obtaining a valid work permit in Sudan?	access the registration facility due to cost of transportation; I do not need a work permit; Other, please specify
29	How many people in your household currently work for pay?	[number]; IDK
30	Did your household face any challenges obtaining enough money to meet its needs during the past 30 days?	Yes; No; IDK
31	Did your household experience any of the following difficulties in the past 6 months? [select all that apply]	Unusually high food prices; reduced income of any household member; unusually high prices of fuel/transport and other non-food prices; Serious illness or accident resulting in injury for any household member; too much rain, flooding; insecurity/violence/raiding/looting; Other, please specify
32	How big a part of your available household income did you spend in the past 30 days?	Less than half; Around half; More than half; Almost all; All
33	How big a part of your available household income did you spend on food in the past 30 days?	None; About a quarter; About half; More than half; Almost all; All
34	How big a part of your available household income did you spend on non-food items in the past 30 days? (Soap/cosmetics/personal hygiene; Transport (including fuel); Communication; Cooking fuel/fire)	None; About a quarter; About half; More than half; Almost all; All
35	Has your household borrowed money to meet its needs during the past 30 days?	Yes; No; IDK
36	How big a part of your available household income did you spend servicing debt in the past 30 days?	None; About a quarter; About half; More than half; Almost all; All
37	Who decides about how money is spent in your household?	Only the head of household; the older household members; Some members of the household in collaboration; All members of the household in collaboration; Other (please specify); IDK
	This next part of the questionnaire will ask about different needs you may face. Some of these questions may be upsetting. If you feel uncomfortable answering, please let me know.	

38	In the past seven days, have there been times when you did not have enough food nor money to buy food?	Yes; No
39	On how many days has your household had to… [matrix question]	Rely on less preferred and less expensive food; Limit portion sizes of meals; Borrow food or rely on help from friends or relatives; Reduce number of meals eaten in a day; Restrict consumption by adults in order for small children to eat
40	In the past 30 days, what type of food assistance has your household received?	Food rations; cash; both; none
41	How many people in your household have long-term, recurring healthcare needs (chronic illness)?	[number]; IDK
42	Do they receive treatment for these needs?	Yes; No; IDK
43	If you started at your home and walked to the nearest healthcare facility, how long would it take for you to reach it?	Less than 15 minutes; Between 15 minutes and 1 hour; More than 1 hour; More than 5 hours; One day or more
44	What is the primary method of transportation you use to reach the nearest healthcare facility?	Walking; Bicycle; Motorcycle; Bus; Taxi; Car; Rickshaw/Tuk-tuk/Amjad; Other
45	Has anyone in your household attempted to access health services or treatment, including medicines, in the past 3 months?	Yes; No; IDK
46	If yes, did your household encounter any difficulties accessing these health services or treatment? [select all that apply]	Cost of services/medicine, Absence/shortage of qualified health workers at the health facility, High cost of transportation to health facilities, Health facility is too far away, Health facility is not easily accessible for people who have difficulty (e.g., disability), Do not have trust in the health workers at the facility due to concerns about privacy or being mistreated, Lack of trust in health workers for other reasons (e.g., health worker skill level), Travel to health facility is not safe / security concerns, Specific people are being discriminated against when visiting the health facility, Lack of medicines at the health facility, Treatment for my condition/disease is not available at health facility, Health facility is overcrowded/long waiting times, Other (specify)
47	How big a part of your available household	None; About a quarter; About half; More than half; Almost all; All

	income did you spend on healthcare in the past 30 days?	
48	What is the principal source of domestic drinking water for members of your household?	Public tap/standpipe; water seller/kiosks; surface water (lake, pond, dam, river); rainwater collection; karkajah (water pump); other (please specify); don't know
49	If you started at your home and walked to the nearest water source, how long would it take you to reach it?	Less than 15 minutes; Between 15 minutes and 1 hour; More than 1 hour; More than 5 hours; Day or more
50	Do you collect enough water to meet all your households' needs – not for animal use, brickmaking, agriculture, gardening, etc.?	Yes; No; IDK
51	If no, why? [select all that apply]	There are water shortages; Water is too far; It is too dangerous to get water; Can't afford to buy enough; Waiting time at the water point is too long; Don't have enough storage containers; Limitation of volume of water than can be collected at water point; Power cuts that lead to water systems not working; Other; Don't know
52	Does your household have access to a sanitation facility, such as a latrine or toilet?	Yes; No; IDK
53	If yes, are you able to use it?	Yes; No; IDK
54	Is it a communal or a individual family one?	Communal; family
55	Does this latrine provide adequate privacy for you and your household members?	Yes; No; IDK
56	Does your household have access to hand washing device/station to wash their hands? For example, a basin or tap.	Yes; No; IDK
57	Does your household have access to sufficient soap? This can be any kind of bar soap, liquid soap, powder detergent, or soapy water.	Yes; No; IDK

58	Does your household have access to any solid waste disposal facility?	Yes; No; IDK
59	Are you aware of any services available in your community for legal aid/justice?	Yes, there are formal justice services; Yes, there are informal justice services (i.e., the sultan); No; IDK
60	Are you aware of any services or programs available in your community that are specifically for violence against women or girls?	Yes; No
61	If yes, what type(s) of services are available? [select all that apply]	Awareness raising on reducing exposure to violence against women; Referring and linking women and girls to different response services; Counselling and group support services; Health services for women and girls that sustained violence; Safety and security services (for example by police) for women and girls that sustained violence; Legal counselling and aid services for women and girls that sustained violence; Provision of menstrual hygiene management products and protection items; Livelihood support; Other (specify)
62	Does everyone in your household have at least one form of civil documentation? This can be a passport, national ID card, nationality certificate, birth certificate, or other document	Yes, everyone in my household has it; Only some members of the household have it; Only I have it; No, no one in the household has it; IDK
63	Is everyone in your household registered with COR/UNHCR?	Yes, everyone in my household has it; Only some members of the household have it; Only I have it; No, no one in the household has it; IDK
64	If no, why not?	High cost of transportation to the facility; Facility is too far away; Travel to the facility is not safe/security concerns; Facility is overcrowded/long waiting times; I don't know where there is a facility; Registration process it too costly; I do not want to be registered; I don't know about the registration process; Other (specify)
65	If yes, what UNHCR registration documents do you possess?	Photo slip; Fact sheet; Paper based ID card; PVC ID card
66	To what extent do you feel safe when leaving your house during the day?	Always safe; Most of the times safe; Most of the times not safe; Always not safe
67	To what extent do you feel safe when traveling alone to the market with cash?	Always safe; Most of the times safe; Most of the times not safe; Always not safe

68	How often does feeling unsafe prevent you from going to the market?	Very often; Often; Only sometimes; Never
69	What type of shelter does your household live in?	Permanent with hard fixed roof; Permanent without hard fixed roof; tent; emergency or makeshift/improvised shelter; none; other
70	What is the condition of your household's shelter?	Acceptable; Substandard; Substandard and unsafe; No protection from the elements
71	Do you or any other member of the household have any documents proving ownership or rent of the shelter?	Yes; No; IDK
72	Which of the following items does your household own? [select all that apply]	Mattresses/sleeping mats/other types of beds; Kitchen Sets; Jerry cans/water containers; Torches/solar lamps; Mosquito nets; Heating/cooking fuel
73	Do you have access to electricity?	Yes; No
74	If yes, in the past seven days, for how many hours per day on average has electricity been functioning?	[number]
75	Which of the following is your primary source of energy for household activities (i.e., cooking)?	Electricity, gas, charcoal, firewood, other
76	Is that source sufficiently available?	Yes; No; IDK
77	During the current school year, did all the school-aged children in the household attended school regularly (at least 4 days per week) before schools were closed on 15 March 2020?	Yes; No; IDK
78	Could you please tell me the age and gender of the school-aged children that did not attend school regularly?	[matrix age and gender for each person]; No school-aged children

79	Why were they not attending school regularly?	There is no school; School is too far; Cannot afford to send children to school; Children have started working instead; Children prefer to stay at home; Other (specify)
80	How big a part of your available household income did you spend on school fees in the past 30 days?	None; About a quarter; About half; More than half; Almost all; All
81	What percent of your available household income did you spend on education related costs in the past 30 days? These include school supplies (books, pencils, etc), uniform/appropriate clothing, transportation to school	None; About a quarter; About half; More than half; Almost all; All
82	In your opinion, what are your household's top three needs right now? [select three that apply]	Household does not have any needs; Livelihoods support / employment; Drinking water; Food; Healthcare; Shelter; Education for children under 18; Seeds or other agricultural inputs; Hygiene items or sanitation services (e.g., latrines); Help repaying debt; Psychosocial support; Other (specify)
	The last part of the questionnaire will ask about different responses to those needs. Some of these questions may be upsetting. If you feel uncomfortable answering, please let me know.	
83	In the past 30 days, has your household taken any of the following measures to cover your basic needs? [select all that apply]	Spend savings; Reduce nonfood expenses; sold animals or household assets; withdraw children from school; engaging in begging or exploitation activities; Sell house or land; borrow money
84	What kind of assistance modality would you prefer?	Cash; In Kind (food and non-food items); Combination; Other (specify); Don't know
85	If you were to receive cash-based assistance, what would be your preferred modality?	ATM Prepaid Cards; Cash-in-hand; E-vouchers; Mobile Transfers; Bank transfers; Other (specify)
86	Do you, or another member of your household: Have a bank account or mobile money account or other official account?	We have access to a bank account; We have access to a mobile money account; We have access to both; We do not have access to either; IDK
87	Do you, or another member of your household:	Yes; No; IDK

	Have access to loans, micro-credit?	
88	How do you typically receive remittances from friends and relatives living abroad or in other parts of the country, if any ?	Remittance Agent (specify); Bank; Local traders; Other Financial Institution; We do not receive remittances
89	Does your household have access to a mobile phone with Internet access?	We have access to a mobile phone with Internet access; We have access to a mobile phone without Internet access; No, we don't have access to a mobile phone
90	If yes, who owns the phone?	Parent; grandparent; son/daughter; aunt/uncle; cousin; friend; other relations (specify)
91	If you started at your home and walked to the nearest bank, how long would it take you to reach it?	Less than 15 minutes; Between 15 minutes and 1 hour; More than 1 hour; More than 5 hours; Day or more
92	If you started at your home and walked to the nearest market, how long would it take you to reach it?	Less than 15 minutes; Between 15 minutes and 1 hour; More than 1 hour; More than 5 hours; Day or more
93	At the nearest market, to what extent would you find food and items necessary to meet your household's needs?	Everything I need is available; almost everything; only some; almost none; none
94	What goods/services were not available that you needed? [select all that apply]	Vegetables; Fruits; Meat; Dairy products; Rice/pasta/bread; Beans and legumes; Cooking oil; Flour; Soap/detergent; Clothes; Medicine and hygiene products; Gas or fuel for cooking; Water; Repair services; Other; I am able to get everything I need
95	To what extent are you satisfied with the quality of goods/services available at your local market?	Very unsatisfied; Unsatisfied; Neutal; Satisfied; Very satisfied
96	Has there been any increase in the price of any items/services in the last 30 days?	Yes; No; IDK
97	Please identify the top three items/services that have increased in price the most.	Food; Non-food items (soap, transportation, fuel, etc); Rent/housing costs; Healthcare costs; Education costs; Other
98	If you were to receive cash-based assistance, how would it be spent?	Paying off debts; food; non-food items (soap, transportation, fuel, etc); rent/housing costs; healthcare costs; education costs; other

Annex 3: Basic Vulnerability Indicator Design

Sector Vulnerability Indicators	Formula	Sub-Indicator	Formula	Q#	Survey Question	Answer options
1. UNIVERSAL	average	1.1 Expenditure	1. Less than half 2. Around half 3. More than half 4. Almost all OR All	31	How big a part of your available household income did you spend in the past 30 days?	Less than half; Around half; More than half; Almost all; All
		1.2 Work Permit and Doc	1. All doc AND work permit 2. All doc AND no work permit 3. Some doc 4. No doc	61	Does everyone in your household have at least one form of civil documentation? This can be a passport, national ID card, nationality certificate, birth certificate, or other document	Yes, everyone in my household has it; Only some members of the household have it; Only I have it; No, no one in the household has it; IDK
				26	Do all people in your household have a valid work permit for Sudan?	Yes; No; I don't know
		1.3 Livelihood Coping Strategies	1. No coping strategies 2. stress coping strategies, no crisis, no emergency 3. crisis coping strategies, no emergency	82	In the past 30 days, has your household taken any of the following measures to cover your basic	Spend savings; Reduce non food expenses; sold animals or household assets; withdraw children from school; engaging in begging or exploitation activities;

			4. emergency coping strategies		needs? [select all that apply]	Sell house or land; borrow money
		1.4 Dependency ratio	1. <0.6 2.0.6-1.2 3. 1.2-1.8 4.<1.8	28	How many people in your households are in the working-age group (15-64 years)	[number]; IDK
2. MONETARY	average	2.1 Debt	1. No debt 2. A quarter debt 3. About half debt 4. More than half	35	How big a part of your available household income did you spend servicing debt in the past 30 days?	None; About a quarter; About half; More than half; Almost all; All
		2.2 Employment Status	1. Working for pay OR Self-employed 2. Student OR Working own plot/looking after livestock 3. Unemployed OR Helping family member without pay 4. Long term sick or disabled OR Retired	19	What is your current employment status?	Working for pay; Self-employed; Student; Working own plot/looking after livestock; Unemployed; Helping family member without pay, Long term sick or disabled; Retired; Other
		2.3 Income	1. > 80k 2. 50-80 3. 20-50 4. <20k	22	What is your household estimated monthly income in SDG?	Less than 20,000 ; 20,000 - 50,000; 50,000 - 80,000;80,000 - 100,000; above 100,000
3. EDUCATION	average	3.1 School aged children	1. 0-1 2. 2 3.3 4. >3	12	Please tell me the age and gender of everyone who lives in your household,	[matrix age and gender for each person]

					including yourself. If you do not know exact ages, estimates are OK.	
		3.2 Attendance	1. 100% 2. 50-99% 3. 1-50% 4. 0%	77	Could you please tell me the age and gender of the school-aged children that did not attend school regularly?	[matrix age and gender for each person]; No school-aged children
				76	During the current school year, did all the school-aged children in the household attended school regularly (at least 4 days per week) before schools were closed on 15 March 2020?	Yes; No; IDK
		3.3 Reasons_not_attending	1. Children prefer to stay at home 2. School is to far 3. Cannot afford OR children have started working instead 4. There is no school	78	Why were they not attending school regularly?	There is no school; School is too far, Cannot afford to send children to school, Children have started working instead, Children prefer to stay at home, Other (specify)

4. FOOD	average	4.1 Expenditure Pattern on Food	1. None OR About a quarter 2. About half; 3. More than half; 4. Almost all OR All	32	How big a part of your available household income did you spend on food in the past 30 days?	None; About a quarter; About half; More than half; Almost all; All
		4.2 Coping strategies	(RCSI=Reduced coping strategy index) 1. RCSI=0 2. RCSI 0-14 3. RCSI 14-45 4. RCSI >45 (max 56)	38	On how many days has your household had to… [matrix question]	.Rely on less preferred and less expensive food (weight 1 -answer from 0 to 7); .Limit portion sizes of meals(weight 1 -answer from 0 to 7); .Borrow food or rely on help from friends or relatives(weight 2 -answer from 0 to 7); .Reduce number of meals eaten in a day(weight 1 -answer from 0 to 7); .Restrict consumption by adults in order for small children to eat(weight 3 -answer from 0 to 7)
5. HEALTH	average	5.1 Availability of healthcare	1. Less than 15 minutes 2. Between 15 minutes and 1 hour 3. More than 1 hour 4. More than 5 hours OR One day or more	42	If you started at your home and walked to the nearest healthcare facility, how long would it take for you to reach it?	Less than 15 minutes; Between 15 minutes and 1 hour; More than 1 hour; More than 5 hours; One day or more
		5.2 Healthcare needs (avg)	1. none 2. 1 3.2 4.3 or more	12	children under 6	[matrix age and gender for each person]
			1. none 2. 1 3.2 4.3 or more	12	adult over 60	[matrix age and gender for each person]

			1. none 2. 1 3.2 4.3 or more	18	How many people in your household have any difficulty seeing, hearing,moving or walking, communicating, taking care of themselves (e.g., washing, dressing), understanding, psychological impairement? Any of the above counts.	[number]; IDK
			1. none 2. 1 3.2 4.3 or more	40	How many people in your household have long-term, recurring healthcare needs (chronic illness)?	[number]; IDK
		5.3 Healthcare expenditure	1. None 2. About a quarter 3. About half 4. More than half OR Almost all OR All	46	How big a part of your available household income did you spend on healthcare in the past 30 days?	None; About a quarter; About half; More than half; Almost all; All
6. SHELTER and ENERGY	average	6.1 Shelter type	1. Permanent with hard fixed roof 2. Permanent without hard fixed roof 3. Tent	68	What type of shelter does your household live in?	Permanent with hard fixed roof; Permanent without hard fixed roof; tent; emergency or makeshift/improvised shelter; none; other

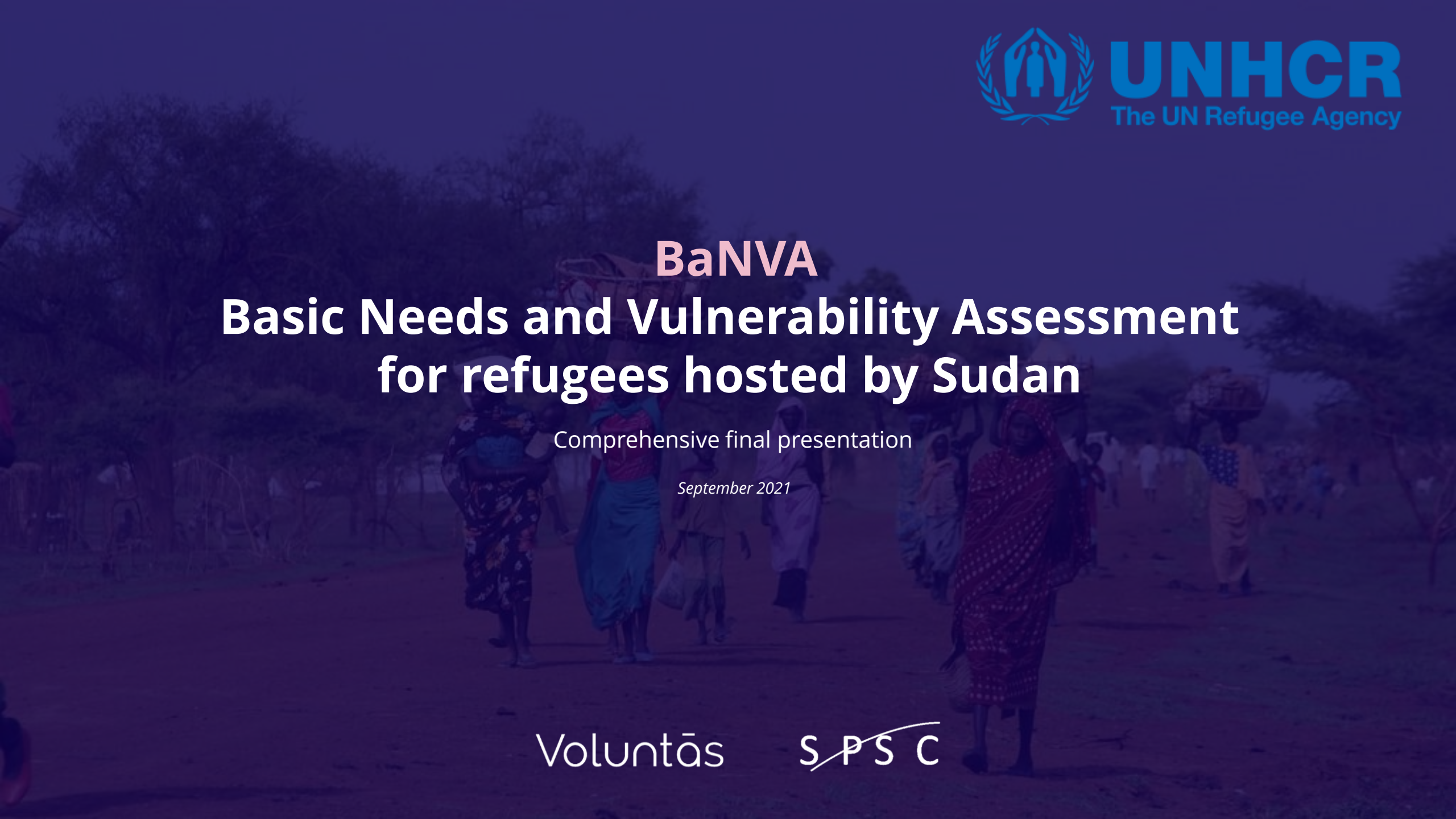
			4. emergency or makeshift/improvised shelter OR none			
		6.2 Shelter conditions (avg)	1. Acceptable; 2. Substandard; 3. Substandard and unsafe; 4. No protection from the elements	69	What is the condition of your household's shelter?	Acceptable; Substandard; Substandard and unsafe; No protection from the elements
			1. yes 4. no	70	Do you or any other member of the household have any documents proving ownership or rent of the shelter?	Yes; No; IDK
		6.3 availability of energy source	1. Electricity, sufficient 2. No electricity, sufficient 3. Electricity, not sufficient 4. No electricity, not sufficient	74	Which of the following is your primary source of energy for household activities (i.e. cooking)?	Electricity, gas, charcoal, firewood, other
				75	Is that source sufficiently available?	Yes; No; IDK
7. WASH	average	7.1 Latrine adequacy	1. latrine, usable, family, privacy 2. latrine, usable, family, no privacy OR latrine, usable, communal 3. latrine, no use 4. no latrine	51	Does your household have access to a sanitation facility, such as a latrine or toilet?	Yes; No; IDK
				52	If yes, are you able to use it?	Yes; No; IDK

				53	Is it a communal or a individual family one?	Communal; family
				54	Does this latrine provide adequate privacy for you and your household members?	Yes; No; IDK
		7.2 Access to water	1. Water yes, Less than 15 minutes 2. Water yes, Between 15 minutes and 1 hour 3. Water yes, More than 1 hour 4. Water yes, More than 5 hours or Water no	49	Do you collect enough water to meet all your households' needs – not for animal use, brickmaking, agriculture, gardening, etc.?	Yes; No; IDK
				48	If you started at your home and walked to the nearest water source, how long would it take you to reach it?	Less than 15 minutes; Between 15 minutes and 1 hour; More than 1 hour; More than 5 hours; Day or more
		7.3 Hygiene	1. facility, soap 2. No facility, soap 3. facility, no soap 4. no facility, no soap	55	Does your household have access to hand washing device/station to wash their hands? For example, a basin or tap.	Yes; No; IDK

				56	Does your household have access to sufficient soap? This can be any kind of bar soap, liquid soap, powder detergent, or soapy water.	Yes; No; IDK
		7.4 Waste disposal	1. yes 4. no	57	Does your household have access to any solid waste disposal facility?	Yes; No; IDK
8. PROTECTION	average	8.1 Protection services	1. Yes, there are formal justice services; 2. Yes, there are informal justice services (e.g. the sultan); 4. No	58	Are you aware of any services available in your community for legal aid/justice?	Yes, there are formal justice services; Yes, there are informal justice services (e.g. the sultan); No; IDK
		8.2 Perceived safety	1. Feel always safe; 2. Most of the times safe; 3. Most of the times not safe; 4. Always not safe	65	To what extent do you feel safe when leaving your house during the day?	Always safe; Most of the times safe; Most of the times not safe; Always not safe

Fundamentally changing how human potential is led and realized

Voluntās



BaNVA
Basic Needs and Vulnerability Assessment for refugees hosted by Sudan

Comprehensive final presentation

September 2021

Voluntās

SPSC

List of Acronyms and Icons

BaNVA	Basic Needs and Vulnerabilities Assessment
BVI	Basic Vulnerability Indicator
CAPI	Computer-Assisted Personal Interviewing
MoE	Margin of Error
NFIs	Non-Food Items
KIIs	Key Informant Interviews
SDG	Sudanese Pound
UNHCR	UN High Commissioner for Refugees
WASH	Water, Sanitation and Hygiene

Agenda

1. Introduction and Assessment Objective

2. Methodology
   - 2.1 Data Collection and Sampling
   - 2.2 Analytical Framework and Analysis Design
   - 2.3 Key Limitations and Challenges
   - 2.4 Survey Sample Profile

3. Main Findings
   - 3.1 Vulnerability mapping
   - 3.2 Vulnerability profiling
   - 3.3 Determinants of vulnerability
   - 3.4 Cash-based assistance potentials

4. Conclusions and Recommendations

Introduction and Assessment Objectives

Introduction to the assessment

Context

- Sudan hosts an estimated 1,093,453 refugees and asylum-seekers from South Sudan, Eritrea, Ethiopia, Chad, Central African Republic, Syria, Yemen, Somalia and Democratic Republic of Congo[1].
- Most of the refugee population (70%) are living in out-of-camp settlements, host communities and urban areas, while some are settled in camps[1].
- Access to resources and basic services in the refugee population is limited across the country[2].

Knowledge gap

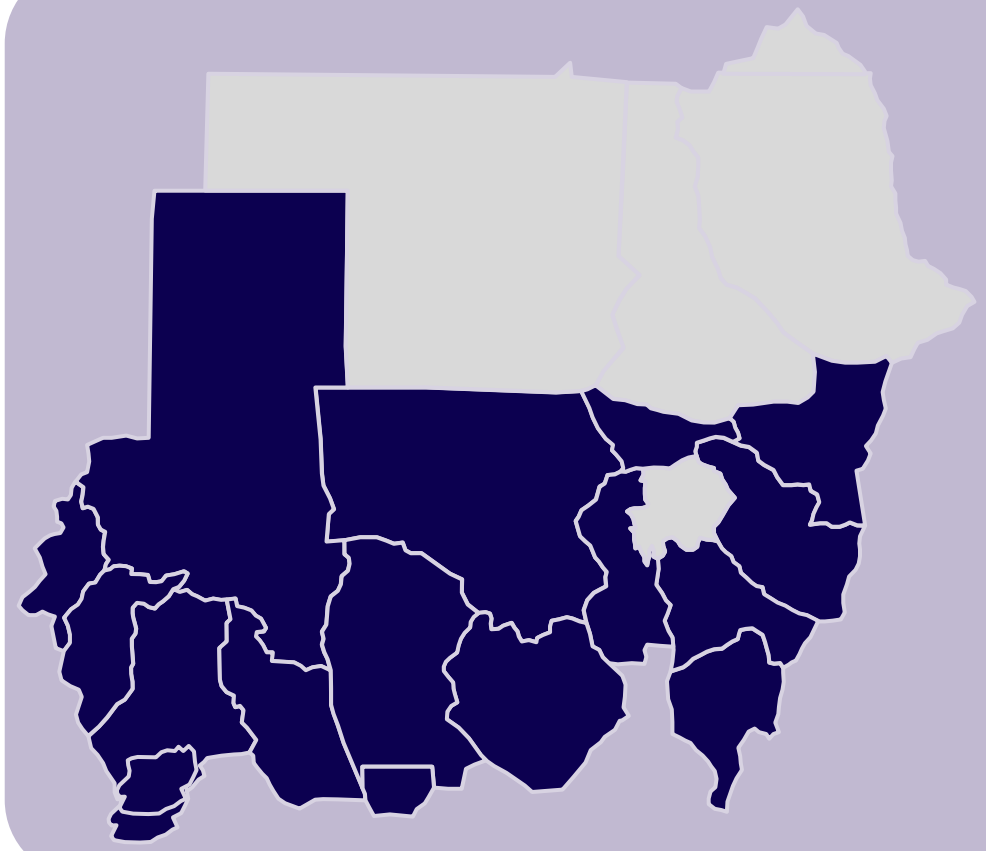
- UNHCR has conducted a severity ranking of refugee-hosting localities in Sudan. This has allowed UNHCR and partners to prioritize the areas and sectors in which funding and investment is most needed.
- A multi-sectoral needs assessment was conducted in 2020 with the objective of providing a country-wide overview of needs.
- However, primary data for household level vulnerabilities of refugees, as well as information about the reason, nature, and consequences of such vulnerabilities, remains scarce and outdated.

About the assessment

- In this context Voluntas Policy Advisory is supporting UNHCR in Sudan by implementing a Basic Needs and Vulnerability Assessment (BaNVA) for refugees hosted in Sudan.
- The outcomes of the assessment are two-fold. Firstly, it will create an understanding of basic refugee needs, vulnerabilities, and protection needs. Secondly, it will serve to identify recommendations for how refugees can be assisted in the future to meet their essential needs, including the potential use of cash assistance.
- A dashboard will also be delivered as an output of the assessment.

[1] UNHCR Sudan – Sudan: Population Dashboard, 30 June 2021
[2] OCHA – Sudan: Humanitarian Needs Overview, 22 February 2021

Overview of the Basic Needs and Vulnerabilities Assessment (BaNVA)



Desk research and **Key Informant Interviews** with selected stakeholders to develop indicator framework and tools.

A survey with **6,331 respondents** conducted throughout 13 states in Sudan using computer assisted personal interviews.

Data collected enables representativity of the refugee population in each state with a **margin of error around 5%** (at 95% confidence level).

Analysis and reporting on basic needs, protection needs and vulnerabilities of refugees and the host community.

Recommendations for UNHCR on how refugees can be assisted to meet their essential needs.

Basic Needs and Vulnerability Assessment Logframe

The figure below outlines the logical framework utilized to achieve the assessment's objectives. This logframe was developed in concert with UNHCR, the ToR, and Voluntas in-house expertise. Each activity, output, and outcome is geared toward enabling and creating the final desired impact of identifying and prioritizing household-level vulnerabilities.

Activities	Outputs	Outcome	Impact
Held inception meeting with UNHCR	Research concept, workplan and tools	**Deepen the understanding of refugee basic needs, vulnerabilities and protection necessities of refugees hosted in Sudan**	**Assist UNHCR and partners in identifying and prioritizing household level vulnerability, taking a combined view of specific protection needs and socio-economic factors**
Developed survey design and sampling			
Conducted desk research	Household survey across 13 states in Sudan		
Held initial consultations with RCF sector groups			
Developed indicator framework and survey instrument			
Piloted and conducted household surveys			
Analyzed the data collected	Comprehensive report and recommendations	**Develop recommendations are for how refugees can be assisted to meet their essential needs as well assess the potential of multipurpose cash assistance to address basic needs and protection vulnerabilities**	
Drafted comprehensive report			
Finalized comprehensive report			
Conducted a presentation of findings	Presentation of findings		

Agenda

1. Introduction and Assessment Objective

2. Methodology

- **2.1 Data Collection and Sampling**
- **2.2 Analytical Framework and Analysis Design**
- **2.3 Key Limitations and Challenges**
- **2.4 Survey Sample Profile**

3. Main Findings

- 3.1 Vulnerability mapping
- 3.2 Vulnerability profiling
- 3.3 Determinants of vulnerability
- 3.4 Cash-based assistance potentials

4. Conclusions and Recommendations

Methodology & analytical framework

Methodology

Overview of the assessment

- **Desk research** and **Key informant interviews** with selected stakeholders were conducted to develop the indicator framework and survey instrument.
- A face-to-face survey with **6,331 respondents (4,922 refugees and 1,409 host communities)** was conducted throughout 13 states in Sudan using CAPI (computer assisted personal interviews).
- The sample framework enables state-level representativity of the refugee population in each state with a **margin of error around 5%** (at 95% confidence level).
- **The vulnerability mapping** aimed to identify basic vulnerabilities of the refugee population in each compared to host communities for 8 different sectors.
- Clusters were identified with similar **vulnerability profile** both at individual and household level. Moreover, key **drivers** of vulnerability as well as protection needs were explored.
- Finally, the **potential for cash-based assistance** was investigated by assessing the preference, attitude and feasibility in each state.

Sampling

The survey was conducted across 13 states in Sudan, with a sample size enabling representativity of the estimated refugee population in each state with a margin of error of 5%* . In each state, 100 interviews were also to be conducted with host communities to allow for the comparison of results with the refugee population.

State	State Refugee Population	Refugee Sample	MoE at 95% CL	Host Community Sample	Total
Kassala	123,987	389	4.96%	107	
Gedaref	53,151	385	4.98%	100	
Sennar	9,897	371	4.99%	111	
Blue Nile	4,233	361	4.93%	113	
Khartoum	298,053	383	5.00%	109	
White Nile State	271,444	403	4.88%	120	
North Darfur	24,602	380	4.99%	107	
West Darfur**	426	0	N/A	0	
Central Darfur	10,092	360	5.07%	100	
South Darfur	52,119	366	5.10%	122	
East Darfur	74,144	382	5.00%	100	
North Kordofan	6,469	334	5.22%	105	
West Kordofan	63,061	429	4.72%	106	
South Kordofan	38,658	379	5.01%	104	
		4,922		**1,409**	**6,331**

* At 95% confidence level

**Data collection in West Darfur was not possible to conduct due to security situation In the state that restricted access. Thus, only 13 states are considered in the analysis

Voluntās

Analytical Framework

The analytical framework gives an overview of the components and indicators investigated and included in the survey instrument. It included three main components: background and demographic information, basic needs, and response to needs.

The analysis was conducted in a staged process. First, refugees' basic vulnerabilities were identified. Subsequently, building on key indicators from the ProGres database, the analysis explored drivers of vulnerability and assessed the reasons behind inability to meet certain needs. Finally, based on the findings, the utility and feasibility of multipurpose cash assistance to address basic needs of refugees in Sudan were investigated.

Overall objective	Component	Sub-component
Identify, and help prioritize household level vulnerability taking a combined view of specific protection needs and socio-economic factors. It should assist with improving refugee assistance programming design, differentiating by context.	Background and Demographic information	Demographic/ background information
		Region and Settlement Situation
	Sectors	Livelihoods/Self-reliance
		Food security
		Health/Nutrition
		WASH
		Protection
		Shelter and NFI's
		Energy
		Education
	Response to needs	Coping Mechanisms
		Cash Assistance Modalities

Specific Objectives

1. **Develop of a joint evidence-based understanding of refugees' basic needs in Sudan**
2. **Consider the protection vulnerabilities that have impact on the ability of vulnerable refugees to survive/cope**
3. **Assess the reasons why certain people are unable to meet their basic needs**
4. **Explore alignment of targeting, design and implementation of multipurpose cash assistance for basic needs to the Social Safety Net program implemented by the Government of Sudan.**

Basic Vulnerability Indicator (BVI)

Least vulnerable | 1 | 2 | 3 | 4 | Most vulnerable

A BVI was developed to inform vulnerability profiling of refugees. The BVI is the average of eight sectors' vulnerability indicators which build on the sub-indicators outlined below. Sub-indicators build on questions in the survey, these having answer options coded from 1 to 4. The BVI, sectors' vulnerability indicators and sub-indicators score from a minimum of 1, indicating the lowest vulnerability level, to a maximum of 4, indicating the highest vulnerability level.

Sector	Sub-indicator	Question assessed
1. Universal Vulnerability	1.1 Expenditure	Proportion of HH income spent in the past 30 days
	1.2 Work Permit and Documentation	Presence of civil documentation or work permits within a household
	1.3 Livelihood Coping Strategies	Measures taken to cover basic needs
	1.4 Dependency ratio	Number of working-age population within a household
2. Monetary Vulnerability	2.1 Debt	Proportion of HH income used to service debt in the past 30 days
	2.2 Employment status	Current employment status
	2.3 Income	Estimated monthly income in SDG
3. Education Vulnerability	3.1 School aged children	Number of school aged children living in a HH
	3.2 Attendance	Number of school aged children not attending school
	3.3 Reasons for not attending	Reasons for school absence
4. Food Vulnerability	4.1 Expenditure Pattern on Food	Proportion of HH income spent on food in the past 30 days
	4.2 Coping strategies	Food coping strategies used
5. Health Vulnerability	5.1 Availability of healthcare	Distance to the nearest healthcare facility
	5.2 Healthcare needs (avg)	Within a HH: • Number of children under 6 and adults over 60 • Number of people with disabilities • Number of people with recurring healthcare needs
	5.3 Healthcare expenditure	Proportion of HH income spent in the past 30 days
6. Shelter and Energy Vulnerability	6.1 Shelter type	Type of shelter
	6.2 Shelter conditions (avg)	• Condition of the shelter of residence • Presence of proof of ownership or rent
	6.3 availability of energy source	• Primary source of HH energy • Sufficiency of primary source of HH energy
7. Hygiene Vulnerability	7.1 Latrine adequacy	• Access to sanitation facilities • Type of sanitation facility (communal/family) • Latrine privacy
	7.2 Access to water	Sufficiency and access to water sources
	7.3 Hygiene	Access to handwashing facilities and soap
	7.4 Waste disposal	Access to solid waste disposal facility
8. Protection Vulnerability	8.1 Protection services	Awareness of services for legal aid/justice
	8.2 Perceived safety	Sense of safety leaving the house during the day

*HH: Household

Calculation of the BVI - Example

Least vulnerable | 1 | 2 | 3 | 4 | Most vulnerable

Sub-indicators for Monetary Vulnerability	Questions for Monetary Vulnerability	Answer options and scoring	Sub-indicator score
1. Debt	1. How big a part of your available household income did you spend servicing debt in the past 30 days?	No debt = 1 A quarter debt = 2 **About half debt = 3** More than half = 4	**3**
2. Employment Status	2. What is your current employment status?	Working for pay OR Self-employed = 1 **Student OR Working own plot/looking after livestock = 2** Unemployed OR Helping family member without pay = 3 Long term sick or disabled OR Retired = 4	**2**
3. Income	3. What is your household estimated monthly income in SDG?	> 80 000 = 1 **50 000 - 80 000 = 2** 20 000 – 50 000 = 3 <20 000 = 4	**2**

Average → **Monetary = 2.3**

Sector vulnerability indicator score:
- Universal = 4
- Monetary = 2.3
- Education = 3.2
- Food = 2.1
- Health = 1.8
- Shelter & Energy = 3.4
- Hygiene = 2.7
- Protection = 3.2

Average → BVI: **2.84**

Key Limitations & Challenges

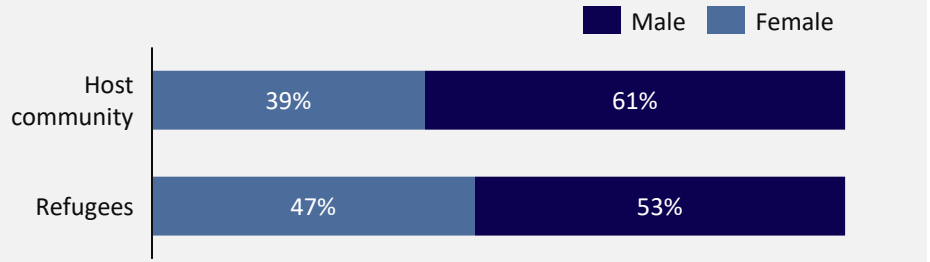
Main challenges/limitations and mitigation measures

		Challenges/Limitation	Mitigation measure
Inception	**Inflation**	The rapidly changing inflation and value of the currency in Sudan affected the possibility of including indicator of expenses expressed in Sudanese pounds.	All sector expenditure questions were expressed as portion of total expenditure.
	Length of survey	The comprehensive and multisector scope of the assessment impacts the length of the questionnaire. Long interviews can lead to survey fatigue affecting the reliability of the responses.	Only some main dimensions were included for each sector to ensure an adequate length of the questionnaire and the highest reliability of the data collected.
	Sample frame	UNHCR ProGres database served as sample frame for the survey. However, UNHCR's ProGres database includes only around 60% of refugees hosted in Sudan.	UNHCR ProGres database is the most updated and comprehensive source of data regarding refugees in Sudan currently available. Based on the best information that is available, this sample is representative of the target population.
	Host community	Even after consultation with several organization operating in the context, no clear definition of host community emerged.	Host community was defined in collaboration with UNHCR as "national population living in the vicinity of refugee settlements."
Data Collection	**Festivities delay**	Ramadan and Eid festivities in Sudan prolonged the duration of data collection in the field.	Enumerators of non-Muslim religion continued operating to conduct survey data collection and minimize the impact of the festivities.
	Security on the field	The security situation in West Darfur posed a risk to the safety of enumerators and restricted access.	Data collection in West Darfur was not conducted and the state was excluded from the sample. Thus, only 13 states are considered in the analysis.
	Re-fielding	During the quality assurance procedures, it emerged that a number of interviews collected did not comply with the quality standards required - primarily related to the length of the interviews conducted.	The interviews not complying with the quality standards required were deleted from the dataset and re-fielded to reach the set quotas.
	Status verification	During data collection there were instances of discrepancy between the self-declared refugee/host community status of the respondent and the status registered by the researcher. This also related to the distinction between "in-camp" and "camp-like" settlement status.	Since the settlement status was registered by trained researchers, it was used as the determinant to distinguish between refugees in-camp/camp-like situations, out-of-camp refugees, and host communities to ensure uniformity.

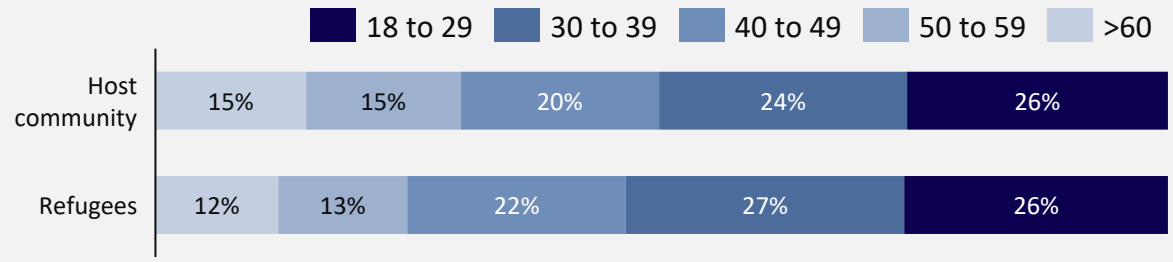
Survey Sample Profile

- 53% of refugees reported being aged 39 years or less. 47% of refugees were female.
- **More than half of refugees** reported living in camp/camp-like situations in the states of Khartoum, East Darfur and Kassala.
- **All refugees in White Nile and Gedaref state were living in-camp/camp-like situations**.

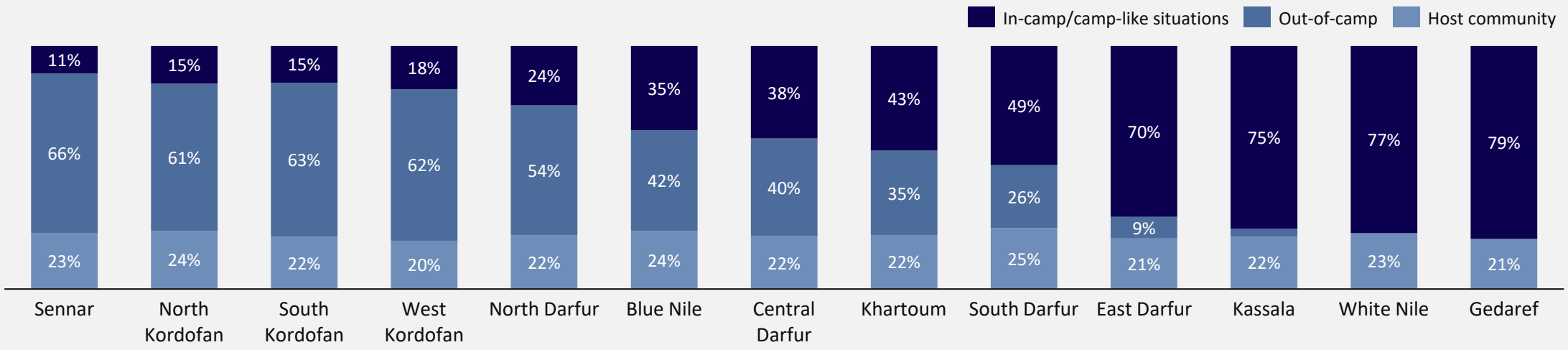
Gender



Age

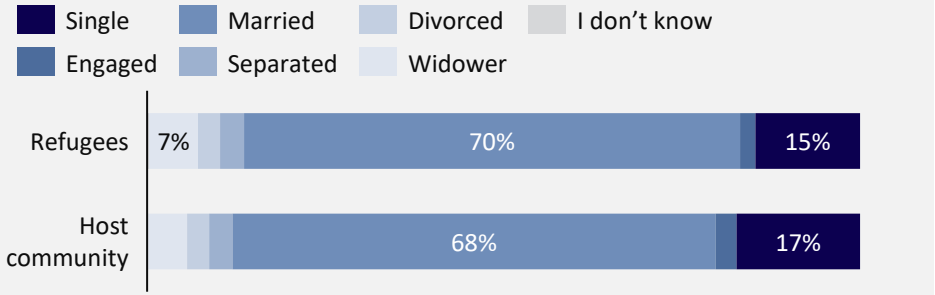


Settlement situation

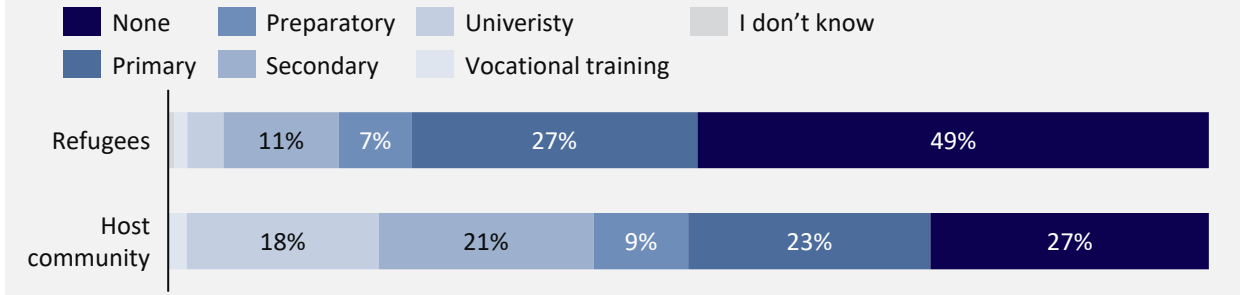


- Marital status of refugees and host communities have comparable distribution, with around 70% being married.
- **49% of refugees have no level of education. Also, 45% of refugees work for pay** against 29% of host communities.
- 21% and 11% of refugees and host community, respectively, are **unemployed**.

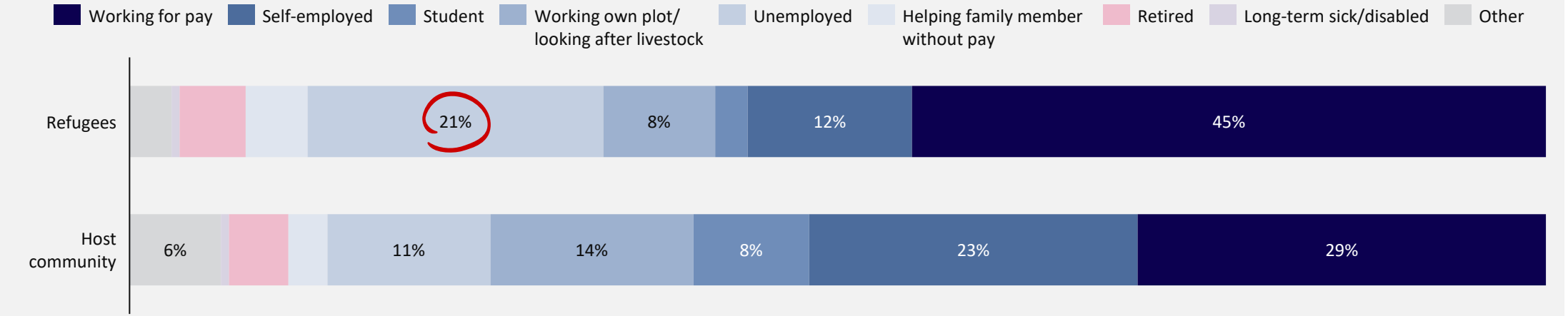
Marital status



Highest level of education acquired

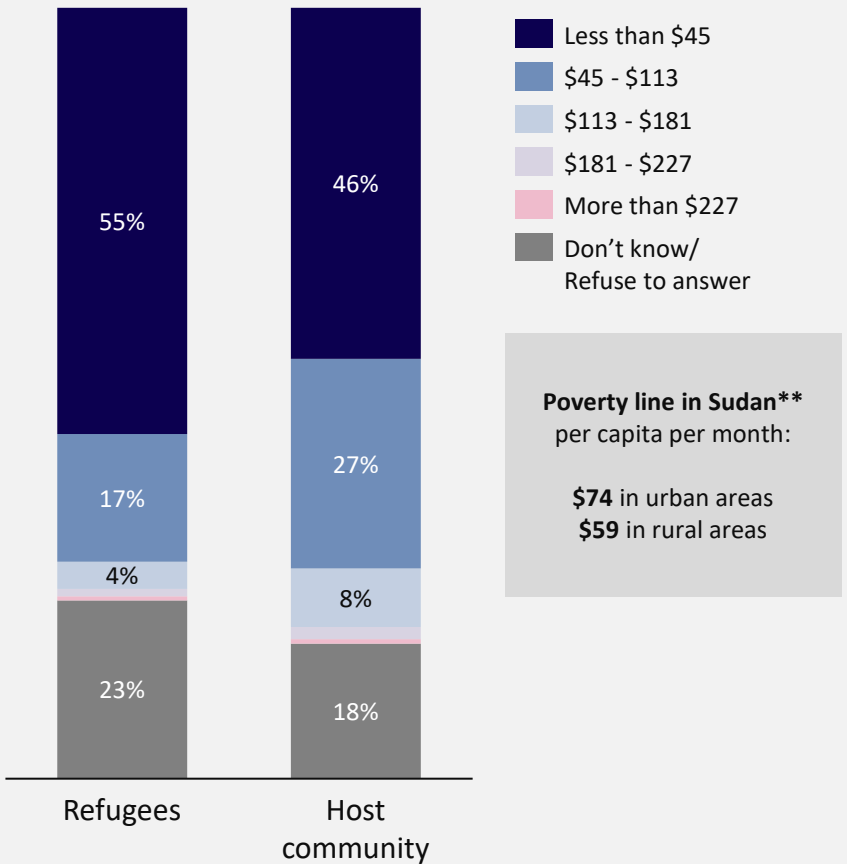


Employment status



- **Most head of households (HHH) in the refugee and host community are male.**
- 55% of refugees reported having an income less than $45. 61% of refugees reported living in a household with at least 5 members.
- 68% of the refugee population and the host community reported having a **dependency ratio higher than 1.8**

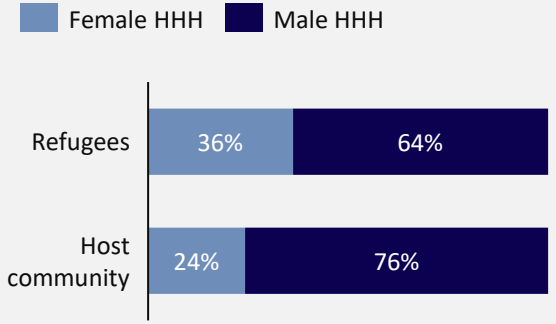
Monthly household income (USD*)



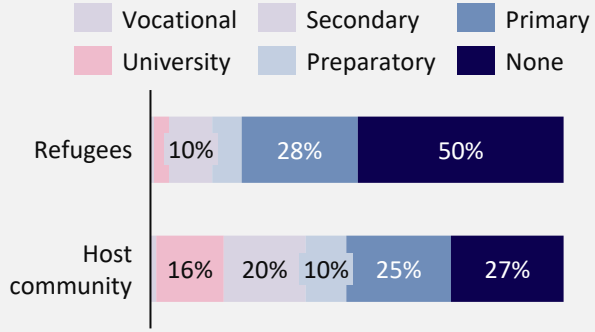
Poverty line in Sudan**
per capita per month:

$74 in urban areas
$59 in rural areas

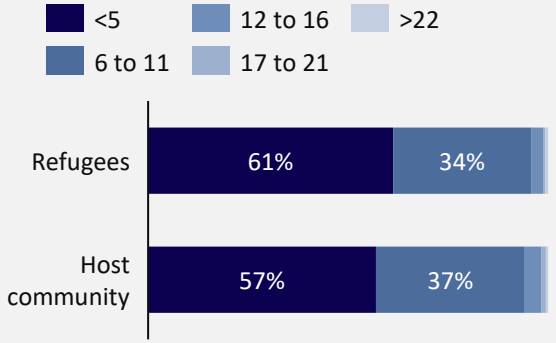
HHH gender



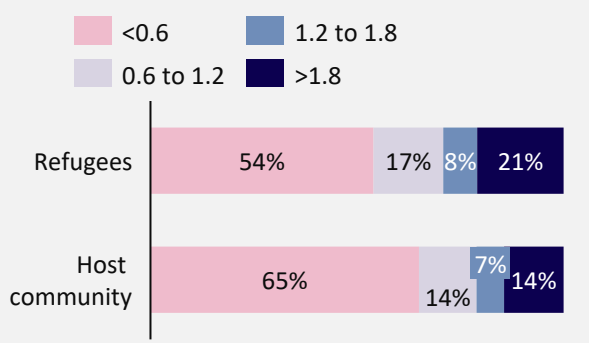
HHH education



Household size



Dependency ratio***



* The current exchange rate used to convert monthly household income levels to USD was 1 USD = 441.28 SDG

** The most recent official data of the poverty line in Sudan from 2014-2015 (426 SDGs/month for urban areas and 337 SDGs/month for rural areas) has been converted to USD based on the rates of 2014-2015 (1 USD = 5.76 SDG). Source: African Development Bank Group (2018).

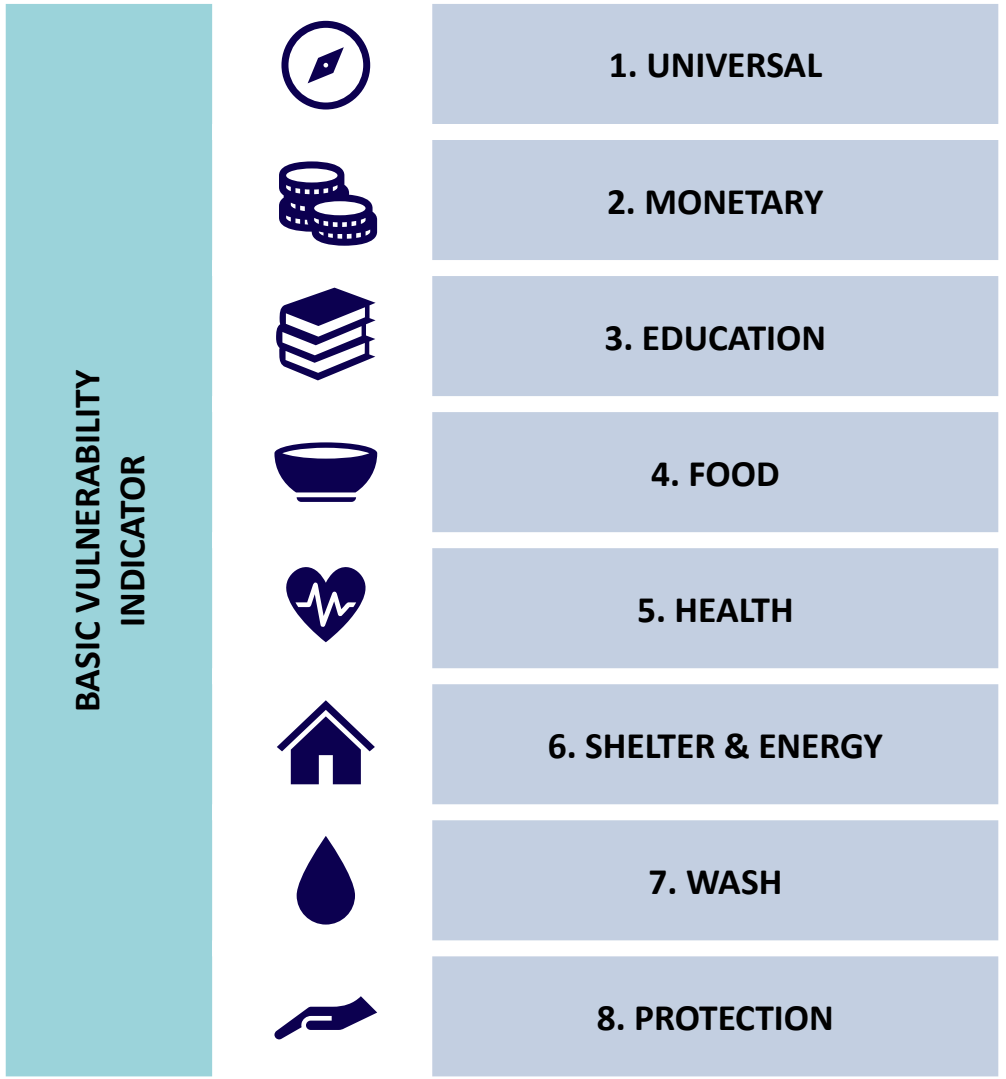
*** Dependency ratio looks at the ratio of non-working age household members and working-age household members. Dependency ratio = non-working age household members (number of household members younger than 15 years + number of household members older than 65 years) / working age household members (household members between 15-65 years). For example, a dependency ratio of 0.5 would mean that the non-working age household members are half as many as the working age members.

Agenda

Vulnerability Mapping

A mapping was carried to calculate the vulnerability indicator for each of the following sectors: universal, monetary, education, food, health, shelter & energy, WASH and protection.

Sub-indictors for each sector, build on survey questions, were used to calculate the sectors' vulnerability Indicator.



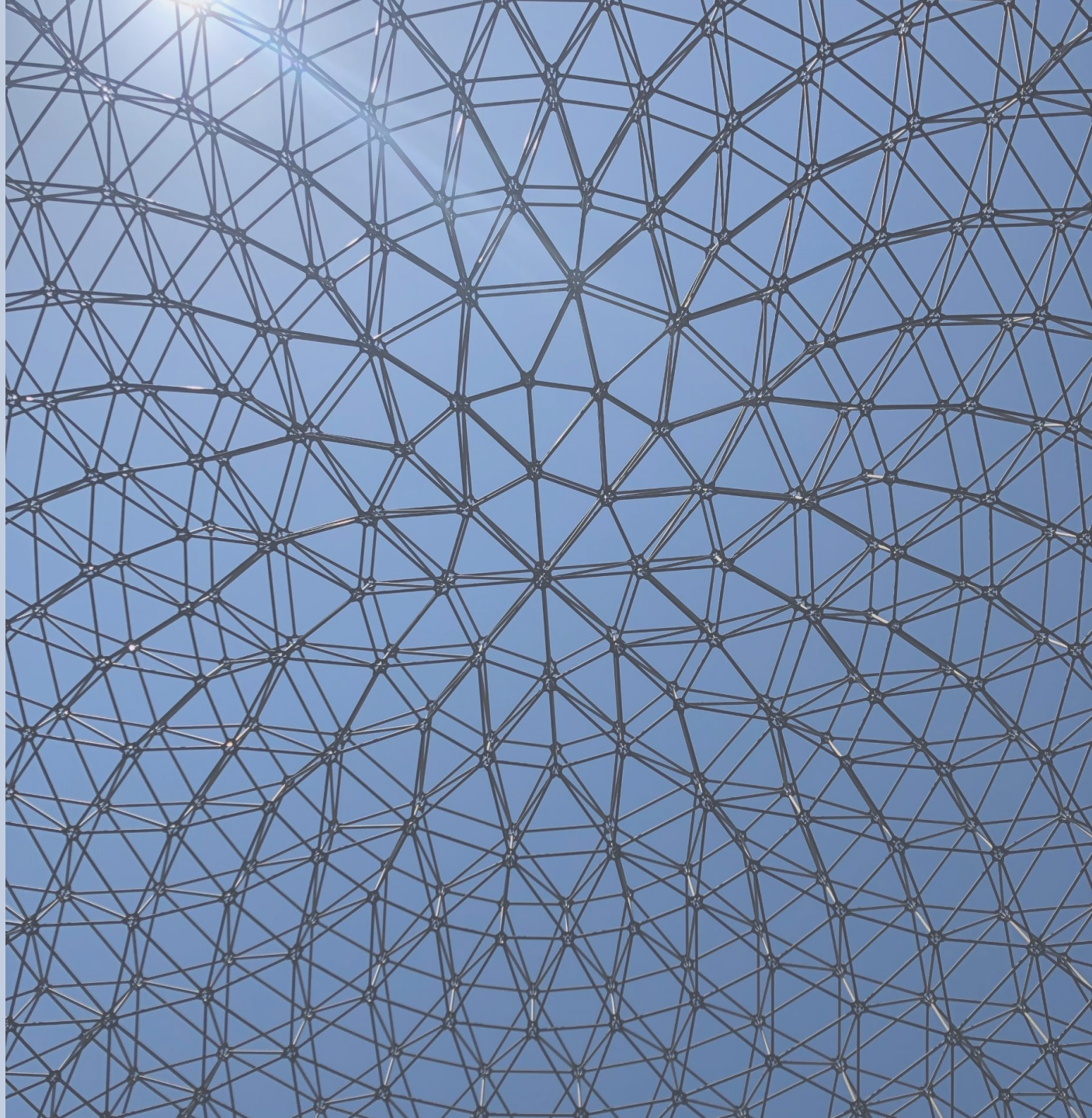
Universal

The Universal Vulnerability Indicator was calculated using the average score of the following sub-indicators:

1. Expenditure
2. Work permit and documentation
3. Livelihood coping strategies
4. Dependency ratio

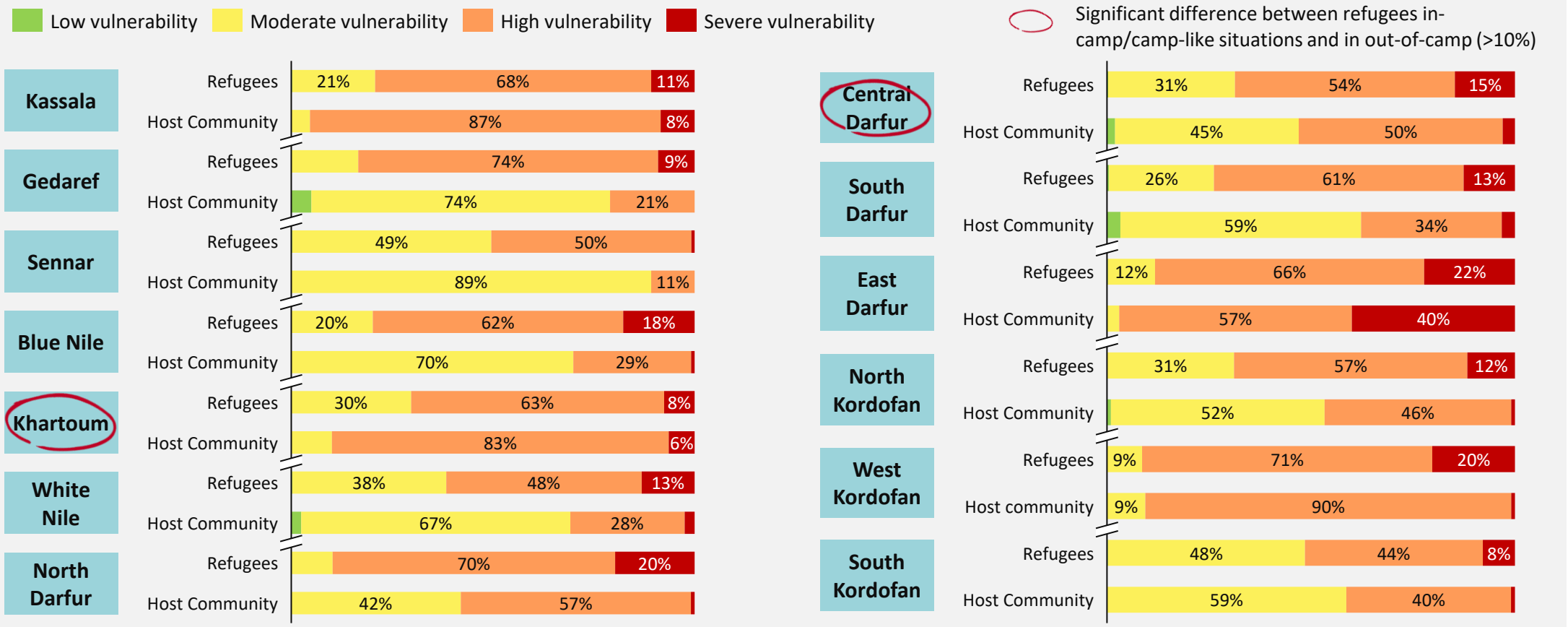
Sub-indicators build on questions in the survey, these having answer options coded from 1 to 4.

Scores range from 1 to 4, with 1 being the lowest level of vulnerability and 4 the highest level of vulnerability.



- Across all states, **the majority of both refugees and host communities suffer from moderate to severe universal vulnerability.**
- **Universal vulnerability is most dire amongst refugees in Kassala, Gedaref, Blue Nile, Khartoum, North Darfur, East Darfur and West Kordofan**, where the majority of the surveyed sample experienced high or severe universal vulnerability.
- **Host communities in Kassala, Khartoum, and East Darfur experience slightly higher universal vulnerabilities** compared to refugees.

Universal vulnerability indicator



To in/out camp disaggregation

To analysis of subindicators

Monetary

The Monetary Vulnerability Indicator was calculated using the average score of the following sub-indicators:

1. Debt
2. Employment status
3. Income level

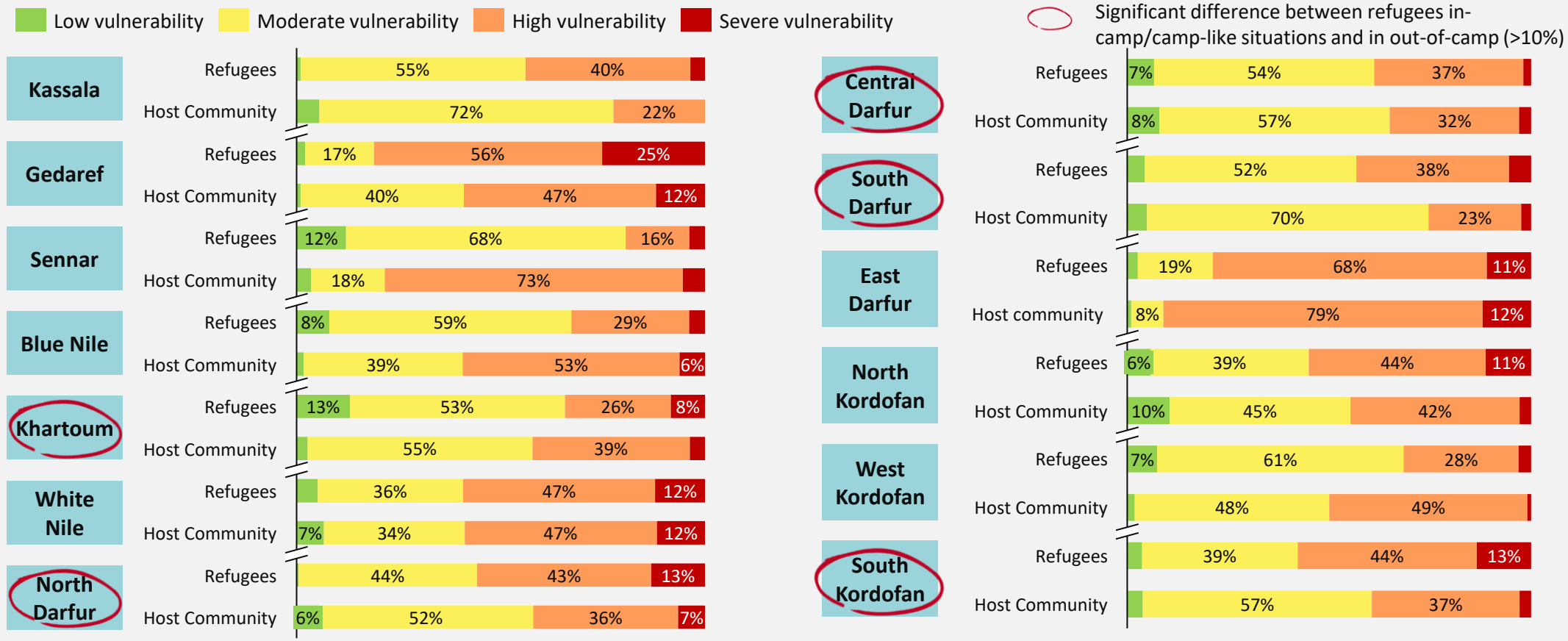
Sub-indicators build on questions in the survey, these having answer options coded from 1 to 4.

Scores range from 1 to 4, with 1 being the lowest level of vulnerability and 4 the highest level of vulnerability.

Hussein Malla/AP/Picture Alliance

- **Refugees in Gedaref, White Nile, North Darfur, East Darfur, and South Kordofan reported higher monetary vulnerability** compared to the other states assessed.
- No significant differences exist between the monetary vulnerability of refugees and host communities in White Nile, Central Darfur, and North Kordofan.
- With the exception of Sennar, Blue Nile, and Khartoum, **refugees experienced higher monetary vulnerabilities compared to their host communities.**

Monetary vulnerability indicator



To in/out camp disaggregation

To analysis of subindicators

Basic Needs Mapping

Education

The Education Vulnerability Indicator was calculated using the average score of the following sub-indicators:

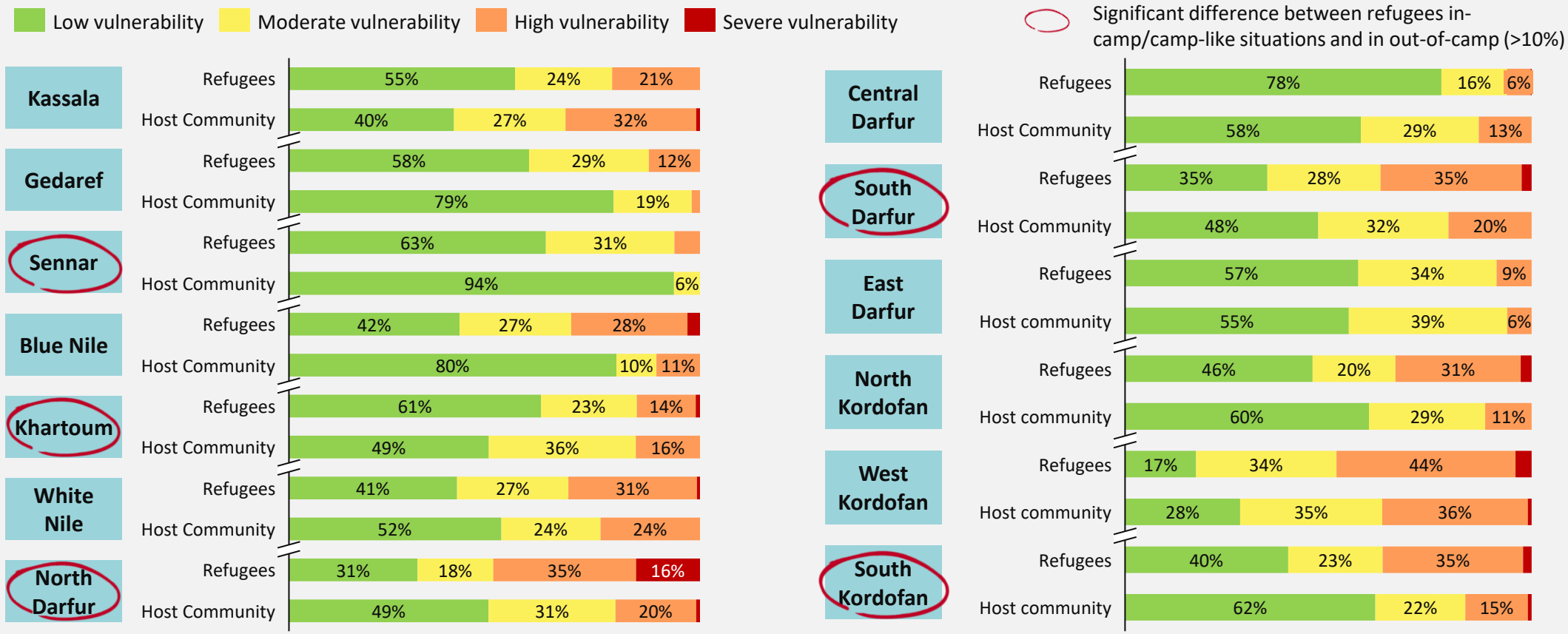
1. School-aged children
2. Attendance
3. Reasons for not attending

Sub-indicators build on questions in the survey, these having answer options coded from 1 to 4.

Scores range from 1 to 4, with 1 being the lowest level of vulnerability and 4 the highest level of vulnerability.

- The majority of both refugees and host communities experienced **low to moderate education vulnerability.**
- **Refugees in North Darfur and West Kordofan reported higher levels of education vulnerability.**
- **Refugees in Kassala, Khartoum, and Central Darfur recorded lower education vulnerabilities compared to those in their host communities.** Meanwhile, the opposite holds true for the remaining states.

Education vulnerability indicator



To in/out camp disaggregation

To analysis of subindicators

Food

The Food Vulnerability Indicator was calculated using the average score of the following sub-indicators:

1. Food expenditure
2. Coping strategies

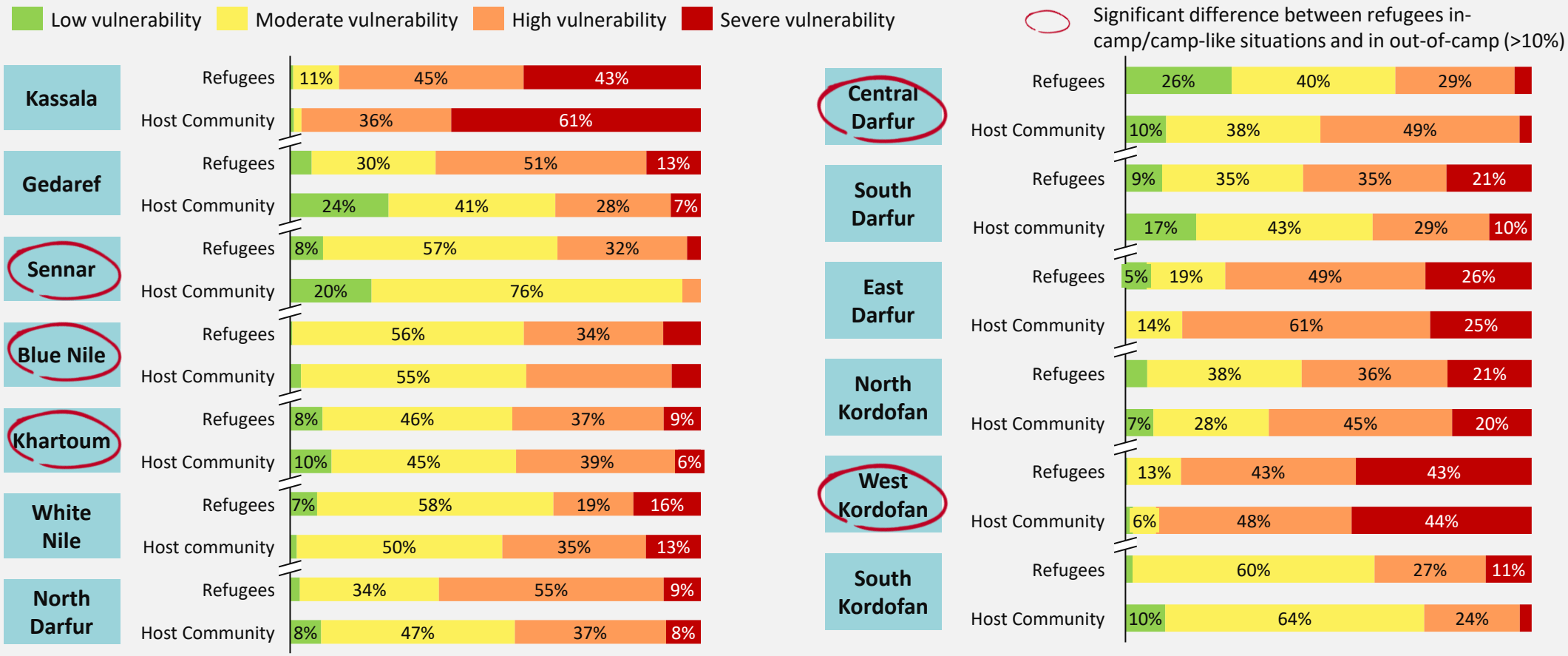
Sub-indicators build on questions in the survey, these having answer options coded from 1 to 4.

Scores range from 1 to 4, with 1 being the lowest level of vulnerability and 4 the highest level of vulnerability.

WFP/Gabriela Vivacqua

- **Refugees and host communities in Kassala and West Kordofan were found to be the most vulnerable to food needs**, with more than 40% of those surveyed experiencing severe vulnerability.
- **Refugees in Gedaref, Sennar, North Darfur, and South Darfur experienced higher food vulnerabilities compared to their host communities.**

Food vulnerability indicator



To in/out camp disaggregation

To analysis of subindicators

Health

The Health Vulnerability Indicator was calculated using the average score of the following sub-indicators:

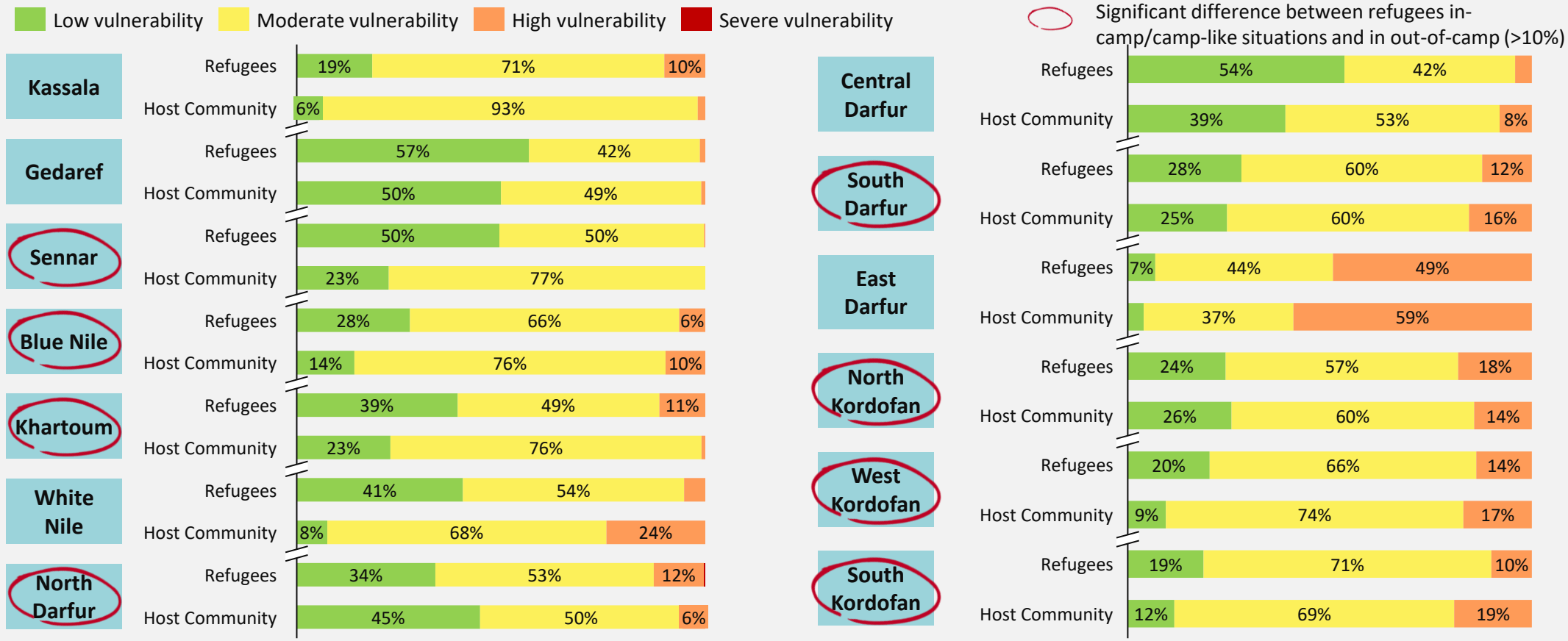
1. Availability of healthcare
2. Healthcare needs
3. Healthcare expenditure

Sub-indicators build on questions in the survey, these having answer options coded from 1 to 4.

Scores range from 1 to 4, with 1 being the lowest level of vulnerability and 4 the highest level of vulnerability.

- Overall, the level of **health vulnerability is low and moderate across all states.**
- **Refugees in East Darfur experienced the greatest health vulnerabilities.**
- **Refugees and host communities were more likely to experience a high health vulnerability in the three Kordofan states, North Darfur, East Darfur, and South Darfur** compared to other states assessed.

Health vulnerability indicator



To in/out camp disaggregation

To analysis of subindicators

Shelter & Energy

The Shelter & Energy Vulnerability Indicator was calculated using the average score of the following sub-indicators:

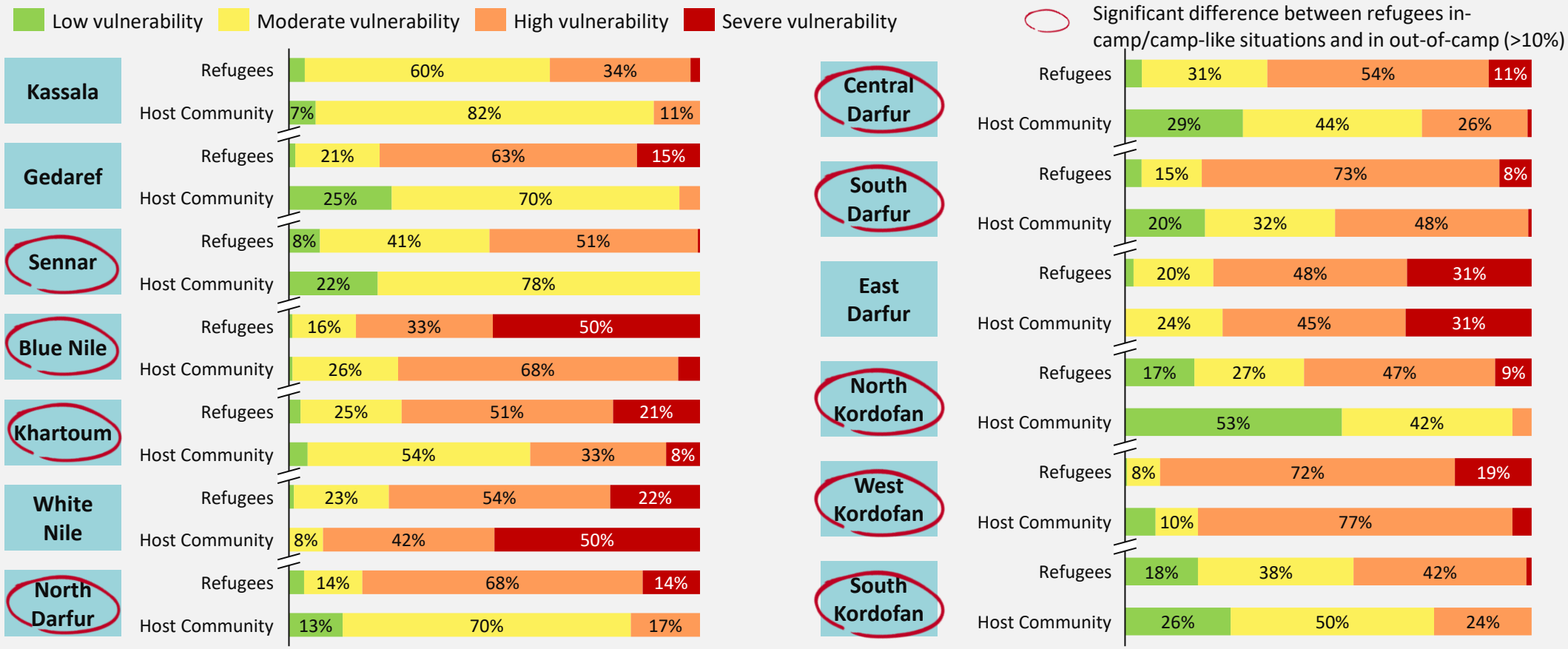
1. Shelter type
2. Shelter conditions
3. Availability of energy source

Sub-indicators build on questions in the survey, these having answer options coded from 1 to 4.

Scores range from 1 to 4, with 1 being the lowest level of vulnerability and 4 the highest level of vulnerability.

- **The majority of refugees experienced high to severe shelter and energy vulnerability,** with the exception of Kassala and South Kordofan.
- **Refugees in Blue Nile reported the highest levels of severe shelter and energy vulnerability** compared to the other states surveyed.
- **Refugees in White Nile were better off compared to their host communities**, of whom 50% experienced severe shelter and energy vulnerability. For the other states surveyed, refugees' vulnerability to shelter and energy needs was higher than that of their host communities.

Shelter and Energy vulnerability indicator



To in/out camp disaggregation

To analysis of subindicators

WASH

The WASH Vulnerability Indicator was calculated using the average score of the following sub-indicators:

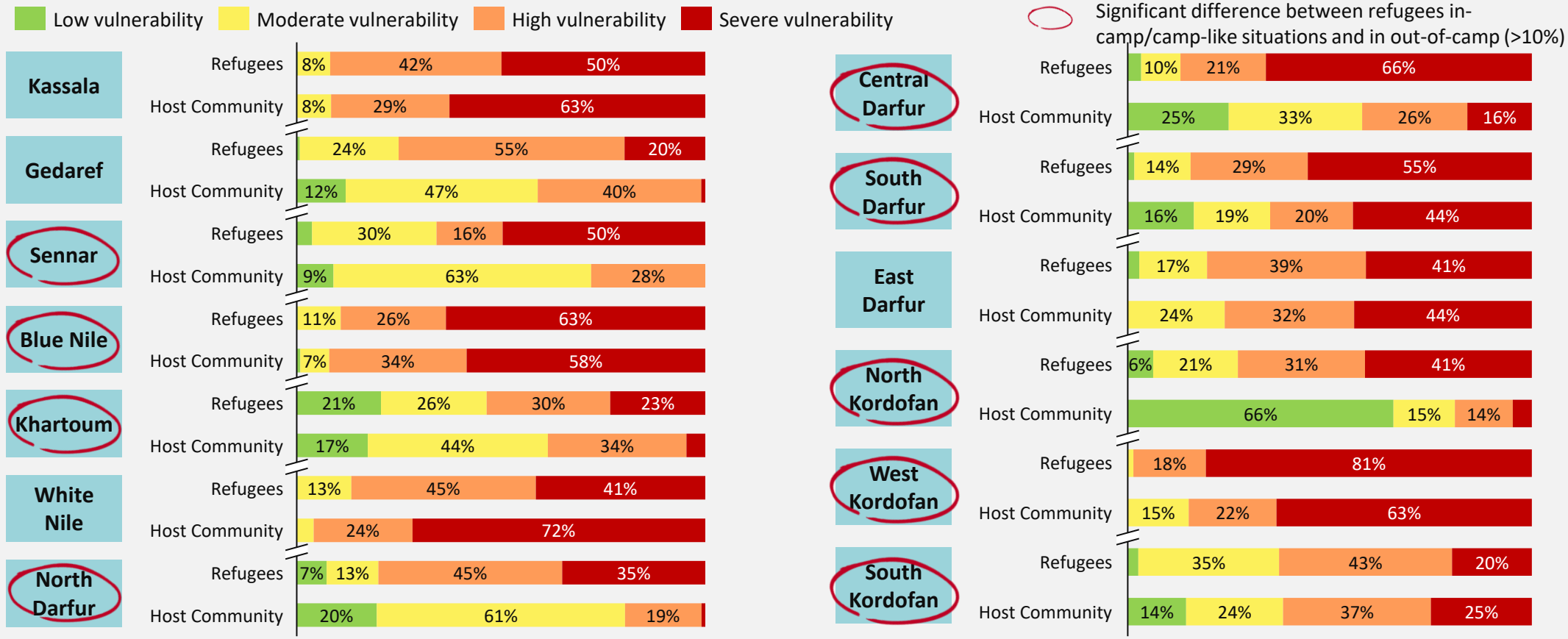
1. Latrine adequacy
2. Access to water
3. Availability of handwashing tools
4. Waste disposal

Sub-indicators build on questions in the survey, these having answer options coded from 1 to 4.

Scores range from 1 to 4, with 1 being the lowest level of vulnerability and 4 the highest level of vulnerability.

- The majority of refugees experienced **high and severe WASH vulnerability in all states.**
- **Refugees in Kassala, Sennar, Blue Nile, Central Darfur, South Darfur, and West Kordofan report higher vulnerability** when it comes to WASH needs.
- **Across most states, refugees experienced higher WASH vulnerability compared to host communities,** with the exception of Kassala and White Nile where refugee vulnerability was lower.

WASH vulnerability indicator



To in/out camp disaggregation

To analysis of subindicators

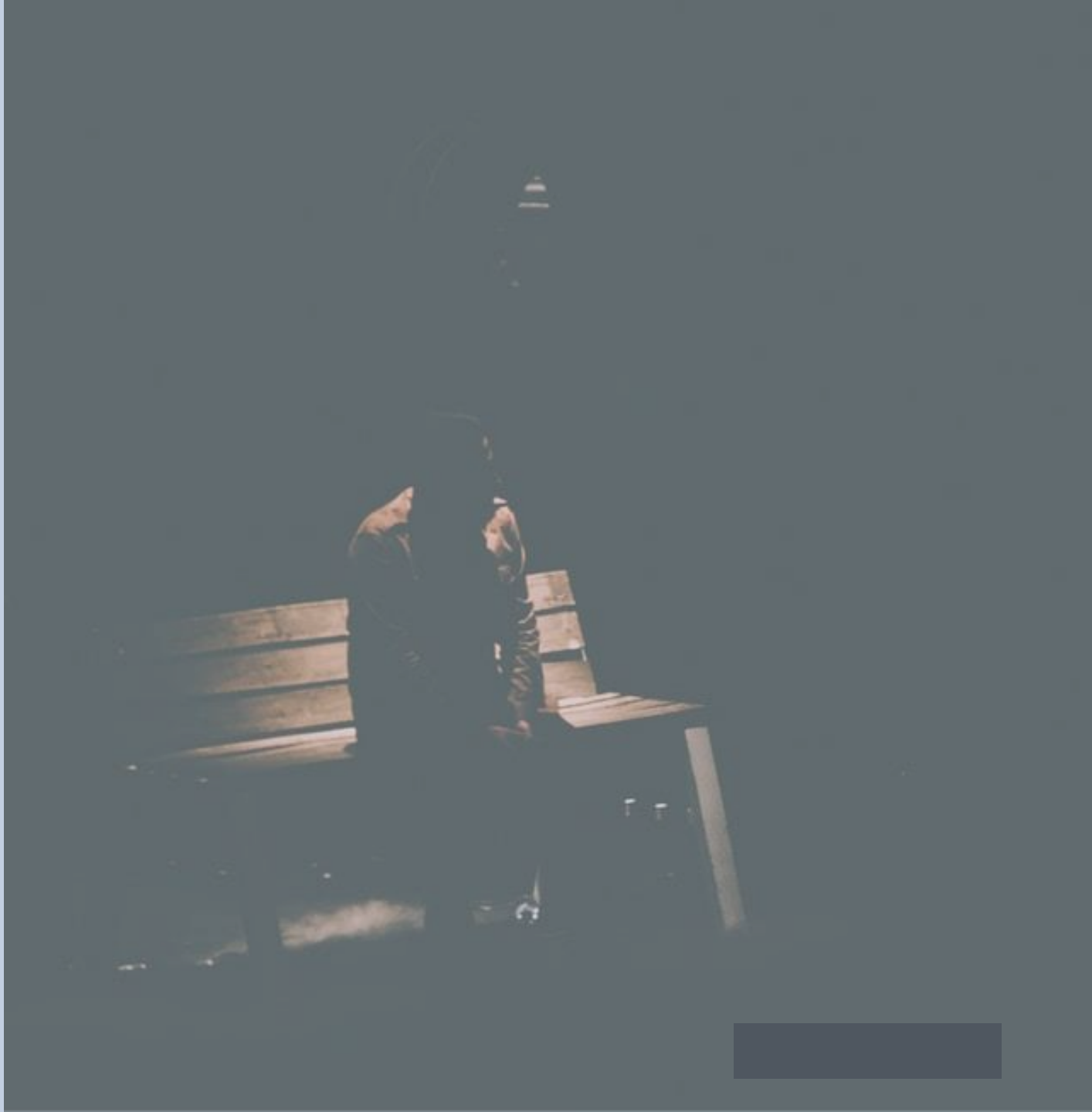
Protection

The Protection Vulnerability Indicator was calculated using the average score of the following sub-indicators:

1. Availability of protection services
2. Perceived safety

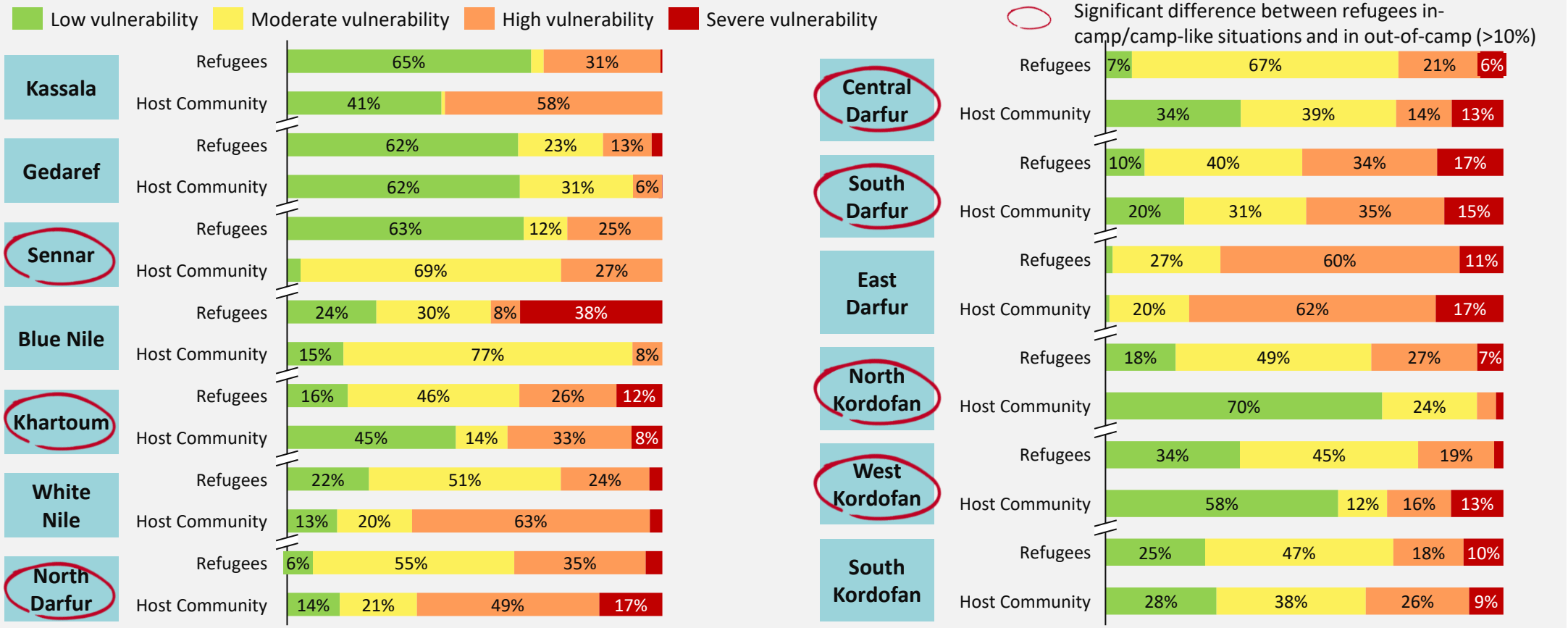
Sub-indicators build on questions in the survey, these having answer options coded from 1 to 4.

Scores range from 1 to 4, with 1 being the lowest level of vulnerability and 4 the highest level of vulnerability.



- Overall, **refugees experience higher protection vulnerability compared to their host communities** (with the exception of Kassala, Sennar, White Nile, and North Darfur)
- **The most severe protection vulnerabilities are experienced by refugees in Blue Nile.** However, **East Darfur is the state with the highest proportion of refugees experiencing protection vulnerabilities.**
- Kassala and Gedaref are the states where refugees are the least vulnerable to protection related issues.

Protection vulnerability indicator



To in/out camp disaggregation

To analysis of subindicators

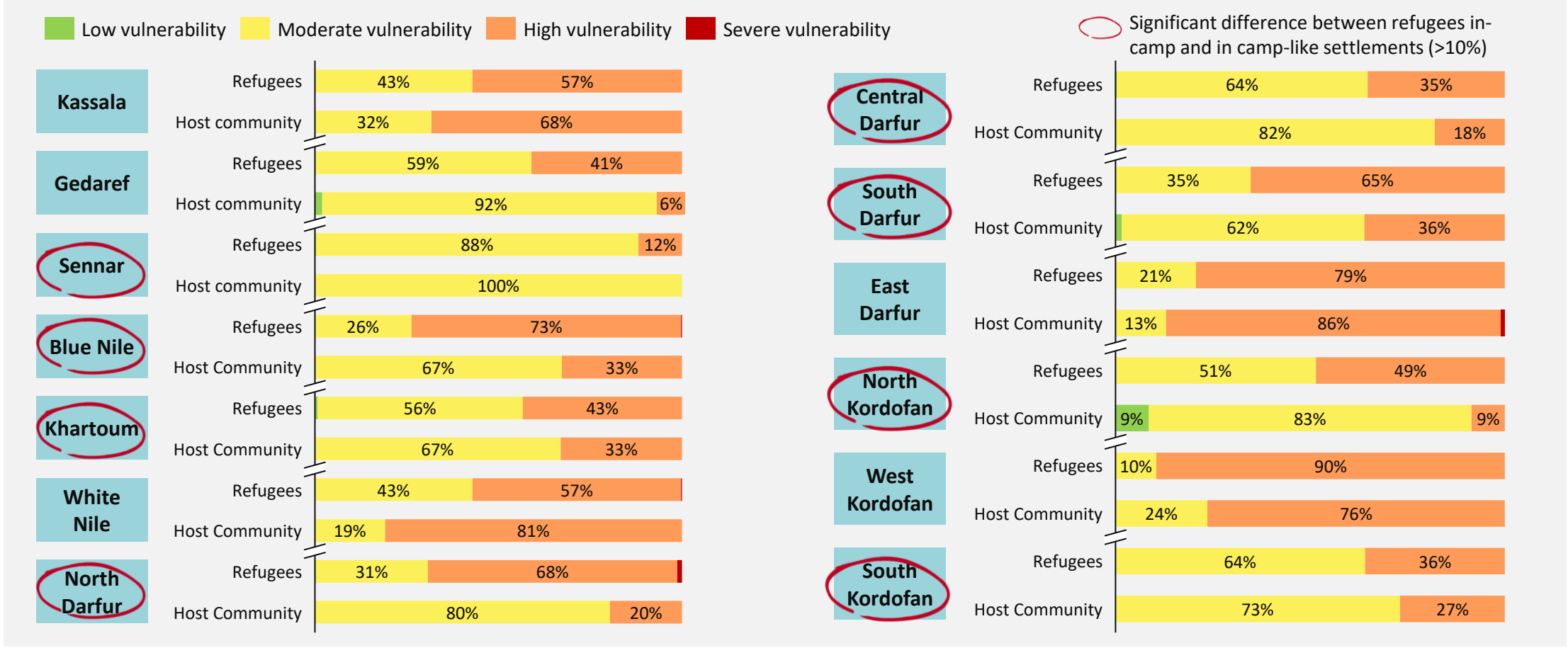
Basic Vulnerability Indicator

The Basic Vulnerability Indicator was calculated using the average score of the 8 sector vulnerability indicators: Universal, Monetary, Education, Food health, Shelter & Energy, WASH and Protection.

Scores range from 1 to 4, with 1 being the lowest level of vulnerability and 4 the highest level of vulnerability.

- **In Kassala, White Nile, East Darfur, and West Kordofan**, the majority of both **refugees and host communities experienced high basic vulnerability.**
- In the other states, **refugees were more likely to experience higher basic needs vulnerability** (Blue Nile, North Darfur, South Darfur, North Kordofan)
- **Almost all refugees in West Kordofan were found to experience high basic vulnerabilities.**

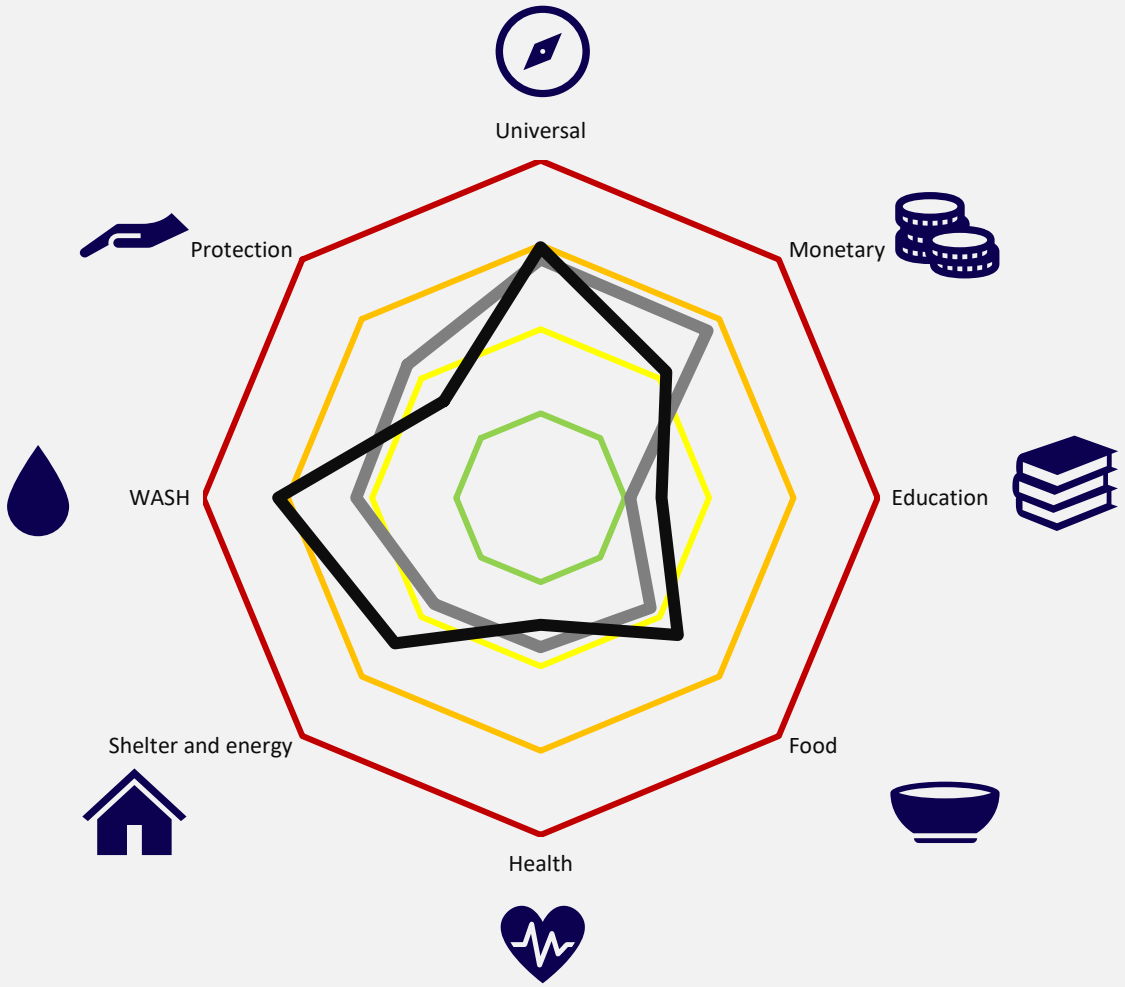
Basic vulnerability indicator



To in/out camp disaggregation

Sector Vulnerability Indicator Overview

In the following radar charts, the sector vulnerability indicators in each state are represented by the octagonal ring for **both refugees and host communities**, whereby each score is plotted along one of the 'rings' of vulnerability scores.
The red outermost ring represents the highest vulnerability, and the green innermost represents the least vulnerability.



Score from 1 to 4 for each sector vulnerability indicator:

Least vulnerable | 1 | 2 | 3 | 4 | **Most vulnerable**

Refugees **Host community**

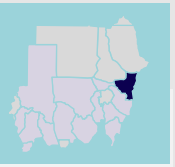
Basic Vulnerability Indicator (BVI), by sector, by state

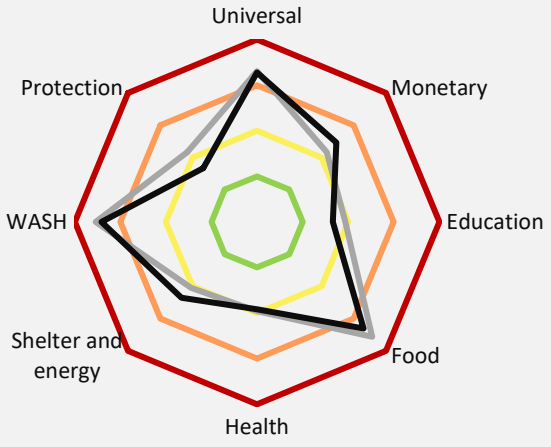
- In all states in **East Sudan**, except for Kassala, **refugees have higher levels of vulnerability** in most sectors compared to the host community.
- **Universal and WASH vulnerability are high among refugees in most states**. Kassala has the highest level of Food vulnerability, Gedaref and Blue Nile of Shelter & Energy vulnerability, and Gedaref of Monetary vulnerability. These results show that **refugees in East Sudan are especially vulnerable to Universal and WASH needs, and vulnerability to Food, Shelter & Energy, and Monetary needs are also present within specific states**.

East Sudan region

Score from 1-4 for each sector vulnerability indicator — Least vulnerable: 1 2 3 4 Most vulnerable — Refugees — Host community

Kassala

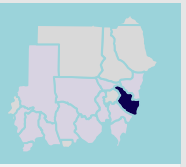


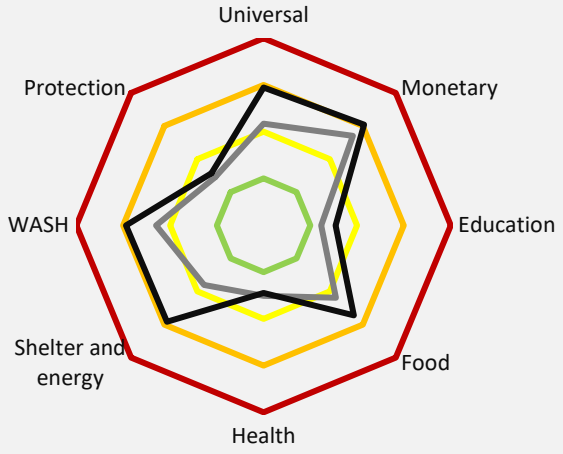


Refugees BVI: 2.46/4

Host community BVI: 2.55/4

Gedaref

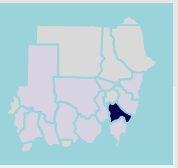


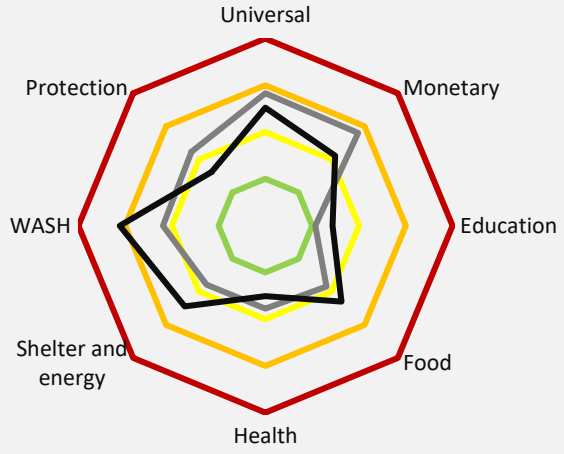


Refugees BVI: 2.39/4

Host community BVI: 1.92/4

Sennar

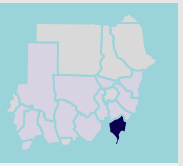


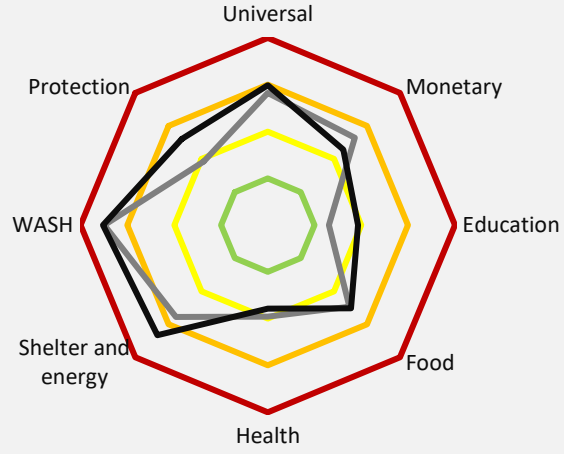


Refugees BVI: 2.13/4

Host community BVI: 1.98/4

Blue Nile





Refugees BVI: 2.62/4

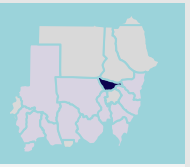
Host community BVI: 2.37/4

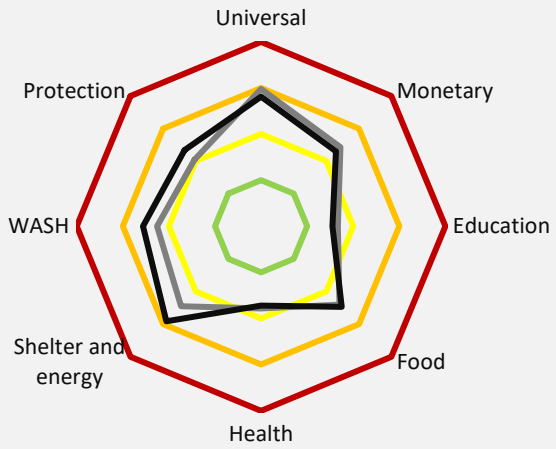
- In Khartoum, refugees have slightly higher levels of vulnerability compared to the host community. The opposite is observed in White Nile.
- **Universal and Shelter & Energy vulnerability are high in both states in the central region**. In White Nile specifically, WASH vulnerability is significantly high for both the refugee and host community population.
- **Assistance for WASH and Shelter & Energy sectors could be focused on this region**. Further assistance to overcome Universal vulnerability should be considered.

Central region

Score from 1-4 for each sector vulnerability indicator — Least vulnerable: 1 2 3 4 Most vulnerable — Refugees — Host community

Khartoum

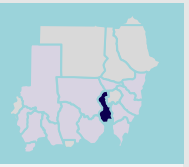


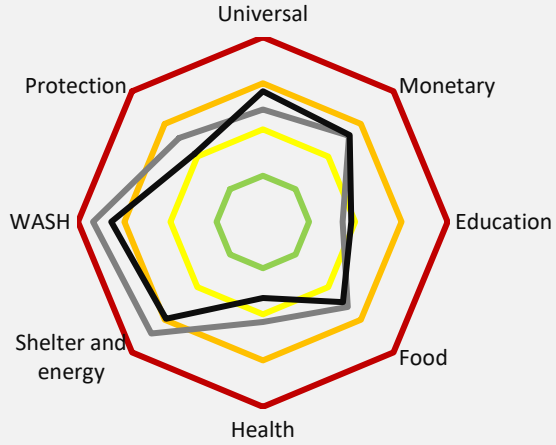


Refugees BVI: 2.33/4

Host community BVI: 2.25/4

White Nile





Refugees BVI: 2.48/4

Host community BVI: 2.65/4

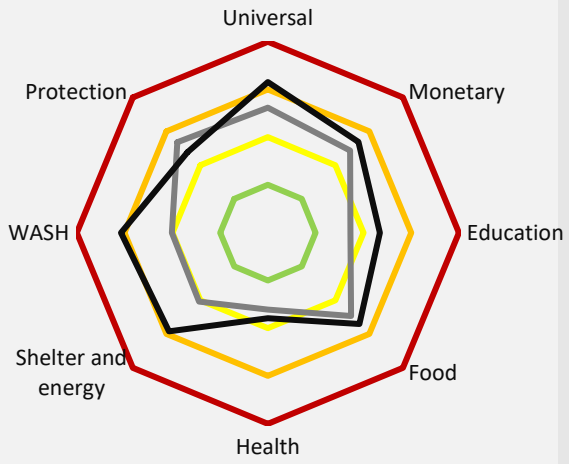
Basic Vulnerability Indicator (BVI), by sector, by state

- **Across all assessed states, East Darfur has the highest level of vulnerability for both refugees and host community.** This means that the overall population in East Darfur is vulnerable to difficulty meeting basic needs. Provision of multi-sectoral assistance in this state should be considered.
- **Universal, WASH, and Shelter & Energy vulnerability are high among all states**. These results show that refugees in Darfur are vulnerable mainly to Universal, WASH and Shelter & Energy needs. In addition, specific **food and protection vulnerability is shown in East Darfur.**

Darfur region

Score from 1-4 for each sector vulnerability indicator — Least vulnerable: 1 2 3 4 Most vulnerable — Refugees — Host community

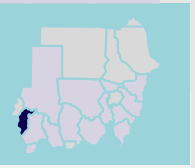
North Darfur

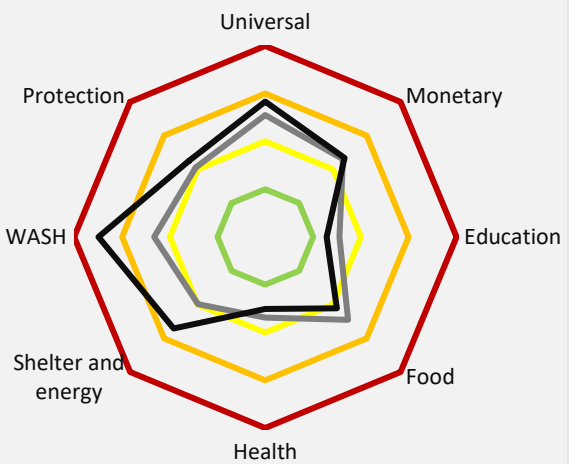


Refugees BVI: 2.63/4

Host community BVI: 2.20/4

Central Darfur

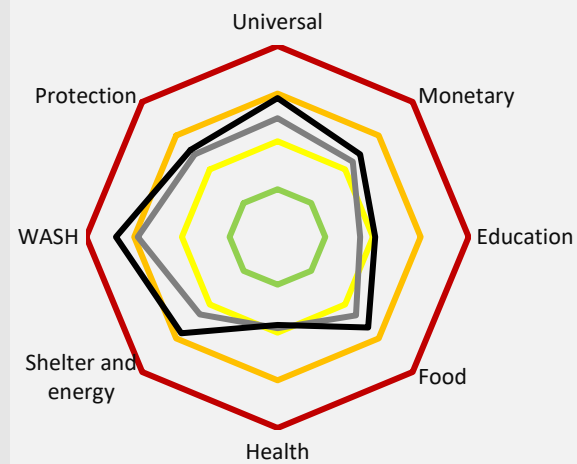




Refugees BVI: 2.32/4

Host community BVI: 2.12/4

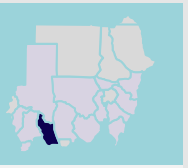
South Darfur

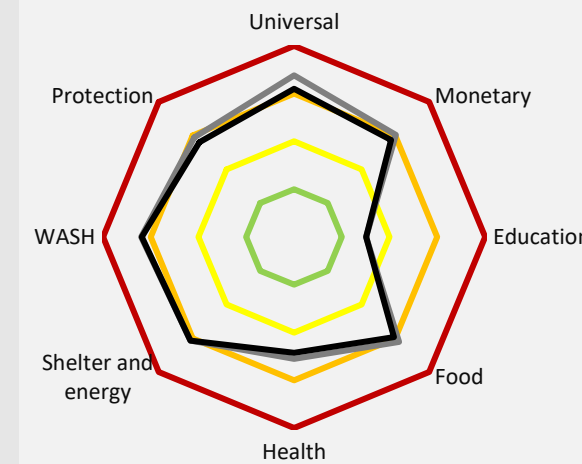


Refugees BVI: 2.59/4

Host community BVI: 2.29/4

East Darfur





Refugees BVI: 2.74/4

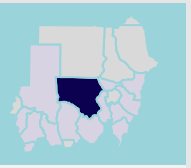
Host community BVI: 2.85/4

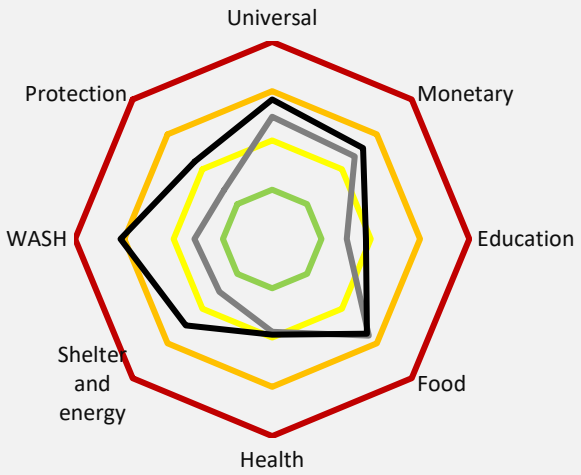
- **West Kordofan has the highest level of vulnerability for refugees and host community in the Kordofan region.**
- **Universal and WASH vulnerability are high among all states in the Kordofan region,** meaning that the overall population is facing Universal and WASH vulnerability. **Food and Shelter & Energy vulnerabilities are also present in West Kordofan**. Sectoral assistance in these states should be considered.

Kordofan region

Score from 1-4 for each sector vulnerability indicator **Least vulnerable** **1** **2** **3** **4** **Most vulnerable** **Refugees** **Host community**

North Kordofan

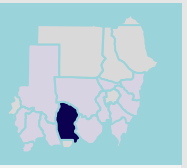


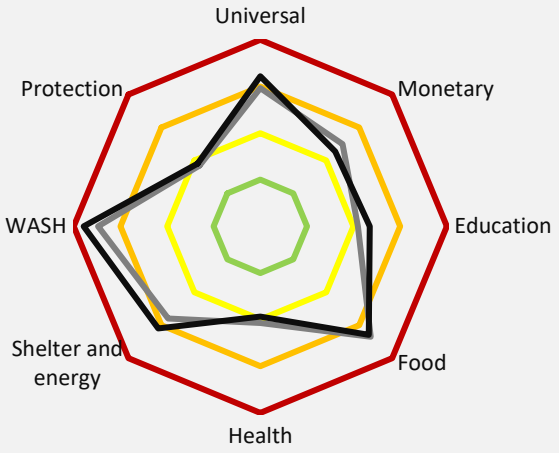


Refugees BVI: 2.47/4

Host community BVI: 1.94/4

West Kordofan

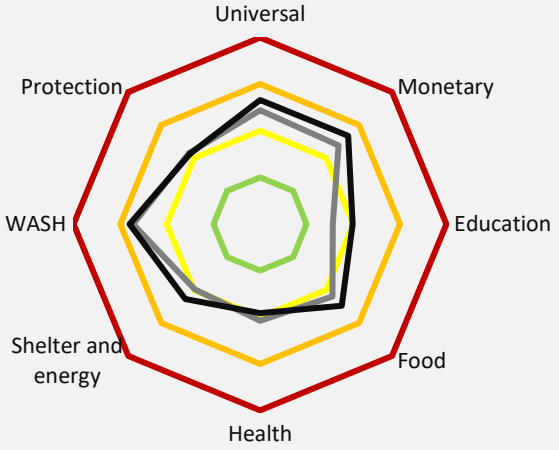




Refugees BVI: 2.73/4

Host community BVI: 2.64/4

South Kordofan



Refugees BVI: 2.36/4

Host community BVI: 2.19/4

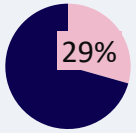
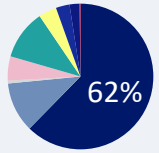
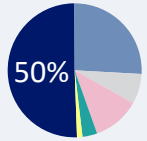
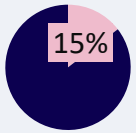
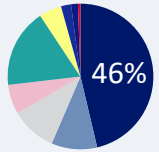
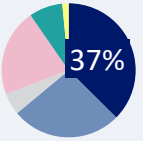
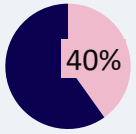
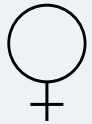
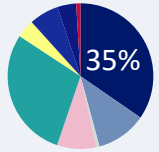
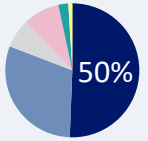
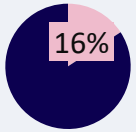
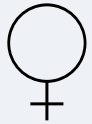
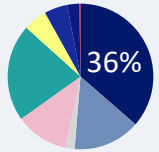
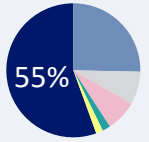
Vulnerability Profiling

A two-step cluster analysis was carried out to reveal natural groupings within a dataset that would otherwise not be apparent.

Clusters developed are internally coherent and externally differentiated, which produces profiles of refuges, thus enabling targeted programming based on vulnerabilities and needs.

Vulnerability Profiling at individual level

- On the individual level, a two-step cluster was carried out on the refugee data using Settlement Status, Marital Status, Age, and Dependency ratio. **The clustering process identified four main profiles of refugees, two with moderate vulnerability and two with high vulnerability.**
- **The moderately vulnerable profiles are young single males and fathers that are living out-of-camp**. Most of the members of this group have no education qualifications and work for pay supporting a household with a lower dependency ratio, compared to those with high vulnerability.
- **The highly vulnerable profiles are mothers and widowed women living in camps/camp-like situations**. Most of these women did not have any form of education qualifications but work for pay supporting a household with a higher dependency ratio.

Profile	BVI	Size of population	Settlement	Gender	Marital status	Employment	Average age	Dependency ratio	Education
Out-of-camp fathers	moderate				Married		41	1.8	
Out-of-camp young males	moderate				Single		29	2.0	
In-camp/camp-like situation mothers	high				Married		41	1.9	
In-camp/camp-like situation older women	high				Widower		46	2.2	

In-camp/camp-like situations

Out-of-camp

Working for pay
Working own plot/ looking after livestock
Retired
Self-employed
Unemployed
Other (specify)
Student
Helping family without pay
Long term sick/disabled

None
Preparatory
University
Primary
Secondary
Vocational

Vulnerability profiling at household level

- On the household level, a two-step cluster was carried out on the refugee sample data using the HHH gender, HHH educational level, and dependency ratio. **The clustering process identified five main profiles of refugee households, one with moderate vulnerability and four with high vulnerability**.
- The **moderately vulnerable HH were those led by males with secondary education living in camps/camp-like situations**.
- **The highly vulnerable HHs include those living in camps/camp-like situations with primary level-educated HHH**. It is worth noting that female-headed HHs with high vulnerability in this group had higher dependency ratios compared to their male counterparts.
- **The highly vulnerable HHs also include HHs led by uneducated women living in-camp/camp-like situations**, as well as those led by uneducated males living out-of-camp.

Profile	BVI	Size of population	Settlement	HHH* Gender	HH monthly income (SDG)	Marital status	Dependency ratio	HHH* Education
Secondary-level educated male led HH	Moderate	17%	In-camp/camp-like situations	♂	<20,000	Married	1.6	47%
Primary-level educated male led HH	High	18%	In-camp/camp-like situations	♂	<20,000	Married	1.7	100%
Out-of-camp uneducated male led HH	High	29%	Out-of-camp	♂	<20,000	Married	1.7	100%
Primary-level educated female led HH	High	15%	In-camp/camp-like situations	♀	<20,000	Married	1.9	64%
In-camp/camp-like situation uneducated female led HH	High	21%	In-camp/camp-like situations	♀	<20,000	Married	2.0	100%

*HHH: Head of Household HH: Household

In-camp/camp-like situations Out-of-camp

None Preparatory University Primary Secondary Vocational

Determinants of vulnerability

Regression analyses were carried out to identify factors that impact the level of vulnerability of refugees in Sudan.

Through linear regressions, the impact of several factors on refugee vulnerability can be assessed, thus enabling targeted programming based identified determinants of vulnerability.

*P>0.05 **P>0.01 ***P>0.001

Dependent Variable	Coefficients	Independent variables
Basic Vulnerability Indicator (BVI)	-0.002***	Age
	-0.000	Year of arrival
	-0.041***	Gender: Male (Base: Female)
	-0.057***	Highest level of education obtained
	-0.099***	Marital status: Single
	-0.173***	Marital status: Engaged
	0.032	Marital status: Separated
	-0.095**	Marital status: Divorced
	0.030	Marital status: Widower
	0.048	Country of origin: Chad
	-0.315	Country of origin: Egypt
	0.005	Country of origin: Kenya
	-0.154***	Country of origin: Ethiopia
	-0.126***	Country of origin: Eretria
	-0.194	Country of origin: Somalia
	-0.067	Country of origin: Uganda
	-0.540*	Country of origin: Iraq
	-0.551***	Country of origin: Syria
	0.124*	Country of origin: Central African Republic
	-0.565	Country of origin: Congo

This model assess how the variables registered in UNHCR's ProGres database drive vulnerability levels (BVI).

Key Findings:

- **Lower levels of vulnerability in:**
  - Age: **Older** refugees
  - Gender: **Male** refugees
  - Level of education: refugees with **higher level of education**
  - Marital status: **single, engaged, or divorced** refugees. The relationship between divorced refugees and BVI could be attributed to reduced domestic violence. Meanwhile for those single or engaged, the reduced BVI may be driven by a lower number of dependents.
  - Country of origin: Refugees coming from **Ethiopia, Eritrea, Syria, and Iraq**. Lower levels of vulnerability in Syrian refugees may be attributed to the policy of the Government of Sudan that does not require Syrian and Yemeni refugees to register with UNHCR and COR upon arrival.
- **Higher levels of vulnerability in:**
  - Country of origin: Refugees coming from the **Central African Republic.**

Note

- South Sudan was included as a *Country of Origin* variable, but was excluded by SPSS due to its statistical insignificance

Note: Some variables are omitted by the model automatically by the data analysis software SPSS due to redundancy with other variables in the model.

Determinants of vulnerability: Additional variables

*P>0.05 **P>0.01 ***P>0.001

Dependent Variable	Coefficients	Independent variables
Basic Vulnerability Indicator (BVI)	-0.035*	Head of household gender: Male (Base: Female) NEW
	-0.030**	Head of Household education level NEW
	0.074***	Refugee Settlement: In-camp/camp-like situation (Base: out-of-camp) NEW
	-0.002***	Age
	-0.000	Year of arrival
	-0.015	Gender: Male (Base: Female)
	-0.031**	Highest level of education obtained
	-0.083***	Marital status: Single
	-0.152***	Marital status: Engaged
	0.034	Marital status: Separated
	-0.075*	Marital status Divorced
	0.046*	Marital status: Widower
	0.030	Country of origin: Chad
	-0.311	Country of origin: Egypt
	-0.047	Country of origin: Kenya
	-0.170***	Country of origin: Ethiopia
	-0.154***	Country of origin: Eretria
	-0.328	Country of origin: Somalia
	-0.083	Country of origin: Uganda
	-0.511*	Country of origin: Iraq
	-0.517***	Country of origin: Syria
	0.112*	Country of origin: Central African Republic
	-0.528	Country of origin: Congo

This model tests how additional variables to the UNHCR's ProGres database can support in explaining different levels of vulnerability in refugees.

Key Findings

- Identified key drivers of vulnerability: **gender of head of household, education level of the head of household, and refugee settlement situation**

- **Higher levels of vulnerability in:**
  - Households led by women
  - Households with head of households with lower levels of education
  - Refugees in camps/camp-like situations

Note

- South Sudan was included as a *Country of Origin* variable, but was excluded by SPSS due to its statistical insignificance
- The number of children within a household was not added to the regression as an independent variable since it is included as part of the BVI's calculation (see slide 17).

Note: Some variables are omitted by the model automatically by the data analysis software SPSS due to redundancy with other variables in the model.

*P>0.05 **P>0.01 ***P>0.001

Dependent Variable	Coefficients	Independent variables
Protection Vulnerability Indicator	0.160***	BVI (excluding protection indicator)
	0.003**	Age
	0.033	Gender: Male (Base: Female)
	0.155***	Refugee Settlement: In-camp/camp-like situation (Base: out-of-camp)
	-0.015	Highest level of education obtained
	0.129**	Marital status: Single
	0.015	Marital status: Engaged
	0.190**	Marital status: Separated
	0.209**	Marital status: Divorced
	-0.050	Marital status: Widowed
	0.306*	Country of origin: Chad
	0.072	Country of origin: Egypt
	-0.156	Country of origin: Kenya
	-0.522***	Country of origin: Ethiopia
	-0.647***	Country of origin: Eretria
	0.792	Country of origin: Somalia
	0.870	Country of origin: Uganda
	-0.572	Country of origin: Iraq
	-0.514***	Country of origin: Syria
	0.517***	Country of origin: Central African Republic
	-1.210	Country of origin: Congo

This model measures what is the effect of refugee's vulnerability (measured by using the BVI excluding the protection vulnerability indicator) on their exposure to protection risks*

Key Findings

- **Higher levels of protection vulnerability in:**
  - Vulnerability: Refugees with **high overall vulnerability (BVI)**
  - Age: **Older** refugees
  - Settlement situation: Refugees **in camps/camp-like situations**
  - Marital status: **Single, separated, or divorced** refugees. This phenomenon may be attributed to a lack of a family unit to provide protection and support.
  - Country of origin: Refugees from **Chad and Central African Republic**

- **Lower levels of protection vulnerability in:**
  - Country of origin: Refugees from **Ethiopia, Eritrea and Syria**

Note

- *The BVI, is composed of eight sector vulnerability indices, including Protection. To ensure a viable model that is capable of assessing the impact of BVI on protection, the Protection Vulnerability sub-indicator has been removed from the original BVI, producing BVI (excluding protection sub-indicator).
- South Sudan was included as a *Country of Origin* variable, but was excluded by SPSS due to its statistical insignificance

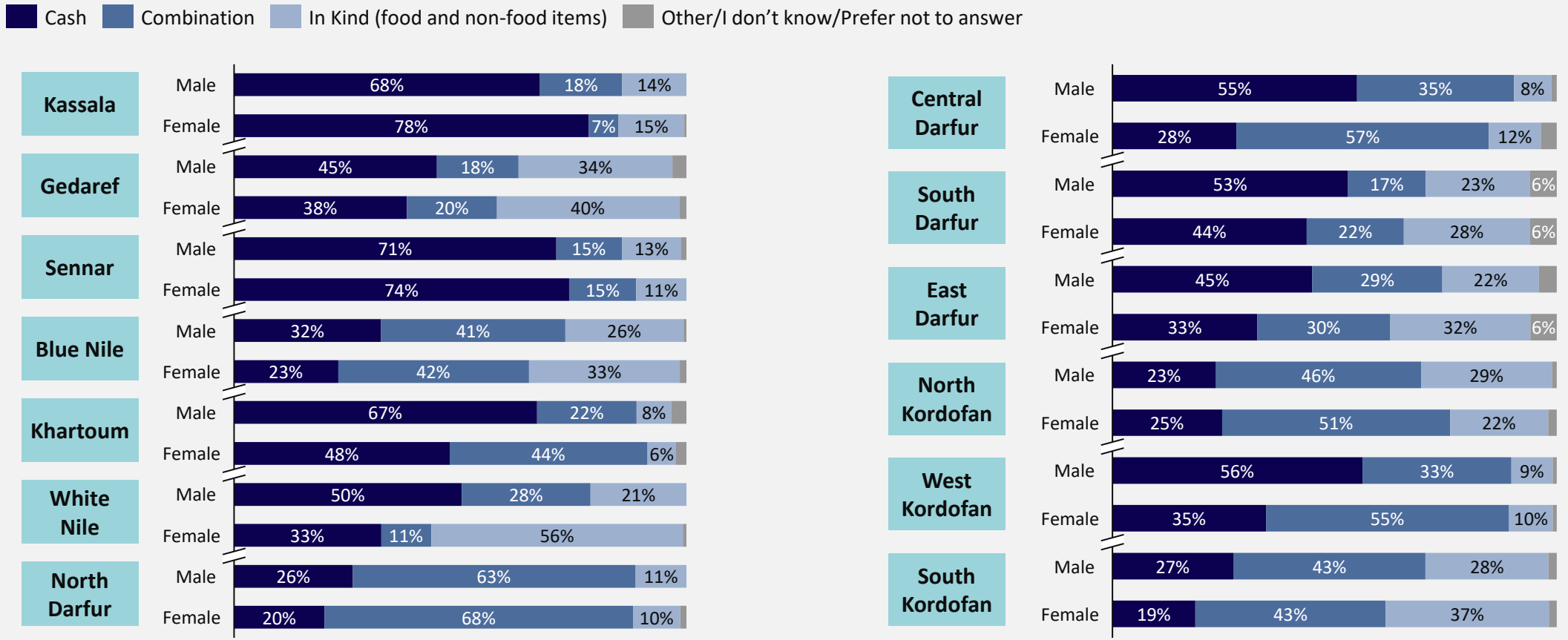
Note: Some variables are omitted by the model automatically by the data analysis software SPSS due to redundancy with other variables in the model.

Potential for cash-based assistance

- **Cash assistance and a combination of cash and in-kind assistance were the most preferred modalities of assistance by refugees.**
- The greatest proportion of refugees in Kassala, Sennar and Khartoum reported preferring cash assistance.
- The greatest proportion of refugees in Blue Nile, North Darfur, Central Darfur, North Kordofan, and South Kordofan showed a preference for a combination of cash and in-kind assistance.

Preferred assistance modality

Question: What kind of assistance modality would you prefer?

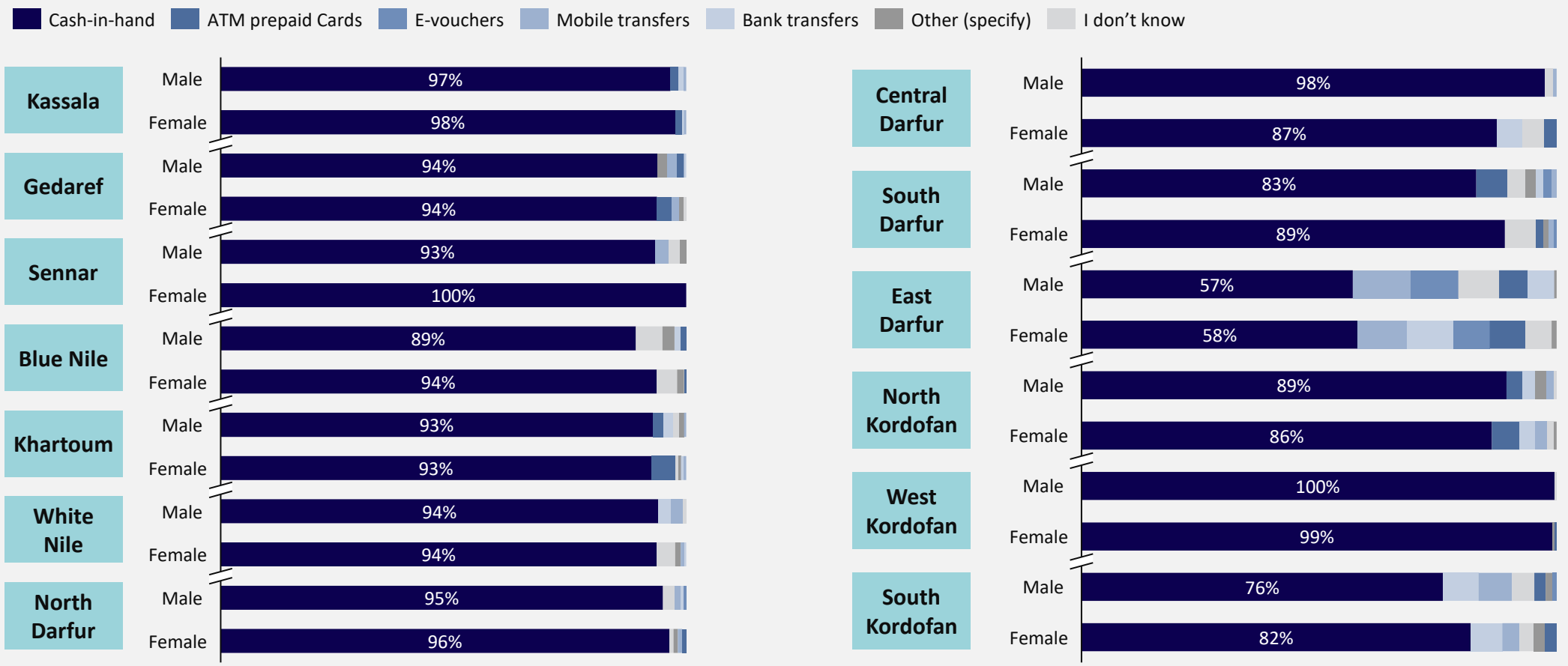


Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

- **Cash in-hand is the preferred mode for delivery of cash assistance**, selected by more than 90% refugees in most states.
- Refugees in East Darfur prefer E-vouchers, mobile transfers, and bank transfers at a higher rate than other states, but their most preferred modality is still cash-in-hand.

Preferred mode of receiving cash assistance

Question: If you were to receive cash assistance, what would be your preferred modality?

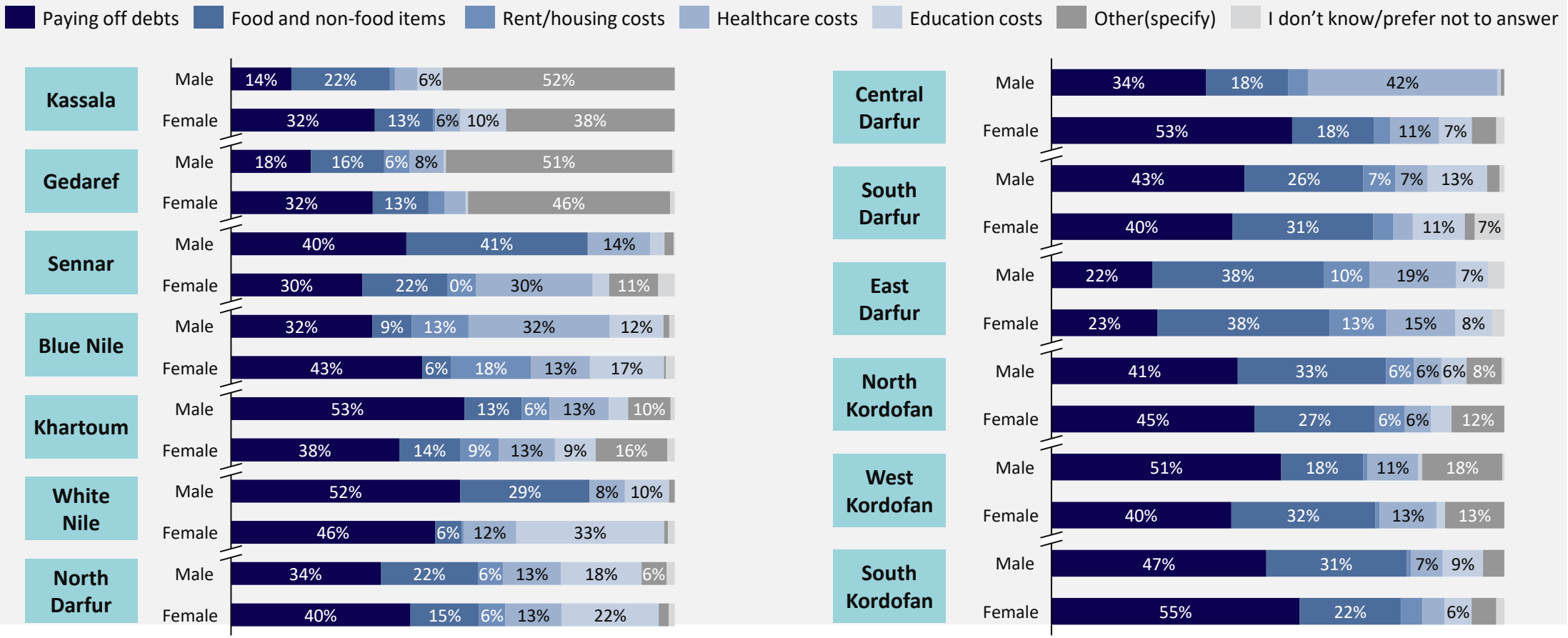


Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

- **Debt repayment was reported as the primary use for cash assistance in every state but East Darfur.**
- The second most popular way of spending cash assistance is on **food and non-food items.**
- A higher proportion of refugees in Sennar, Blue Nile and Central Darfur reported that they would use cash assistance to cover **healthcare costs** than in other states.

Spending of cash assistance

Question: If you were to receive cash assistance, how would it be spent?

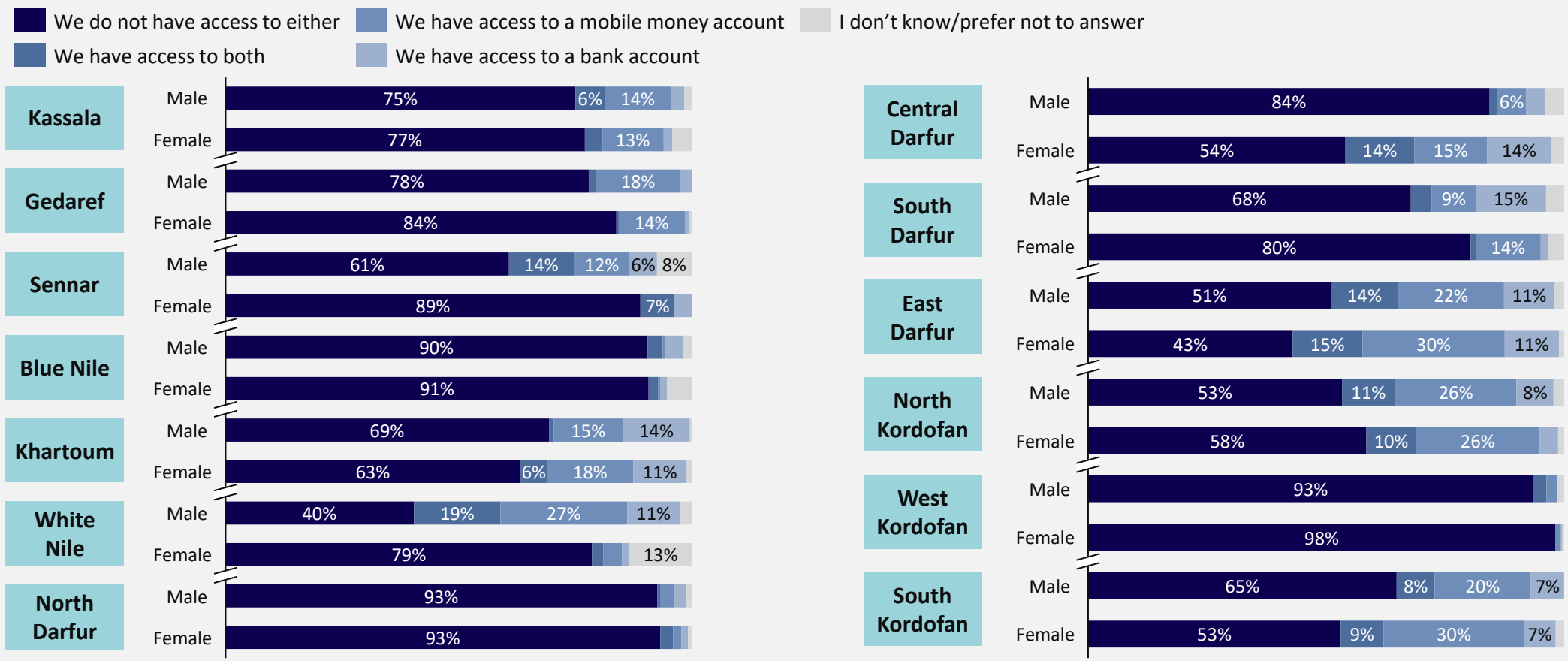


Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

- Overall, **the majority refugee households across all states do not have access to either a bank account or mobile money.**
- Although not a majority, **a greater proportion of refugees have access to financial institutions in East Darfur, North Kordofan, and South Kordofan.**
- **Males in White Nile have significantly better access to financial institutions** compared to females, although the **opposite is true in Central Darfur.**

Access to financial institutions

Question: Do you, or another member of your household have a bank account or mobile money account or other official account?

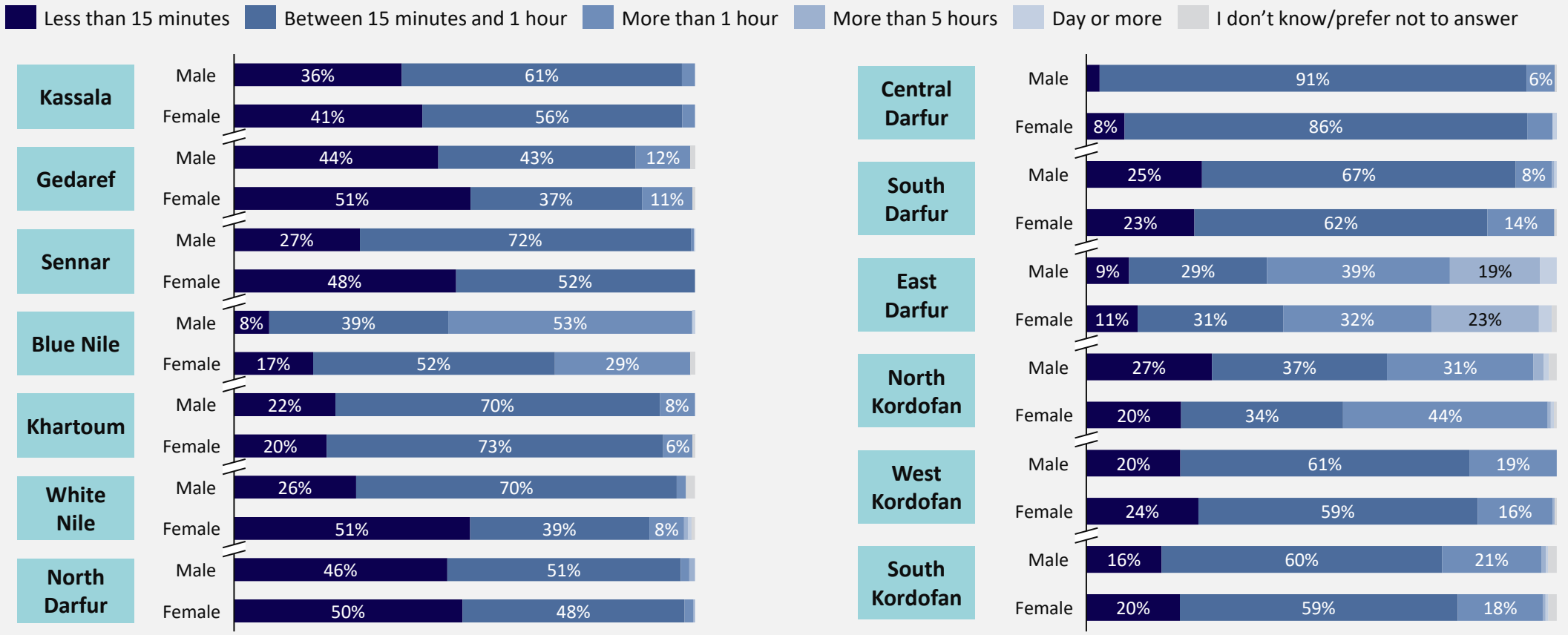


Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

- **Kassala, Gedaref and North Darfur are the states with most accessible marketplaces for refugees.**
- **Marketplaces in East Darfur are the least accessible,** with more than half of refugees reporting the nearest market is more than one hour away.

Accessibility of nearest marketplace

Question: If you started at your home and walked to the nearest market, how long would it take you to reach it?

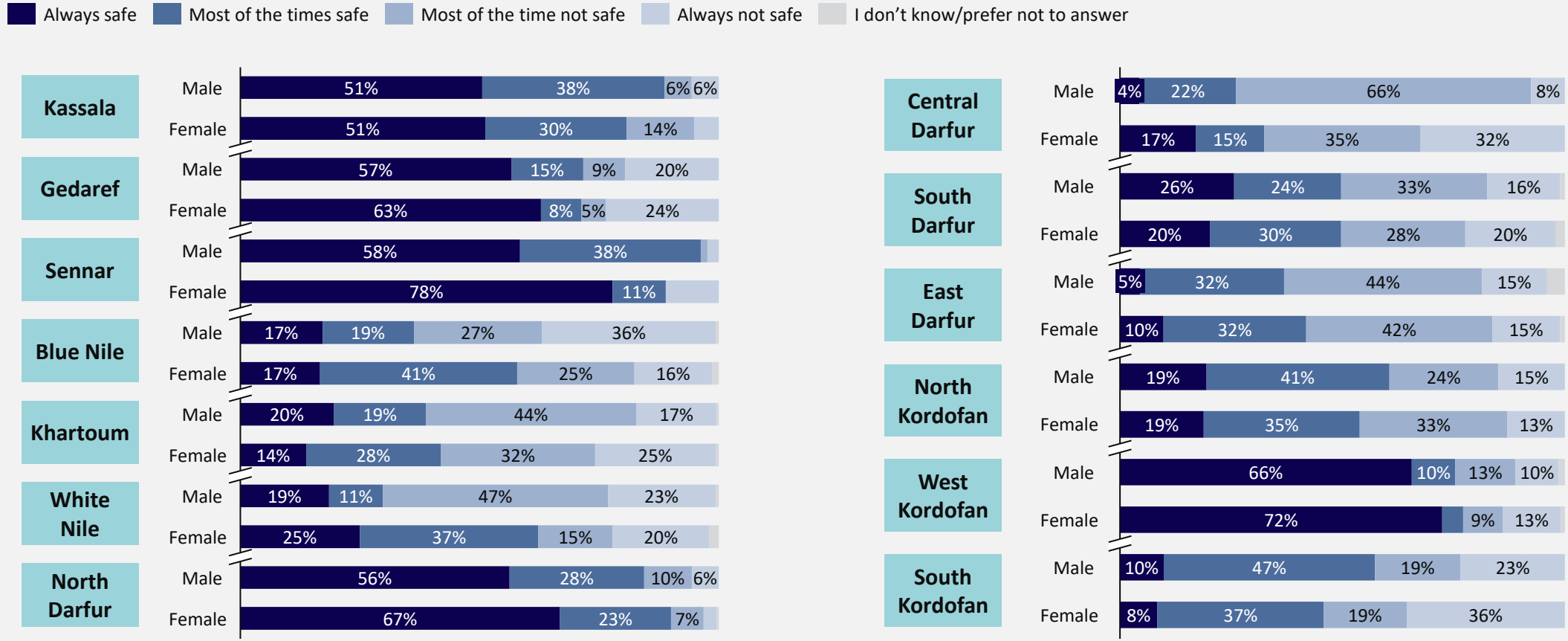


Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

- **Most of the refugees in Kassala, Gedaref, Sennar, North Darfur, and West Kordofan always felt safe traveling to the market alone with cash.**
- In the rest of the states **most refugees felt some degree of safety** travelling to the market with cash.
- **Refugees in Central and East Darfur felt the most unsafe** when travelling to the closest marketplace with cash.

Sense of safety travelling with cash to the market alone with cash

Question: To what extent do you feel safe when traveling alone to the market with cash?



Note: In the assessment of the potential of cash-based assistance for refugees, host community data are not considered.
Note: Comparisons cannot be drawn between male and female refugees in Sennar due to the limited sampling of females across the state.

*P>0.05 **P>0.01 ***P>0.001

Dependent Variable	Coefficients	Independent variables
Preference for cash assistance*	-0.002	Age
	0.106	Gender: Male (Base: Female)
	0.254***	Refugee Settlement: In-camp/camp-like situation (Base: out-of-camp)
	-0.037	Highest level of education obtained
	0.256*	Marital status: Single
	-0.087	Marital status: Engaged
	-0.007	Marital status: Separated
	0.080	Marital status: Divorced
	0.183	Marital status: Widower
	0.269*	Employment Status: Working for pay
	-0.005	Employment Status: Self-employed
	0.207	Employment Status: Student
	0.054	Employment Status: Unemployed
	-0.236	Employment Status: Helping family member without pay
	-0.060	Employment Status: Retired
	0.538	Employment Status: Long term sick or disabled
	0.025	Sense of unsafety leaving the house during the day
	-0.101***	Sense of unsafety going to the market with cash
	0.028	Access to credit: No access to micro credit/loans

Model to identify drivers of refugee's preference for cash assistance* (compared to in-kind assistance).

Key Findings

- **Higher preference for cash assistance in:**
  - Refugees **residing in camps/camp-like situations**
  - **Single** refugees. This may be attributed to a reduced risk of domestic violence associated with cash control dynamics
  - Refugees **working for pay**
- **Lower preference for cash assistance in:**
  - Refugees with higher sense of unsafety travelling with cash

Note: Some variables are omitted by the model automatically by the data analysis software SPSS due to redundancy with other variables in the model.
*Preference for cash assistance is a scale variable [max: preference for cash assistance only; preference for combined assistance; min: preference for in-kind assistance only]

Agenda

Conclusions and Recommendations

Indicator	Results
Basic Vulnerability Indicator (BVI)	• Most **refugees** in Sudan suffer from **moderate to high overall vulnerability: greater than host communities.** • In Kassala, White Nile, and West Kordofan, however, refugees and host communities exhibit similar levels of vulnerability. • Overall, refugees in camps/camp-like situations have higher levels of vulnerability than out-of-camp refugees.
Universal Vulnerability	• **Across all states, the majority of refugees suffer from high or severe universal vulnerability.** • Refugees in North Darfur, West Kordofan, and East Darfur have the highest levels of universal vulnerability. • Refugees in camps/camp-like situations generally experience higher universal vulnerability than out-of-camp refugees.
Monetary Vulnerability	• **Across most states, refugees have higher levels of monetary vulnerability than their host community.** • Refugees in Gedaref, White Nile, North Darfur, East Darfur, and North and South Kordofan have the highest monetary vulnerability. • Refugees in-camp/camp-like situations have higher monetary vulnerability compared to out-of-camp refugees.
Education Vulnerability	• **Education vulnerability is not as high for refugees and host communities** compared to other assessed vulnerabilities. • Refugees in North Darfur and South Kordofan experience the highest education vulnerability in Sudan. • In Sennar, Khartoum, and South Kordofan, refugees in-camp/camp-like situations experience significantly higher education vulnerability compared to those out-of-camp.
Food Vulnerability	• **Food vulnerability is high among the refugee population and their host communities.** • Refugees in Kassala, East Darfur, and North and West Kordofan have the highest food vulnerability. • In Blue Nile and West Kordofan, food vulnerability is the highest for out-of-camp refugees, but in Sennar, Khartoum and Central Darfur, it is the highest for refugees in-camp/camp-like situations.

Indicator	Results
Health Vulnerability	• **Overall, health vulnerability is not as severe for refugees and host communities** compared to the other assessed vulnerabilities. • Refugees and the host community in East Darfur, the Kordofan states, and North and South Darfur have the highest health vulnerability. • Refugees in-camp/camp-like situations have higher health vulnerability that out-of-camp refugees.
Shelter & Energy Vulnerability	• **Refugees across all the surveyed states have high shelter and energy vulnerability.** • Refugees in Blue Nile and East Darfur have the highest levels of shelter & energy vulnerability. • In most of the assessed states, refugees in-camp/camp-like situations have higher levels of shelter & energy vulnerability compared to out-of-camp refugees.
WASH Vulnerability	• **WASH vulnerability showed the highest levels of vulnerability for both refugees and their host communities** (when comparing with the other assessed sector vulnerabilities). • Refugees in all states have higher WASH vulnerability compared to their host communities, except for those living in White Nile and Blue Nile. • Overall, refugees in-camp/camp-like situations have higher WASH vulnerability than those living out-of-camp.
Protection Vulnerability	• **In most states, protection vulnerability is higher in the refugee population than in the host community.** • Refugees in Blue Nile and East Darfur have a significantly high protection vulnerability. • Refugees in-camp/camp-like situations have higher levels of protection vulnerability compared to out-of-camp refugees, except in South Darfur.

UNHCR ProGres

Conclusions

- Older refugees and refugees with a high level of education experience lower overall vulnerability. Furthermore, male, single, engaged, or divorced refugees also experienced lower overall vulnerability. In terms of nationality, refugees from Ethiopia, Eritrea, Syria, and Iraq experience lower vulnerability, meanwhile refugees from Central African Republic experience higher vulnerability.
- Variables not included in UNHCR's ProGres with significant impact on BVI:
    - *Head of household gender*: man-led households experience lower overall vulnerability.
    - *Head of household level of education*: households with highly educated head of household experience lower overall vulnerability.
    - *Refugee settlement situation*: refugees settled in camps/camp-like situations experience higher overall vulnerability.

Recommendations

- It is suggested to include the abovementioned variables in the ProGres dataset. This would improve UNHCR's capacities to forecast vulnerability on a household level to inform subsequent programming.

Protection vulnerability

Conclusions

- Protection vulnerability is higher in refugees with high levels of overall vulnerability, older refugees, refugees living in camps/camp-like situations, and refugees who are single, separated, or divorced.
- In terms of nationality, protection vulnerability is higher in refugees from Chad and the Central African Republic.

Recommendations

- Additional protection support is recommended for refugee profiles that are correlated with protection needs.
- Furthermore, programming should focus on ensuring that basic needs are met in order to reduce protection vulnerability in turn.

Vulnerability profiling

Conclusions

- Individuals exhibiting the highest vulnerability were uneducated older widowed women, living in camps/camp-like situations, with a high number of dependents.
- The most vulnerable households were found to be led by heads of household with little to no education, a high number of dependents, and a low income.

Recommendations

- Support should be targeted towards individuals and households with profiles correlated with high vulnerability.

Preferences and feasibility

Conclusions

- Refugees who are single, living in camps/camp-like situations, and working for pay have a higher preference for cash assistance.
- Cash-in-hand is the preferred modality for most refugees, but the states of Blue Nile, North and South Kordofan and North Darfur showed a preference for in-kind or combined assistance over solely cash assistance.
- Additionally, the low levels of access to financial institutions pose a crucial challenge to cash assistance.

Recommendations

- Cash-based assistance should utilize cash-in-hand modality to maximize feasibility and align with preferences. Impact can be augmented by facilitating refugee access to financial services.

Access to marketplace and availability of goods

Conclusions

- Most refugees, except for those in East Darfur and Blue Nile, reported being able to access a marketplace within one hour from their homes.
- Furthermore, most refugees reported feeling mostly safe when travelling to the market alone, although those in Central and East Darfur felt the least safe.

Recommendations

- Cash assistance should be targeted to states with higher indicators related to feasibility, including safety of using cash, preference for cash, and market accessibility and sufficiency.
- Kassala, Sennar, and West Kordofan are especially promising across these areas.
- White Nile and East Darfur seem to have less potential based on the indicators.

Use of cash assistance

Conclusions

- Use of cash assistance would be varied among refugees. The greatest proportion reported that they would use cash for paying off debts, followed by buying food and non-food items. Specific states were more likely than others to report they would use cash to pay for rent and housing, healthcare and education costs.

Recommendations

- Differences in how states and demographics would use cash could be utilized to 'target' cash assistance by sector; however, this is only feasible in specific cases. Sectoral targeting is more feasible for combined and in-kind assistance, which should target the sectors with the highest vulnerability which are Monetary, WASH, Shelter & Energy, and Food.
- Care would need to be taken to ensure beneficiaries do not encounter heighted security risks compared to non-beneficiaries.

Realizing **human potential**

Voluntās

Annex I

BVI sector indices:

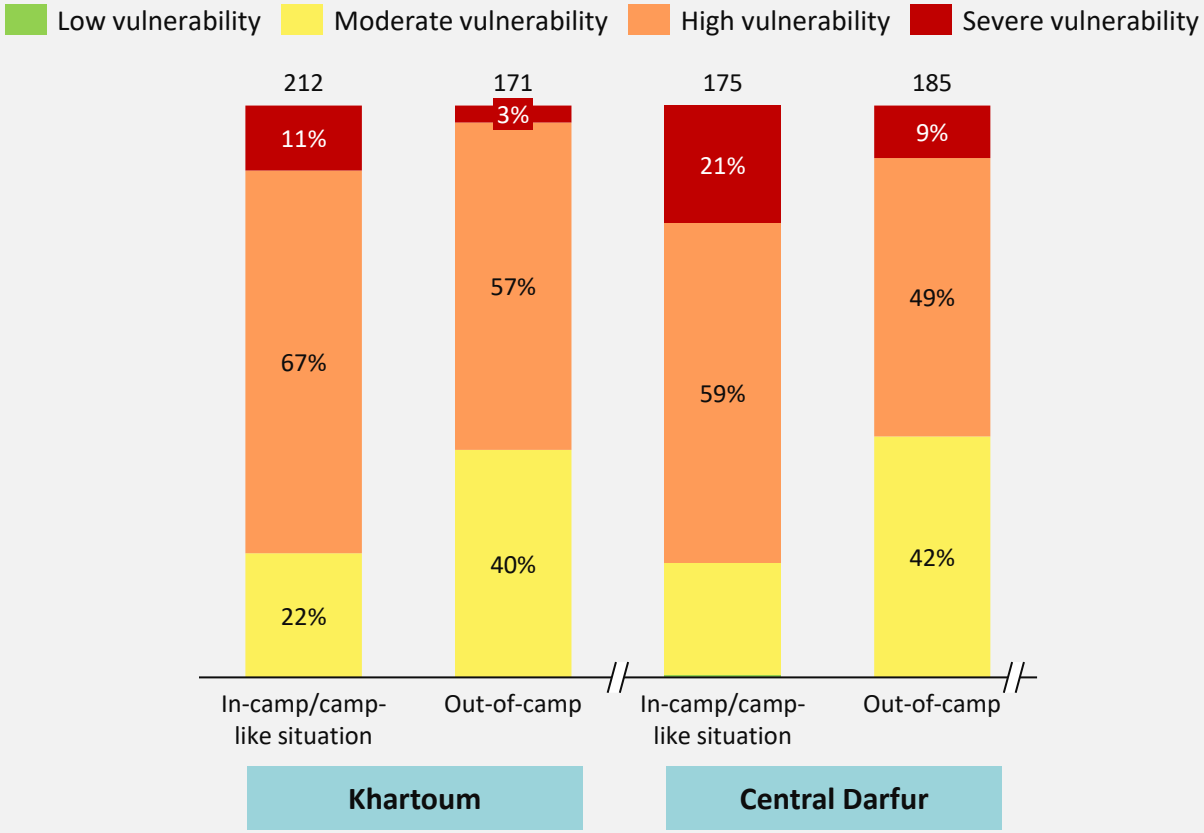
In-camp/camp-like situations & out-of-camp breakdown

Note:
Source:

- **Out-of-camp refugees were generally less vulnerable to universal needs** compared to those in-camp/camp-like situations.
- The disparity between the universal vulnerability of refugees settled in-camp/camp-like situations and out-of-camp is greatest in Central Darfur, where refugees in-camp/camp-like situations recorded significantly higher cases of severe vulnerability.

Universal vulnerability indicator

States with a significant difference between refugees in-camp/camp-like situations and out-of-camp (>10%)



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

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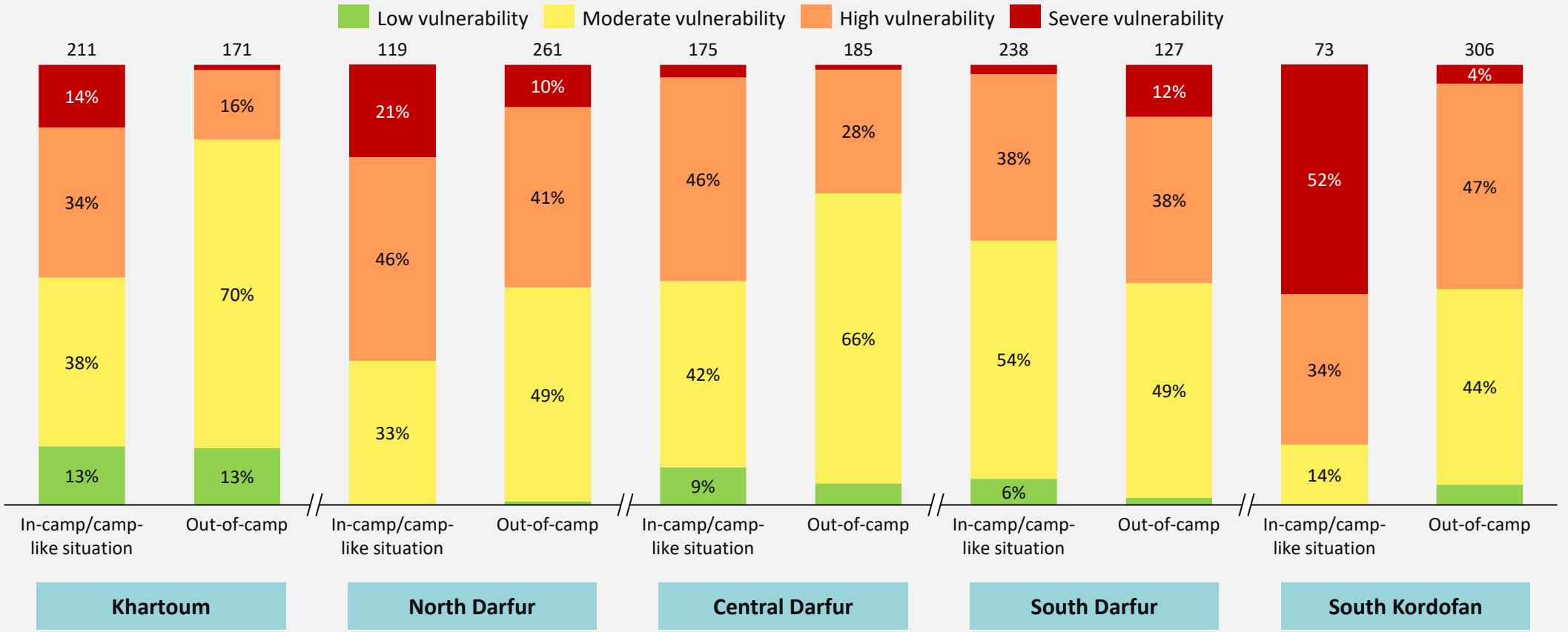
- **Refugees in-camp/camp-like situations in South Kordofan recorded the highest monetary vulnerability differences compared to out-of-camp** with 52% experiencing severe monetary vulnerabilities compared to 4%.
- **In Khartoum and Central Darfur, refugees in-camp/camp-like situations experienced significantly higher monetary vulnerabilities** compared to out-of-camp refugees.

Monetary vulnerability indicator

States with a significant difference between refugees in-camp/camp-like situations and out-of-camp (>10%)



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

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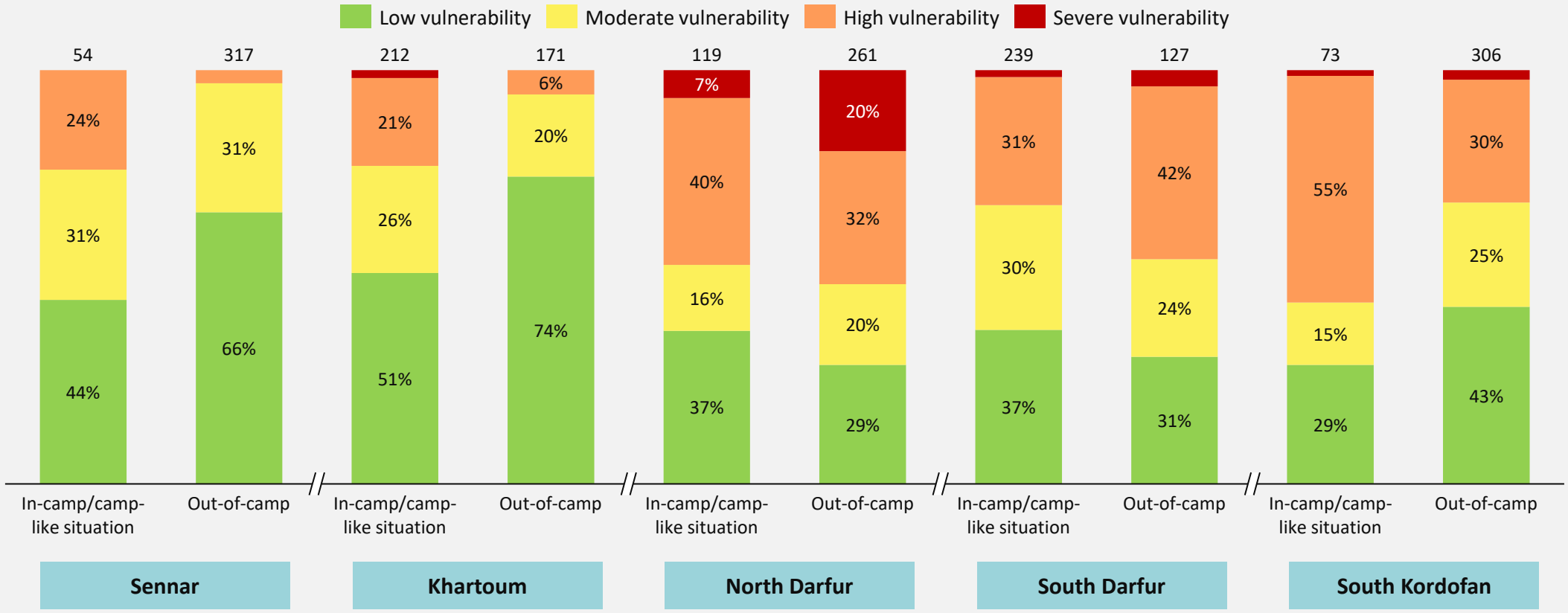
- **In Sennar, Khartoum, and South Kordofan, out-of-camp refugees were less vulnerable to education needs compared to refugees in-camp/camp-like situations**, with the majority experiencing low to moderate vulnerabilities.
- **In North Darfur, out-of-camp refugees were more vulnerable to education needs compared to those in-camp/camp-like situations** with 20% of the sampled population experiencing severe vulnerabilities.

Education vulnerability indicator

States with a significant difference between refugees in-camp/camp-like situations and out-of-camp (>10%)



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

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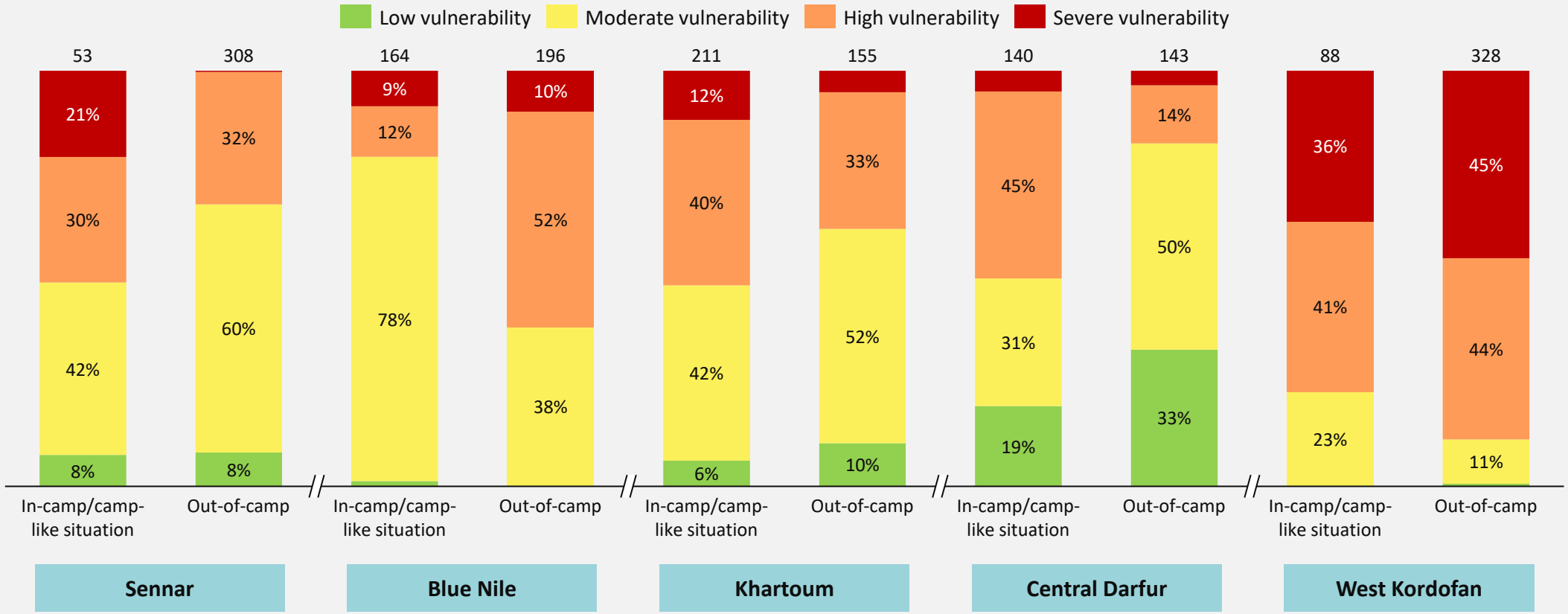
- **Out-of-camp refugees in Blue Nile and West Kordofan experienced greater food vulnerability** compared to those in-camp/camp-like situations.
- **Refugees in-camp/camp-like situations in Sennar, Khartoum, and Central Darfur were found to experience greater food vulnerability** compared to those out-of-camp.
- **Both refugees in-camp/camp-like situations and in out-of-camp in West Kordofan were found to experience the greatest food vulnerability** with the majority reporting high to severe food vulnerability.

Food vulnerability indicator

States with a significant difference between refugees in-camp/camp-like situations and out-of-camp (>10%)



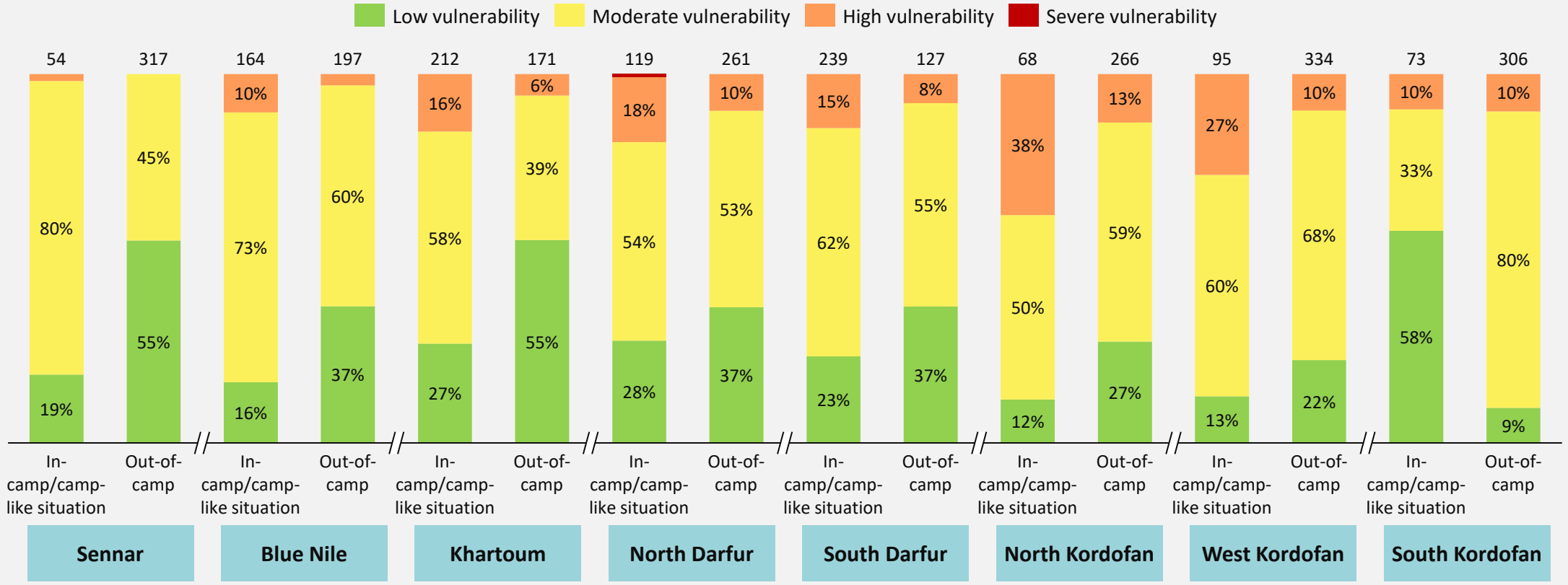
Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Return to main slide deck

- **Generally, refugees in-camp/camp-like situations experienced higher health vulnerabilities** compared to those out-of-camp, except for South Kordofan.
- **Out-of-camp refugees in Sennar and Khartoum, and refugees in-camp/camp-like situations in South Kordofan had the most favorable health situation** with 55% of the surveyed population in each state experiencing low health vulnerability.
- **Refugees in-camp/camp-like situations in North and West Kordofan recorded the greatest instances of high health vulnerability.**

Health vulnerability indicator

States with a significant difference between refugees in-camp/camp-like situations and out-of-camp (>10%)



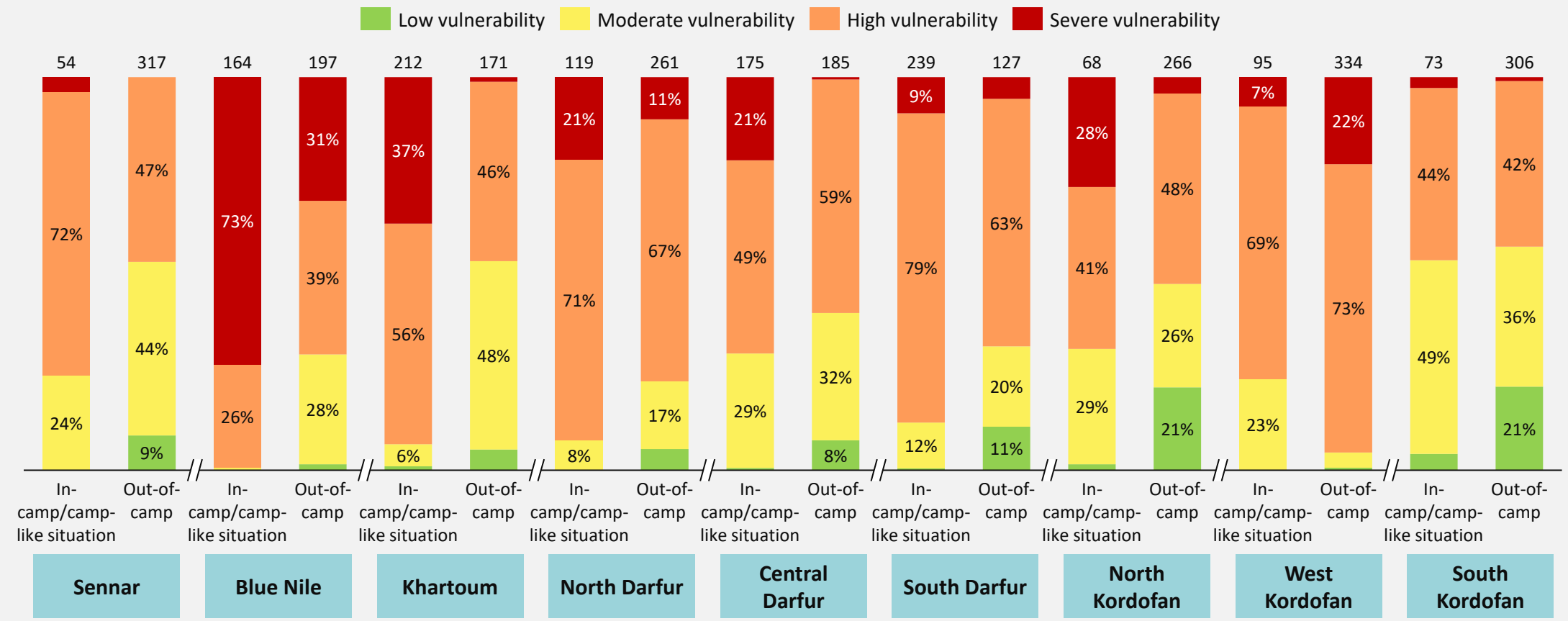
Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

Return to main slide deck

- **Overall, refugees in-camp/camp-like situations experienced higher shelter and energy vulnerabilities** compared to refugees out-of-camp, with the exception of West Kordofan.
- **Refugees in-camp/camp-like situations in Blue Nile face the highest shelter and energy vulnerability.**

Shelter and Energy vulnerability indicator

States with a significant difference between refugees in-camp/camp-like situations and out-of-camp (>10%)



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

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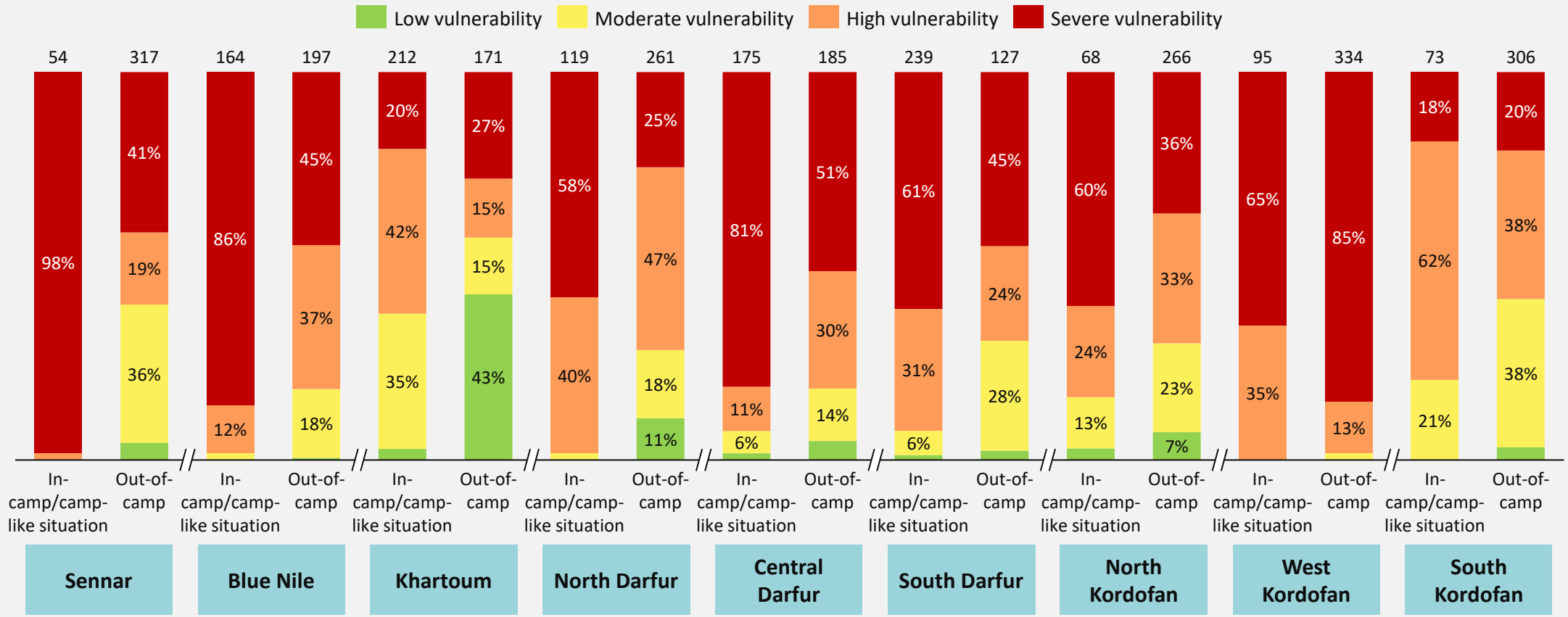
- For WASH vulnerability, in most states there is a **significant difference between refugees settled in-camp/camp-like situations and out-of-camp.**
- **Refugees in-camp/camp-like situations in Sennar, Blue Nile, and Central Darfur are subject to the highest levels of WASH vulnerability** compared to those out-of-camp.
- **Differences between refugees settled in-camp/camp-like situations and out-of-camp were especially evident in Khartoum,** where out-of-camp refugees have a significant lower vulnerability to WASH needs compared to those in-camp/camp-like situations.

WASH vulnerability indicator

States with a significant difference between refugees in-camp/camp-like situations and out-of-camp (>10%)



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

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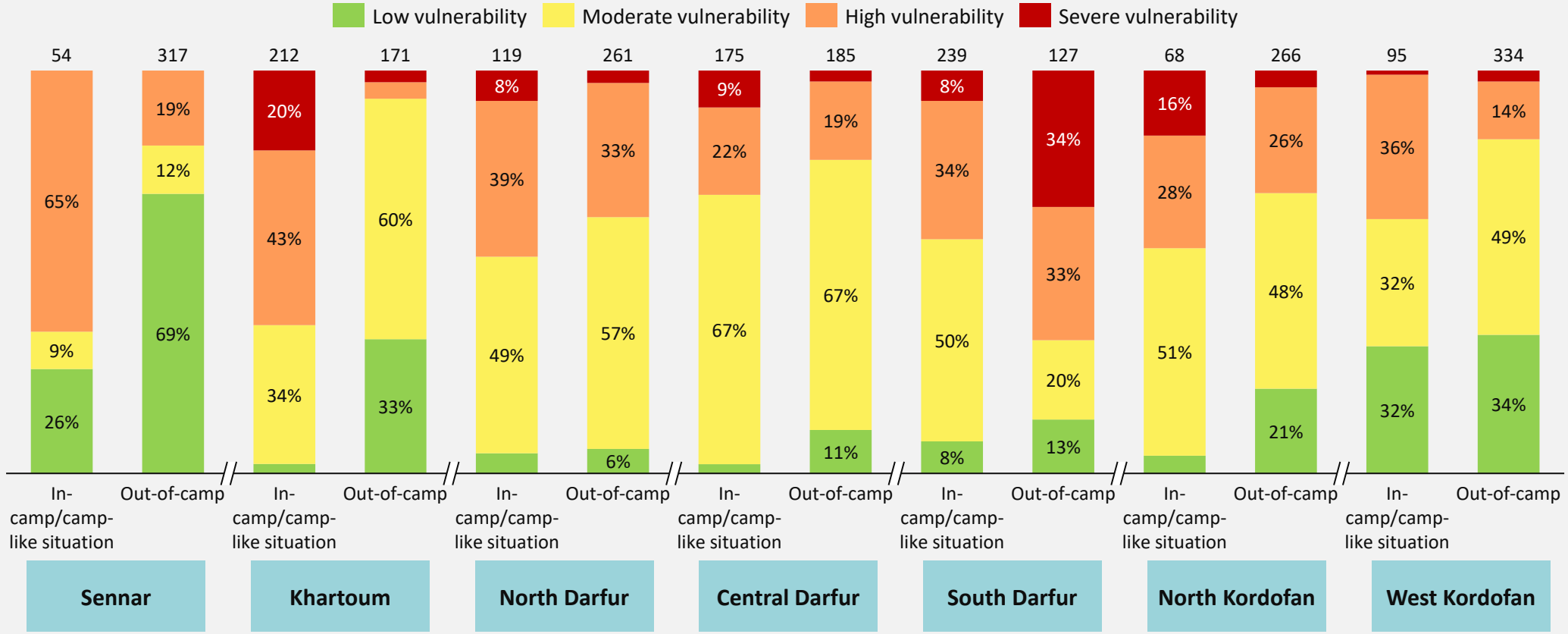
- Overall, refugees **in-camp/camp-like situations reported higher protection vulnerability compared to refugees out-of-camp,** with the exception of South Darfur.
- The **highest proportion of refugees experiencing protection vulnerabilities live in-camp/camp-like situations in Sennar, Khartoum, North Darfur and North Kordofan.**
- Refugees least vulnerable to protection-related issues are those living out-of-camp in the states of Sennar, Khartoum and West Kordofan.

Protection vulnerability indicator

States with a significant difference between refugees in-camp/camp-like situations and out-of-camp (>10%)



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

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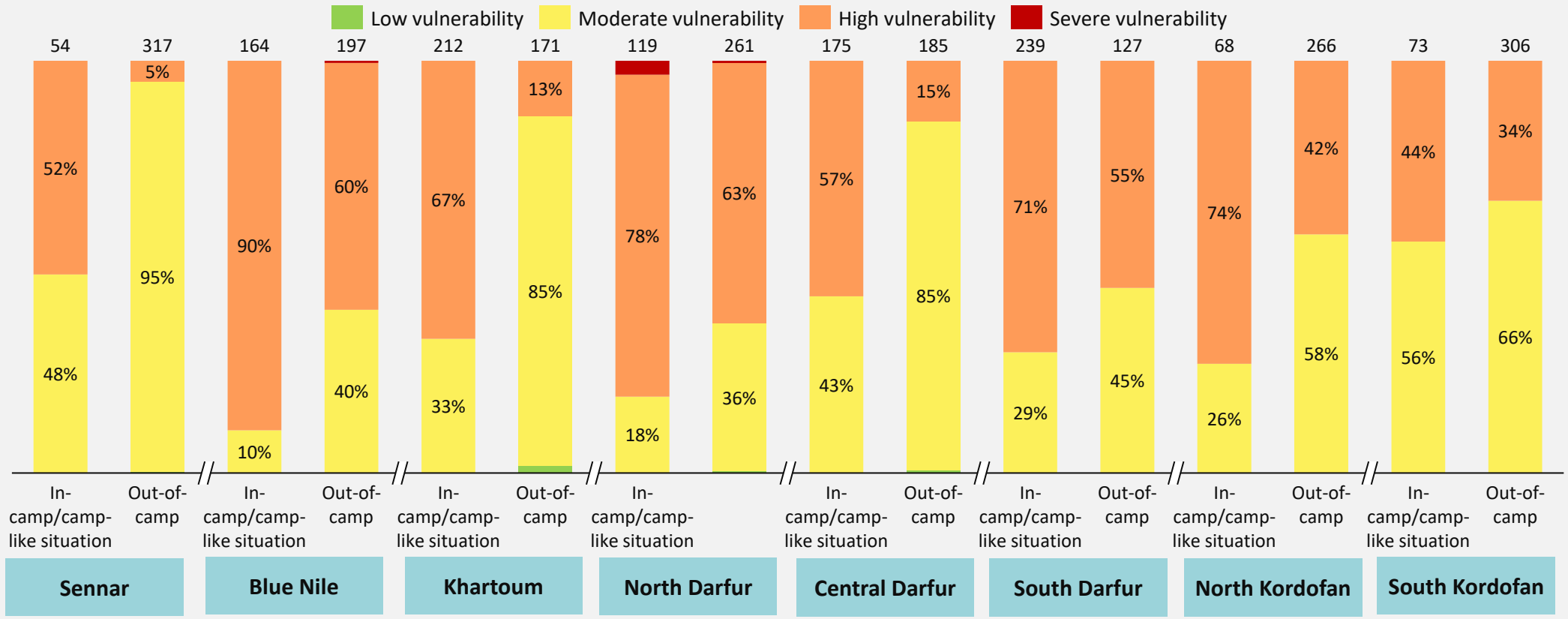
- **Refugees in-camp/camp-like situations are generally more vulnerable than refugees out-of-camp.**
- The **most vulnerable refugees are found in camps/camp-like situations in the states of Blue Nile, North Darfur and South Darfur.**
- The **least vulnerable refugees are found out-of-camp in the states of Sennar, Khartoum and Central Darfur**; however, all refugees living in these situations still experience significant levels of vulnerability.

Basic vulnerability indicator

States with a significant difference between refugees in-camp/camp-like situations and out-of-camp (>10%)



Note: Differences between refugees settled in-camp and in camp-like settlements may be partly attributed to differences in the sample sizes of each group

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Annex II
BVI sub-indicators

1. UNIVERSAL

Voluntās |

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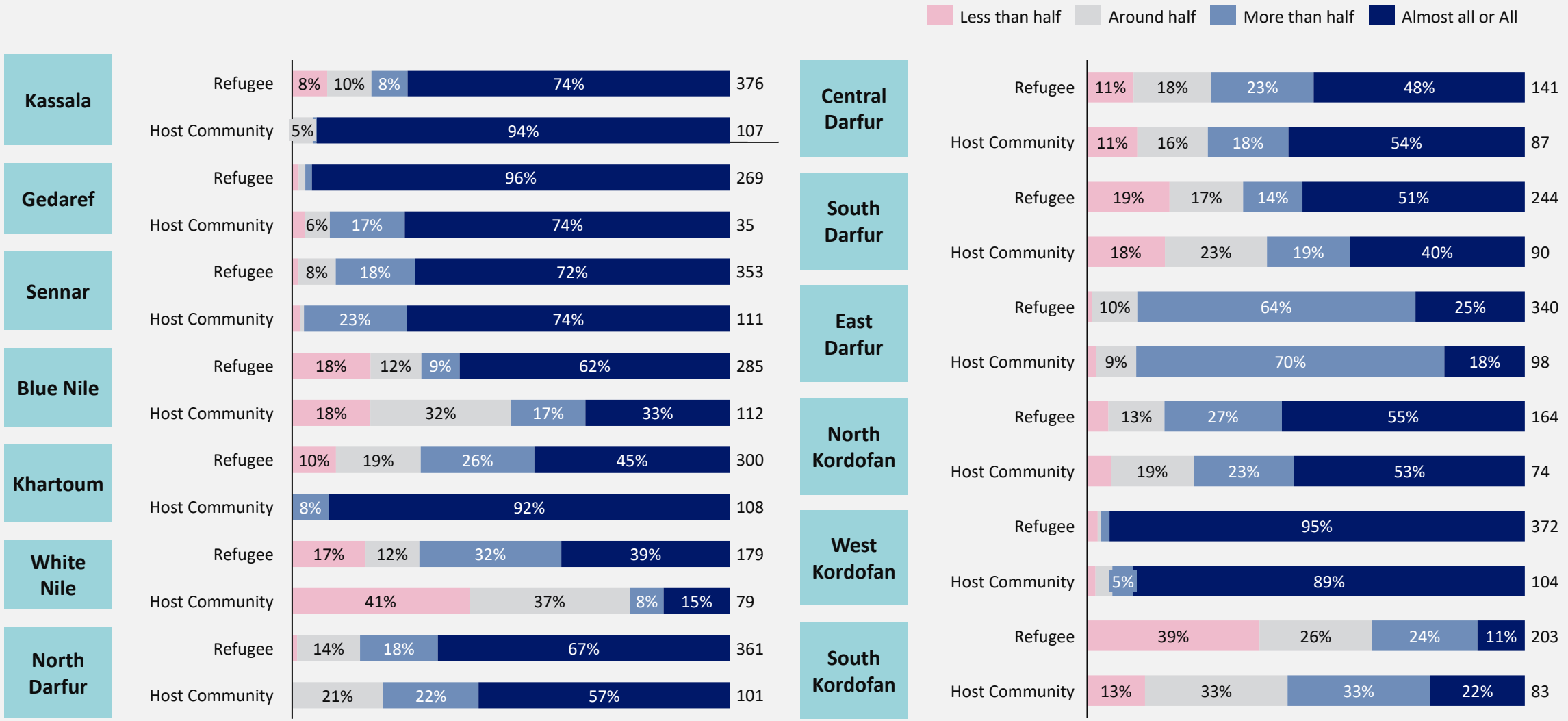
1.1 Expenditure

Question: How big a part of your available household income did you spend in the past 30 days?



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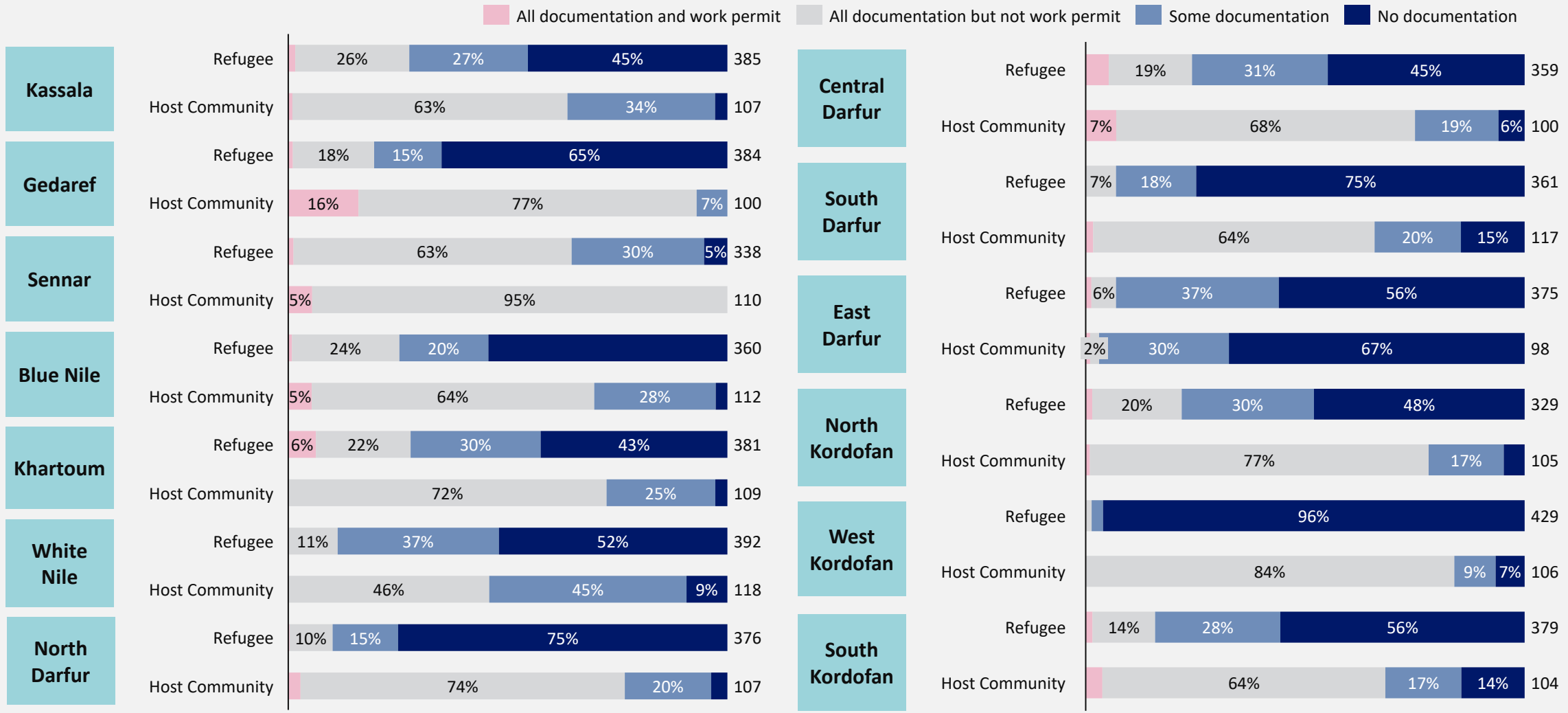
Least vulnerable 1 2 3 4 Most vulnerable

1.2 Work permit and documentation

Question: Do you currently hold a valid work permit for Sudan?; Does everyone in your household have at least one form of civil documentation?



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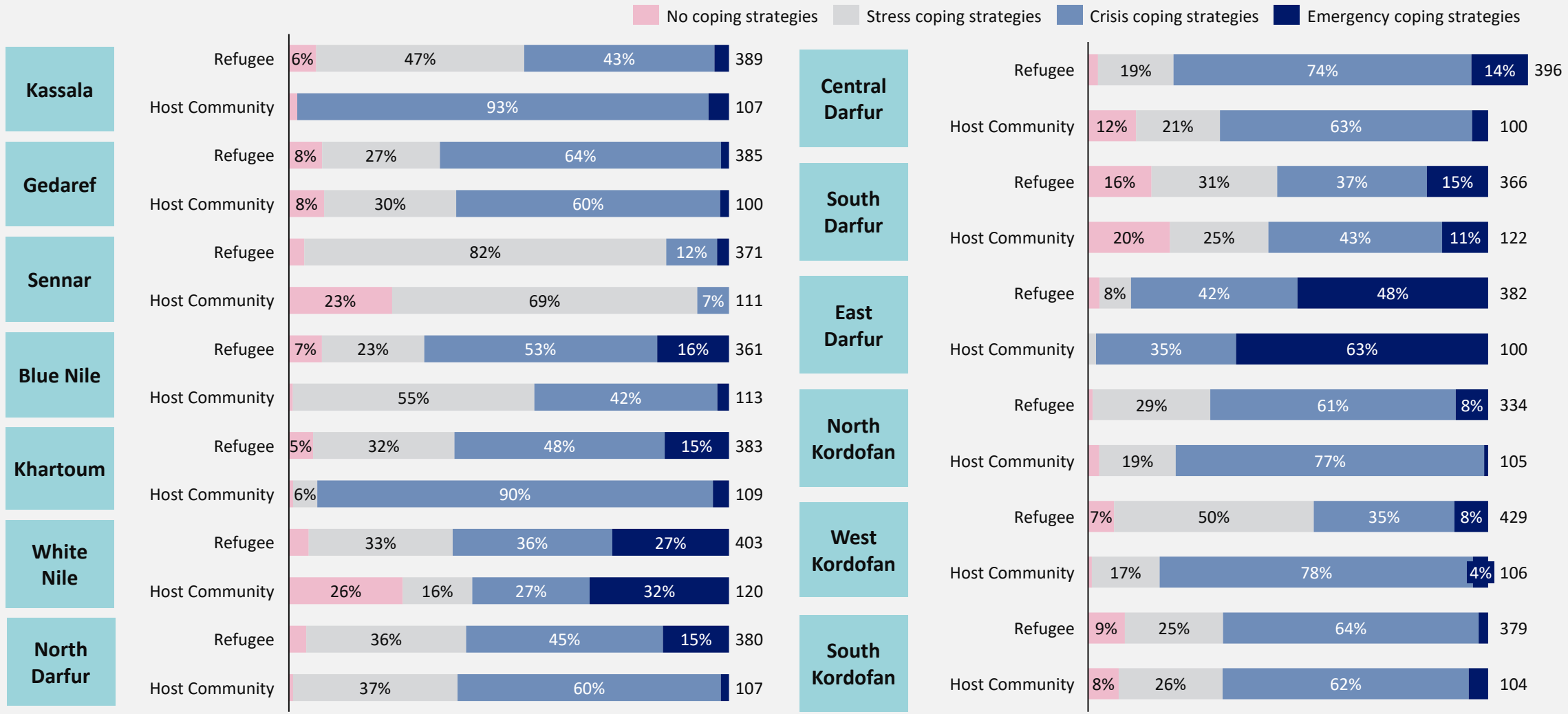
Least vulnerable 1 2 3 4 Most vulnerable

1.3 Livelihood Coping Strategies

Question: In the past 30 days, has your household taken any of the following measures to cover your basic needs?* [Responses recoded for analysis]



*Stress coping strategies: Spend savings, borrow money; Crisis strategies: Reduce non food expenses, sold animals or household assets, Sell house or land; Emergency strategies: withdraw children from school, engaging in begging or exploitation activities

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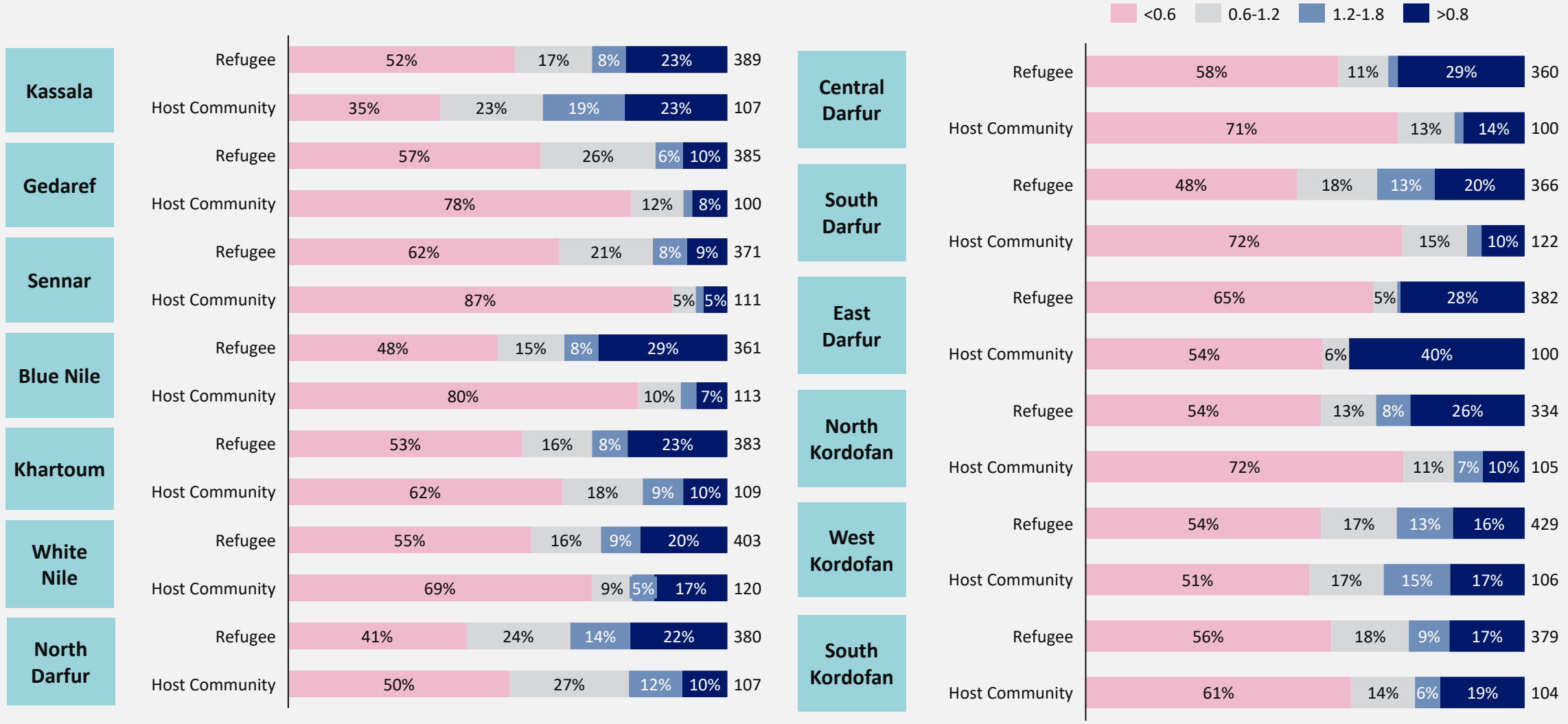
Least vulnerable 1 2 3 4 Most vulnerable

1.4 Dependency ratio*

Question: What are the ages and genders of everyone currently living in your household? ; How many people in your household currently work for pay?



* Dependency ratio looks at the ratio of non-working age household members and working-age household members. Dependency ratio = non-working age household members (number of household members younger than 15 years + number of household members older than 65 years) / working age household members (household members between 15-65 years). For example, a dependency ratio of 0.5 would mean that the non-working age household members are half as many as the working age members.

2. MONETARY

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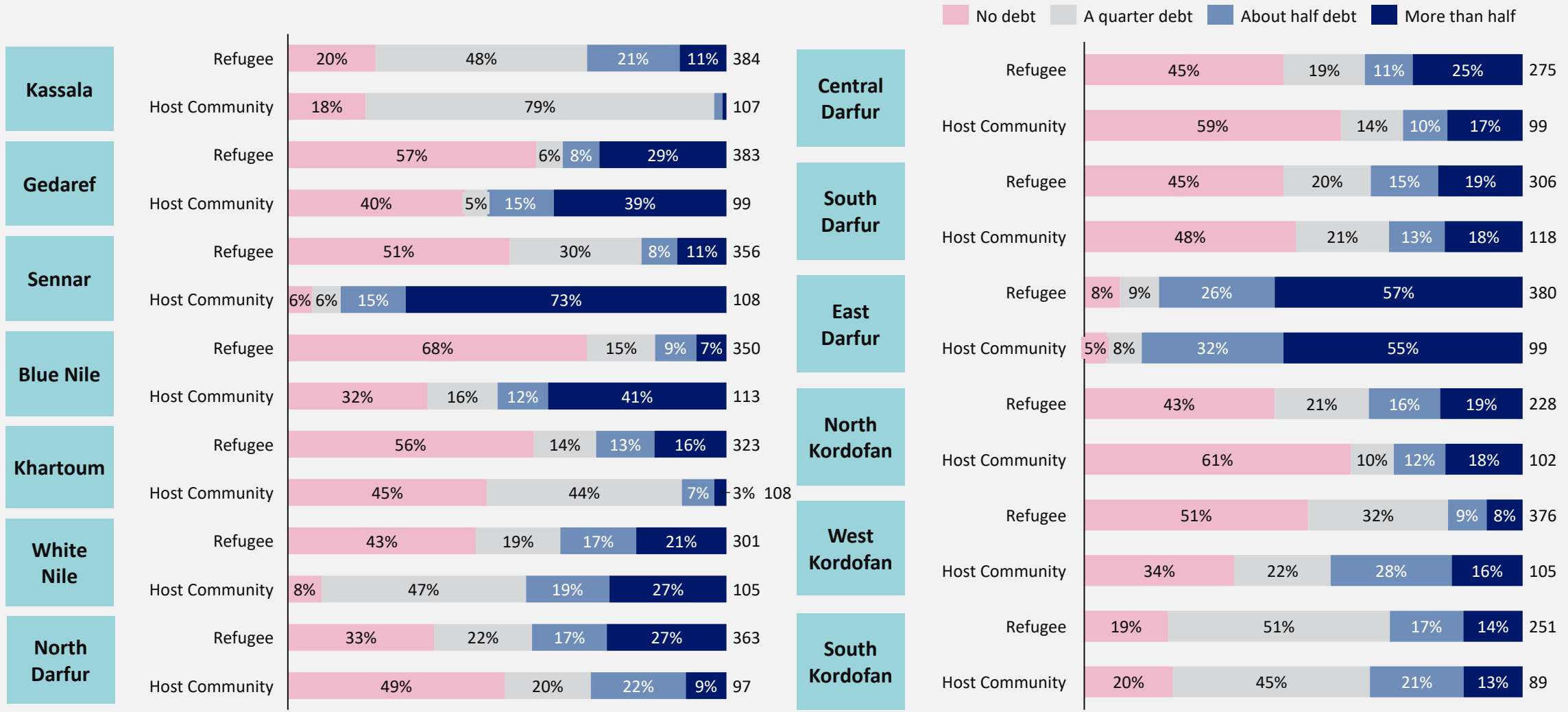
Least vulnerable 1 2 3 4 Most vulnerable

2.1 Debt

Question: How big a part of your available household income did you spend servicing debt in the past 30 days?



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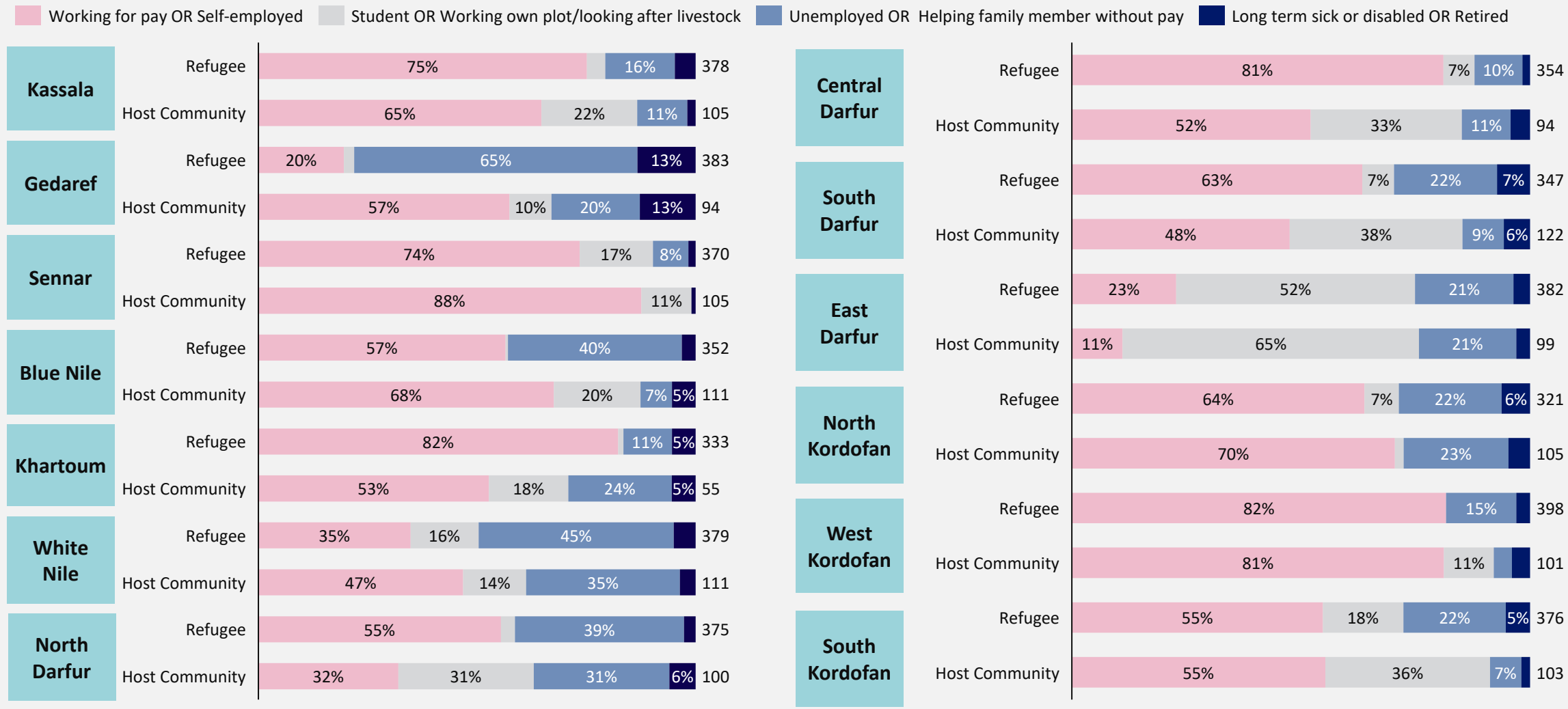
Least vulnerable 1 2 3 4 Most vulnerable

2.2 Employment status

Question: What is your current employment status?



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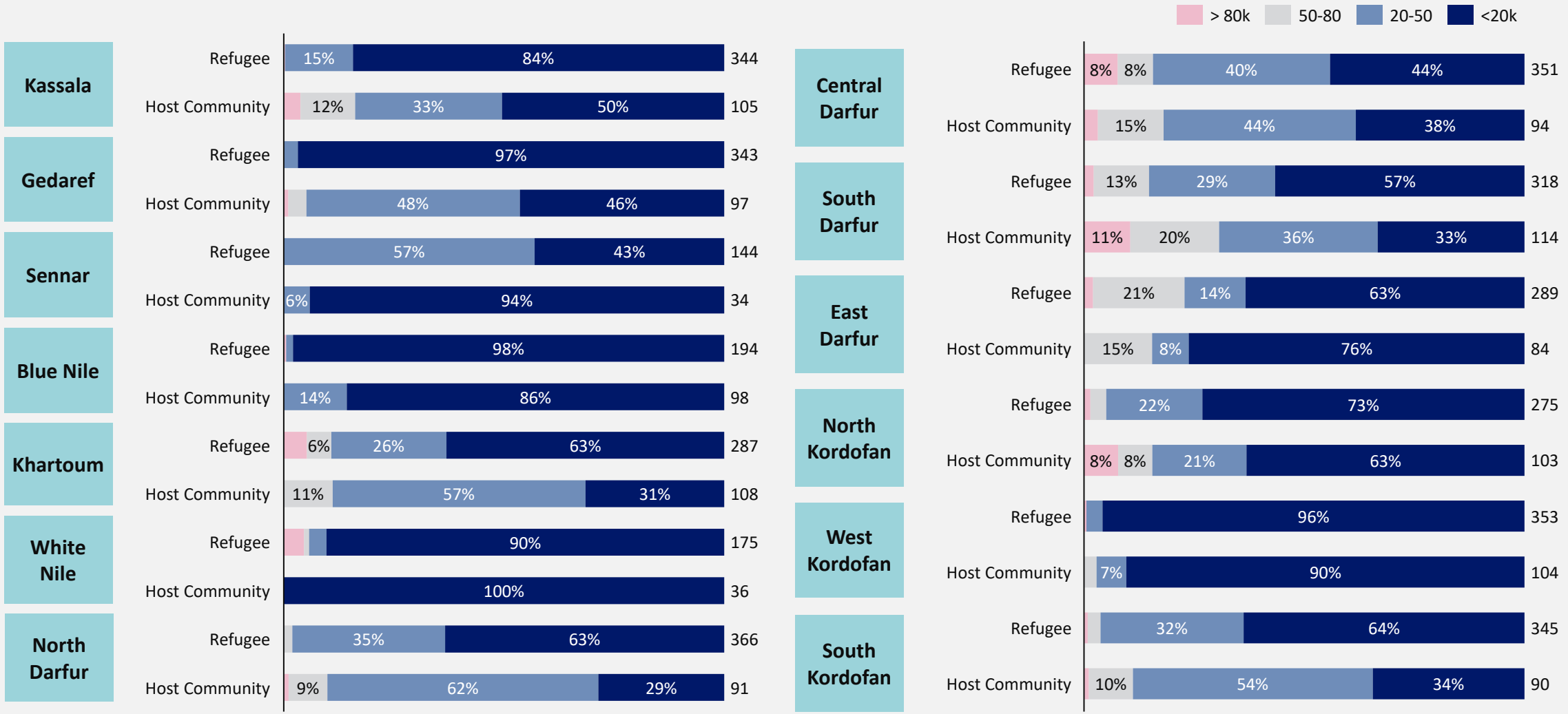
Least vulnerable 1 2 3 4 Most vulnerable

2.3 Income level

Question: What is your household estimated monthly income in SDG?



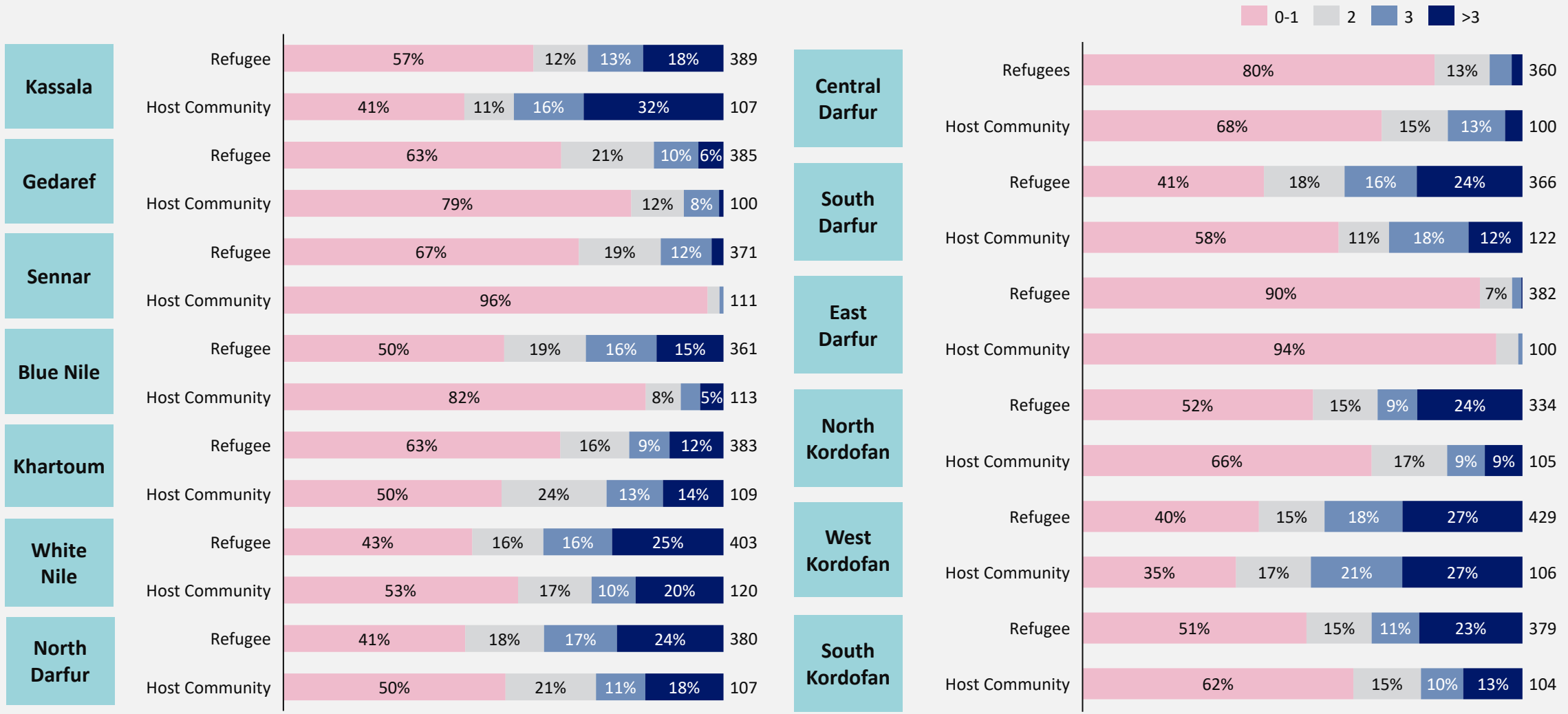
3. EDUCATION

Return to main slide deck

Least vulnerable 1 2 3 4 Most vulnerable

3.1 School aged children

Question: Please tell me the age and gender of everyone who lives in your household, including yourself.*



*The number of school-aged children in the household was counted from these responses, defined as children aged 6-18.

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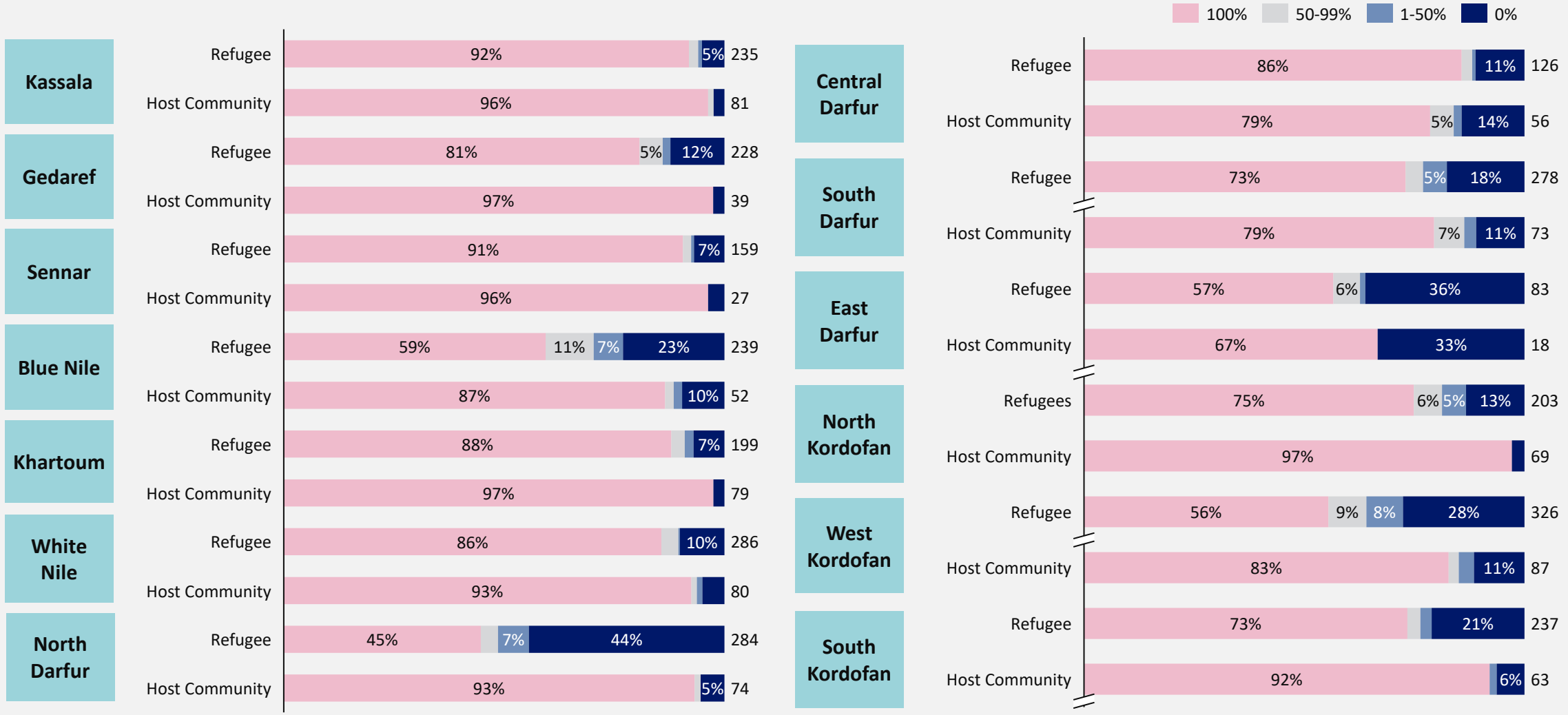
Least vulnerable 1 2 3 4 Most vulnerable

3.2 Attendance

Question: During the current school year, did all the school-aged children in the household attended school regularly (at least 4 days per week) before schools were closed on 15 March 2020?



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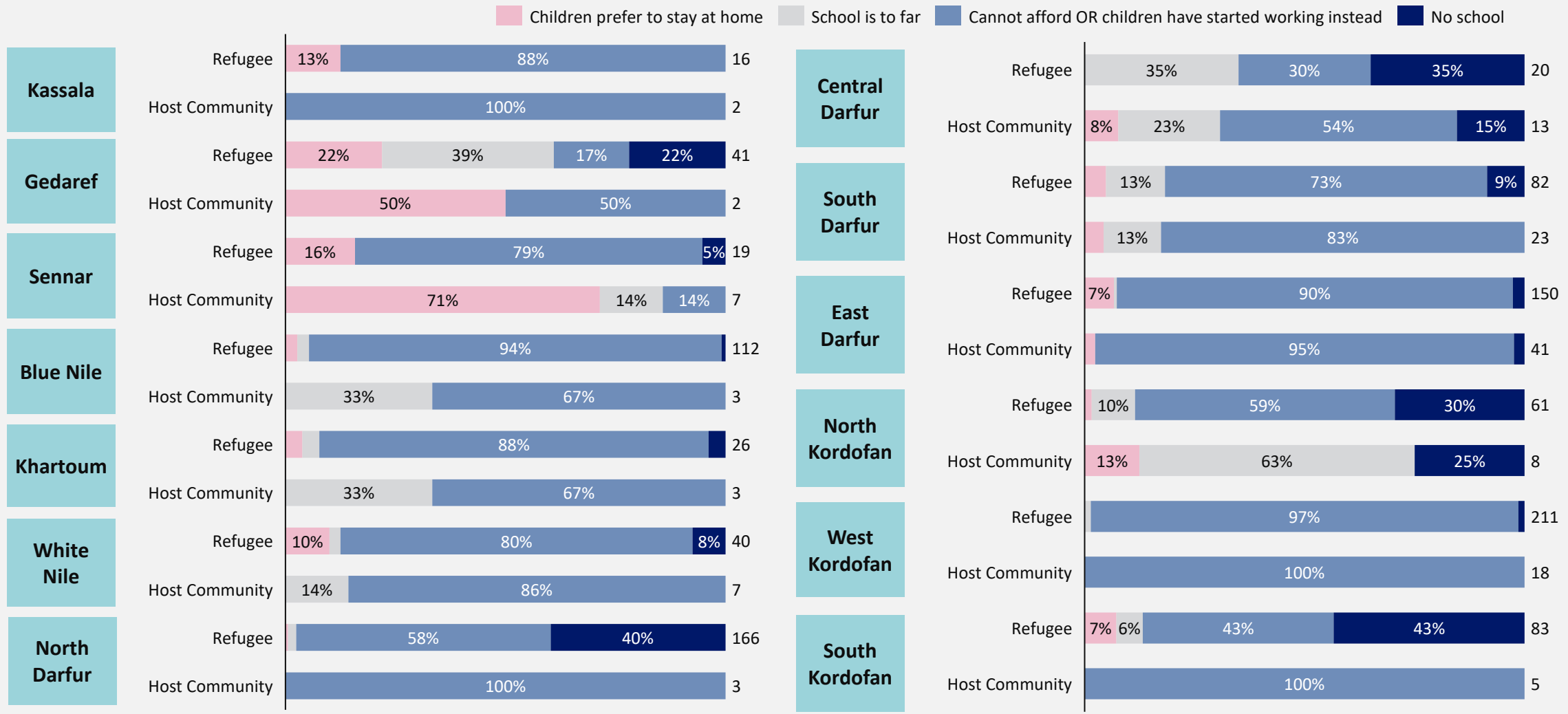
Least vulnerable 1 2 3 4 Most vulnerable

3.3 Reasons for not attending

Question: Why were they not attending school regularly?



4. FOOD

Voluntās |

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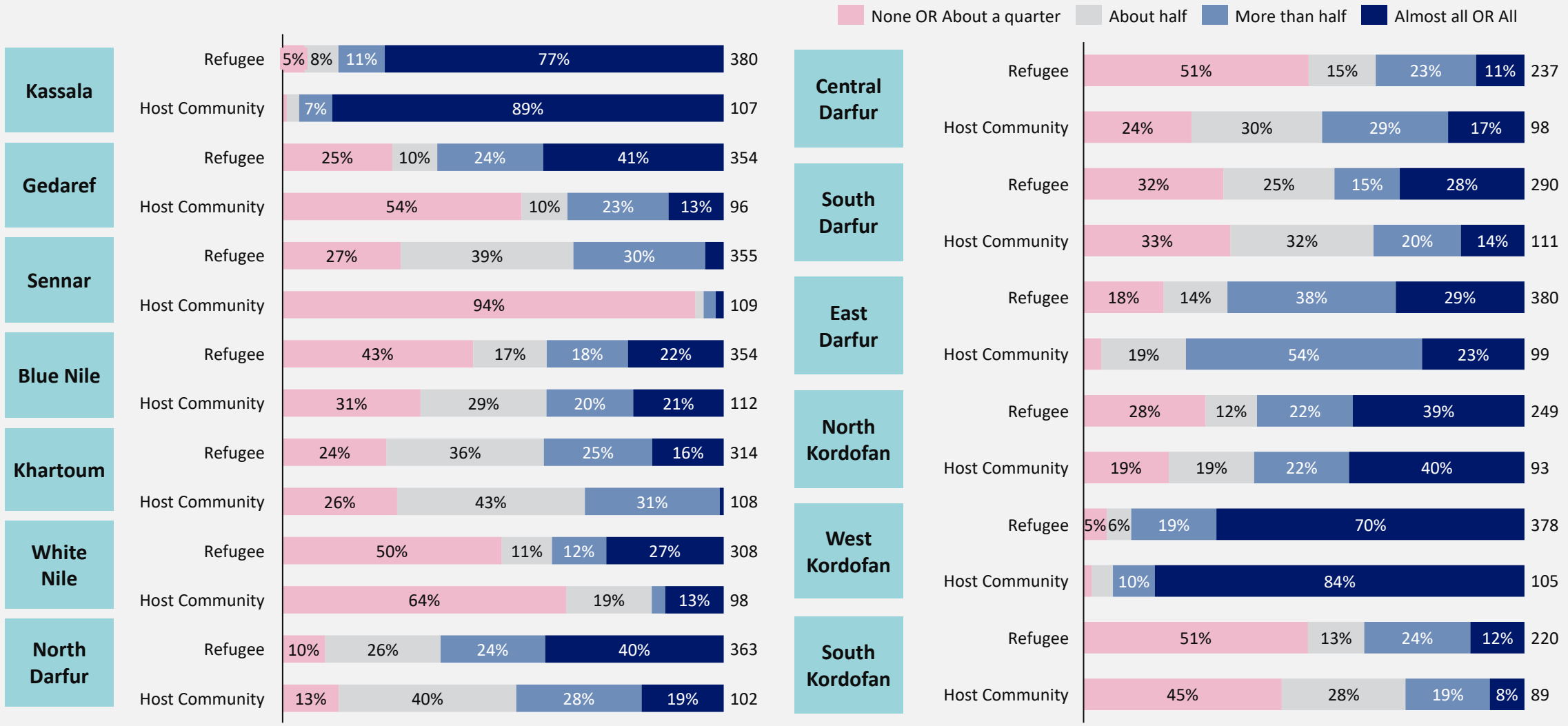
Least vulnerable 1 2 3 4 Most vulnerable

4.1 Food Expenditure

Question: How big a part of your available household income did you spend on food in the past 30 days?



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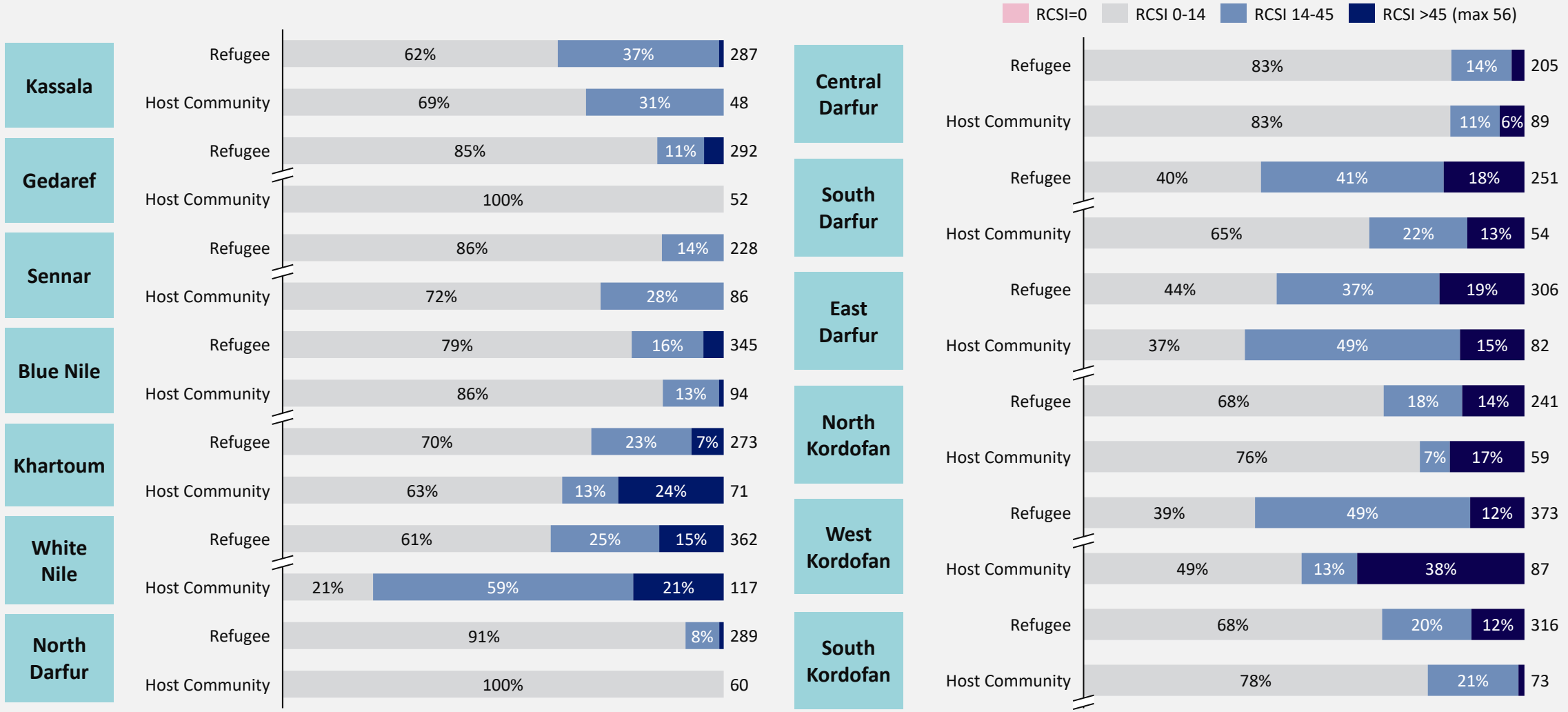
Least vulnerable 1 2 3 4 Most vulnerable

4.2 Coping strategies

Question: In the past seven days, have there been times when you did not have enough food nor money to buy food? ; On how many days has your household had to… [matrix question]



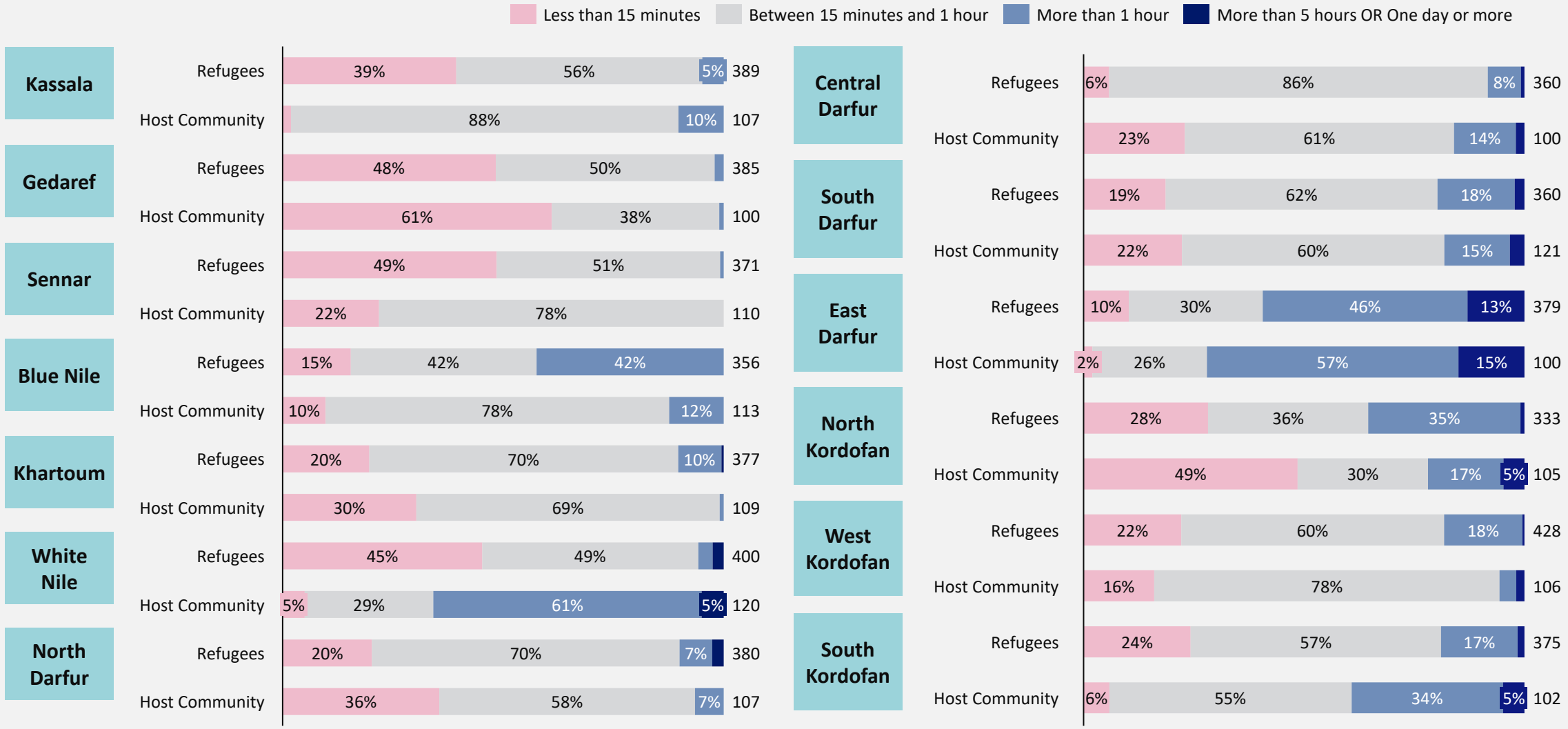
Note on calculation: Rely on less preferred and less expensive food (weight 1 -answer from 0 to 7); Limit portion sizes of meals (weight 1 -answer from 0 to 7); Borrow food or rely on help from friends or relatives (weight 2 -answer from 0 to 7); Reduce number of meals eaten in a day(weight 1 -answer from 0 to 7); Restrict consumption by adults in order for small children to eat (weight 3 -answer from 0 to 7)"

5. Health

Voluntās |

5.1 Availability of healthcare

Question: If you started at your home and walked to the nearest healthcare facility, how long would it take for you to reach it?



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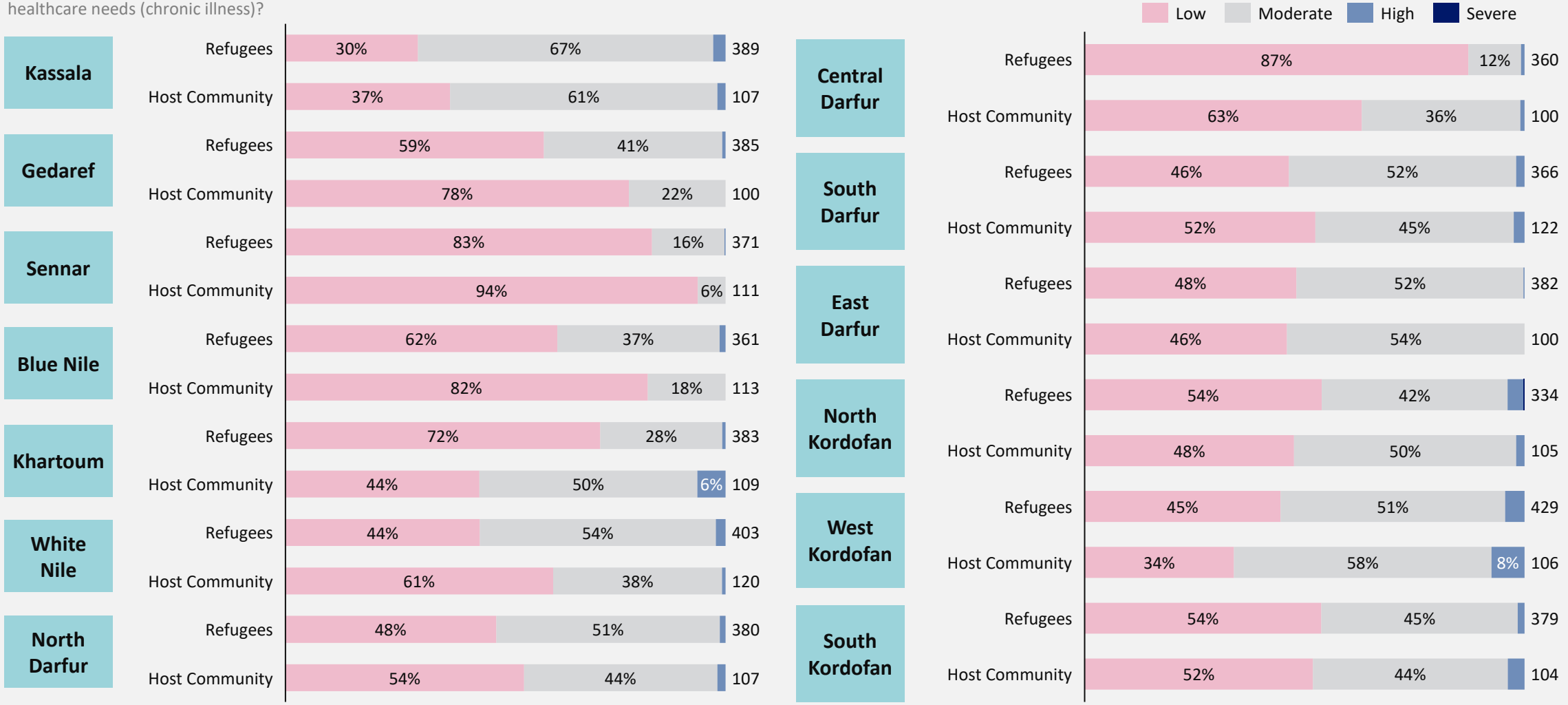
Least vulnerable 1 2 3 4 Most vulnerable

5.2 Healthcare needs

Question: Please tell me the age and gender of everyone who lives in your household, including yourself. ; How many people in your household have any difficulty seeing, hearing, moving or walking, communicating, taking care of themselves (e.g., washing, dressing), understanding, psychological impairment? Any of the above counts. ; How many people in your household have long-term, recurring healthcare needs (chronic illness)?



Note: The number of children under 6, the number of adults over 60, the number of people with disabilities and the number of people with long-term, recurring health needs are taken into account for this indicator. None = a score of zero, one = a score of 2, two = a score of 3, and three or more = a score of 4.

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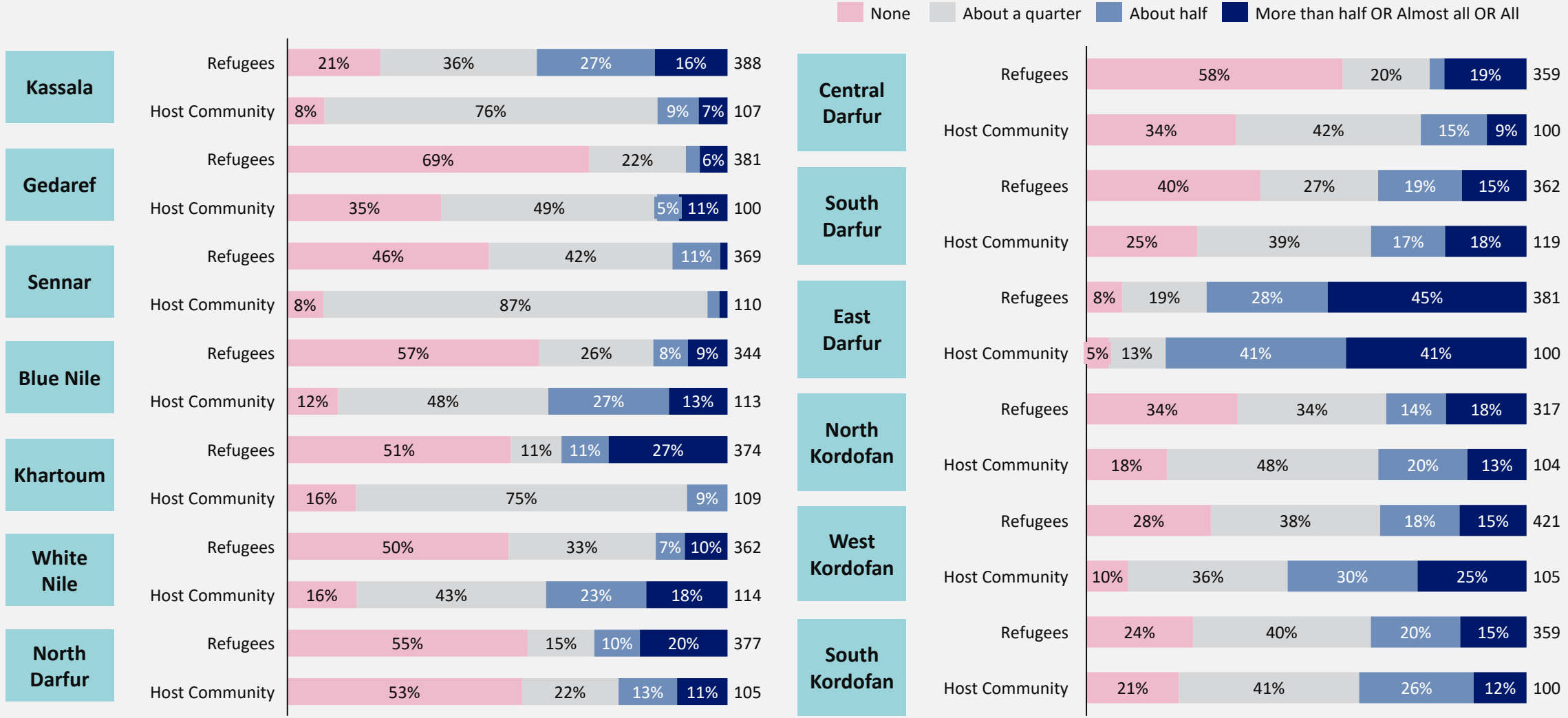
Least vulnerable 1 2 3 4 Most vulnerable

5.3 Healthcare expenditure

Question: How big a part of your available household income did you spend on healthcare in the past 30 days?



6. SHELTER & ENERGY

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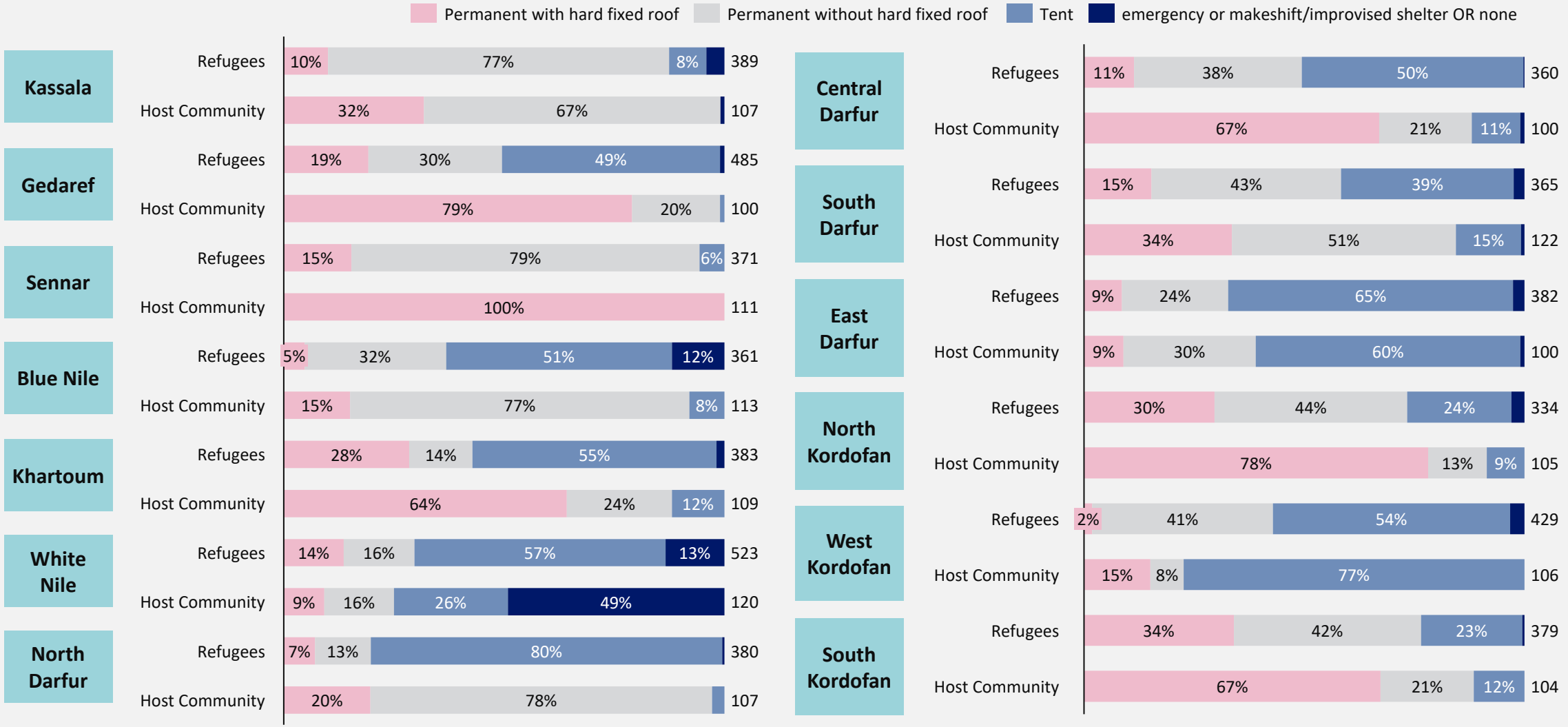
Least vulnerable 1 2 3 4 Most vulnerable

6.1 Shelter type

Question: What type of shelter does your household live in?



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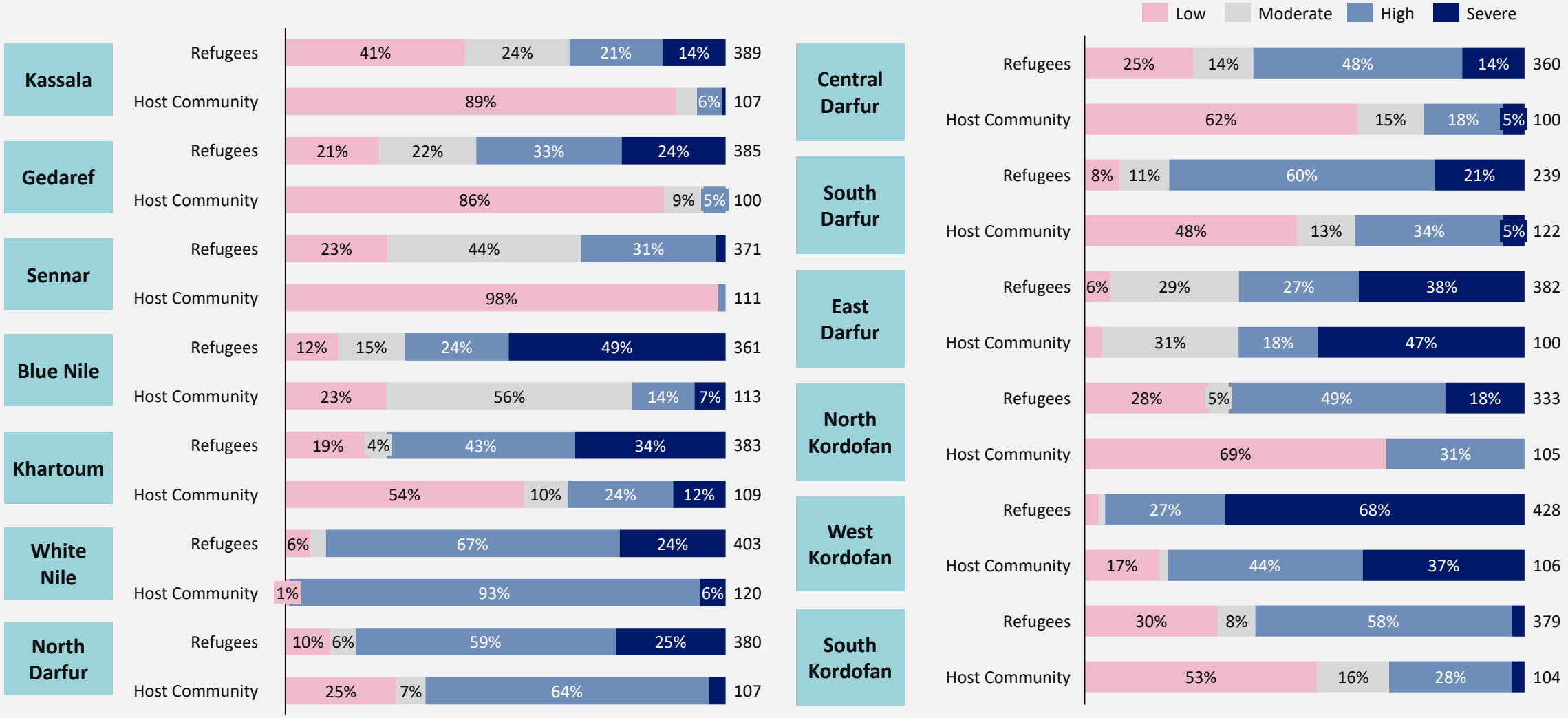
Least vulnerable 1 2 3 4 Most vulnerable

6.2 Shelter conditions

Questions: What is the condition of your household's shelter? ; Do you or any other member of the household have any documents proving ownership or rent of the shelter?



Note: Average of shelter condition (1 = acceptable, 2 = substandard, 3 = Substandard and unsafe, 4 = No protection from the elements), and documentation (1 = yes, 4 = no)

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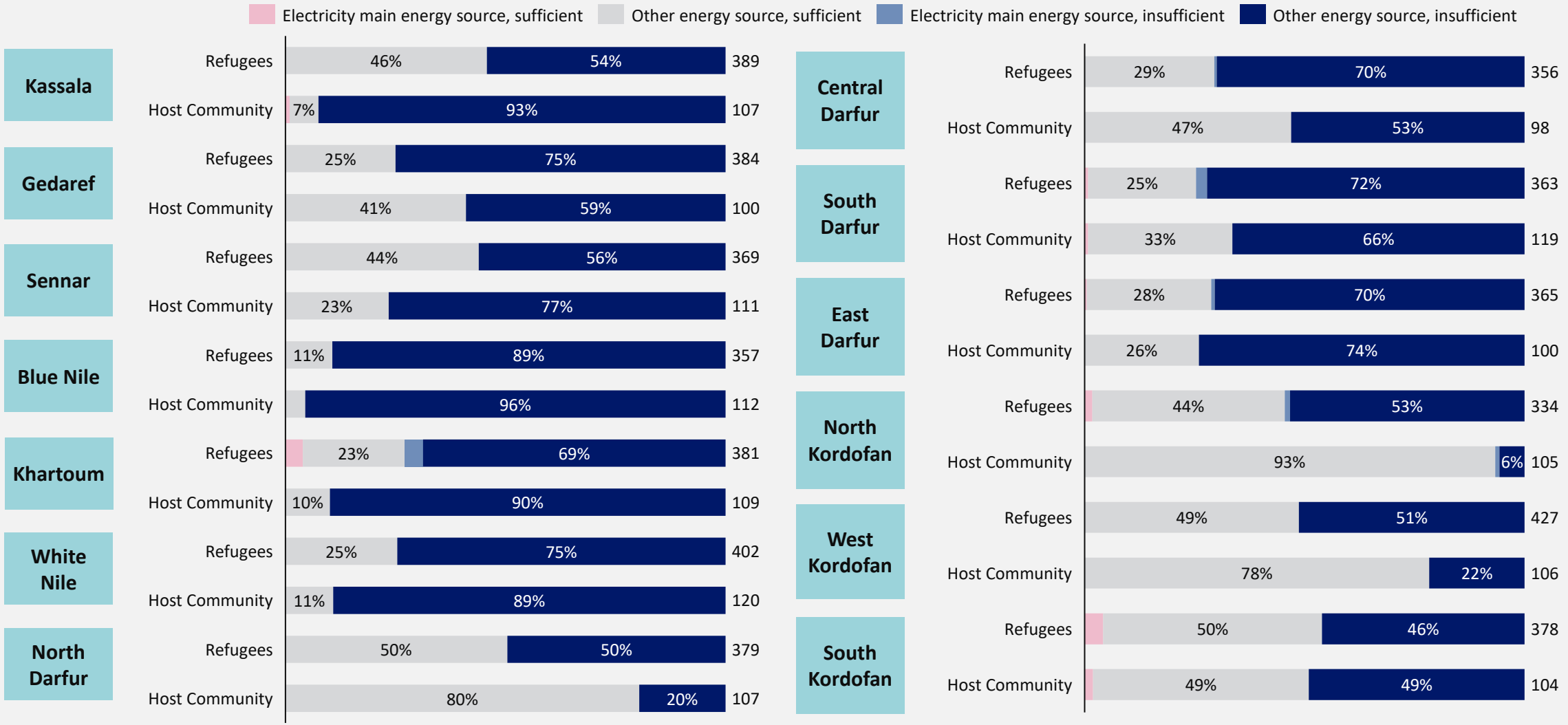
Least vulnerable 1 2 3 4 Most vulnerable

6.3 Availability of energy source

Question: Which of the following is your primary source of energy for household activities (i.e. cooking)? ; Is that source sufficiently available?



7. WASH

Voluntās |

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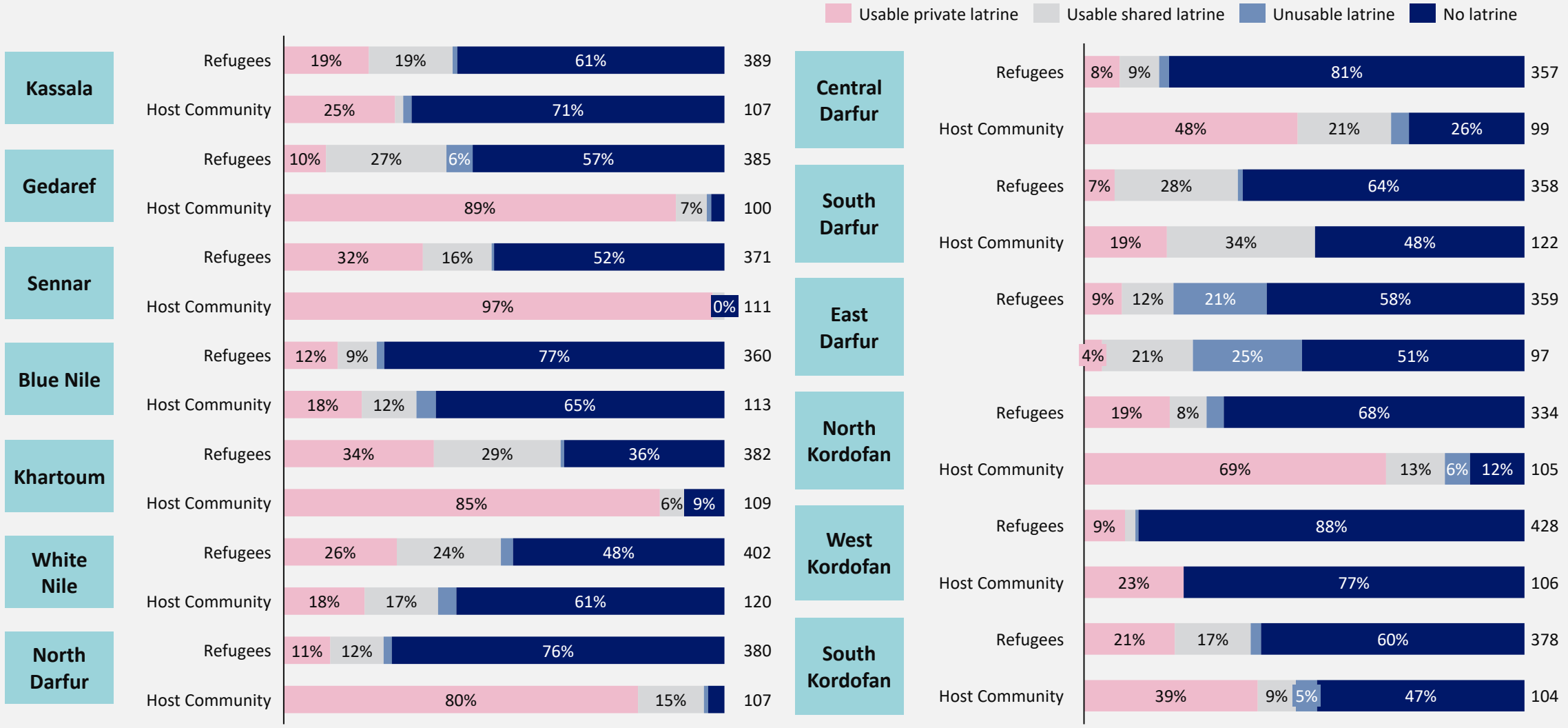
Least vulnerable 1 2 3 4 Most vulnerable

7.1 Latrine adequacy

Questions: Does your household have access to a sanitation facility, such as a latrine or toilet? ; If yes, are you able to use it?; Is it a communal or an individual family one?



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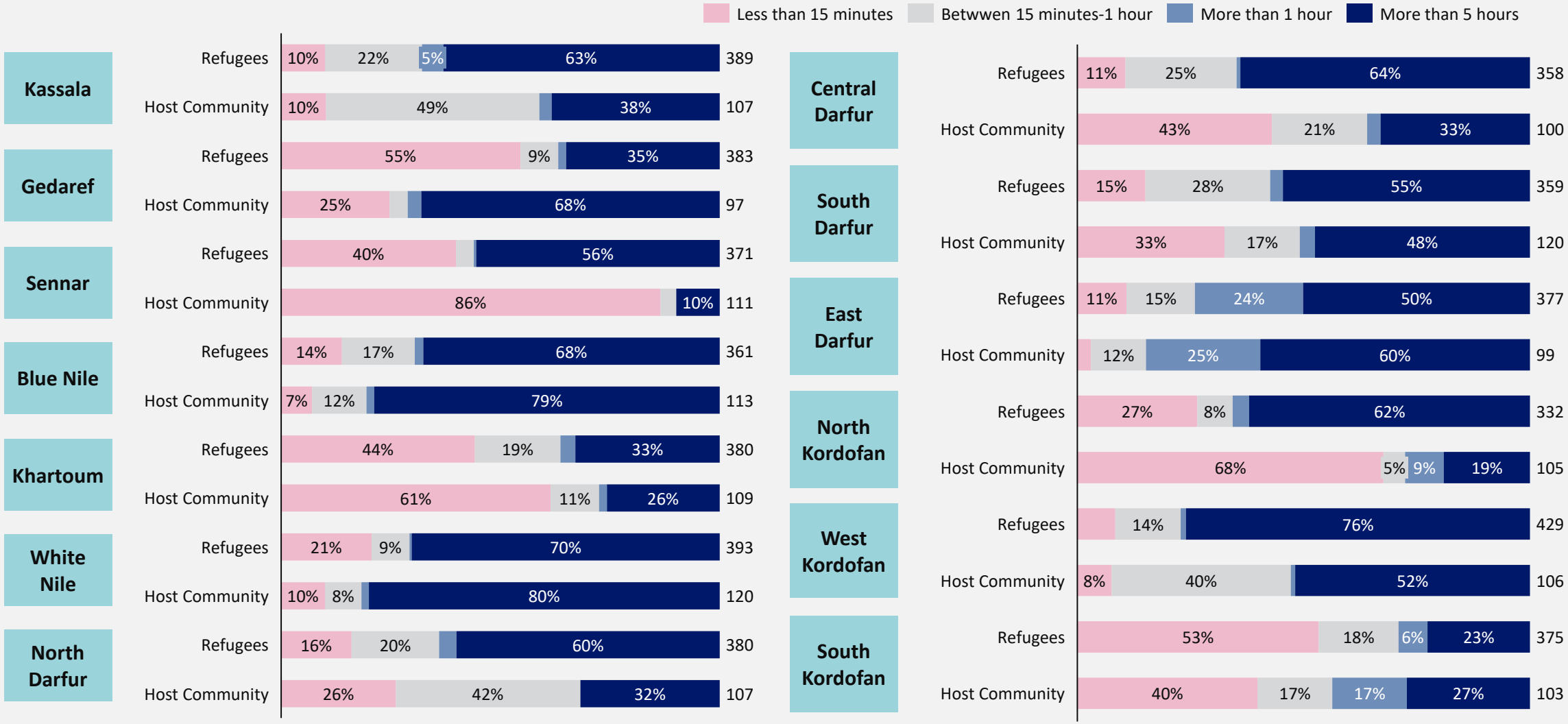
Least vulnerable 1 2 3 4 Most vulnerable

7.2 Access to water

Question: If you started at your home and walked to the nearest water source, how long would it take you to reach it?



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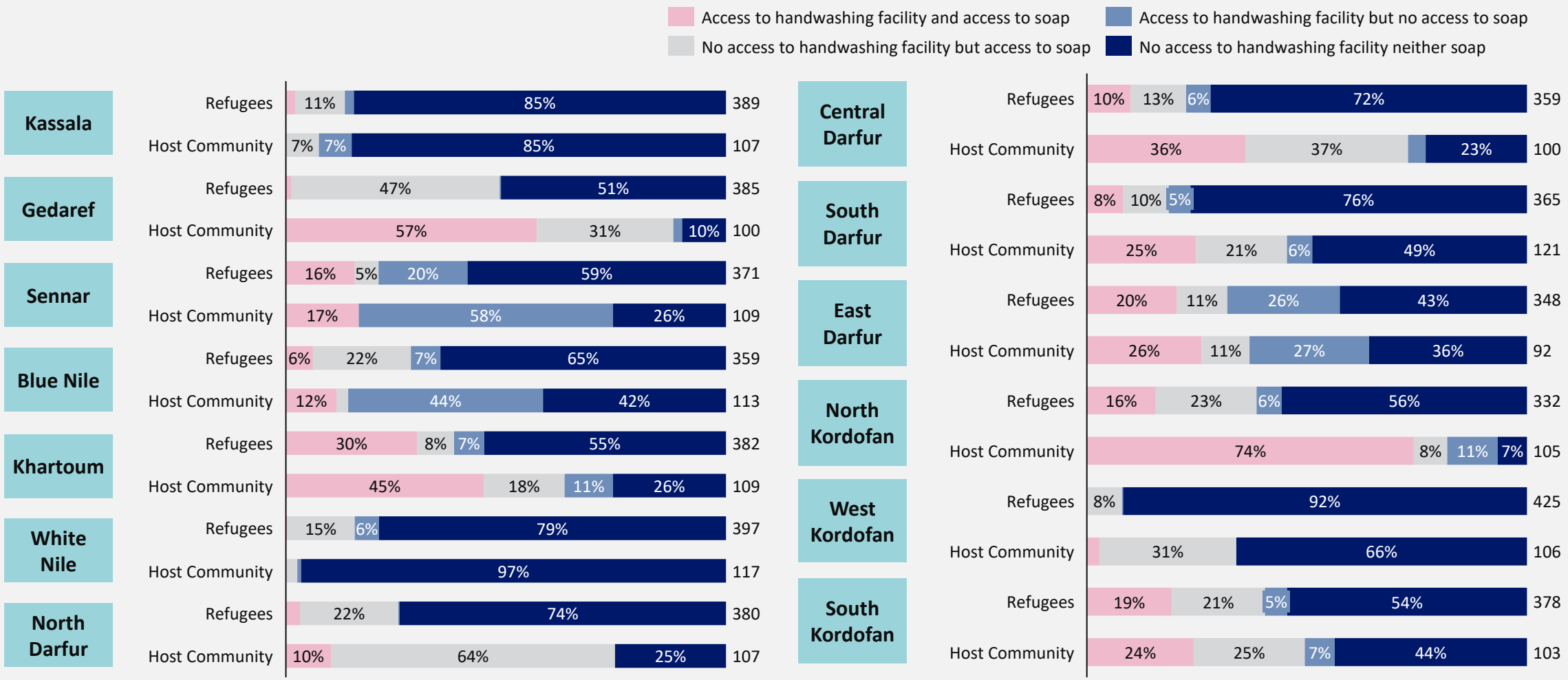
7.3 Availability of handwashing tools

Questions: Does your household have access to hand washing device/station to wash their hands? ; Does your household have access to sufficient soap?



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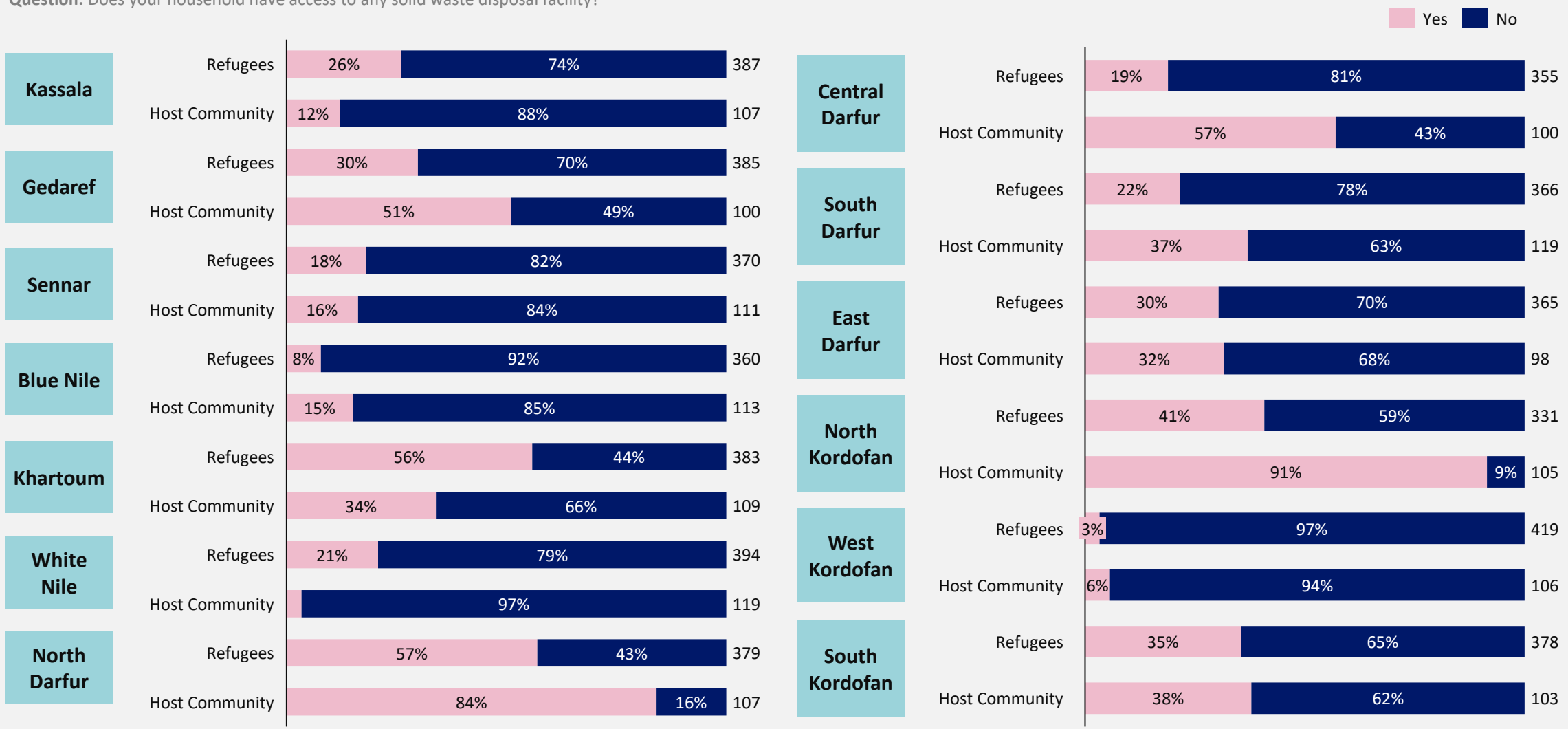
Least vulnerable 1 2 3 4 Most vulnerable

7.4 Waste disposal

Question: Does your household have access to any solid waste disposal facility?



8. PROTECTION

Voluntās |

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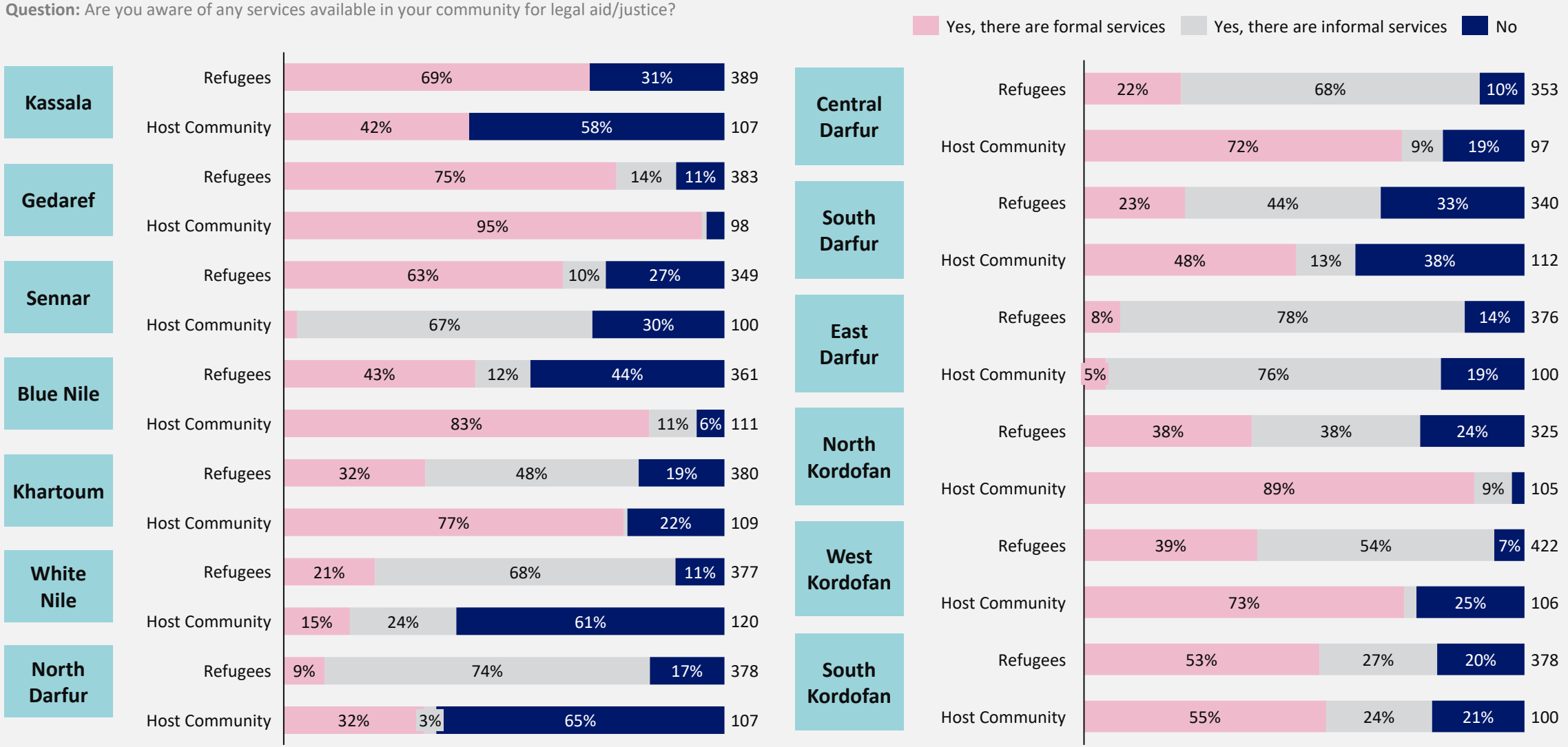
Least vulnerable 1 2 3 4 Most vulnerable

8.1 Availability of protection services

Question: Are you aware of any services available in your community for legal aid/justice?



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Least vulnerable 1 2 3 4 Most vulnerable

8.2 Perceived safety

Question: To what extent do you feel safe when leaving your house during the day?